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APPENDIX BCW
POST- SOIL NON-TIME CRITICAL REMOVAL ACTION HUMAN HEALTH AND ECOLOGICAL RISK ASSESSMENT FOR BCW EXPOSURE AREA

Topock Compressor Station
Needles, California

May 2026

CONTENTS

Acronyms and Abbreviations vi

1 Introduction 1-1

1.1 Summary of Site Use 1-2

1.2 Summary of NTCRA in Bat Cave Wash 1-4

2 Data Evaluation 2-1

2.1 Data Evaluation for Risk-Driving COPCs and COPECs 2-1

2.2 Data Evaluation for Non-Risk-Driving COPCs 2-2

2.3 Evaluation of Additional Data 2-3

3 Exposure Point Concentrations 3-1

4 Human Health Risk Assessment 4-1

4.1 Human Health Conceptual Site Model 4-1

4.2 Constituents of Potential Concern 4-2

4.3 Exposure Point Concentration Summary 4-2

4.4 Estimation of Exposure Dose 4-2

4.5 Toxicity Assessment 4-3

4.6 Human Health Risk Characterization 4-3

4.6.1 Risk Characterization for Exposure to Soil (Baseline Scenario and Depth-Weighted EPCs) 4-4

4.6.2 Risk Characterization for Exposure to Soil (2-Foot Scouring Scenario and Depth-Weighted EPCs) 4-5

4.6.3 Risk Characterization for Exposure to Soil (5-Foot Scouring Scenario and Depth-Weighted EPCs) 4-6

4.6.4 Uncertainties in the Risk Assessment 4-7

5 Ecological Risk Assessment 5-1

5.1 Ecological Conceptual Site Model 5-1

5.2 Constituents of Potential Ecological Concern 5-1

5.3 Exposure Point Concentration Summary 5-2

5.4 Estimation of Exposure Dose 5-2

5.5 Effects Assessment 5-3

5.6 Ecological Risk Characterization 5-3

5.6.1 Desert Shrew Risk Characterization Using Depth-Weighted EPCs....5-5
5.6.1.1 Baseline Scenario....5-5
5.6.1.2 2-Foot Scouring Scenario....5-6
5.6.1.3 5-Foot Scouring Scenario....5-7
5.6.2 Desert Shrew Risk Characterization Using Area-Weighted EPCs....5-7
5.6.2.1 Baseline Scenario....5-7
5.6.2.2 2-Foot Scouring Scenario....5-7
5.6.2.3 5-Foot Scouring Scenario....5-8
5.6.3 Desert Shrew Characterization Using Congener-Specific Bioaccumulation Factors for Dioxin TEQ....5-8
5.6.4 Risk Conclusions for Desert Shrew....5-8
6 Summary and Conclusions for the HHERA....6-10
6.1 Summary and Conclusions for the HHRA....6-10
6.2 Summary and Conclusions for the ERA....6-14
7 References....7-17

EXHIBITS

BCW-3.1 Exposure Depths
BCW-4.1 Baseline Depth-Weighted Estimated Cumulative Incremental Lifetime Cancer Risk and Hazard Index for the BCW Potential Exposure Area for Recreational Users
BCW-4.2 2-Foot Scouring Depth-Weighted Estimated Cumulative Incremental Lifetime Cancer Risk and Hazard Index for the BCW Potential Exposure Area for Recreational Users
BCW-4.3 5-Foot Scouring Depth-Weighted Estimated Cumulative Incremental Lifetime Cancer Risk and Hazard Index for the BCW Potential Exposure Area for Recreational Users
BCW-6.1 Baseline Scenario Estimated Cumulative Incremental Lifetime Cancer Risk and Hazard Index for the BCW Potential Exposure Area
BCW-6.2 2-Foot Scouring Scenario Estimated Cumulative Incremental Lifetime Cancer Risk and Hazard Index for the BCW Potential Exposure Area
BCW-6.3 5-Foot Scouring Scenario Estimated Cumulative Incremental Lifetime Cancer Risk and Hazard Index for the BCW Potential Exposure Area
BCW-6.4 Potential for Unacceptable Risk to Desert Shrew at the BCW Potential Exposure Area

TABLES

BCW-1.1 Samples and Sampling Locations Included in the BCW Potential Exposure Area

BCW-2.1 Comparison of Soil Data for Non-Risk-Driving Constituents in the 2019 HHERA and NTCRA /RFI Additions for the Baseline (No Scouring) Scenario for BCW (0 to 0.5 foot bgs and 0 to 3 feet bgs)

BCW-2.2 Comparison of Soil Data for Non-Risk-Driving Constituents in the 2019 HHERA and NTCRA/RFI Additions for the 2-Foot Scouring Scenario for BCW (2 to 3 feet bgs and 2 to 6 feet bgs)

BCW-2.3 Comparison of Soil Data for Non-Risk-Driving Constituents in the 2019 HHERA and NTCRA/RFI Additions for the 5-Foot Scouring Scenario for BCW (5 to 6 feet bgs and 5 to 10 feet bgs)

Exposure Point Concentration Tables

BCW-3.1 Summary Statistics for Depth-Weighted Soil Data and Exposure Point Concentrations for the Baseline (No Scouring) Scenario for BCW (0 to 0.5 foot bgs and 0 to 3 feet bgs)

BCW-3.2 Summary Statistics for Depth-Weighted Soil Data and Exposure Point Concentrations for the 2-Foot Scouring Scenario for BCW (2 to 3 feet bgs and 2 to 6 feet bgs)

BCW-3.3 Summary Statistics for Depth-Weighted Soil Data and Exposure Point Concentrations for the 5-Foot Scouring Scenario for BCW (5 to 6 feet bgs and 5 to 10 feet bgs)

HHRA Tables

BCW-4.1a Summary of COPCs Evaluated in the HHRA for BCW: Baseline Scenario

BCW-4.1b Summary of COPCs Evaluated in the HHRA for BCW: 2-Foot Scouring Scenario

BCW-4.1c Summary of COPCs Evaluated in the HHRA for BCW: 5-Foot Scouring Scenario

BCW-4.2a Baseline Scenario Depth-Weighted Exposure Point Concentrations and Predicted Outdoor Air Concentrations for Recreational Users: COPCs in BCW Surface Soil (0 to 0.5 foot bgs)

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

BCW-4.3a 2-Foot Scouring Scenario Depth-Weighted Exposure Point Concentrations and Predicted Outdoor Air Concentrations for Recreational Users: COPCs in BCW Surface Soil (2 to 3 feet bgs)

BCW-4.3b 2-Foot Scouring Scenario Depth-Weighted Exposure Point Concentrations and Predicted Outdoor Air Concentrations for Recreational Users: COPCs in BCW Shallow Soil (2 to 6 feet bgs)

BCW-4.4a 5-Foot Scouring Scenario Depth-Weighted Exposure Point Concentrations and Predicted Outdoor Air Concentrations for Recreational Users: COPCs in BCW Surface Soil (5 to 6 feet bgs)

BCW-4.4b 5-Foot Scouring Scenario Depth-Weighted Exposure Point Concentrations and Predicted Outdoor Air Concentrations for Recreational Users: COPCs in BCW Shallow Soil (5 to 10 feet bgs)

BCW-4.5a Human Health Risk and Hazard Estimate Summary at BCW for the Baseline Scenario Using Depth-Weighted Exposure Point Concentrations

BCW-4.5b Human Health Risk and Hazard Estimate Summary at BCW for the 2-Foot Scouring Scenario Using Depth-Weighted Exposure Point Concentrations

BCW-4.5c Human Health Risk and Hazard Estimate Summary at BCW for 5-Foot Scouring Scenario Using Depth-Weighted Exposure Point Concentrations

ERA Tables

BCW-5.1 Depth-Weighted Exposure Point Concentrations for Soil and Biota for BCW

BCW-5.2 Area-Weighted Exposure Point Concentrations for Soil and Biota for BCW

BCW-5.3 Toxic Equivalency Factors for Dioxin Congeners and Calculated Tissue Exposure Point Concentrations for Dioxin TEQ for BCW

BCW-5.4 Desert Shrew Risk Estimate Summary Using Depth-Weighted Exposure Point Concentrations (Wildlife SUF = 1, TRVs used for RBRG Development, and Selected BAFs) for BCW

BCW-5.5 Desert Shrew Risk Estimate Summary Using Area-Weighted Exposure Point Concentrations (Wildlife SUF = 1, TRVs used for RBRG Development, and Selected BAFs) for BCW

BCW-5.6 Desert Shrew Risk Estimate Summary for Dioxin TEQ Using Depth-Weighted Exposure Point Concentrations and Congener-Specific BAFs (Wildlife SUF = 1, TRVs used for RBRG Development) for BCW

Summary Table

BCW-6.1 Desert Shrew Risk Estimate Summary Using Depth-Weighted and Area-Weighted Exposure Point Concentrations for BCW

FIGURES

BCW-1.1a Soil Sampling Locations BCW Exposure Area (Pre-NTCRA) - South

BCW-1.1b Soil Sampling Locations BCW Exposure Area (Pre-NTCRA) - North

BCW-1.2a Current Soil Sampling Locations and NTCRA Areas for BCW Exposure Area South

BCW-1.2b Current Soil Sampling Locations and NTCRA Areas for BCW Exposure Area North

ATTACHMENTS

A Dataset and Exposure Point Concentration Calculations for the BCW HHERA

B Dose, Exposure Concentration, Risk, and Hazard Calculations for Human Health Receptors at BCW Using Depth-Weighted EPCs

C Dose and Risk Calculations for Ecological Receptors at BCW Using Depth-Weighted EPCs and Area-Weighted EPCs

ACRONYMS AND ABBREVIATIONS

µg/dL	microgram per deciliter
2019 HHERA	2019 Soil Human Health and Ecological Risk Assessment Report
2,3,7,8-TCDD	2,3,7,8-tetrachlorodibenzo-p-dioxin
AOC	Area of Concern
Arcadis	Arcadis U.S., Inc.
BAF	bioaccumulation factor
B(a)PEQ	benzo(a)pyrene equivalent
BCW	Bat Cave Wash
bgs	below ground surface
BTAG	Biological Technical Assistance Group
BTV	background threshold value
COPC	constituent of potential concern
COPEC	constituent of potential ecological concern
D/F	dioxin/furan
DOI	U.S. Department of the Interior
DTSC	Department of Toxic Substances Control (California)
EC	exposure concentration
EPC	exposure point concentration
ERA	ecological risk assessment
HHERA	human health and ecological risk assessment
HHRA	human health risk assessment
HI	hazard index
HQ	hazard quotient
I-40	Interstate 40
ILCR	incremental lifetime cancer risk
LOAEL	lowest-observed adverse effects level
LOE	line of evidence
main report	Post-Soil Non-Time Critical Removal Action Human Health and Ecological Risk Assessment Report
mg/kg	milligram per kilogram

NA	not applicable
ng/kg	nanogram per kilogram
NOAEL	no-observed adverse effects level
NTCRA	non-time-critical removal action
OEHHA	Office of Environmental Health Hazard Assessment
OHV	off-highway vehicle
PAH	polycyclic aromatic hydrocarbon
PCB	polychlorinated biphenyl
PG&E	Pacific Gas and Electric Company
RAG	removal action goal
RAWP	Human Health and Ecological Risk Assessment Work Plan
RBRG	risk-based remedial goal
site	Pacific Gas and Electric Company Topock Compressor Station site
SUF	site use factor
SVOC	semi-volatile organic compound
SWMU	Solid Waste Management Unit
TAA	target action area
TCS	Topock Compressor Station
Technical Memo	Soil Risk Assessment Addendum: Proposed Approach to Update the Human Health and Ecological Risk Assessment after Completion of the 2023 Non-Time-Critical Removal Action
TEQ	toxicity equivalent
TPH	total petroleum hydrocarbon
TRV	toxicity reference value
UA	undesignated area
UCL	upper confidence limit
USEPA	United States Environmental Protection Agency
VOC	volatile organic compound
WOE	weight of evidence

1 INTRODUCTION

This appendix presents the human health and ecological risk assessment (HHERA) for the Bat Cave Wash (BCW) potential soil exposure area located outside the Topock Compressor Station (TCS) in Needles, California. The risk characterization presented herein evaluates the current conditions in BCW following completion of the non-time-critical removal action (NTCRA) in 2022 and 2023. Consistent with the approach for the Post-NTCRA HHERA detailed in the January 30, 2024 Soil Risk Assessment Addendum: Proposed Approach to Update the Human Health and Ecological Risk Assessment after Completion of the 2023 Non-Time-Critical Removal Action (Technical Memo; Arcadis U.S., Inc. [Arcadis] 2024) to the U.S. Department of the Interior (DOI) and Department of Toxic Substances Control (California) (DTSC), the updated risk characterization is presented only for risk-driving receptors.

The BCW potential exposure area, shown on Figures BCW-1.1a and BCW-1.1b, is approximately 18 acres in total. Table BCW-1.1 presents historical sample locations evaluated in the 2019 Soil Human Health and Ecological Risk Assessment Report (2019 HHERA; Arcadis 2019) as well as recent samples collected in 2022 and 2023 as part of the NTCRA, as described in the text that follows. Samples were collected from locations in BCW (as described in this HHERA Addendum), which also encompasses Solid Waste Management Unit (SWMU) 1, Area of Concern (AOC) 1, AOC 28d, and the Tamarisk Thicket at the northern end of BCW.

The 2019 HHERA (Arcadis 2019) identified potential risk to three human recreator receptors (campers, hikers, and off-highway vehicle [OHV] riders) associated with potential exposure to dioxin toxicity equivalent (TEQ) and hexavalent chromium at some locations within BCW. Potential risk was also identified for one ecological receptor (desert shrew) associated with dioxin TEQ at some locations within BCW. It should be noted that a potential risk to desert shrew was also identified for total chromium and copper in some areas outside of BCW and for total chromium in SWMU 1, which is encompassed by BCW. The 2022 and 2023 NTCRA targeted soil removals in areas where excess risk was identified. The NTCRA soil removal areas in BCW and current in-place sample locations (i.e., historical and NTCRA confirmation samples remaining in place) are shown on Figures BCW-1.2a and BCW-1.2b.

Details of the NTCRA are presented in Section 2.2.3 of the Post-NTCRA HHERA Report (the “main report”), to which this appendix is attached, and are summarized in Section 1.2 as relevant to BCW. A summary of the updated human health risk assessment (HHRA) and the ecological risk assessment (ERA) results are also presented in Sections 5 and 6, respectively, of the main report. This Post-NTCRA HHERA refers to “HHRA” when discussing specific information for assessing risks to human health, “ERA” when discussing specific information for assessing risks to ecological receptors, and “HHERA” when discussing topics that are common to both the HHRA and the ERA.

Descriptions of the the HHERA methodologies are provided in the main report and the final Human Health and Ecological Risk Assessment Work Plan (RAWP) documents (Arcadis 2008, 2009, 2015) and are not repeated in this Post-NTCRA HHERA. Detailed discussions of the physical location and characteristics of the BCW potential exposure area and historical uses and sampling and analysis are presented in the 2019 HHERA (Arcadis 2019).

This Post-NTCRA HHERA summarizes use of the Pacific Gas and Electric Company (PG&E) TCS site (site), data evaluation, potential receptors, exposure pathways, and updated results of the Post-NTCRA HHERA risk characterization for soil in the BCW potential exposure area for risk-driving receptors following completion

of the NTCRA. Tables and figures specific to the BCW potential exposure area post-NTCRA HHERA are also presented in this appendix.

1.1 Summary of Site Use

BCW encompasses AOC 1, SWMU 1 (the former percolation bed), and AOC 28d. AOC 1 is located outside the facility fence line west of the TCS within BCW, as shown on Figures BCW-1.1a and BCW-1.1b. AOC 1 comprises a portion of BCW adjacent to the station and surrounding SWMU 1, as well as the portion of BCW extending to the north toward the Colorado River from SWMU 1. The investigation area is located partially on PG&E property, partially on the Havasu National Wildlife Refuge, partially on Bureau of Reclamation property (managed by Bureau of Land Management), partially on Burlington Northern Santa Fe Railroad land, and partially on Fort Mojave Indian Tribe property.

From 1951 to approximately 1971, the facility discharged wastewater containing chromium (cooling-tower blowdown) into BCW. Based on historical aerial photographs, it appears that during the 1950s the facility discharged wastewater into the wash without any impoundment. Wastewater was released to the wash through two pipes that ran from the sludge drying bed (SWMU 5) area in the lower yard downslope into BCW (only the eastern sludge drying bed was present at this time). From about 1964 to 1971, wastewater was discharged to the former percolation bed (SWMU 1), which allowed water to percolate into the ground and/or evaporate. The chromium-containing wastewater was combined with a small quantity (approximately 5%) of treated water discharged from the station oily water treatment system. An Aerial photo review indicates that, prior to the establishment of the bermed percolation bed, discharges to BCW may have extended as far downstream as the railroad tracks.

Periodic storm (high runoff) events occur in BCW, making it difficult to assess the precise nature of erosion and deposition patterns. A 2006 storm event resulted in substantial erosion in portions of the wash in the vicinity of the TCS, and a January 2010 storm event resulted in the movement of large gravel and cobbles from the southern area of BCW to the area near where AOC 4 enters BCW and as far north as the L-300A pipeline overcrossing (in the vicinity of SSB-1). North of the pipeline overcrossing, there appeared to be limited scouring and deposition in the wash and limited erosion of the wash walls within SWMU 1/AOC 1. Although there was damage to well MW-38 (installed in BCW), most of the sample location survey markers (1/8-inch lathe stakes) were still in place following the 2010 runoff event. MW-38 is also located immediately downstream of a sizable feeder wash on the west side of BCW.

Based on site reconnaissance conducted following the 2006 event, data from surface and near-surface soil sample locations collected prior to the 2006 storm event may no longer be representative of site conditions. However, soil samples collected before 2006 were included in the HHERA datasets for exposure point concentration (EPC) calculations, and the depths for these samples were not adjusted to account for the 2006 storm event because no information is available to accurately make this adjustment.

Deeper soil samples (deeper than 2 to 3 feet below ground surface [bgs]) did not appear to be affected by the 2010 storm event, are still considered reliable, and were used in the data gap evaluation in the Revised Final Soil RCRA Facility Investigation/Remedial Investigation Work Plan (CH2M Hill, Inc. 2013). Based on the visual reconnaissance of BCW, most of the soil samples collected during the 2008 Phase 1 investigation are still considered to be representative of site conditions.

More recently, high runoff conditions occurred on March 16, 2023, and some areas of significant scouring were observed in BCW. The scouring that typically occurs (and that occurred on this event) is mainly lateral, along the edges of the wash walls, in narrower areas of the wash. At these locations in BCW, 4 to 8 feet of scouring occurred on the west side of the wash walls below the equipment staging area, where Pond Access Road turns to the left. Also, 4 to 5 feet of lateral scouring occurred where the I2 road enters BCW on the east side. Further down the wash where the MW-24 bench road enters the wash (at AOC 27), about 5 feet of scouring was observed at the wash edge. Large flow events, such as the one that occurred in March 2023, do not tend to make deep gullies or channels in the bottom of the wash, rather small channels approximately 6 to 8 inches deep form as flows taper off. This pattern of erosion, with most scouring observed on lateral wash walls, is to be expected because large flows are bank-to-bank flows; channeling would not be expected at the wash bottom because any channels would be filled as they are cut. With the smaller flows that are not bank-to-bank flows, channels that get scoured are usually 8 to 12 inches deep at most.

Because scouring was observed in limited areas of BCW and minimal scouring was observed at the wash bottom, data for soil samples remaining in place (i.e., results for samples evaluated in the 2019 HHERA [Arcadis 2019] that were not excavated as part of the NTCRA and results of the confirmation samples collected after the completion of the NTCRA) were included in the updated HHERA risk characterization. For BCW, the primary source of contamination is historical direct discharge of untreated wastewater containing chromium (cooling-tower blowdown) into BCW and potential overflow or discharges from the SWMU 1 percolation bed. If released in the untreated wastewater, volatile organic compounds (VOCs) in surface soil would be expected to have been degraded by heat and light and are likely no longer present. Potential sources of dioxins and furans in the vicinity of the TCS may include historical industrial activities as well as other sources unrelated to TCS activities (i.e., unauthorized dumping and burning; regional wildfires; combustion of diesel and leaded gas; and exhaust from cars, trucks, and trains) (CH2M 2017).

Other potential sources of contamination to BCW are the following:

- Discharge from the Debris Ravine (AOC 4). Contaminants in fill/debris and surface soil in AOC 4 could have been entrained in surface water runoff and deposited in the southern portion of BCW south of SWMU 1.
- Incidental spills and stormwater runoff from the western side of the TCS (storm drains and/or sheet flow).
- Stormwater runoff from Interstate 40 (I-40) and the railroad (from culverts discharging to BCW) could have resulted in the release of total petroleum hydrocarbons (TPHs), polycyclic aromatic hydrocarbons (PAHs), dioxins/furans (diesel engine exhaust), lead, and wear metals (including barium, chromium, copper, nickel, and zinc) into BCW.
- Stormwater runoff from AOC 14 north of I-40.
- Historical dumping and military activities in the vicinity of BCW.
- Runoff from the former Workman’s Roadhouse and service station near the mouth of BCW.

Historically, constituents in surface soil in BCW may have been eroded and entrained in stormwater/surface water runoff during flooding events and may have been subsequently re-deposited downstream (further north) in BCW. Repeated erosion and deposition of soil at BCW may have resulted in mixing of surface and near-surface soil in this unit. Surface soil in BCW is the primary source medium. From surface soil, constituents

could have migrated to shallow and deeper soils. Shallow soils may act as a secondary source medium to subsurface soil, and subsurface soil may act as a secondary source medium to groundwater. Some of the contaminated wastewater may have infiltrated to affect subsurface soil and groundwater because hexavalent chromium contamination is present in groundwater underneath BCW.

The thick vegetation, widening of the channel near the end of BCW, and blockage of flow by National Trails Highway greatly reduces the energy of flow in this area during runoff events, resulting in deposition of entrained soil within the vegetated area near the mouth of BCW. This heavily vegetated portion of BCW is a long-term depositional area that has existed since before the TCS was built.

For BCW, windblown contamination from within the wash (in the southern portion of BCW around SWMU 1), is influenced by the topography of the wash. Windblown contamination, if any, is expected to be limited to surface soil.

1.2 Summary of NTCRA in Bat Cave Wash

As summarized in the NTCRA Completion Report (Jacobs 2025), the DOI selected a removal action of excavation of contaminated soil and debris at target action areas (TAAs) within the site, located in Needles, California (DOI 2021). PG&E commenced the NTCRA soil removal action on July 25, 2022, according to the DOI-approved Soil NTCRA Work Plan (Jacobs 2022), which incorporated comments from stakeholders, including DOI, U.S. Bureau of Land Management, and tribal stakeholders.

The removal action consisted of the following activities:

- Soil excavation;
- Mechanical separation and size separation of rocks, debris, and soil; and
- Disposal of the contaminated soil and debris in approved and permitted landfills.

Work associated with the NTCRA was completed on May 20, 2024.

In BCW, removal activities associated with the NTCRA were completed at three TAAs associated with SWMU 1 and three TAAs associated with AOC 1—Areas Around Former Percolation Bed. The TAAs, extents of the NTCRA removal areas (including step-out locations), and confirmation samples remaining in place are presented on Figure BCW-1.2a. Details of the removal actions, remaining contamination (if any), and confirmation sampling is presented in Section 3 of the NTCRA Completion Report (Jacobs 2025) and summarized briefly for each BCW TAA in the following list.

- SWMU1 TAA1: SWMU1 TAA1 is located in BCW west of the TCS and is primarily on PG&E property. The TAA is flat; sparsely vegetated; and covered with depositional sands, gravels, and boulders. From about 1951 to approximately 1971, the TCS discharged wastewater from the cooling towers to an impoundment in BCW, centered near SWMU1 TAA1, and allowed it to percolate into the ground or evaporate. Removal actions were conducted in four phases from October 2022 through December 2023 to address contamination that was primarily encountered in a lens of greenish-gray soil between approximately 5 and 7 feet bgs and included the removal of approximately 14,500 cubic yards of contaminated soil (Section 3.1 of the NTCRA Completion Report [Jacobs 2025]). The greenish-gray soil contained chromium, hexavalent chromium, and dioxin TEQ at concentrations exceeding the numerical removal action goals (RAGs). Other contaminants were not detected at concentrations

exceeding the numerical RAGs. The greenish-gray soil was removed during the soil NTCRA including at approved step-out locations. Some chromium- and dioxin/furan (D/F)-impacted soil remains in the northwest portion of the TAA at depths greater than 10 feet bgs. Additionally, soil with chromium and hexavalent chromium concentrations exceeding the numerical RAGs remains in the sidewall beneath the steep, native, rocky outcrop in the southeastern corner of the TAA. Removal of the contaminated material could not be completed safely due to the location beneath the steep, rocky outcrop. Eighty-two confirmation soil samples were collected from SWMU1 TAA1 as part of the NTCRA. aggregate base material from Campbell's Quarry in Lake Havasu, Arizona, was used to complete the backfill to ground surface in excavated areas.

- SWMU1 TAA2: SWMU1 TAA2 is located on the eastern slope of BCW west of the TCS. The excavation area is along the toe of the steep, inaccessible slope up to the TCS. The top of the TAA is along a slope that is sparsely vegetated and consists of native conglomerate rock covered with erosional deposits and TCS fill material sloughing down the slope. The bottom of the TAA is within BCW and consists of depositional sand, gravel, and boulders. A thick, white powder (often cemented) was intermittently visible at the toe of the slope. Chromium-contaminated soil and white powder was present within the TAA from historical discharges and impoundment of cooling-tower water for percolation in BCW. Soil NTCRA activities at SWMU1 TAA2 occurred in December 2023 and included the removal of approximately 2,816 cubic yards of contaminated soil, including overburden (Section 3.2 of the NTCRA Completion Report [Jacobs 2025]). Contamination at SWMU1 TAA2 was primarily encountered in a lens of white powder at the base of the TAA's slope at approximately 3 feet bgs. Historical soil samples collected within the TAA indicated high concentrations of chromium and hexavalent chromium associated with the white powder. Thirteen confirmation soil samples were collected and analyzed for metals and dioxin TEQ from the excavation sidewalls and floor, and their concentrations did not exceed numerical RAGs. Excavated sections were backfilled using coarse gravel, cobbles, and boulders from clean soil excavated from BCW. The rock was later covered with well-graded aggregate base soil from Campbells Quarry in Lake Havasu, Arizona, to address the Tribal Monitors' concern regarding the appearance of the slope.
- SWMU1 TAA3: SWMU1 TAA3 is located just outside the TCS fence and at the top of the slope above SWMU1 TAA2 and BCW. The TAA is sparsely vegetated and consists of fill material from the construction of the TCS. From about 1951 to approximately 1971, the facility discharged wastewater from the cooling towers to the percolation bed below the TAA. Additionally, the TAA may have been impacted from the release of surface drainage or intentional disposal of impacted materials along the hillside. Historical soil sample results indicate D/F contamination in the surface soil was present within the TAA. Removal activities at SWMU1 TAA3 began in November 2023 and were completed in January 2024 and included the removal of approximately 63 cubic yards of contaminated soil, including overburden (Section 3.3 of the NTCRA Completion Report [Jacobs 2025]). Contamination at SWMU1 TAA3 and approved step-out excavations was not visually evident, and the soil contained minimal construction debris. Chromium, lead, and dioxin TEQ concentrations infrequently exceeded the numerical RAGs. Eight confirmation soil samples were collected from SWMU1 TAA3 from the excavation sidewalls and floor at the original TAA boundary and initially proposed excavation depths, as well as at step-out locations where numerical RAGs were exceeded. Due to the location of SWMU1 TAA3 along a steep, inaccessible slope, backfill of the shallow TAA excavation was not conducted.

- AOC1 TAA1: AOC1 TAA1 is located northwest of the TCS on Caltrans right-of-way. The TAA is immediately south of the culverts beneath I-40. The area is flat, sparsely vegetated, and covered with depositional sands and gravels from BCW. From about 1951 to approximately 1971, the TCS discharged wastewater from the cooling towers to the percolation bed in BCW and allowed it to percolate into the ground or evaporate. Stormwater flow through BCW or intentional releases are suspected to have transported wastes to AOC1 TAA1. Historical sample results indicated D/F-contaminated soil was present within the TAA, with the greatest contaminant concentrations located from 2 to 3 feet bgs. NTCRA activities were conducted between February 2023 and October 2023 and resulted in removal of approximately 250 cubic yards of contaminated soil (Section 3.4 of the NTCRA Completion Report [Jacobs 2025]). Contamination at AOC1 TAA1 and approved step-out excavations was not visually evident, nor were there significant detections of metals during X-ray fluorescence screening. D/F contamination exceeding the numerical RAGs was only encountered in samples collected at 5 feet bgs. D/F-impacted soil exceeding the numerical RAGs remains in the excavation sidewall to the north of the TAA, at the base of the I-40 culverts. Removal of the contaminated soil was not conducted due to the potential of undermining the I-40 culverts. Eighteen confirmation soil samples were collected from AOC1 TAA1. Confirmation soil samples were collected at the extent of the original TAA boundary and initially proposed excavation depth, as well as at step-out locations where numerical RAGs were exceeded. Excavated areas were backfilled with aggregate base material from Campbell's Quarry in Lake Havasu, Arizona.
- AOC1 TAA2: AOC1 TAA2 is located in BCW west of the TCS and surrounds former well TCS-4 and its associated contamination. TCS-4 has been identified as a source of metals and D/F contamination due to historical TCS wastewater injection. The area is flat, sparsely vegetated, and covered with depositional sands and gravels from BCW. Removal activities at AOC1 TAA2 began in September 2023 to address greenish-gray soil containing chromium and dioxin TEQ (only at one sample location) at concentrations exceeding the numerical RAGs. Removal actions concluded in December 2023 and included the removal of approximately 2,070 cubic yards of contaminated soil (Section 3.5 of the NTCRA Completion Report [Jacobs 2025]). Contamination at AOC1 TAA2 and approved step-out excavations was primarily encountered in a lens of greenish-gray soil from approximately 5 to 7 feet bgs. The greenish-gray soil and soil with contaminants exceeding the numerical RAGs were removed during the soil NTCRA, except in the floor of the excavation below 10 feet bgs, beneath the Transwestern gas pipeline, and in the northeastern corner of the step-out excavation. Twenty-four confirmation samples were collected from the excavation sidewalls and floor. Excavated areas were backfilled with material consisting primarily of 3/4-inch-plus material (clean screened rock) resulting from the screening of BCW soil excavated during the soil NTCRA to within 2 to 3 feet of ground surface. Well-graded aggregate base material from Campbell's Quarry in Lake Havasu, Arizona, was placed in the top 2 to 3 feet.
- AOC1 TAA3: AOC1 TAA3 is located in BCW west of the TCS in an area that gently slopes to the west, is sparsely vegetated, and covered with sands and gravels. Fill material from construction of the TCS and the adjacent TCS access road are also present in the TAA. From about 1951 to approximately 1971, the TCS discharged wastewater from the cooling towers to the percolation bed in BCW and allowed it to percolate into the ground or evaporate. Contamination at the TAA is likely the result of the distribution of soil and sediments following dismantling of the percolation bed. Historical data indicated metals and dioxin TEQ contaminated soil was present within the TAA, with the greatest

contaminant concentrations within 3 feet of the surface. Excavation activities were initiated and completed in January 2023 and included the removal of approximately 128 cubic yards of contaminated soil (Section 3.6 of the NTCRA Completion Report [Jacobs 2025]). Gray, discolored soil was observed in the top 1 foot on the northern side of the excavation and to approximately 3 feet on the southern side of the excavation, likely due to the topographic change across the TAA. The gray soil contained dioxin TEQ, chromium, and hexavalent chromium at concentrations exceeding the numerical RAGs and was removed. Six confirmation soil samples were collected from the excavation sidewalls and floor from the original TAA boundary and initially proposed excavation depth as well as at step-out locations where numerical RAGs were exceeded. Backfill and site stabilization of AOC1 TAA3 was conducted in February 2023 as part of the redesign and repair of the TCS access road. Backfill consisted of well-graded aggregate base material from Campbell's Quarry in Lake Havasu, Arizona.

Soil exceeding the numerical RAGs or debris remain in a few places associated with Soil NTCRA removals as well as a few isolated locations outside of the Soil NTCRA removal areas, because it was beyond the maximum removal depth of the NTCRA or removing it may have presented a hazard to workers (e.g., located beneath unsafe steep hillside) or undermined critical infrastructure or utilities (e.g., located beneath active Transwestern gas pipeline). At the BCW potential exposure area, depth-weighted location concentrations exceeding RAGs for hexavalent chromium, total chromium, and dioxin TEQ remain in place. Section 3 of the NTCRA Completion Report (Jacobs 2025) describes the remaining contamination in each target action area and provides a list of individual confirmation samples (i.e., non-depth-weighted) exceeding the RAGs (Table 3-16 of the NTCRA Completion Report). Figure 2-4 and Table 2-1 of the main Report provide the locations and concentrations, respectively, of the depth-weighted historical and confirmation sample concentrations exceeding the RAGs, which include the following:

- Hexavalent chromium: SWMU1TAA1-CW23;
- Total chromium: PA-15; and
- Dioxin TEQ: AOC1-BCW10, AOC1-BCW28, AOC1-BCW30, AOC4-BCW3, AOC4-GB11, SD-14, and SWMU1-18.

2 DATA EVALUATION

This section summarizes the data considered for the BCW potential exposure area in the Post-NTCRA HHERA and presents the constituents of potential concern (COPCs) for human health and constituents of potential ecological concern (COPECs) identified as risk drivers in the 2019 HHERA (Arcadis 2019) as well as non-risk-driving COPCs/COPECs evaluated for BCW.

For BCW, the 2019 HHERA (Arcadis 2019) identified potential exposure to dioxin TEQ and hexavalent chromium in surface soils (0 to 0.5 foot bgs) and shallow soils (0 to 3 feet bgs) as having risk above de minimus levels (i.e., 1 x 10^{-6} for excess lifetime cancer risk and 1 for noncancer hazard index [HI]; see Section 4) for one or more human recreational receptors. The 2019 HHERA identified dioxin TEQ in surface soil (0 to 0.5 feet bgs) as having the potential for unacceptable risk to desert shrew in BCW based on hazard quotients (HQs) greater than 1 and supporting lines of evidence (LOEs) indicating potential for risk (see Section 5). The soil sample locations associated with unacceptable risk were located primarily in the SWMU 1 area of BCW.

Consistent with the approach detailed in the January 30, 2024 Technical Memo (Arcadis 2024), the HHRA evaluated post-NTCRA exposures (i.e., considering NTCRA-related excavation and placement of backfill) to hexavalent chromium, total chromium, copper, and dioxin TEQ, and pre-NTCRA exposures for the remaining non-risk-driving COPCs (i.e., EPCs from the 2019 HHERA). For the ERA, ecological receptor exposure was evaluated individually for each COPEC; evaluation of COPECs is limited to hexavalent chromium, total chromium, copper, and dioxin TEQ (identified as risk-driving COPECs in one or more site AOCs). Three scouring scenarios were evaluated (baseline, 2-foot scouring, and 5-foot scouring) in this Post-NTCRA HHERA for consistency with the scenarios evaluated in the 2019 HHERA (Arcadis 2019) and approved RAWP documents (Arcadis 2008, 2009, 2015).

The data evaluation steps for these risk-driving and non-risk-driving COPCs/COPECs are described in the sections that follow. Additionally, some additional data for non-risk-driving COPCs/COPECs were collected on a limited basis as part of the NTCRA and were evaluated as described in the sections that follow.

2.1 Data Evaluation for Risk-Driving COPCs and COPECs

For risk-driving COPCs (dioxin TEQ and hexavalent chromium) and COPECs (dioxin TEQ) identified for BCW in the 2019 HHERA (Arcadis 2019) as well as total chromium and copper (risk-driving COPCs or COPECs at some other site exposure areas), all soil sampling locations currently in place (i.e., not excavated as part of the NTCRA) at BCW were evaluated in this Post-NTCRA HHERA. The Post-NTCRA HHERA dataset for BCW includes results for in-place samples evaluated in the 2019 HHERA and in-place NTCRA confirmation samples. It should be noted that additional NTCRA data for other non-risk-driving constituents are discussed in Section 2.3.

All soil sampling locations currently in place at BCW are presented on Figure BCW-1.2a (South) and Figure BCW-1.2b (North) and in Table BCW-1.1. Details of the soil sampling and analysis conducted as part of the NTCRA are presented in the NTCRA Completion Report (Jacobs 2025); details of the soil sampling and analysis for the remaining samples are described in the RAWP documents (Arcadis 2008, 2009, 2015) and 2019 HHERA (Arcadis 2019). For the baseline, 2-foot scouring, and 5-foot scouring scenarios, soil data from 0 to 10 feet bgs were evaluated in this Post-NTCRA HHERA to account for potential soil exposures for risk-driving receptors (i.e., camper, hiker, OHV rider, and desert shrew) that may occur at surface soils (e.g., 0 to

0.5 foot bgs in the baseline scenario) or shallow soils (e.g., 0 to 3 feet bgs in the baseline scenario). Because potential soil contact does not extend below 10 feet bgs for these receptors and scouring scenarios, deeper soil data (i.e., greater than 10 feet bgs) were excluded from the Post-NTCRA HHERA risk evaluation, as noted in Table BCW-1.1.

Following the steps outlined in Section 3 of the main report, soil data considered usable for risk assessment were identified and used in the quantitative post-NTCRA HHERA. Samples representing soil that was excavated as part of the NTCRA were excluded from the dataset, and current sample top and bottom depths (reflecting excavation and/or placement of fill material) were used (Table BCW-1.1). The post-NTCRA soil data are presented in Attachment BCW-A1 and include the following:

- Pre-NTCRA Data: For pre-NTCRA data, the dataset includes results for site risk drivers (i.e., dioxin TEQ, hexavalent chromium, total chromium, and copper) from the 2019 HHERA dataset (Arcadis 2019) where those samples remain in place.
- NTCRA Confirmation Sampling Data: The dataset includes results for site risk drivers (i.e., dioxin TEQ, hexavalent chromium, total chromium, and copper) from confirmation samples that currently remain in place.

2.2 Data Evaluation for Non-Risk-Driving COPCs

As noted above, EPCs for non-risk-driving COPCs used in the 2019 HHERA (Arcadis 2019) were also used in this Post-NTCRA HHERA, as calculated from the pre-NTCRA soil dataset. As discussed in Section 5.5.2 of the main report, use of pre-NTCRA soil data for non-risk-driving COPCs is a conservative approach that is likely to overestimate post-NTCRA concentrations of these COPCs. Thus, the data evaluation steps are as described in detail in Section 3 of the 2019 HHERA. The soil sampling locations for the 2019 HHERA dataset at BCW are presented on Figure BCW-1.1a (South) and Figure BCW-1.1b (North) and in Table BCW-1.1 of the 2019 HHERA. The data were evaluated based on methodology described in the RAWP documents (Arcadis 2008, 2009, 2015). The soil data (including white powder) are presented in the 2019 HHERA. It should be noted that for this Post-NTCRA HHERA, only surface soil (0 to 0.5 foott bgs, or equivalent depths in the scouring scenarios) and shallow soil (0 to 3 feet bgs, or equivalent depths in the scouring scenarios) were evaluated.

Soil data evaluated in the 2019 HHERA (Arcadis 2019) for BCW include samples collected from AOC 1, AOC 28d, SWMU 1, BCW, and the Tamarisk Thicket area (Figures BCW-1.1a and BCW-1.1b). In addition to the soil data from BCW, samples classified as soils transitioning to sediment from two locations (AOC1-BCW6 and SS-1) were included as part of the BCW soil evaluation (Figure BCW-1.1b). Because samples from seven AOC 4 locations (AOC4-1 and AOC4-BCW1 through AOC4-BCW6) and one AOC 14 location (RR-1; evaluated as part of BCW and also as part of AOC 14) are within the BCW potential exposure area (Figure BCW-1.1a), samples from these locations were included as part of the BCW dataset. In addition, samples from seven perimeter area locations (PA-01, PA-03, PA-04, PA-14 through PA-17) and nine storm drain locations (SD-14 through SD-19, SD-25, SD-26, and SD-OD33) were assigned to the BCW potential exposure area (Figure BCW-1.1a). Soil sampling was conducted at the mouth of AOC 4 where it enters BCW at the south end of BCW as part of the AOC 4 time-critical removal action. During the installation of gabions near the mouth of AOC 4, some soil was excavated and removed. Four sample locations (AOC4-GB10, AOC4-GB11,

AOC4-GB12, and AOC4-1) are the only sample locations remaining in that area; these were evaluated as part of BCW and also as part of AOC 4.

For the BCW potential exposure area, soil data are available from 783 samples (Table BCW-1.1), of which soil data from 656 samples collected from 0 to 15 feet bgs were considered for use in the 2019 HHERA (i.e., data from 127 samples collected at depths greater than 15 feet bgs were excluded from the 2019 HHERA) (Arcadis 2019).

In addition, 10 samples collected in 1998 from seven locations with no sample depth information were excluded from the 2019 HHERA (Arcadis 2019). The excluded historical samples from these seven locations were Bank-b, Bank-WP, P-1, P-2, T-1, T-2, and WP-Floor, all collected within SWMU 1. However, because newer samples were collected in, at, or near these locations, the exclusion of these 10 samples is unlikely to impact the COPC/COPEC selection and EPC calculations.

Within this dataset, some PAH analytical data did not meet data quality criteria; therefore, non-detect results were qualified as rejected with an "R" data qualifier (as discussed in RFI/RI Report Volume 3 [Jacobs 2024]). This occurred for all PAHs in two samples (AOC1-BCW24-245 and AOC1-BCW26-253) and a subset of PAHs in two additional samples (AOC1-BCW24-244 and AOC1-BCW26-252). These "R" qualified PAH data were not included in the 2019 HHERA (Arcadis 2019).

Data processed for the 2019 HHERA (e.g., calculation of total concentrations for low molecular weight and high molecular weight PAHs, benzo(a)pyrene equivalent [B(a)PEQ], polychlorinated biphenyls [PCBs], and dioxin TEQ) are described in detail in Section 3 of the 2019 HHERA (Arcadis 2019).

The process for identifying COPCs and COPECs is detailed in Section 3.4 of the 2019 HHERA (Arcadis 2019). COPCs and COPECs were selected for the BCW potential exposure area using soil data encompassing all relevant exposure depths for the HHERA (i.e., 0 to 15 feet bgs for BCW) presented in Attachment BCW-A1 to the 2019 HHERA. Inorganic compounds, low molecular weight PAHs, high molecular weight PAHs, B(a)PEQ, and dioxin TEQ had concentrations above background threshold values (BTVs) in BCW soil (0 to 15 feet bgs) and, therefore, are included as COPCs and/or COPECs in the baseline, 2-foot scouring, and 5-foot scouring exposure depths evaluated in the HHERA. When B(a)PEQ was detected above background levels, carcinogenic PAHs (i.e., benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, dibenzo(a,h)anthracene, chrysene, and indeno(1,2,3-cd)pyrene) associated with B(a)PEQ were also selected as COPCs in the HHRA for the evaluation of the noncancer endpoint for each individual PAH. All other detected organic constituents in the BCW potential exposure area soil in the baseline, 2-foot scouring, and 5-foot scouring exposure depths are included as COPCs and/or COPECs in the 2019 HHERA. COPCs and/or COPECs selected for exposure depths and scenarios evaluated in the 2019 HHERA for BCW and relevant for the applicable depths evaluated in this Post-NTCRA HHERA are summarized in Section 3.

2.3 Evaluation of Additional Data

In some cases, NTCRA confirmation samples were also analyzed for other constituents, including a few metals (lead, mercury, molybdenum, and/or zinc). These data were not included in the Post-NTCRA HHERA exposure estimates. Instead, measured concentrations of in-place confirmation samples were compared to the range of concentrations observed in the 2019 HHERA dataset (Arcadis 2019). This evaluation is presented in Table BCW-2.1 for the baseline scenario, Table BCW-2.2 for the 2-foot scouring scenario, and

Table BCW-2.3 for the 5-foot scouring scenario. The concentration ranges between the 2019 HHERA dataset and in-place NTCRA confirmation samples are similar. Maximum concentrations were lower in the in-place NTCRA confirmation samples relative to the 2019 HHERA dataset for all constituents and depth scenarios except for lead in the baseline scouring scenario.

For lead in the baseline scouring scenario, 5 in-place NTCRA samples in the 0 to 0.5 foot bgs interval and 13 in-place NTCRA samples in the 0 to 3 foot bgs interval are included in the post-NTCRA dataset. Average (i.e., Kaplan–Meier mean) soil lead concentrations in the in-place NTCRA samples are less than two times greater than those in the 2019 HHERA dataset (Arcadis 2019) yet still below levels of concern. The maximum lead concentration for in-place NTCRA samples (35 milligrams per kilogram [mg/kg] for both the 0 to 0.5 foot bgs interval and 0 to 3 foot bgs interval) is less than the current risk-based screening level for human health (80 mg/kg; Office of Environmental Health Hazard Assessment [OEHHA] 2009) and less than soil screening levels evaluated for protection of ecological communities in the 2019 HHERA (120 mg/kg for plants and 1,700 mg/kg for soil invertebrates). Additionally, lead was not identified as a risk driver for wildlife in BCW in the 2019 HHERA. Therefore, risk conclusions would not change for human or ecological receptors based on current concentrations in soil.

The screening evaluation indicates that EPCs evaluated for lead, mercury, molybdenum, and zinc in the HHRA based on values calculated from the 2019 HHERA dataset (Arcadis 2019) are likely a conservative estimate of current post-NTCRA exposures in BCW. Exclusion of the in-place NTCRA confirmation samples for these constituents is not expected to materially change the risk estimates or conclusions of this Post-NTCRA HHERA.

3 EXPOSURE POINT CONCENTRATIONS

Depth-weighted and area-weighted EPCs for COPCs/COPECs in soil at the BCW potential exposure area were calculated as described in Section 4.2 of the main report. As noted in Section 2, EPCs for dioxin TEQ, hexavalent chromium, total chromium, and copper were calculated from the post-NTCRA dataset. In addition, EPCs from the 2019 HHERA (Arcadis 2019) for remaining non-risk-driving COPCs were used in this Post-NTCRA HHERA to estimate cumulative risk to human receptors. Consistent with the scenarios evaluated in the 2019 HHERA, three scenarios were evaluated for the BCW potential exposure area: (1) baseline (no scouring), (2) 2-foot scouring, and (3) 5-foot scouring. The evaluated exposure depths are shown in Exhibit BCW-3.1. Deeper soil intervals were not evaluated because the risk-driving receptors are potentially exposed only to surface and shallow soil.

Exhibit BCW-3.1 Exposure Depths

Baseline Scenario	2-Foot Scouring Scenario	5-Foot Scouring Scenario
Surface soil (0 to 0.5 foot bgs)	Surface soil (2 to 3 feet bgs)	Surface soil (5 to 6 feet bgs)
Shallow soil (0 to 3 feet bgs)	Shallow soil (2 to 6 feet bgs)	Shallow soil (5 to 10 feet bgs)

The depth-weighted data used in the calculation of depth-weighted EPCs for dioxin TEQ, hexavalent chromium, total chromium, and copper are presented in Attachment BCW-A2. The summary statistics for these BCW potential exposure area soil depth-weighted datasets and depth-weighted EPCs were calculated in a manner consistent with the RAWP documents (Arcadis 2008, 2009, 2015). In accordance with the RAWP, area-weighted EPCs for the HHRA were evaluated only if depth-weighted EPCs suggested that cumulative cancer risks and/or noncancer hazards may be significant for any given HHRA exposure scenario (i.e., cumulative cancer risks exceed a 1×10^{-6} cancer risk level and/or the noncancer HI exceeds 1). Similarly, for the ERA, area-weighted EPCs were evaluated for consistency with the scenarios evaluated in the 2019 HHERA but only discussed if depth-weighted EPCs suggested potential risk to ecological receptors (i.e., HQ greater than 1 for any COPEC). For the BCW potential exposure area, area-weighted EPCs were deemed necessary for either the HHRA or the ERA and, therefore, were calculated. The area-weighted data used in the calculation of area-weighted EPCs and the Thiessen polygon figures representing the area-weighted EPCs are presented in Attachment BCW-A3.

In some cases, the area-weighted EPCs are greater than the depth-weighted EPCs, such as for total chromium in surface soil for the 2-foot scouring scenario in the BCW potential exposure area. In this case, the depth-weighted EPC for total chromium (50.13 mg/kg) is based on a different upper confidence limit (UCL) method (Student's t UCL) than the area-weighted EPC (71.8 mg/kg, calculated using the bias-corrected accelerated bootstrap UCL method). Both UCL methods are noted by ProUCL to produce stable and unbiased UCL estimates that are unlikely to overestimate or underestimate the true expected UCL value (United States Environmental Protection Agency [USEPA] 2022). The difference in the UCL values (less than 50%) can be attributed to the effect of area-weighting as well as to the different UCL methods employed.

In accordance with the 2019 HHERA (Arcadis 2019), if the soil dataset had fewer than four detected values (i.e., concentrations reported above the detection limit) or fewer than eight total observations, the EPC defaulted to the maximum depth-weighted concentration in that dataset.

Tables BCW-3.1, BCW-3.2, and BCW-3.3 present soil summary statistics for constituents measured at the BCW potential exposure area and depth- and area-weighted EPCs for COPCs/COPECs calculated using depth-weighted data from the exposure depths listed in this section for BCW for the baseline, 2-foot scouring, and 5-foot scouring scenarios, respectively. It should be noted that the list of constituents shown in the Section 3 tables is based on analytes that were detected at least once at the site (including all exposure areas inside or outside the TCS) in the 2019 HHERA(Arcadis 2019). These tables also present the basis of the calculated depth- and area-weighted EPCs, including whether the EPC is based on the maximum detected concentration.

4 HUMAN HEALTH RISK ASSESSMENT

This section briefly summarizes the HHRA approach used for this Post-NTCRA HHERA; presents the COPC, EPC, risk, and hazard summary tables; and discusses the results of the risk characterization and uncertainties in the risk assessment for the BCW potential exposure area. Details of the overall HHRA approach are presented in Section 5 of the 2019 HHERA (Arcadis 2019). Dose, exposure concentration (EC), risk, and hazard calculation tables for human health receptors at the BCW potential exposure area are presented in Attachment BCW-B for depth-weighted EPCs.

As stated in the 2019 HHERA (Arcadis 2019), risks/hazards estimated for an individual AOC, SWMU, or undesignated area (UA) potential exposure area such as BCW are not considered representative of the realistic or likely potential exposures for the human populations that could be present in the areas outside the TCS (such as recreational users). Risks/hazards calculated separately for individual AOCs are conservative and likely overestimate site risks/hazards. As described in the RAWP documents (Arcadis 2008, 2009, 2015), these human populations would more likely be exposed randomly, over the course of a lifetime, to soil present in all individual AOC/SWMU/UA potential exposure areas located outside the TCS, rather than have a lifetime of contact limited to the area of a single potential exposure area. Therefore, estimated risks/hazards presented for individual AOC/SWMU/UA potential exposure areas are not believed to be representative of the potential health risks to humans potentially contacting the soil outside the TCS. As stated previously, the Post-NTCRA HHERA provides updated risk estimates for human health and the environment based on potential exposures to current soil conditions in the NTCRA areas. Therefore, updated risk estimates were not performed for the OCS potential exposure area in the Post-NTCRA HHERA. It is noted that due to NTCRA soil removal, the potential post-NTCRA soil risks for the OCS are likely lower than estimated in the 2019 HHERA. The HHRA results and conclusions of the 2019 HHERA and of this Post-NTCRA HHERA will be considered for making risk-management decisions for the site in the Corrective Measure Study/Feasibility Study to be prepared for the site.

The estimated risks and hazards associated with a lifetime of contact with soil only in the BCW potential exposure area are presented as described in the RAWP (Arcadis 2008) to provide perspective on this unique area. Because wastewater was routinely discharged to this area, it is a known source of the groundwater plume (and has some of the highest concentrations of hexavalent chromium in soil) and is, therefore, distinct from both a historical use and a geographical perspective (Arcadis 2008).

4.1 Human Health Conceptual Site Model

Following the steps outlined in Section 5.3.1 of the 2019 HHERA (Arcadis 2019), updated risks were estimated for potentially complete and significant exposure pathways identified in the human health conceptual site model for risk-driving receptors potentially exposed to COPCs in soil present at the BCW potential exposure area, as identified in the 2019 HHERA. These included incidental ingestion of soil, dermal contact with soil, and inhalation of particulates and VOC vapors in ambient outdoor air from soil for recreational users (child and/or adult campers, hikers, and OHV riders).

Potential exposure pathways considered incomplete or insignificant were not quantitatively evaluated and are discussed in Section 5.3.1 of the 2019 HHERA (Arcadis 2019).

4.2 Constituents of Potential Concern

COPCs for the BCW potential exposure area were selected in accordance with the RAWP (Arcadis 2008) and as described in Section 3.4 of the 2019 HHERA (Arcadis 2019). COPCs for the BCW potential exposure area evaluated in this Post-NTCRA HHERA are the same as the COPCs for the BCW potential exposure area evaluated in the 2019 HHERA. Soil data used in the COPC selection process encompassing all relevant exposure depths for this Post-NTCRA HHERA (i.e., 0 to 10 feet bgs for BCW) are presented in Attachment BCW-A of the 2019 HHERA. COPCs for the two exposure depths (surface and shallow) for the recreational users (i.e., camper, hiker, and OHV rider) and three scenarios evaluated for the BCW HHRA in this Post-NTCRA HHERA are summarized in Tables BCW-4.1a through BCW-4.1c for the baseline, 2-foot scouring, and 5-foot scouring scenarios, respectively. COPCs selected for Subsurface I or II soil in the 2019 HHERA are also shown in these tables, however, only the EPCs for volatile compounds for these depth intervals are used in the estimates of outdoor vapor concentrations in the quantitative HHRA for the evaluation of the outdoor vapor inhalation pathway. The EPCs for COPCs for Subsurface I or II soils were not updated in this this Post-NTCRA HHERA and are the same as presented in the 2019 HHERA.

COPCs included metals (antimony, hexavalent chromium, total chromium, cobalt, copper, lead, mercury, thallium, and zinc) and inorganic compounds (nitrate, orthophosphate, and phosphate), one VOC (methyl acetate), one semi-volatile organic compound (SVOC; bis (2-ethylhexyl) phthalate), PAHs, PCBs, dioxin TEQ, TPH as diesel, and TPH as motor oil in surface and shallow soils.

4.3 Exposure Point Concentration Summary

For the potentially complete and significant exposure pathways identified in the conceptual site model, EPCs were calculated as described in Section 4.2 of the main report and presented in Section 3 of this appendix. Depth-weighted data used in the calculation of depth- and area-weighted EPCs are presented in Attachment BCW-A. The following tables summarize the depth-weighted EPCs for COPCs in soil and estimated outdoor air concentrations associated with dust and used to estimate risk for the exposure depths and scenarios evaluated in the HHRA:

- Tables BCW-4.2a and BCW-4.2b for the two exposure depths in the baseline scenario;
- Tables BCW-4.3a and BCW-4.3b for the two exposure depths in the 2-foot scouring scenario; and
- Tables BCW-4.4a and BCW-4.4b for the two exposure depths in the 5-foot scouring scenario.

As described in detail in Section 5.3.3 of the 2019 HHERA (Arcadis 2019), surface and shallow soil exposure depths and corresponding EPC datasets for recreational users (child and/or adult campers, hikers, and OHV riders) were used to evaluate potential exposure to COPCs in soil for human receptors identified as risk-driving receptors in the 2019 HHERA.

4.4 Estimation of Exposure Dose

The EC and chronic daily intake for carcinogenic and noncarcinogenic effects were calculated, as described in Section 5.5.1 of the 2019 HHERA (Arcadis 2019), for COPCs in soil for complete exposure pathways. The calculated EC and chronic daily intake values using depth-weighted EPCs for the exposure scenarios evaluated in the HHRA are presented in the following Attachment BCW-B tables:

- Tables BCW-B1.1a through BCW-B1.1c (carcinogenic effects) and Tables BCW-B1.2a through BCW-B1.2c (noncarcinogenic effects) for the baseline scenario;
- Tables BCW-B1.6a through BCW-B1.6c (carcinogenic effects) and Tables BCW-B1.7a through BCW-B1.7c (noncarcinogenic effects) for the 2-foot scouring scenario; and
- Tables BCW-B1.11a through BCW-B1.11c (carcinogenic effects) and Tables BCW-B1.12a through BCW-B1.12c (noncarcinogenic effects) for the 5-foot scouring scenario.

Exposure parameters for recreational users used in the dose calculations were presented in Table 5-1 of the 2019 HHERA and are presented in Table 5-1 of the main report.

4.5 Toxicity Assessment

The toxicity assessment characterizes the relationship between the magnitude of exposure to a constituent and the potential for adverse health effects. More specifically, the toxicity assessment identifies agency-promulgated or derived toxicity values that can be used to estimate the likelihood of adverse health effects occurring in humans at different exposure levels. The approach for the toxicity assessment was provided in Section 4.5 of the RAWP (Arcadis 2008) and in Section 4.2 of the Final Human Health and Ecological Risk Assessment Work Plan Addendum 2 (Arcadis 2015). In a manner consistent with regulatory risk assessment policy, adverse health effects resulting from potential chemical exposures were evaluated in two categories: carcinogenic effects and noncarcinogenic effects. The hierarchy of sources for the toxicity criteria to be used for this Post-NTCRA HHERA has been updated from the 2019 HHERA (Arcadis 2019) and is compliant with the September 4, 2018 “Toxicity Criteria for Human Health Risk Assessments, Screening Levels, and Remediation Goals” rule (Title 22, California Code of Regulations, sections 68400.5, 69020-69022). Toxicity values for carcinogenic and noncarcinogenic effects for COPCs selected and used for the HHRA are described in Section 5.3 of the main report and were used to estimate potential cancer risks and noncancer hazards described in this Post-NTCRA HHERA.

4.6 Human Health Risk Characterization

For potential human receptors, assuming lifetime soil exposure is limited to the BCW potential exposure area, the estimated incremental lifetime cancer risks (ILCRs) and/or noncancer HQs were calculated for each COPC and potentially complete exposure pathway. Estimated cumulative ILCRs (i.e., sum of chemical-specific ILCRs for each exposure depth for a scenario) were calculated and compared to the DTSC point of departure for a risk management decision of 1×10^{-6}. It should be noted that risk management decisions may increase this criterion depending on site-specific conditions. As indicated in the National Oil and Hazardous Substances Pollution Contingency Plan (40 Code of Federal Regulations 300), cancer risks between a one in a million and a one hundred in a million probability of occurrence (1×10^{-6} and 1×10^{-4}) fall within a risk management range that is generally referred to as the acceptable risk range. Within this estimated cancer risk range, there is flexibility for risk managers in deciding what action, if any, is necessary and appropriate for the protection of human health. Fish and Wildlife’s cancer risk threshold level is ten in a million (1×10^{-5}) for soil deeper than 2 feet below ground surface (February 12, 2021 Topock Soil EE/CA Response to Comment Consultation Meeting Agenda). Estimated cumulative noncancer hazards (i.e., HIs) are calculated and compared to an HI of 1 (DTSC 2015). Chemical exposures that yield HIs of less than or equal to 1 are not expected to result in adverse noncancer health effects (USEPA 1989).

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

Table BCW-4.5a summarizes cumulative ILCRs and HIs estimated for exposure to soil for each potential human receptor at the BCW potential exposure area in the baseline scenario, calculated using depth-weighted EPCs. The dose, EC, ILCR, and HI equations are presented in detail in Section 5.5 of the 2019 HHERA (Arcadis 2019). The detailed cancer risk estimates (Tables BCW-B1.3a through BCW-B1.3c) and noncancer hazard calculations (Tables BCW-B1.4a through BCW-B1.4c) are presented in Attachment BCW-B.

Risk and hazard estimates for the baseline scenario are summarized in Exhibit BCW-4.1 and discussed in this section. Assuming lifetime soil contact is limited to the BCW potential exposure area, the depth-weighted estimated cumulative ILCRs and/or HIs for each receptor potentially exposed to COPCs in BCW soil at all exposure depths are below or at the de minimis levels of 1 x 10^{-6} and 1, respectively, for the camper, hiker and OHV rider.

Exhibit BCW-4.1 Baseline Depth-Weighted Estimated Cumulative Incremental Lifetime Cancer Risk and Hazard Index for the BCW Potential Exposure Area for Recreational Users

Potential Receptor	Exposure Depth	Cumulative ILCR	ILCR Drivers	HI	HI Drivers
Camper	Surface	3E-07	NA	0.1	NA
Camper	Shallow	3E-07	NA	0.1	NA
Hiker	Surface	7E-07	NA	0.2	NA
Hiker	Shallow	5E-07	NA	0.2	NA
OHV rider	Surface	5E-07	NA	0.04	NA
OHV rider	Shallow	5E-07	NA	0.03	NA

Notes:
1. ILCR and HI drivers are presented only for estimated cumulative ILCRs above 1 x 10^{-6} and estimated HIs above 1.
NA = not applicable

The depth-weighted estimated cumulative ILCRs for the camper, hiker, and OHV rider potentially exposed to COPCs in surface and shallow soils in the BCW potential exposure area under the baseline scenario (Tables BCW-B1.3a and BCW-B1.3c in Attachment BCW-B) are below 1 x 10^{-6}, the point of departure for risk management decisions.

Assuming lifetime soil contact is limited to the BCW potential exposure area, the depth-weighted estimated HIs for the camper, hiker, and OHV rider potentially exposed to COPCs in surface and shallow soils under the baseline scenario are below 1 (Tables BCW-B1.4a, BCW-B1.4b, and BCW-B1.4c, respectively, in Attachment BCW-B). The depth-weighted EPCs for lead in surface and shallow soils at the BCW potential exposure area under the baseline scenario are not expected to result in an increase in blood lead levels above the OEHHA benchmark value of 1 microgram per deciliter (µg/dL) for child recreational users (Tables BCW-B1.5a through BCW-B1.5f in Attachment BCW-B).

4.6.2 Risk Characterization for Exposure to Soil (2-Foot Scouring Scenario and Depth-Weighted EPCs)

In accordance with the RAWP (Arcadis 2008), and as a highly conservative approach to potential future conditions, scouring scenarios were considered in this Post-NTCRA HHERA. This section presents estimated risks and hazards associated with potential soil contact for the BCW potential exposure area assuming that the top 2 feet of soil have been removed due to natural scouring events. The evaluated soil exposure depths were still designated as surface and shallow, with the surface assumed to be 2 feet below current topography. EPCs for the scouring scenario are provided in Table BCW-3.2.

Table BCW-4.5b summarizes the cumulative ILCRs and HIs estimated for exposure to soil for each potential human receptor at the BCW potential exposure area in the 2-foot scouring scenario, calculated using depth-weighted EPCs. The dose, EC, ILCR, and HI equations are presented in detail in Section 5.5 of the 2019 HHERA (Arcadis 2019). The detailed cancer risk estimates (Tables BCW-B1.8a through BCW-B1.8c) and noncancer hazard calculations (Tables BCW-B1.9a through BCW-B1.9c) are presented in Attachment BCW-B.

Risk and hazard estimates for the 2-foot scouring scenario are summarized in Exhibit BCW-4.2 and discussed in this section. Assuming lifetime soil contact is limited to the BCW potential exposure area, the depth-weighted estimated cumulative ILCRs and HIs for the camper, hiker, and OHV rider exposed to COPCs in BCW potential exposure area soils at all exposure depths are below 1 x 10^{-6} and 1, respectively.

Exhibit BCW-4.2 2-Foot Scouring Depth-Weighted Estimated Cumulative Incremental Lifetime Cancer Risk and Hazard Index for the BCW Potential Exposure Area for Recreational Users

Potential Receptor	Exposure Depth	Cumulative ILCR	ILCR Drivers	HI	HI Drivers
Camper	Surface	2E-07	NA	0.03	NA
Camper	Shallow	2E-07	NA	0.07	NA
Hiker	Surface	4E-07	NA	0.07	NA
Hiker	Shallow	4E-07	NA	0.1	NA
OHV rider	Surface	4E-07	NA	0.02	NA
OHV rider	Shallow	5E-07	NA	0.03	NA

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

Under the 2-foot scouring scenario, the depth-weighted estimated cumulative ILCRs for the camper, hiker, and OHV rider potentially exposed to COPCs in surface and shallow soil in the BCW potential exposure area (Tables BCW-B1.8c and BCW-B1.8c in Attachment BCW-B) are below 1 x 10^{-6}, the point of departure for risk management decisions.

Assuming lifetime soil contact is limited to the BCW potential exposure area, the depth-weighted estimated cumulative HIs for the camper, hiker, and OHV rider potentially exposed to COPCs in surface and shallow

soils under the 2-foot scouring scenario are below 1 (Tables BCW-B1.9a through BCW-B1.9c in Attachment BCW-B). The depth-weighted EPCs for lead in surface and shallow soils at the BCW potential exposure area under the 2-foot scouring scenario are not expected to result in an increase in blood lead levels above the OEHHA benchmark value of 1 µg/dL for child recreational users (Tables BCW-B1.10a through BCW-B1.10f in Attachment BCW-B).

4.6.3 Risk Characterization for Exposure to Soil (5-Foot Scouring Scenario and Depth-Weighted EPCs)

In accordance with the RAWP (Arcadis 2008), and as a highly conservative approach to potential future conditions, scouring scenarios were considered in this Post-NTCRA HHERA. This section presents estimated risks and hazards associated with potential soil contact for the BCW potential exposure area assuming that the top 5 feet of soil have been removed due to natural scouring events. The evaluated soil exposure depths were designated as surface and shallow, with the surface assumed to be 5 feet below current topography. EPCs for the scouring scenario are provided in Table BCW-3.3.

Table BCW-4.5c summarizes the cumulative ILCRs and HIs estimated for exposure to soil for each potential human receptor at the BCW potential exposure area in the 5-foot scouring scenario, calculated using depth-weighted EPCs. The dose, EC, ILCR, and HI equations are presented in detail in Section 5.5 of the 2019 HHERA (Arcadis 2019). The detailed cancer risk estimates (Tables BCW-B1.13a through BCW-B1.13c) and noncancer hazard calculations (Tables BCW-B1.14a through BCW-B1.14c) are presented in Attachment BCW-B.

As summarized in Exhibit BCW-4.3 and discussed in this section, for the 5-foot scouring scenario, the depth-weighted estimated cumulative ILCRs and HIs for the camper, hiker, and OHV rider potentially exposed to COPCs in the BCW potential exposure area soils at all exposure depths are below 1 x 10^{-6} and 1, respectively. HI estimates are at or below 1 for all receptors.

Exhibit BCW-4.3 5-Foot Scouring Depth-Weighted Estimated Cumulative Incremental Lifetime Cancer Risk and Hazard Index for the BCW Potential Exposure Area for Recreational Users

Potential Receptor	Exposure Depth	Cumulative ILCR	ILCR Drivers	HI	HI Drivers
Camper	Surface	2E-07	NA	0.1	NA
Camper	Shallow	2E-07	NA	0.1	NA
Hiker	Surface	4E-07	NA	0.2	NA
Hiker	Shallow	5E-07	NA	0.2	NA
OHV rider	Surface	4E-07	NA	0.04	NA
OHV rider	Shallow	5E-07	NA	0.04	NA

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

Under the 5-foot scouring scenario, the depth-weighted estimated cumulative ILCRs for the camper, hiker, and OHV rider potentially exposed to COPCs in surface and shallow soil in the BCW potential exposure area (Tables BCW-B1.13a through BCW-B1.13c in Attachment BCW-B) are below 1×10^{-6}, the point of departure for risk management decisions.

Assuming lifetime soil contact is limited to the BCW potential exposure area, the depth-weighted estimated cumulative HIs for the camper, hiker, and OHV rider potentially exposed to COPCs in surface and shallow soils under the 5-foot scouring scenario are below an HI of 1 (Tables BCW-B1.14a through BCW-B1.14c in Attachment BCW-B). The depth-weighted EPCs for lead in surface and shallow soils at the BCW potential exposure area under the 5-foot scouring scenario are not expected to result in an increase in blood lead levels above the OEHHA benchmark value of 1 µg/dL for child recreational users (Tables BCW-B1.15a through BCW-B1.15f in Attachment BCW-B).

4.6.4 Uncertainties in the Risk Assessment

This risk assessment includes several uncertainties that warrant discussion. Many of the assumptions used in this risk assessment regarding the representativeness of the sampling data, potential human exposures, fate and transport modeling, and chemical toxicity are conservative, follow agency guidance, and reflect a 90th or 95th percentile value rather than a typical or average value. The use of several conservative exposure assumptions and toxicity estimates can introduce considerable uncertainty into the risk assessment. By using conservative exposure assumptions or toxicity estimates, the assessment can develop a significant conservative bias that may result in the calculation of significantly higher estimates for cancer risks or noncancer hazards than are actually posed by the chemicals present in soil. These uncertainties are discussed in detail in Section 5.6 of the 2019 HHERA (Arcadis 2019). Uncertainties applicable only to the risk assessment for the BCW potential exposure area are discussed in detail in this section.

Additional uncertainties for the BCW potential exposure area include the use of the maximum depth-weighted soil concentration as the EPC. The maximum depth-weighted soil concentration was used for COPCs when the soil dataset had fewer than four detected values (i.e., concentrations reported above the detection limit) or fewer than eight total observations as shown in Tables BCW-3.1, BCW-3.2, and BCW-3.3 for the baseline, 2-foot scouring, and 5-foot scouring scenarios, respectively.

For the BCW potential exposure area in the baseline scenario, the maximum depth-weighted concentration was used as the EPC for the following COPCs:

- Surface soil: metals (antimony and thallium), one SVOC (bis(2-ethylhexyl) phthalate), PAHs (anthracene, dibenzo(a,h)anthracene, and naphthalene), and inorganic compounds (nitrate and phosphate); and
- Shallow soil: metals (antimony and thallium), one VOC (methyl acetate), one SVOC (bis(2-ethylhexyl) phthalate, PAHs (anthracene and naphthalene), and inorganic compounds (nitrate and phosphate).

For the BCW potential exposure area in the 2-foot scouring scenario, the maximum depth-weighted concentration was used as the EPC for the following COPCs:

- Surface soil: metals (antimony and mercury), one SVOC (bis(2-ethylhexyl) phthalate), and PAHs (anthracene, dibenzo(a,h)anthracene, and naphthalene); and

- Shallow soil: one metal (thallium), one VOC (methyl acetate), one SVOC (bis(2-ethylhexyl) phthalate), PAHs (anthracene, dibenzo(a,h)anthracene, and naphthalene), and inorganic compounds (nitrate and phosphate).

For the BCW potential exposure area in the 5-foot scouring scenario, the maximum depth-weighted concentration was used as the EPC for the following COPCs:

- Surface soil: one metal (thallium), one SVOC (bis(2-ethylhexyl) phthalate), PAHs (anthracene, dibenzo(a,h)anthracene, indeno(1,2,3-cd)pyrene, and phenanthrene), and TPH as diesel; and
- Shallow soil: one metal (thallium), one SVOC (bis(2-ethylhexyl) phthalate), PAHs (2-methylnaphthalene, anthracene, dibenzo(a,h)anthracene, fluorene, indeno(1,2,3-cd)pyrene, and naphthalene), total PCBs, and TPH as diesel.

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

This baseline risk assessment assumes that contact with soil is not limited by the presence of engineering or institutional controls in the future. The potential health risks estimated for recreational users do not account for potential vegetative covering, unsuitable topography (e.g. steep slopes) and backfill material cover placed during or after completion of NTCRA activities outside the TCS that would reduce exposure below that assumed in this analysis. In addition, as recommended by DOI (Arcadis 2015), it is assumed that each of the recreational activities could take place at any location on federal land. However, specific locations may be preferred for certain activities, while other locations may be less attractive or may have limited recreational options. BCW encompasses AOC 1, SWMU 1 (the former percolation bed), and AOC 28d. AOC 1 is located outside the facility fence line west of the TCS within BCW, as shown on Figures BCW-1.1a and BCW-1.1b. AOC 1 comprises a portion of BCW adjacent to the station and surrounding SWMU 1, as well as the portion of BCW extending to the north toward the Colorado River from SWMU 1. BCW potential exposure area may have limited accessibility in certain portions of the area and may be less attractive or limited for certain recreational activities. As such, the estimated risks are likely overestimated.

5 ECOLOGICAL RISK ASSESSMENT

This section briefly summarizes the ERA approach evaluated in this Post-NTCRA HHERA presents the COPECs, EPCs, dose, and risk tables for the post-NTCRA BCW ERA; and characterizes potential risk to ecological receptors exposed to COPECs in soil currently present at the BCW potential exposure area. Details of the overall post-NTCRA ERA approach are presented in Section 6 of the main report. Supporting tables for the BCW ERA based on risk calculations conducted using depth-weighted and area-weighted EPCs are presented in Attachment BCW-C and described in this section.

Ecological risks were not calculated using maximum depth-weighted concentrations because they would be considered overly conservative and would generally be used for screening level purposes. Maximum concentrations were not used for making risk management decisions in the NTCRA at the BCW potential exposure area and were not evaluated in this ERA.

5.1 Ecological Conceptual Site Model

In the 2019 HHERA (Arcadis 2019), risks were estimated for potentially complete and significant exposure pathways identified for a suite of ecological receptors exposed to COPECs in soil at the BCW potential exposure area. These included plants, invertebrates, and small home-range receptors (Merriam's kangaroo rat, desert shrew, cactus wren, and Gambel's quail). Potential large home-range receptors (desert kit fox, red-tailed hawk, and Nelson's desert bighorn sheep) were evaluated for larger potential exposure areas (combined AOCs/investigation areas). These larger exposure areas included (1) all AOCs outside the TCS, and (2) the combined BCW and AOC 4 potential exposure areas for all large home-range receptors. Semi-quantitative and qualitative evaluations for special-status species were also conducted, as described in the 2019 HHERA.

The 2019 HHERA (Arcadis 2019) concluded that potential risk to ecological receptors, including special-status species, in BCW and the larger exposure areas relevant to large home-range receptors was limited to desert shrew potentially exposed to dioxin TEQ in surface soil. Therefore, this Post-NTCRA HHERA presents risk estimates for desert shrew and dioxin TEQ in surface soil that reflect current conditions in BCW following soil remediation associated with the NTCRA. For transparency and consistency, risk estimates for hexavalent chromium, total chromium, and copper are also included to evaluate post-NTCRA conditions because these constituents were identified as risk drivers for some other site AOCs.

The exposure assumptions for desert shrew, which are consistent with those of the 2019 HHERA (Arcadis 2019), are as follows: desert shrew—representative of insectivorous small mammal populations—are exposed only to surface soil (incidental and through biota uptake).

5.2 Constituents of Potential Ecological Concern

Consistent with the approach for the Post-NTCRA HHERA detailed in the January 30, 2024 Technical Memo (Arcadis 2024), updated risk estimates are presented only for risk-driving receptors and COPECs. For BCW, this includes only desert shrew and dioxin TEQ. Risk estimates for desert shrew are also provided for hexavalent chromium, total chromium, and copper to evaluate post-NTCRA conditions.

5.3 Exposure Point Concentration Summary

Soil EPCs were calculated as described in Section 4.2 of the main report and presented in Section 3 of this Post- NTCRA HHERA. For the BCW potential exposure area, risks to desert shrew were estimated using depth-weighted EPCs and area-weighted EPCs. Depth-weighted data used in the calculation of depth-weighted EPCs are presented in Attachment BCW-A2. Area-weighted data used in the calculation of area-weighted EPCs are presented in Attachment BCW-A3.

Biota tissue EPCs were calculated from the soil EPCs using soil-to-biota uptake relationships (i.e., bioaccumulation factors [BAFs]) for invertebrates, as described in Section 6.4.3 of the main report. As described in Section 6.4.2 of the main report, the surface soil (e.g., 0 to 0.5 foot bgs in the baseline scenario) depth interval was selected to represent exposure to soil and biota tissue for the risk calculations for desert shrew. For dioxin TEQ, the BAFs selected in the RAWP (Arcadis 2008) are based on uptake of a single congener: 2,3,7,8-tetrachlorodibenzo-p-dioxin (2,3,7,8-TCDD). Because of the uncertainty associated with use of a single congener based BAF (e.g., differences in congener uptake due to differences in their structure and physico-chemical properties are ignored), dioxin TEQ uptake was also estimated using two congener-specific approaches: congener-specific BAFs for soil invertebrates from USEPA (1999) and congener-specific BAFs for soil invertebrates from Fagervold et al. (2010), as discussed in the Section 6.4.3.2 of the main report.

For the 2-foot and 5-foot scouring scenarios, desert shrew exposures are estimated using the equivalent surface soils evaluated in those scenarios.

Depth-weighted soil EPCs and biota tissue EPCs calculated from depth-weighted soil EPCs are presented in Table BCW-5.1 for the baseline, 2-foot scouring, and 5-foot scouring scenarios. Table BCW-5.2 presents the area-weighted soil EPCs and biota tissue EPCs calculated from area-weighted soil EPCs for the baseline, 2-foot scouring, and 5-foot scouring scenarios. The alternate congener-specific BAFs and resulting biota tissue EPCs are presented in Table BCW-5.3.

Risk calculations based on depth-weighted UCLs and area-weighted UCLs for each COPEC are provided. As mentioned earlier, using the maximum depth-weighted concentrations results in overly conservative risks and is not considered for evaluation of post-NTCRA exposures.

5.4 Estimation of Exposure Dose

Potential exposures for wildlife (i.e., desert shrew) are quantified as doses (e.g., in units of mg/kg body weight per day). Exposure doses for COPECs in soil and potentially complete pathways were calculated using the equations as described in Section 6.4.3 of the main report. The exposure parameters selected to evaluate wildlife in this ERA include upper bound values from literature (e.g., ingestion rates) or were assumed (e.g., 100% of one type of diet), which may result in conservative estimates of exposure dose and potential overestimation of actual exposure at the site.

For desert shrew, doses were calculated using the exposure parameters and equations presented in Section 6.4.3 of the main report and depth-weighted soil and biota tissue EPCs for COPECs at BCW, as presented in Table BCW-5.1. Area-weighted soil and biota tissue EPCs, as presented in Table BCW-5.2, were used for the area-weighted risk evaluations. Alternate congener-specific BAFs and resulting biota tissue EPCs are presented in Table BCW-5.3.

Dose calculations using depth-weighted EPCs for desert shrew potentially exposed to COPECs via ingestion of soil and biota tissue for the baseline, 2-foot scouring, and 5-foot scouring scenarios are presented in Attachment BCW-C. Dose calculations using area-weighted EPCs for desert shrew potentially exposed to COPECs via ingestion of soil and biota tissue for the baseline, 2-foot scouring, and 5-foot scouring scenarios are also presented in Attachment BCW-C.

5.5 Effects Assessment

Dose-based toxicity reference values (TRVs) for wildlife for COPECs were used to estimate risks to desert shrew potentially exposed to COPECs in soil and biota tissue at the BCW potential exposure area. A range of risks to desert shrew was estimated using the TRVs based on a no-observed adverse effects level (NOAEL) and based on a lowest-observed adverse effects level (LOAEL). For hexavalent chromium, total chromium, and copper, the NOAEL- and LOAEL-based TRVs used in this Post-NTCRA HHERA are the selected TRVs from the RAWP documents (Arcadis 2008, 2009, 2015).

For dioxin TEQ, the selected mammalian TRVs in the RAWP documents (Arcadis 2008, 2009, 2015) are from Toxicological Benchmarks for Wildlife from Oak Ridge National Laboratory (Sample et al. 1996). However, as described in Section 6.5 of the main report, an alternate set of mammalian TRVs were evaluated, consistent with the 2019 HHERA (Arcadis 2019). Following the approach used by USEPA in developing TRVs for the ecological soil screening levels (USEPA 2008), alternate dioxin TEQ TRVs were developed for mammals based the geometric mean of the reproduction and growth endpoints for the NOAEL and LOAEL, respectively. These alternate TRVs for dioxin TEQ, presented in Section 6.5 of the main report, were used to estimate potential risk to desert shrew in this Post-NTCRA HHERA.

The LOAEL-based TRVs used in this Post-NTCRA HHERA are the same as the TRVs used to develop ecological risk-based remedial goals (RBRGs) in the 2019 HHERA (Arcadis 2019); RAGs selected based on the RBRGs were then used to define the extent of NTCRA soil removals.

Although other additional sets of TRVs (i.e., Navy/Biological Technical Assistance Group [BTAG] TRVs [DTSC 2002, 2009]) were also evaluated in the 2019 HHERA (Arcadis 2019), BTAG TRVs are not available for hexavalent chromium, total chromium, or dioxin TEQ, and they were ultimately not used for making remedial decisions. BTAG TRVs were not evaluated in this Post-NTCRA HHERA.

Wildlife TRVs used for RBRG development are presented in Table 6-4 of the main report.

5.6 Ecological Risk Characterization

The risk characterization integrates the results of the exposure assessment and effects assessment and is subject to uncertainties in both of those efforts. Risk characterization includes two major components: risk estimation and risk description. As presented in the tables and discussed in this section, risk estimates (i.e., HQs) involved the integration of exposure profiles with the exposure-effects information. For each potential receptor and COPEC, risk descriptions including various LOEs and uncertainties (including HQs), supporting statistical and site use information, and the direction of uncertainty in the risk estimates are discussed in this section for interpreting the risk results and identifying potential unacceptable risk to ecological receptors. Uncertainties specific to the BCW potential exposure area are discussed in context with the risk characterization results presented in this section. Generic uncertainties in the ERA are discussed in Section 6.7 of the main report.

APPENDIX BCW
POST-SOIL NTCRA HHERA FOR BCW EXPOSURE AREA

The 2019 HHERA (Arcadis 2019) concluded that potential risk to ecological receptors, including special-status species, in BCW and the larger exposure areas relevant to large home-range receptors was limited to desert shrew potentially exposed to dioxin TEQ in surface soil. Therefore, this Post-NTCRA HHERA presents risk estimates for desert shrew and dioxin TEQ in surface soil that reflect current conditions in the BCW potential exposure area following soil remediation associated with the NTCRA. Risk estimates for hexavalent chromium, total chromium, and copper as well as risk estimates for all three scouring scenarios (baseline, 2-foot scouring, and 5-foot scouring) are also included to evaluate post-NTCRA conditions.

For desert shrew, a range of HQs was calculated using NOAEL- and LOAEL-based TRVs in this Post-NTCRA HHERA (see Section 5.5). HQs based on LOAEL-based TRVs are referred to as "LOAEL-based HQs." HQs based on NOAEL-based TRVs are referred as "NOAEL-based HQs." As noted above, the 2019 HHERA (Arcadis 2019) did not identify a potential for unacceptable risk to sensitive species, and therefore protection of individual invertivorous small mammals is not warranted. This Post-NTCRA HHERA presents NOAEL-based HQs for completeness; however, LOAEL-based HQs were used to evaluate population-level protection of invertivorous small mammals.

Risk conclusions for populations of desert shrew based on the HQ LOE used the following criteria:

- COPECs with NOAEL-based HQs less than or equal to 1 pose de minimis risk to individual and populations of wildlife receptors.
- COPECs with a NOAEL-based HQ greater than 1 but a LOAEL-based HQ less than or equal to 1 pose no unacceptable risk to wildlife populations. As described in the RAWP (Arcadis 2008), unacceptable risk to individuals is uncertain because the NOAEL-based TRVs are thresholds with an interval that is an artifact of the dosing study, and the nature and magnitude of the effects, if any, that may occur at exposures between these values are unknown. Because protection at the individual level is not warranted for desert shrew, COPECs with NOAEL-based HQs greater than 1 and LOAEL-based HQs less than 1 were not further evaluated using a weight-of-evidence (WOE) approach.
- COPECs with LOAEL-based HQs greater than 1 indicate unacceptable risk is possible for populations of wildlife receptors. However, these LOAEL-based HQs are based on individual-level effects thresholds and only account for a single LOE. In such cases, a WOE approach was used in reducing uncertainty for characterizing potential risk to wildlife populations at the BCW potential exposure area.

Ultimately three risk outcomes are possible for desert shrew based on the LOAEL-based HQs greater than 1 and WOE: (1) unacceptable risk to wildlife populations is possible (i.e., indicated by sufficient and strong supporting LOEs), (2) unacceptable risk to wildlife populations is unlikely (i.e., indicated by sufficient and strong LOEs supporting a conclusion of no unacceptable risk), or (3) unacceptable risk to wildlife populations is uncertain (i.e., indicated by insufficient LOEs). The results of individual LOE evaluations were evaluated collectively to derive an overall WOE conclusion. Key uncertainties were considered along with the strength, relevance, and other qualities of the LOEs in reaching the WOE conclusions. In this post-NTCRA ERA, the additional LOEs were evaluated and discussed when LOAEL-based HQs greater than 1 were estimated.

For the BCW potential exposure area, evaluations were completed for the following scenarios:

- Baseline scenario using depth-weighted EPCs;
- Baseline scenario using area-weighted EPCs;
- 2-foot scouring scenario using depth-weighted EPCs;
- 2-foot scouring scenario using area-weighted EPCs;
- 5-foot scouring scenario using depth-weighted EPCs; and
- 5-foot scouring scenario using area-weighted EPCs.

In these evaluations, risk calculations were completed for hexavalent chromium, total chromium, copper, and dioxin TEQ, as presented in Table BCW-5.4 using depth-weighted EPCs, in Table BCW-5.5 using area-weighted EPCs, and in Table BCW-5.6 using depth-weighted EPCs and refined BAFs for dioxin TEQ. Risk results were discussed in the evaluations using area-weighted EPCs only if the depth-weighted EPC evaluation indicated potential for unacceptable risk to desert shrew populations. For example, COPECs with LOAEL-based HQs greater than 1 based on the depth-weighted EPCs were discussed in the area-weighted EPC evaluations. If any COPECs were identified with LOAEL-based HQs greater than 1 in the area-weighted EPC evaluations that had HQs less than 1 in the depth-weighted evaluations, these results were also discussed in the area-weighted EPC evaluation.

At the conclusion of each scenario (baseline, 2-foot scouring, and 5-foot scouring) evaluation, risk conclusions were based on whether COPECs remain for which unacceptable population-level risk was predicted using LOAEL-based HQs calculated from the most refined exposure and effects assumptions and LOEs supporting the conclusion of unacceptable risk.

5.6.1 Desert Shrew Risk Characterization Using Depth-Weighted EPCs

Desert shrew is an invertivorous small mammal that could potentially be exposed to COPECs in surface soil (0 to 0.5 foot bgs) directly and through its diet. Risk estimates for desert shrew for the baseline, 2-foot scouring, and 5-foot scouring scenarios using depth-weighted EPCs, a site use factor (SUF) of 1, and the TRVs used for RBRG development are summarized in this section and presented in Table BCW-5.4.

Site-specific SUFs were not evaluated for desert shrew. Based on the BCW potential exposure area and home ranges for desert shrew, the site-specific SUF was estimated as 1 (i.e., home range is less than or equal to the size of the potential exposure area). Therefore, the risk results would be the same as when calculated using a generic SUF of 1.

Detailed dose and risk calculations are presented in Attachment BCW-C. COPECs evaluated in this scenario include dioxin TEQ in soil. Hexavalent chromium, total chromium, and copper were also evaluated to determine potential risks associated with post-NTCRA conditions.

5.6.1.1 Baseline Scenario

LOAEL-based HQs for desert shrew are greater than 1 only for dioxin TEQ; potential risk for constituents evaluated in this ERA is characterized as follows.

- For dioxin TEQ, the NOAEL- and LOAEL-based HQs are greater than 1. As described in Section 6.7.4 of the main report, uptake factors selected for dioxins at this site likely overestimate exposure and risk for this COPEC. Conservative assumptions were used to estimate the HQs, including use

of BAFs based on uptake of a single congener (2,3,7,8-TCDD) to earthworms, and a diet assumed to consist entirely of earthworms. which is unlikely given the desert habitat present at the site. As discussed in Section 6.5 of the main report, the alternate LOAEL-based TRV is based on the geometric mean of reproduction and growth LOAELs for rodents and is considered a robust estimate of toxicity to small mammals. Dioxin TEQ was detected at all 58 locations in surface soil (frequency of detection was 100% from 0 to 0.5 foot bgs), with a majority (45) of these locations having depth-weighted concentrations above background levels (BTV was 5.58 nanograms per kilogram [ng/kg]). Thirteen locations had soil concentrations greater than 10 times the BTV. The 13 locations are spread across the BCW potential exposure area: seven locations with dioxin TEQ concentrations ranging from 58 to 180 ng/kg are within the Tamarisk Thicket at the north end of BCW, three locations with dioxin TEQ concentrations ranging from 87 to 190 ng/kg are located near the gabions and AOC 4 at the southern end of the BCW potential exposure area, one location (PA-15; 86 ng/kg) is at the TCS fence line near AOC 16, and the remaining two locations are within AOC 1 with concentrations ranging from 140 to 190 ng/kg. Dioxin TEQ concentrations in these 13 samples are below the RAG range 190 ng/kg to 360 and are about two to three times greater than the depth-weighted EPC (52.2 ng/kg). Based on the dispersed nature of these dioxin TEQ locations and small home range of desert shrew, it is likely that desert shrew would primarily be exposed to lower soil concentrations in their habitat and few individuals would be substantially exposed to the higher remaining concentrations. Although the LOAEL-based HQ exceeds 1, additional LOEs include low HQs, conservative dietary and uptake assumptions, infrequent detections at elevated concentrations relative to background levels, and the spatially dispersed nature of the highest remaining dioxin TEQ concentrations. Based on the LOAEL-based HQ and additional LOEs, unacceptable risk to populations of shrew is considered unlikely based on the assumptions in this scenario.

- For hexavalent chromium, total chromium, and copper in the baseline scenario, the NOAEL- and LOAEL-based HQs are less than 1, indicating de minimis risk to individuals and populations of invertivorous small mammals.

5.6.1.2 2-Foot Scouring Scenario

In the 2-foot scouring scenario for desert shrew, only the NOAEL-based HQ for dioxin TEQ is greater than 1. The LOAEL-based HQ is less than 1, indicating no unacceptable risk to populations of desert shrew.

For hexavalent chromium, total chromium, and copper in the 2-foot scouring scenario, the NOAEL- and LOAEL-based HQs are less than 1, indicating de minimis risk to individuals and populations of invertivorous small mammals.

5.6.1.3 5-Foot Scouring Scenario

In the 5-foot scouring scenario for desert shrew, only the NOAEL-based HQ for dioxin TEQ is greater than 1. The LOAEL-based HQ is less than 1, indicating no unacceptable risk to populations of desert shrew.

For hexavalent chromium, total chromium, and copper in the 5-foot scouring scenario, the NOAEL- and LOAEL-based HQs are less than 1, indicating de minimis risk to individuals and populations of invertivorous small mammals.

5.6.2 Desert Shrew Risk Characterization Using Area-Weighted EPCs

Based on the risk characterization using depth-weighted EPCs (Section 5.6.1), risks to the desert shrew were characterized from dioxin TEQ using area-weighted EPCs. Risk estimates for total chromium, hexavalent chromium, and copper were also presented using area-weighted EPCs for completeness.

Potential risks to desert shrew from COPECs listed in this section and characterized for the baseline, 2-foot scouring, and 5-foot scouring scenarios using area-weighted EPCs, a SUF of 1, selected BAFs, and the TRVs used for RBRG development are presented in Table BCW-5.5.

Detailed dose and risk calculations for desert shrew for all COPECs are presented in Attachment BCW-C.

5.6.2.1 Baseline Scenario

In the baseline scenario using area-weighted EPCs, the LOAEL-based HQ for desert shrew is greater than 1 only for dioxin TEQ. For dioxin TEQ, both the NOAEL- and LOAEL-based HQs remained the same as those using depth-weighted EPCs and were greater than 1. However, the uncertainties and additional LOEs, as discussed above in Section 5.6.1.1, also apply in this scenario and support the conclusion that unacceptable risk populations of shrew is unlikely.

Similar to the evaluation using depth-weighted EPCs, for hexavalent chromium, total chromium, and copper, the NOAEL- and LOAEL-based HQs using area-weighted EPCs are also less than 1, indicating de minimis risk to individuals and populations of invertivorous small mammals from exposure to these constituents at the BCW potential exposure area.

5.6.2.2 2-Foot Scouring Scenario

In the 2-foot scouring scenario using area-weighted EPCs, the NOAEL-based HQs for desert shrew are greater than 1 for dioxin TEQ and total chromium. However, all LOAEL-based HQs are less than 1 indicating no unacceptable risk to populations of desert shrew.

Similar to the evaluation using depth-weighted EPCs, for hexavalent chromium and copper, the NOAEL- and LOAEL-based HQs using area-weighted EPCs are also less than 1, indicating de minimis risk to individuals and populations of invertivorous small mammals from exposure to these constituents at the BCW potential exposure area.

5.6.2.3 5-Foot Scouring Scenario

In the 5-foot scouring scenario using area-weighted EPCs, NOAEL-based HQs for desert shrew are greater than 1 for only for dioxin TEQ. However, the LOAEL-based HQ is less than 1, indicating no unacceptable risk to populations of desert shrew.

Similar to the evaluation using depth-weighted EPCs, for hexavalent chromium, total chromium, and copper, the NOAEL- and LOAEL-based HQs using area-weighted EPCs are also less than 1, indicating de minimis risk to individuals and populations of invertivorous small mammals from exposure to these constituents at the BCW potential exposure area.

5.6.3 Desert Shrew Characterization Using Congener-Specific Bioaccumulation Factors for Dioxin TEQ

Based on the risk characterization using area-weighted EPCs (Section 5.6.2), risks were characterized for dioxin TEQ using alternate BAFs (i.e., BAFs used for RBRG development in the 2019 HHERA [Arcadis 2019]). Consistent with the 2019 HHERA, depth-weighted EPCs were used in this evaluation. Risk estimates for total chromium, hexavalent chromium, and copper were not refined further in this section.

As discussed in Section 6.4.3.2 of the main report and summarized above in Section 5.3, the BAFs used for RBRG development in the 2019 HHERA (Arcadis 2019) are based on congener-specific uptake from soil to biota, rather than on the assumption that all dioxin congener uptake is equivalent to the soil-to-biota uptake of 2,3,7,8-TCDD. Two sets of congener-specific uptake factors were evaluated: congener-specific uptake factors available from USEPA (1999) as well as congener-specific uptake factors from Fagervold et al. (2010). These are described in Section 6.4.3.2 of the main report. The congener-specific uptake factors and estimated biota tissue EPCs for dioxin TEQ in BCW in this post-NTCRA ERA are presented in Table BCW-5.3.

Potential risks to desert shrew for dioxin TEQ characterized for the baseline, 2-foot scouring, and 5-foot scouring scenarios using depth-weighted EPCs, a SUF of 1, congener-specific BAFs, and the alternate TRVs used for RBRG development are presented in Table BCW-5.6. Using these assumptions, the LOAEL-based HQs are less than 1 for all scenarios, indicating no unacceptable risk is expected for desert shrew populations.

Detailed dose and risk calculations for desert shrew are presented in Attachment BCW-C.

5.6.4 Risk Conclusions for Desert Shrew

The 2019 HHERA (Arcadis 2019) concluded that potential risk to ecological receptors, including special-status species, in BCW and the larger potential exposure areas relevant to large home-range receptors was limited to desert shrew potentially exposed to dioxin TEQ in surface soil. This Post- NTCRA HHERA presents risk estimates for desert shrew and dioxin TEQ in surface soil that reflect current conditions in the BCW potential exposure area following soil remediation associated with the NTCRA. Risk estimates for hexavalent chromium, total chromium, and copper (identified as potential risk drivers at other investigation areas at the site in the 2019 HHERA) as well as risk estimates for all three scouring scenarios (baseline, 2-foot scouring, and 5-foot scouring) are also included to evaluate post-NTCRA conditions. Risk conclusions for desert shrew populations are presented in the following list.

- For dioxin TEQ, risk conclusions are based on LOAEL-based HQs estimated in the most refined exposure scenario (Section 5.6.3) using the assumptions used for RBRG development (i.e., a SUF of 1, congener-specific BAFs, and alternate TRVs) and depth-weighted EPCs. Using these assumptions, the LOAEL-based HQs are less than 1 for the baseline, 2-foot scouring, and 5-foot scouring scenarios using both sets of congener-specific BAFs (USEPA 1999; Fagervold et al. 2010). These HQs indicate that no unacceptable risk is expected for populations of invertivorous small mammals. Multiple lines of evidence support this risk conclusion, including:

  - Evaluation of multiple sets of congener-specific BAFs from USEPA (1999) and Fagervold et al. (2010) that result in LOAEL HQs less than 1;
  - Site-specific evaluations presented in Section 6.7.4.1 of the main report that predict lower dioxin/furan uptake relative to uptake predicted using a generic 2,3,7,8-TCDD BAF;
  - Shrew dietary assumption (100% earthworm diet) that is likely to overestimate dioxin exposure because earthworms are unlikely to be present at the site. As discussed in Section 6.7.3.3 of the main report, other terrestrial invertebrates likely to be present at the site have lower potential dioxin uptake due to feeding habits and external structures, such as hard cuticles, that limit dermal absorption of soil constituents;
  - Infrequent and spatially dispersed nature of remaining dioxin TEQ concentrations significantly (10 times) above background values (i.e., BTV) indicating that few individual shrews would be substantially exposed to concentrations significantly above the BTV.
  - Conclusion that there is no unacceptable risk in the 2019 HHERA (pre-NTCRA conditions) for all ecological receptors except desert shrew.
  - Lack of shrew observations at the site. As noted in the 2019 HHERA (Arcadis 2019), shrew have not been observed at the site and are unlikely to be present.

- For total chromium, risk conclusions are based on LOAEL-based HQs estimated in the most refined scenario (Section 5.6.2) using the assumptions used for RBRG development (i.e., a SUF of 1, selected BAFs, and selected TRVs) and area-weighted EPCs. Using these assumptions, the NOAEL- and LOAEL-based HQs are less than or equal to 1 for the baseline and 5-foot scouring scenarios, indicating de minimis risk to individuals and populations of invertivorous small mammals at the BCW potential exposure area. Although a NOAEL-based HQ of 2 is estimated in the 2-foot scouring scenario, the LOAEL-based HQ is less than 1, indicating that no unacceptable risk expected for populations of invertivorous small mammals.

- For hexavalent chromium and copper, the NOAEL- and LOAEL-based HQs are less than 1 for the baseline, 2-foot scouring, and 5-foot scouring scenarios, indicating de minimis risk to individuals and populations of invertivorous small mammals at the BCW potential exposure area.

In conclusion, no unacceptable risk to wildlife receptor populations is identified at the BCW potential exposure area. For desert shrew, the conclusions are based on post-NTCRA conditions as evaluated in this Post- NTCRA HHERA. For the remaining ecological receptors, the conclusions are based on pre-NTCRA conditions as evaluated in the 2019 HHERA (Arcadis 2019).

6 SUMMARY AND CONCLUSIONS FOR THE HHERA

Potential cumulative cancer risks and noncancer hazards for human receptors were estimated in this Post-NTCRA HHERA, as presented in Section 4. For ecological receptors, potential risks were estimated for desert shrew as presented in Section 5. Uncertainties related to the HHRA and ERA at the site in general were discussed in detail in Sections 5.6 and 6.7 of the 2019 HHERA (Arcadis 2019) and are summarized in Sections 5.5 and 6.7 of the main report. Uncertainties specific to the evaluation of post-NTCRA conditions in the BCW potential exposure area are discussed in this appendix. The approach for this Post-NTCRA HHERA was detailed in the January 30, 2024 Technical Memo (Arcadis 2024) to DOI and DTSC, which specified that updated risk characterization would be presented only for risk-driving receptors.

Three scenarios were evaluated: (1) baseline, (2) 2-foot scouring, and (3) 5-foot scouring, consistent with the scenarios evaluated in the 2019 HHERA (Arcadis 2019). For each evaluation, risks were estimated for various potential receptors using depth-weighted EPCs and, in some cases, area-weighted EPCs. For desert shrew, additional refinements to the soil-to-invertebrate uptake factors were also evaluated in a manner consistent with the approach used for RBRG development in the 2019 HHERA (Arcadis 2019).

At the BCW potential exposure area, the COPCs evaluated for this Post-NTCRA HHERA included metals (antimony, hexavalent chromium, total chromium, cobalt, copper, lead, mercury, thallium, and zinc) and inorganic compounds (nitrate, orthophosphate, and phosphate), one VOC (methyl acetate), one SVOC (bis [2-ethylhexyl] phthalate), PAHs, PCBs, dioxin and furans, TPH as diesel, and TPH as motor oil. COPECs evaluated for this Post-NTCRA HHERA include only dioxin TEQ, based on unacceptable risk estimated for desert shrew in the 2019 HHERA (Arcadis 2019). However, risk estimates for total chromium, hexavalent chromium, and copper were also estimated to reflect current conditions in BCW following soil remediation associated with the NTCRA. A summary of these results and conclusions regarding potential risk associated with exposure to these COPCs/COPECs in soil at the BCW potential exposure area based on the risk/hazard estimates and uncertainties inherent in the risk assessment process are presented in this section.

6.1 Summary and Conclusions for the HHRA

The cumulative ILCRs and HIs associated with potential exposure to COPCs in post-NTCRA soil at the BCW potential exposure area using depth-weighted EPCs under baseline (non-scouring), 2-foot scouring, and 5-foot scouring scenarios were estimated. Assuming lifetime soil contact is limited to the BCW potential exposure area for the potential receptors evaluated, the estimated potential ILCR and HI results are summarized in this section and in Exhibits BCW-6.1 through BCW-6.3.

BASELINE SCENARIO

Exhibit BCW-6.1 provides the results from the baseline scenario.

Exhibit BCW-6.1 Baseline Scenario Estimated Cumulative Incremental Lifetime Cancer Risk and Hazard Index for the BCW Potential Exposure Area

Potential Receptor	Exposure Depth	Cumulative ILCR—Depth-Weighted	Cumulative ILCR—Area-Weighted	HI—Depth-Weighted	HI—Area-Weighted
Camper	Surface	Less than or equal to 1×10^{-6}	Not calculated	Less than or equal to 1	Not calculated
Camper	Shallow	Less than or equal to 1×10^{-6}	Not calculated	Less than or equal to 1	Not calculated
Hiker	Surface	Less than or equal to 1×10^{-6}	Not calculated	Less than or equal to 1	Not calculated
Hiker	Shallow	Less than or equal to 1×10^{-6}	Not calculated	Less than or equal to 1	Not calculated
OHV rider	Surface	Less than or equal to 1×10^{-6}	Not calculated	Less than or equal to 1	Not calculated
OHV rider	Shallow	Less than or equal to 1×10^{-6}	Not calculated	Less than or equal to 1	Not calculated

Note:
not calculated = area-weighted estimate not calculated because depth-weighted estimates for the receptor were below de minimis levels

Depth-weighted potential exposures that are at or below the de minimis levels include the following:

- **HI less than or equal to 1 for all soil depths**— All potential recreational receptors evaluated; i.e., campers, hikers, and OHV riders;; and
- **ILCR less than or equal to 1×10^{-6} for all soil depths**— All potential recreational receptors evaluated; i.e., campers, hikers, and OHV riders;.

2-FOOT SCOURING SCENARIO

During the HHRA, two potential scouring scenarios due to heavy storm runoff were evaluated for the BCW potential exposure area—2-foot scouring and 5-foot scouring. Exhibit BCW-6.2 provides the results from the 2-foot scouring scenario.

Exhibit BCW-6.2 2-Foot Scouring Scenario Estimated Cumulative Incremental Lifetime Cancer Risk and Hazard Index for the BCW Potential Exposure Area

Potential Receptor	Exposure Depth	Cumulative ILCR—Depth-Weighted	Cumulative ILCR—Area-Weighted	HI—Depth-Weighted	HI—Area-Weighted
Camper	Surface	Less than or equal to 1×10^{-6}	Not calculated	Less than or equal to 1	Not calculated

Potential Receptor	Exposure Depth	Cumulative ILCR—Depth-Weighted	Cumulative ILCR—Area-Weighted	HI—Depth-Weighted	HI—Area-Weighted
Camper	Shallow	Less than or equal to 1×10^{-6}	Not calculated	Less than or equal to 1	Not calculated
Hiker	Surface	Less than or equal to 1×10^{-6}	Not calculated	Less than or equal to 1	Not calculated
Hiker	Shallow	Less than or equal to 1×10^{-6}	Not calculated	Less than or equal to 1	Not calculated
OHV rider	Surface	Less than or equal to 1×10^{-6}	Not calculated	Less than or equal to 1	Not calculated
OHV rider	Shallow	Less than or equal to 1×10^{-6}	Not calculated	Less than or equal to 1	Not calculated

Note:
not calculated = area-weighted estimate not calculated because depth-weighted estimates for the receptor were below de minimis levels

Depth-weighted

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

- **HI less than or equal to 1 for all soil depths**— All potential recreational receptors evaluated; i.e., campers, hikers, and OHV riders;; and
- **ILCR less than or equal to 1×10^{-6} for all soil depths**— All potential recreational receptors evaluated; i.e., campers, hikers, and OHV riders;.

5-FOOT SCOURING SCENARIO

Exhibit BCW-6.3 provides the results from the 5-foot scouring scenario.

Exhibit BCW-6.3 5-Foot Scouring Scenario Estimated Cumulative Incremental Lifetime Cancer Risk and Hazard Index for the BCW Potential Exposure Area

Potential Receptor	Exposure Depth	Cumulative ILCR—Depth-Weighted	Cumulative ILCR—Area-Weighted	HI—Depth-Weighted	HI—Area-Weighted
Camper	Surface	Less than or equal to 1×10^{-6}	Not calculated	Less than or equal to 1	Not calculated
Camper	Shallow	Less than or equal to 1×10^{-6}	Not calculated	Less than or equal to 1	Not calculated

Potential Receptor	Exposure Depth	Cumulative ILCR—Depth-Weighted	Cumulative ILCR—Area-Weighted	HI—Depth-Weighted	HI—Area-Weighted
Hiker	Surface	Less than or equal to 1 x 10^{-6}	Not calculated	Less than or equal to 1	Not calculated
Hiker	Shallow	Less than or equal to 1 x 10^{-6}	Not calculated	Less than or equal to 1	Not calculated
OHV rider	Surface	Less than or equal to 1 x 10^{-6}	Not calculated	Less than or equal to 1	Not calculated
OHV rider	Shallow	Less than or equal to 1 x 10^{-6}	Not calculated	Less than or equal to 1	Not calculated

Note:
not calculated = area-weighted estimate not calculated because depth-weighted estimates for the receptor were below de minimis levels

Depth-weighted

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

- **HI less than or equal to 1 for all soil depths**—All potential recreational receptors evaluated; i.e., campers, hikers, and OHV riders; and
- **ILCR less than or equal to 1 × 10^{-6} for all soil depths**— All potential recreational receptors evaluated; i.e., campers, hikers, and OHV riders;.

OVERALL SUMMARY

Assuming lifetime soil contact is limited to the BCW potential exposure area, the estimated cumulative ILCRs and HIs associated with potential exposure to COPCs in post-NTCRA soil using depth-weighted EPCs for the camper, hiker, and OHV rider under the baseline and scouring exposure scenarios are below 1 x 10^{-6} and 1, respectively. The depth- and area-weighted EPCs for lead in the BCW potential exposure area soil at all exposure depths under the baseline, 2-foot scouring, and 5-foot scouring scenarios are not expected to result in an increase in blood lead levels above the OEHHA benchmark value of 1 µg/dL in the child recreational user.

Risks/hazards estimated for an individual AOC/SWMU/UA potential exposure area like BCW are not considered representative of the realistic or likely potential exposures for the human populations that could be present in the areas outside the TCS (such as recreational users). Risks/hazards calculated separately for individual AOCs are conservative and likely overestimate site risks/hazards. As described in the RAWP documents (Arcadis 2008, 2009, 2015), these human populations would more likely be exposed randomly, over the course of a lifetime, to soil present in all individual AOC/SWMU/UA potential exposure areas located outside the TCS, rather than have a lifetime of contact limited to the area of a single potential exposure area. Therefore, estimated risks/hazards presented for individual AOC/SWMU/UA potential

exposure areas are not believed to be representative of the potential health risks to humans potentially contacting the soil outside the TCS. As stated previously, the Post-NTCRA HHERA provides updated risk estimates for human health and the environment based on potential exposures to current soil conditions in the NTCRA areas. Therefore, updated risk estimates were not performed for the OCS potential exposure area in the Post-NTCRA HHERA. It is noted that due to NTCRA soil removal, the potential post-NTCRA soil risks for the OCS are likely lower than estimated in the 2019 HHERA. The HHRA results and conclusions of the 2019 HHERA and of this Post-NTCRA HHERA will be considered for making risk-management decisions for the site in the Corrective Measure Study/Feasibility Study to be prepared for the site.

6.2 Summary and Conclusions for the ERA

At the BCW potential exposure area, dioxin TEQ in soil was identified as a potential risk-driving COPEC based on unacceptable risk estimated for desert shrew in the 2019 HHERA (Arcadis 2019). Risk estimates for other COPECs (hexavalent chromium, total chromium, and copper), which were identified as potential risk drivers at other investigation areas at the site in the 2019 HHERA, were also included to evaluate post-NTCRA conditions. Three scouring scenarios (baseline, 2-foot scouring, and 5-foot scouring) were evaluated for BCW in this post-NTCRA ERA, consistent with the scenarios evaluated in the 2019 HHERA. Updated risk estimates for the potential risk-driving COPECs are presented only for desert shrew. The 2019 HHERA did not identify a potential for unacceptable risk to sensitive species, and therefore protection of individual invertivorous small mammals is not warranted. This Post-NTCRA HHERA presents NOAEL-based HQs for completeness; however, only the LOAEL-based HQs were used to evaluate population-level protection of invertivorous small mammals.

Risks were evaluated using depth-weighted and area-weighted EPCs, as well as refined BAFs based on congener-specific soil-to-biota uptake for dioxin TEQ. HQs are summarized in Table BCW-6.1. Risk conclusions for desert shrew populations were based on the following criteria:

- COPECs with NOAEL-based HQs less than or equal to 1 pose de minimis risk to wildlife receptors.
- COPECs with NOAEL-based HQs is greater than 1 but LOAEL-based HQs less than or equal to 1 pose no unacceptable risk to wildlife populations; however, the potential for unacceptable risk to individuals is uncertain based on the HQ. Because protection at the individual level is not warranted for desert shrew, COPECs with NOAEL-based HQs greater than 1 and LOAEL-based HQs less than 1 were not further evaluated using a WOE approach.
- COPECs with LOAEL-based HQs greater than 1 pose possible unacceptable risk to populations of wildlife receptors based on the HQ LOEs. In such cases, a WOE approach was used in reducing uncertainty for characterizing potential risk to wildlife populations at the BCW potential exposure area.

The risk estimates (HQs) represent only one LOE for risk characterization. A qualitative WOE approach, incorporating other LOEs and uncertainties, was used to characterize possible risk to wildlife populations at BCW. Alternate congener-specific BAFs and alternate TRVs demonstrating the magnitude of the risk overestimation are evaluated together in Section 5.6.3. These alternate BAFs and TRVs are based on the current understanding of uptake and toxicity of TEQ mixtures and represent key LOEs considered for dioxin TEQ.

For COPECs with LOAEL HQs greater than 1 using the most refined exposure and effects assumptions, a WOE assessment was used to draw risk conclusions for the BCW potential exposure area.

Overall, no unacceptable risk to populations of invertivorous small mammals (e.g., desert shrew) exposed to risk-driving COPECs in soil is expected. Conclusions for COPECs (i.e., dioxin TEQ), as well as other NTCRA-related constituents (i.e., total chromium, hexavalent chromium, and copper) for the baseline, 2-foot, and 5-foot scouring scenario evaluations for the BCW potential exposure area are presented in Section 5.6.4 and summarized in the following list and Exhibit BCW-6.4.

- For dioxin T E Q:
  - Baseline: NOAEL- and LOAEL-based HQs indicate de minimis risk to individuals and populations of invertivorous small mammals;
  - 2-foot scouring scenario: NOAEL- and LOAEL-based HQs indicate de minimis risk to individuals and populations of invertivorous small mammals; and
  - 5-foot scouring scenario: LOAEL-based HQs are less than 1 using both sets of congener-specific BAFs and indicate no unacceptable risk to populations of invertivorous small mammals.
  - Multiple LOEs support these conclusions, including conservative assumptions related to shrew diet, potential presence at the site, lower uptake of dioxin/furan congeners relative to TCDD, and infrequent and spatially-dispersed nature of the more elevated TEQ concentrations.
- For total chromium:
  - Baseline: NOAEL- and LOAEL-based HQs are less than or equal to 1, indicating de minimis risk to individuals and populations of invertivorous small mammals;
  - 2-foot scouring scenario: The LOAEL-based HQ is less than 1, indicating no unacceptable risk to populations of invertivorous small mammals; and
  - 5-foot scouring scenario: NOAEL- and LOAEL-based HQs are less than or equal to 1, indicating de minimis risk to individuals and populations of invertivorous small mammals
- For hexavalent chromium and copper:
  - Baseline: NOAEL- and LOAEL-based HQs are less than 1, indicating de minimis risk to individuals and populations of invertivorous small mammals;
  - 2-foot scouring scenario: NOAEL- and LOAEL-based HQs are less than 1, indicating de minimis risk to individuals and populations of invertivorous small mammals; and
  - 5-foot scouring scenario: NOAEL- and LOAEL-based HQs are less than or equal to 1, indicating de minimis risk to individuals and populations of invertivorous small mammals.

In conclusion, no unacceptable risk to wildlife receptor populations is identified at the BCW potential exposure area. For desert shrew, the conclusions are based on post-NTCRA conditions as evaluated in this Post- NTCRA HHERA. For the remaining ecological receptors, the conclusions are based on pre-NTCRA conditions as evaluated in the 2019 HHERA (Arcadis 2019).

Exhibit BCW-6.4 Potential for Unacceptable Risk to Desert Shrew at the BCW Potential Exposure Area

Scenario	Dioxin TEQ	Total Chromium	Hexavalent Chromium	Copper
Baseline	None for wildlife populations	None for wildlife populations	None for wildlife populations	None for wildlife populations
2-foot scouring	None for wildlife populations	None for wildlife populations	None for wildlife populations	None for wildlife populations
5-foot scouring	None for wildlife populations	None for wildlife populations	None for wildlife populations	None for wildlife populations

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TABLES

Table BCW-1.1
Samples and Sampling Locations Included in the BCW Potential Exposure Area

Post-Soil N T C R A Human Health and Ecological Risk Assessment Report
PG&E Topock Compressor Station
Needles, California

SampleID[a]	Sample Date	Location ID	RFI Area	Original Upper Depth (ft bgs)	Original Lower Depth (ft bgs)	Used for EPCs (2019 H H E R A)?	Original Baseline (ft bgs)	Original Scouring 2 ft	Original Scouring 5 ft	Excavation Status	Excavation Depth (ft)	Backfill Depth (ft)	Current Upper Depth (ft bgs)	Current Lower Depth (ft bgs)	Current Baseline (ft bgs)	Current Scouring 2 ft	Current Scouring 5 ft	Sample Source (2019 H H E R A, N T C R A, or R F I Addition)	Used for Post-N T C R A H H E R A EPCs?[b]
AOC1-1-150	1/23/2016	AOC1-1	AOC1	0	0.5	Yes	0-0.5	--	--	Removed	--	0	--	--	NE	NE	NE	2019 H H E R A	No, Excavated
AOC1-1-151	1/23/2016	AOC1-1	AOC1	2	3	Yes	0-03	S2-03	--	Removed	--	0	--	--	NE	NE	NE	2019 H H E R A	No, Excavated
AOC1-1-152	1/23/2016	AOC1-1	AOC1	5	6	Yes	0-06	S2-06	S5-06	Removed	--	0	--	--	NE	NE	NE	2019 H H E R A	No, Excavated
AOC1-1-153	1/23/2016	AOC1-1	AOC1	9	10	Yes	0-10	S2-10	S5-10	In Place	7	3	5	6	NE	02-06	05-06, 05-10	2019 H H E R A	Yes
AOC1-1-154	1/23/2016	AOC1-1	AOC1	14	15	Yes	--	--	S5-15	In Place	7	3	10	11	NE	NE	NE	2019 H H E R A	No, Depth NA
AOC1-1-155	1/23/2016	AOC1-1	AOC1	14	15	Yes	--	--	S5-15	In Place	7	3	10	11	NE	NE	NE	2019 H H E R A	No, Depth NA
AOC1-1-156	1/24/2016	AOC1-1	AOC1	19	20	No	--	--	--	In Place	7	3	15	16	NE	NE	NE	2019 H H E R A	No, Depth NA
AOC1-1-157	1/24/2016	AOC1-1	AOC1	29	30	No	--	--	--	In Place	7	3	25	26	NE	NE	NE	2019 H H E R A	No, Depth NA
AOC1-2-158	1/23/2016	AOC1-2	AOC1	0	0.5	Yes	0-0.5	--	--	In Place	0	0	0	0.5	0-0.5, 0-3	NE	NE	2019 H H E R A	Yes
AOC1-2-159	1/23/2016	AOC1-2	AOC1	2	3	Yes	0-03	S2-03	--	In Place	0	0	2	3	0-3	02-03, 02-06	NE	2019 H H E R A	Yes
AOC1-2-160	1/23/2016	AOC1-2	AOC1	5	6	Yes	0-06	S2-06	S5-06	In Place	0	0	5	6	NE	02-06	05-06, 05-10	2019 H H E R A	Yes
AOC1-2-161	1/23/2016	AOC1-2	AOC1	9	10	Yes	0-10	S2-10	S5-10	In Place	0	0	9	10	NE	NE	05-10	2019 H H E R A	Yes
AOC1-2-162	1/23/2016	AOC1-2	AOC1	14	15	Yes	--	--	S5-15	In Place	0	0	14	15	NE	NE	NE	2019 H H E R A	No, Depth NA
AOC1-2-163	1/23/2016	AOC1-2	AOC1	19	20	No	--	--	--	In Place	0	0	19	20	NE	NE	NE	2019 H H E R A	No, Depth NA
AOC1-2-164	1/23/2016	AOC1-2	AOC1	20	30	No	--	--	--	In Place	0	0	20	30	NE	NE	NE	2019 H H E R A	No, Depth NA
AOC1-2-165	1/23/2016	AOC1-2	AOC1	29	30	No	--	--	--	In Place	0	0	29	30	NE	NE	NE	2019 H H E R A	No, Depth NA
AOC1-3-166	1/25/2016	AOC1-3	AOC1	0	0.5	Yes	0-0.5	--	--	Removed	--	0	--	--	NE	NE	NE	2019 H H E R A	No, Excavated
AOC1-3-167	1/25/2016	AOC1-3	AOC1	2	3	Yes	0-03	S2-03	--	Removed	--	0	--	--	NE	NE	NE	2019 H H E R A	No, Excavated
AOC1-3-168	1/25/2016	AOC1-3	AOC1	5	6	Yes	0-06	S2-06	S5-06	Removed	--	0	--	--	NE	NE	NE	2019 H H E R A	No, Excavated
AOC1-3-169	1/25/2016	AOC1-3	AOC1	9	10	Yes	0-10	S2-10	S5-10	In Place	7	2	4	5	NE	02-06	05-06, 05-10	2019 H H E R A	Yes
AOC1-3-170	1/25/2016	AOC1-3	AOC1	14	15	Yes	--	--	S5-15	In Place	7	2	9	10	NE	NE	05-10	2019 H H E R A	Yes
AOC1-3-171	1/25/2016	AOC1-3	AOC1	14	15	Yes	--	--	S5-15	In Place	7	2	9	10	NE	NE	05-10	2019 H H E R A	Yes
AOC1-3-172	1/25/2016	AOC1-3	AOC1	19	20	No	--	--	--	In Place	7	2	14	15	NE	NE	NE	2019 H H E R A	No, Depth NA
AOC1-3-173	1/25/2016	AOC1-3	AOC1	29	30	No	--	--	--	In Place	7	2	24	25	NE	NE	NE	2019 H H E R A	No, Depth NA
AOC1-3-174	1/25/2016	AOC1-3	AOC1	39	40	No	--	--	--	In Place	7	2	34	35	NE	NE	NE	2019 H H E R A	No, Depth NA
AOC1-3-175	1/25/2016	AOC1-3	AOC1	49	50	No	--	--	--	In Place	7	2	44	45	NE	NE	NE	2019 H H E R A	No, Depth NA
AOC1-3-176	1/25/2016	AOC1-3	AOC1	59	60	No	--	--	--	In Place	7	2	54	55	NE	NE	NE	2019 H H E R A	No, Depth NA
AOC1-3-177	1/26/2016	AOC1-3	AOC1	69	70	No	--	--	--	In Place	7	2	64	65	NE	NE	NE	2019 H H E R A	No, Depth NA
AOC1-3-178	1/26/2016	AOC1-3	AOC1	79	80	No	--	--	--	In Place	7	2	74	75	NE	NE	NE	2019 H H E R A	No, Depth NA
AOC1-4-179	1/23/2016	AOC1-4	AOC1	0	0.5	Yes	0-0.5	--	--	In Place	0	0	0	0.5	0-0.5, 0-3	NE	NE	2019 H H E R A	Yes
AOC1-4-180	1/23/2016	AOC1-4	AOC1	2	3	Yes	0-03	S2-03	--	In Place	0	0	2	3	0-3	02-03, 02-06	NE	2019 H H E R A	Yes
AOC1-4-181	1/23/2016	AOC1-4	AOC1	5	6	Yes	0-06	S2-06	S5-06	In Place	0	0	5	6	NE	02-06	05-06, 05-10	2019 H H E R A	Yes
AOC1-4-182	1/23/2016	AOC1-4	AOC1	9	10	Yes	0-10	S2-10	S5-10	In Place	0	0	9	10	NE	NE	05-10	2019 H H E R A	Yes
AOC1-4-183	1/23/2016	AOC1-4	AOC1	14	15	Yes	--	--	S5-15	In Place	0	0	14	15	NE	NE	NE	2019 H H E R A	No, Depth NA
AOC1-4-184	1/23/2016	AOC1-4	AOC1	19	20	No	--	--	--	In Place	0	0	19	20	NE	NE	NE	2019 H H E R A	No, Depth NA
AOC1-4-185	1/23/2016	AOC1-4	AOC1	19	20	No	--	--	--	In Place	0	0	19	20	NE	NE	NE	2019 H H E R A	No, Depth NA
AOC1-4-186	1/23/2016	AOC1-4	AOC1	29	30	No	--	--	--	In Place	0	0	29	30	NE	NE	NE	2019 H H E R A	No, Depth NA
AOC1-5-365	1/9/2017	AOC1-5	AOC1	0	0.5	Yes	0-0.5	--	--	In Place	0	0	0	0.5	0-0.5, 0-3	NE	NE	2019 H H E R A	Yes
AOC1-5-366	1/9/2017	AOC1-5	AOC1	2	3	Yes	0-03	S2-03	--	In Place	0	0	2	3	0-3	02-03, 02-06	NE	2019 H H E R A	Yes
AOC1-5-367	1/9/2017	AOC1-5	AOC1	5	6	Yes	0-06	S2-06	S5-06	In Place	0	0	5	6	NE	02-06	05-06, 05-10	2019 H H E R A	Yes
AOC1-5-368	1/9/2017	AOC1-5	AOC1	9	10	Yes	0-10	S2-10	S5-10	In Place	0	0	9	10	NE	NE	05-10	2019 H H E R A	Yes
AOC1-5-369	1/9/2017	AOC1-5	AOC1	14	15	Yes	--	--	S5-15	In Place	0	0	14	15	NE	NE	NE	2019 H H E R A	No, Depth NA
AOC1-6-370	1/9/2017	AOC1-6	AOC1	0	0.5	Yes	0-0.5	--	--	In Place	0	0	0	0.5	0-0.5, 0-3	NE	NE	2019 H H E R A	Yes
AOC1-6-371	1/9/2017	AOC1-6	AOC1	2	3	Yes	0-03	S2-03	--	In Place	0	0	2	3	0-3	02-03, 02-06	NE	2019 H H E R A	Yes
AOC1-6-372	1/9/2017	AOC1-6	AOC1	5	6	Yes	0-06	S2-06	S5-06	In Place	0	0	5	6	NE	02-06	05-06, 05-10	2019 H H E R A	Yes
AOC1-6-373	1/9/2017	AOC1-6	AOC1	9	10	Yes	0-10	S2-10	S5-10	In Place	0	0	9	10	NE	NE	05-10	2019 H H E R A	Yes
AOC1-6-374	1/9/2017	AOC1-6	AOC1	14	15	Yes	--	--	S5-15	In Place	0	0	14	15	NE	NE	NE	2019 H H E R A	No, Depth NA
AOC16-5-19008	2/20/2017	AOC16-5	AOC16	0	0.5	Yes	0-0.5	--	--	In Place	0	0	0	0.5	0-0.5, 0-3	NE	NE	2019 H H E R A	Yes
AOC16-5-19009	2/20/2017	AOC16-5	AOC16	0	0.5	Yes	0-0.5	--	--	In Place	0	0	0	0.5	0-0.5, 0-3	NE	NE	2019 H H E R A	Yes
AOC16-5-19010	2/20/2017	AOC16-5	AOC16	2	3	Yes	0-03	S2-03	--	In Place	0	0	2	3	0-3	02-03, 02-06	NE	2019 H H E R A	Yes
AOC1-7-375	1/9/2017	AOC1-7	AOC1	0	0.5	Yes	0-0.5	--	--	In Place	0	0	0	0.5	0-0.5, 0-3	NE	NE	2019 H H E R A	Yes

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PG&E Topock Compressor Station
Needles, California

SampleID[a]	Sample Date	Location ID	RFI Area	Original Upper Depth (ft bgs)	Original Lower Depth (ft bgs)	Used for EPCs (2019 H H E R A)?	Original Baseline (ft bgs)	Original Scouring 2 ft	Original Scouring 5 ft	Excavation Status	Excavation Depth (ft)	Backfill Depth (ft)	Current Upper Depth (ft bgs)	Current Lower Depth (ft bgs)	Current Baseline (ft bgs)	Current Scouring 2 ft	Current Scouring 5 ft	Sample Source (2019 H H E R A, N T C R A, or R F I Addition)	Used for Post-N T C R A H H E R A EPCs?[b]
AOC1-7-376	1/9/2017	AOC1-7	AOC1	2	3	Yes	0-03	S2-03	--	In Place	0	0	2	3	0-3	02-03, 02-06	NE	2019 H H E R A	Yes
AOC1-7-378	1/9/2017	AOC1-7	AOC1	5	6	Yes	0-06	S2-06	S5-06	In Place	0	0	5	6	NE	02-06	05-06, 05-10	2019 H H E R A	Yes
AOC1-7-379	1/9/2017	AOC1-7	AOC1	9	10	Yes	0-10	S2-10	S5-10	In Place	0	0	9	10	NE	NE	05-10	2019 H H E R A	Yes
AOC1-7-380	1/9/2017	AOC1-7	AOC1	14	15	Yes	--	--	S5-15	In Place	0	0	14	15	NE	NE	NE	2019 H H E R A	No, Depth NA
AOC1-8-381	1/5/2017	AOC1-8	AOC1	0	0.5	Yes	0-0.5	--	--	In Place	0	0	0	0.5	0-0.5, 0-3	NE	NE	2019 H H E R A	Yes
AOC1-8-382	1/5/2017	AOC1-8	AOC1	2	3	Yes	0-03	S2-03	--	In Place	0	0	2	3	0-3	02-03, 02-06	NE	2019 H H E R A	Yes
AOC1-BCW1-100	9/20/2008	AOC1-BCW1	AOC1	0	0.5	Yes	0-0.5	--	--	In Place	0	0	0	0.5	0-0.5, 0-3	NE	NE	2019 H H E R A	Yes
AOC1-BCW1-101	9/20/2008	AOC1-BCW1	AOC1	2	3	Yes	0-03	S2-03	--	In Place	0	0	2	3	0-3	02-03, 02-06	NE	2019 H H E R A	Yes
AOC1-BCW10-187	2/4/2016	AOC1-BCW10	AOC1	0	0.5	Yes	0-0.5	--	--	In Place	0	0	0	0.5	0-0.5, 0-3	NE	NE	2019 H H E R A	Yes
AOC1-BCW10-188	2/4/2016	AOC1-BCW10	AOC1	2	3	Yes	0-03	S2-03	--	In Place	0	0	2	3	0-3	02-03, 02-06	NE	2019 H H E R A	Yes
AOC1-BCW10-189	2/4/2016	AOC1-BCW10	AOC1	5	6	Yes	0-06	S2-06	S5-06	In Place	0	0	5	6	NE	02-06	05-06, 05-10	2019 H H E R A	Yes
AOC1-BCW10-190	2/4/2016	AOC1-BCW10	AOC1	9	10	Yes	0-10	S2-10	S5-10	In Place	0	0	9	10	NE	NE	05-10	2019 H H E R A	Yes
AOC1-BCW10-191	2/4/2016	AOC1-BCW10	AOC1	9	10	Yes	0-10	S2-10	S5-10	In Place	0	0	9	10	NE	NE	05-10	2019 H H E R A	Yes
AOC1-BCW11-192	2/4/2016	AOC1-BCW11	AOC1	0	0.5	Yes	0-0.5	--	--	In Place	0	0	0	0.5	0-0.5, 0-3	NE	NE	2019 H H E R A	Yes
AOC1-BCW11-193	2/4/2016	AOC1-BCW11	AOC1	2	3	Yes	0-03	S2-03	--	In Place	0	0	2	3	0-3	02-03, 02-06	NE	2019 H H E R A	Yes
AOC1-BCW11-194	2/4/2016	AOC1-BCW11	AOC1	5	6	Yes	0-06	S2-06	S5-06	In Place	0	0	5	6	NE	02-06	05-06, 05-10	2019 H H E R A	Yes
AOC1-BCW11-195	2/4/2016	AOC1-BCW11	AOC1	9	10	Yes	0-10	S2-10	S5-10	In Place	0	0	9	10	NE	NE	05-10	2019 H H E R A	Yes
AOC1-BCW12-196	2/4/2016	AOC1-BCW12	AOC1	0	0.5	Yes	0-0.5	--	--	In Place	0	0	0	0.5	0-0.5, 0-3	NE	NE	2019 H H E R A	Yes
AOC1-BCW12-197	2/4/2016	AOC1-BCW12	AOC1	2	3	Yes	0-03	S2-03	--	In Place	0	0	2	3	0-3	02-03, 02-06	NE	2019 H H E R A	Yes
AOC1-BCW12-198	2/4/2016	AOC1-BCW12	AOC1	5	6	Yes	0-06	S2-06	S5-06	In Place	0	0	5	6	NE	02-06	05-06, 05-10	2019 H H E R A	Yes
AOC1-BCW12-199	2/4/2016	AOC1-BCW12	AOC1	9	10	Yes	0-10	S2-10	S5-10	In Place	0	0	9	10	NE	NE	05-10	2019 H H E R A	Yes
AOC1-BCW13-200	2/4/2016	AOC1-BCW13	AOC1	0	0.5	Yes	0-0.5	--	--	In Place	0	0	0	0.5	0-0.5, 0-3	NE	NE	2019 H H E R A	Yes
AOC1-BCW13-201	2/4/2016	AOC1-BCW13	AOC1	2	3	Yes	0-03	S2-03	--	In Place	0	0	2	3	0-3	02-03, 02-06	NE	2019 H H E R A	Yes
AOC1-BCW13-202	2/4/2016	AOC1-BCW13	AOC1	5	6	Yes	0-06	S2-06	S5-06	In Place	0	0	5	6	NE	02-06	05-06, 05-10	2019 H H E R A	Yes
AOC1-BCW13-203	2/4/2016	AOC1-BCW13	AOC1	9	10	Yes	0-10	S2-10	S5-10	In Place	0	0	9	10	NE	NE	05-10	2019 H H E R A	Yes
AOC1-BCW14-204	2/4/2016	AOC1-BCW14	AOC1	0	0.5	Yes	0-0.5	--	--	In Place	0	0	0	0.5	0-0.5, 0-3	NE	NE	2019 H H E R A	Yes
AOC1-BCW14-205	2/4/2016	AOC1-BCW14	AOC1	2	3	Yes	0-03	S2-03	--	In Place	0	0	2	3	0-3	02-03, 02-06	NE	2019 H H E R A	Yes
AOC1-BCW14-206	2/4/2016	AOC1-BCW14	AOC1	5	6	Yes	0-06	S2-06	S5-06	In Place	0	0	5	6	NE	02-06	05-06, 05-10	2019 H H E R A	Yes
AOC1-BCW14-207	2/4/2016	AOC1-BCW14	AOC1	9	10	Yes	0-10	S2-10	S5-10	In Place	0	0	9	10	NE	NE	05-10	2019 H H E R A	Yes
AOC1-BCW15-208	2/4/2016	AOC1-BCW15	AOC1	0	0.5	Yes	0-0.5	--	--	In Place	0	0	0	0.5	0-0.5, 0-3	NE	NE	2019 H H E R A	Yes
AOC1-BCW15-209	2/4/2016	AOC1-BCW15	AOC1	2	3	Yes	0-03	S2-03	--	In Place	0	0	2	3	0-3	02-03, 02-06	NE	2019 H H E R A	Yes
AOC1-BCW15-210	2/4/2016	AOC1-BCW15	AOC1	5	6	Yes	0-06	S2-06	S5-06	In Place	0	0	5	6	NE	02-06	05-06, 05-10	2019 H H E R A	Yes
AOC1-BCW15-211	2/4/2016	AOC1-BCW15	AOC1	9	10	Yes	0-10	S2-10	S5-10	In Place	0	0	9	10	NE	NE	05-10	2019 H H E R A	Yes
AOC1-BCW16-212	2/4/2016	AOC1-BCW16	AOC1	0	0.5	Yes	0-0.5	--	--	In Place	0	0	0	0.5	0-0.5, 0-3	NE	NE	2019 H H E R A	Yes
AOC1-BCW16-213	2/4/2016	AOC1-BCW16	AOC1	2	3	Yes	0-03	S2-03	--	In Place	0	0	2	3	0-3	02-03, 02-06	NE	2019 H H E R A	Yes
AOC1-BCW16-214	2/4/2016	AOC1-BCW16	AOC1	5	6	Yes	0-06	S2-06	S5-06	In Place	0	0	5	6	NE	02-06	05-06, 05-10	2019 H H E R A	Yes
AOC1-BCW16-215	2/4/2016	AOC1-BCW16	AOC1	9	10	Yes	0-10	S2-10	S5-10	In Place	0	0	9	10	NE	NE	05-10	2019 H H E R A	Yes
AOC1-BCW17-216	2/4/2016	AOC1-BCW17	AOC1	0	0.5	Yes	0-0.5	--	--	In Place	0	0	0	0.5	0-0.5, 0-3	NE	NE	2019 H H E R A	Yes
AOC1-BCW17-217	2/4/2016	AOC1-BCW17	AOC1	2	3	Yes	0-03	S2-03	--	In Place	0	0	2	3	0-3	02-03, 02-06	NE	2019 H H E R A	Yes
AOC1-BCW17-218	2/4/2016	AOC1-BCW17	AOC1	5	6	Yes	0-06	S2-06	S5-06	In Place	0	0	5	6	NE	02-06	05-06, 05-10	2019 H H E R A	Yes
AOC1-BCW17-219	2/4/2016	AOC1-BCW17	AOC1	9	10	Yes	0-10	S2-10	S5-10	In Place	0	0	9	10	NE	NE	05-10	2019 H H E R A	Yes
AOC1-BCW18-220	2/5/2016	AOC1-BCW18	AOC1	0	0.5	Yes	0-0.5	--	--	In Place	0	0	0	0.5	0-0.5, 0-3	NE	NE	2019 H H E R A	Yes
AOC1-BCW18-221	2/5/2016	AOC1-BCW18	AOC1	2	3	Yes	0-03	S2-03	--	In Place	0	0	2	3	0-3	02-03, 02-06	NE	2019 H H E R A	Yes
AOC1-BCW18-222	2/5/2016	AOC1-BCW18	AOC1	5	6	Yes	0-06	S2-06	S5-06	In Place	0	0	5	6	NE	02-06	05-06, 05-10	2019 H H E R A	Yes
AOC1-BCW18-223	2/5/2016	AOC1-BCW18	AOC1	9	10	Yes	0-10	S2-10	S5-10	In Place	0	0	9	10	NE	NE	05-10	2019 H H E R A	Yes
AOC1-BCW19-224	2/5/2016	AOC1-BCW19	AOC1	0	0.5	Yes	0-0.5	--	--	In Place	0	0	0	0.5	0-0.5, 0-3	NE	NE	2019 H H E R A	Yes
AOC1-BCW19-225	2/5/2016	AOC1-BCW19	AOC1	2	3	Yes	0-03	S2-03	--	In Place	0	0	2	3	0-3	02-03, 02-06	NE	2019 H H E R A	Yes
AOC1-BCW19-226	2/5/2016	AOC1-BCW19	AOC1	5	6	Yes	0-06	S2-06	S5-06	In Place	0	0	5	6	NE	02-06	05-06, 05-10	2019 H H E R A	Yes
AOC1-BCW19-227	2/5/2016	AOC1-BCW19	AOC1	9	10	Yes	0-10	S2-10	S5-10	In Place	0	0	9	10	NE	NE	05-10	2019 H H E R A	Yes
AOC1-BCW2-104	10/4/2008	AOC1-BCW2	AOC1	0	0.5	Yes	0-0.5	--	--	In Place	0	0	0	0.5	0-0.5, 0-3	NE	NE	2019 H H E R A	Yes
AOC1-BCW2-105	10/4/2008	AOC1-BCW2	AOC1	2	3	Yes	0-03	S2-03	--	In Place	0	0	2	3	0-3	02-03, 02-06	NE	2019 H H E R A	Yes

Table BCW-1.1
Samples and Sampling Locations Included in the BCW Potential Exposure Area

Post-Soil N T C R A Human Health and Ecological Risk Assessment Report
PG&E Topock Compressor Station
Needles, California

SampleID[a]	Sample Date	Location ID	RFI Area	Original Upper Depth (ft bgs)	Original Lower Depth (ft bgs)	Used for EPCs (2019 H H E R A)?	Original Baseline (ft bgs)	Original Scouring 2 ft	Original Scouring 5 ft	Excavation Status	Excavation Depth (ft)	Backfill Depth (ft)	Current Upper Depth (ft bgs)	Current Lower Depth (ft bgs)	Current Baseline (ft bgs)	Current Scouring 2 ft	Current Scouring 5 ft	Sample Source (2019 H H E R A, N T C R A, or R F I Addition)	Used for Post-N T C R A H H E R A EPCs?[b]
AOC1-BCW2-106	10/4/2008	AOC1-BCW2	AOC1	5	6	Yes	0-06	S2-06	S5-06	In Place	0	0	5	6	NE	02-06	05-06, 05-10	2019 H H E R A	Yes
AOC1-BCW2-107	10/4/2008	AOC1-BCW2	AOC1	9	10	Yes	0-10	S2-10	S5-10	In Place	0	0	9	10	NE	NE	05-10	2019 H H E R A	Yes
AOC1-BCW20-228	2/5/2016	AOC1-BCW20	AOC1	0	0.5	Yes	0-0.5	–	–	In Place	0	0	0	0.5	0-0.5, 0-3	NE	NE	2019 H H E R A	Yes
AOC1-BCW20-229	2/5/2016	AOC1-BCW20	AOC1	2	3	Yes	0-03	S2-03	–	In Place	0	0	2	3	0-3	02-03, 02-06	NE	2019 H H E R A	Yes
AOC1-BCW20-230	2/5/2016	AOC1-BCW20	AOC1	5	6	Yes	0-06	S2-06	S5-06	In Place	0	0	5	6	NE	02-06	05-06, 05-10	2019 H H E R A	Yes
AOC1-BCW20-231	2/5/2016	AOC1-BCW20	AOC1	9	10	Yes	0-10	S2-10	S5-10	In Place	0	0	9	10	NE	NE	05-10	2019 H H E R A	Yes
AOC1-BCW21-232	2/5/2016	AOC1-BCW21	AOC1	0	0.5	Yes	0-0.5	–	–	In Place	0	0	0	0.5	0-0.5, 0-3	NE	NE	2019 H H E R A	Yes
AOC1-BCW21-233	2/5/2016	AOC1-BCW21	AOC1	2	3	Yes	0-03	S2-03	–	In Place	0	0	2	3	0-3	02-03, 02-06	NE	2019 H H E R A	Yes
AOC1-BCW21-234	2/5/2016	AOC1-BCW21	AOC1	5	6	Yes	0-06	S2-06	S5-06	In Place	0	0	5	6	NE	02-06	05-06, 05-10	2019 H H E R A	Yes
AOC1-BCW21-235	2/5/2016	AOC1-BCW21	AOC1	9	10	Yes	0-10	S2-10	S5-10	In Place	0	0	9	10	NE	NE	05-10	2019 H H E R A	Yes
AOC1-BCW22-236	2/5/2016	AOC1-BCW22	AOC1	0	0.5	Yes	0-0.5	–	–	In Place	0	0	0	0.5	0-0.5, 0-3	NE	NE	2019 H H E R A	Yes
AOC1-BCW22-237	2/5/2016	AOC1-BCW22	AOC1	2	3	Yes	0-03	S2-03	–	In Place	0	0	2	3	0-3	02-03, 02-06	NE	2019 H H E R A	Yes
AOC1-BCW22-238	2/5/2016	AOC1-BCW22	AOC1	5	6	Yes	0-06	S2-06	S5-06	In Place	0	0	5	6	NE	02-06	05-06, 05-10	2019 H H E R A	Yes
AOC1-BCW22-239	2/5/2016	AOC1-BCW22	AOC1	9	10	Yes	0-10	S2-10	S5-10	In Place	0	0	9	10	NE	NE	05-10	2019 H H E R A	Yes
AOC1-BCW23-240	2/5/2016	AOC1-BCW23	AOC1	0	0.5	Yes	0-0.5	–	–	In Place	0	0	0	0.5	0-0.5, 0-3	NE	NE	2019 H H E R A	Yes
AOC1-BCW23-241	2/5/2016	AOC1-BCW23	AOC1	2	3	Yes	0-03	S2-03	–	In Place	0	0	2	3	0-3	02-03, 02-06	NE	2019 H H E R A	Yes
AOC1-BCW23-242	2/5/2016	AOC1-BCW23	AOC1	5	6	Yes	0-06	S2-06	S5-06	In Place	0	0	5	6	NE	02-06	05-06, 05-10	2019 H H E R A	Yes
AOC1-BCW23-243	2/5/2016	AOC1-BCW23	AOC1	9	10	Yes	0-10	S2-10	S5-10	In Place	0	0	9	10	NE	NE	05-10	2019 H H E R A	Yes
AOC1-BCW24-244	2/5/2016	AOC1-BCW24	AOC1	0	0.5	Yes	0-0.5	–	–	In Place	0	0	0	0.5	0-0.5, 0-3	NE	NE	2019 H H E R A	Yes
AOC1-BCW24-245	2/5/2016	AOC1-BCW24	AOC1	2	3	Yes	0-03	S2-03	–	In Place	0	0	2	3	0-3	02-03, 02-06	NE	2019 H H E R A	Yes
AOC1-BCW24-246	2/5/2016	AOC1-BCW24	AOC1	5	6	Yes	0-06	S2-06	S5-06	In Place	0	0	5	6	NE	02-06	05-06, 05-10	2019 H H E R A	Yes
AOC1-BCW24-247	2/5/2016	AOC1-BCW24	AOC1	9	10	Yes	0-10	S2-10	S5-10	In Place	0	0	9	10	NE	NE	05-10	2019 H H E R A	Yes
AOC1-BCW25-248	2/5/2016	AOC1-BCW25	AOC1	0	0.5	Yes	0-0.5	–	–	In Place	0	0	0	0.5	0-0.5, 0-3	NE	NE	2019 H H E R A	Yes
AOC1-BCW25-249	2/5/2016	AOC1-BCW25	AOC1	2	3	Yes	0-03	S2-03	–	In Place	0	0	2	3	0-3	02-03, 02-06	NE	2019 H H E R A	Yes
AOC1-BCW25-250	2/5/2016	AOC1-BCW25	AOC1	5	6	Yes	0-06	S2-06	S5-06	In Place	0	0	5	6	NE	02-06	05-06, 05-10	2019 H H E R A	Yes
AOC1-BCW25-251	2/5/2016	AOC1-BCW25	AOC1	9	10	Yes	0-10	S2-10	S5-10	In Place	0	0	9	10	NE	NE	05-10	2019 H H E R A	Yes
AOC1-BCW26-252	2/4/2016	AOC1-BCW26	AOC1	0	0.5	Yes	0-0.5	–	–	In Place	0	0	0	0.5	0-0.5, 0-3	NE	NE	2019 H H E R A	Yes
AOC1-BCW26-253	2/4/2016	AOC1-BCW26	AOC1	2	3	Yes	0-03	S2-03	–	In Place	0	0	2	3	0-3	02-03, 02-06	NE	2019 H H E R A	Yes
AOC1-BCW26-254	2/4/2016	AOC1-BCW26	AOC1	5	6	Yes	0-06	S2-06	S5-06	In Place	0	0	5	6	NE	02-06	05-06, 05-10	2019 H H E R A	Yes
AOC1-BCW26-255	2/4/2016	AOC1-BCW26	AOC1	9	10	Yes	0-10	S2-10	S5-10	In Place	0	0	9	10	NE	NE	05-10	2019 H H E R A	Yes
AOC1-BCW27-256	2/5/2016	AOC1-BCW27	AOC1	0	0.5	Yes	0-0.5	–	–	In Place	0	0	0	0.5	0-0.5, 0-3	NE	NE	2019 H H E R A	Yes
AOC1-BCW27-257	2/5/2016	AOC1-BCW27	AOC1	2	3	Yes	0-03	S2-03	–	In Place	0	0	2	3	0-3	02-03, 02-06	NE	2019 H H E R A	Yes
AOC1-BCW27-258	2/5/2016	AOC1-BCW27	AOC1	5	6	Yes	0-06	S2-06	S5-06	In Place	0	0	5	6	NE	02-06	05-06, 05-10	2019 H H E R A	Yes
AOC1-BCW27-259	2/5/2016	AOC1-BCW27	AOC1	9	10	Yes	0-10	S2-10	S5-10	In Place	0	0	9	10	NE	NE	05-10	2019 H H E R A	Yes
AOC1-BCW28-260	2/5/2016	AOC1-BCW28	AOC1	0	0.5	Yes	0-0.5	–	–	In Place	0	0	0	0.5	0-0.5, 0-3	NE	NE	2019 H H E R A	Yes
AOC1-BCW28-261	2/5/2016	AOC1-BCW28	AOC1	2	3	Yes	0-03	S2-03	–	In Place	0	0	2	3	0-3	02-03, 02-06	NE	2019 H H E R A	Yes
AOC1-BCW28-262	2/5/2016	AOC1-BCW28	AOC1	5	6	Yes	0-06	S2-06	S5-06	In Place	0	0	5	6	NE	02-06	05-06, 05-10	2019 H H E R A	Yes
AOC1-BCW28-263	2/5/2016	AOC1-BCW28	AOC1	9	10	Yes	0-10	S2-10	S5-10	In Place	0	0	9	10	NE	NE	05-10	2019 H H E R A	Yes
AOC1-BCW29-264	2/4/2016	AOC1-BCW29	AOC1	0	0.5	Yes	0-0.5	–	–	In Place	0	0	0	0.5	0-0.5, 0-3	NE	NE	2019 H H E R A	Yes
AOC1-BCW29-265	2/4/2016	AOC1-BCW29	AOC1	2	3	Yes	0-03	S2-03	–	In Place	0	0	2	3	0-3	02-03, 02-06	NE	2019 H H E R A	Yes
AOC1-BCW29-266	2/4/2016	AOC1-BCW29	AOC1	5	6	Yes	0-06	S2-06	S5-06	In Place	0	0	5	6	NE	02-06	05-06, 05-10	2019 H H E R A	Yes
AOC1-BCW29-267	2/4/2016	AOC1-BCW29	AOC1	9	10	Yes	0-10	S2-10	S5-10	In Place	0	0	9	10	NE	NE	05-10	2019 H H E R A	Yes
AOC1-BCW3-108	10/4/2008	AOC1-BCW3	AOC1	0	0.5	Yes	0-0.5	–	–	In Place	0	0	0	0.5	0-0.5, 0-3	NE	NE	2019 H H E R A	Yes
AOC1-BCW3-109	10/4/2008	AOC1-BCW3	AOC1	2	3	Yes	0-03	S2-03	–	In Place	0	0	2	3	0-3	02-03, 02-06	NE	2019 H H E R A	Yes
AOC1-BCW3-110	10/4/2008	AOC1-BCW3	AOC1	5	6	Yes	0-06	S2-06	S5-06	In Place	0	0	5	6	NE	02-06	05-06, 05-10	2019 H H E R A	Yes
AOC1-BCW3-111	10/4/2008	AOC1-BCW3	AOC1	9	10	Yes	0-10	S2-10	S5-10	In Place	0	0	9	10	NE	NE	05-10	2019 H H E R A	Yes
AOC1-BCW3-112	10/4/2008	AOC1-BCW3	AOC1	9	10	Yes	0-10	S2-10	S5-10	In Place	0	0	9	10	NE	NE	05-10	2019 H H E R A	Yes
AOC1-BCW30-268	2/4/2016	AOC1-BCW30	AOC1	0	0.5	Yes	0-0.5	–	–	In Place	0	0	0	0.5	0-0.5, 0-3	NE	NE	2019 H H E R A	Yes
AOC1-BCW30-269	2/4/2016	AOC1-BCW30	AOC1	2	3	Yes	0-03	S2-03	–	In Place	0	0	2	3	0-3	02-03, 02-06	NE	2019 H H E R A	Yes
AOC1-BCW30-270	2/4/2016	AOC1-BCW30	AOC1	5	6	Yes	0-06	S2-06	S5-06	In Place	0	0	5	6	NE	02-06	05-06, 05-10	2019 H H E R A	Yes
AOC1-BCW30-271	2/4/2016	AOC1-BCW30	AOC1	9	10	Yes	0-10	S2-10	S5-10	In Place	0	0	9	10	NE	NE	05-10	2019 H H E R A	Yes

Table BCW-1.1
Samples and Sampling Locations Included in the BCW Potential Exposure Area

Post-Soil N T C R A Human Health and Ecological Risk Assessment Report
PG&E Topock Compressor Station
Needles, California

SampleID[a]	Sample Date	Location ID	RFI Area	Original Upper Depth (ft bgs)	Original Lower Depth (ft bgs)	Used for EPCs (2019 H H E R A)?	Original Baseline (ft bgs)	Original Scouring 2 ft	Original Scouring 5 ft	Excavation Status	Excavation Depth (ft)	Backfill Depth (ft)	Current Upper Depth (ft bgs)	Current Lower Depth (ft bgs)	Current Baseline (ft bgs)	Current Scouring 2 ft	Current Scouring 5 ft	Sample Source (2019 H H E R A, N T C R A, or R F I Addition)	Used for Post-N T C R A H H E R A EPCs?[b]
AOC1-BCW4-113	10/4/2008	AOC1-BCW4	AOC1	0	0.5	Yes	0-0.5	--	--	In Place	0	0	0	0.5	0-0.5, 0-3	NE	NE	2019 H H E R A	Yes
AOC1-BCW4-114	10/4/2008	AOC1-BCW4	AOC1	2	3	Yes	0-03	S2-03	--	In Place	0	0	2	3	0-3	02-03, 02-06	NE	2019 H H E R A	Yes
AOC1-BCW4-115	10/4/2008	AOC1-BCW4	AOC1	5	6	Yes	0-06	S2-06	S5-06	In Place	0	0	5	6	NE	02-06	05-06, 05-10	2019 H H E R A	Yes
AOC1-BCW4-116	10/4/2008	AOC1-BCW4	AOC1	9	10	Yes	0-10	S2-10	S5-10	In Place	0	0	9	10	NE	NE	05-10	2019 H H E R A	Yes
AOC1-BCW5-117	10/4/2008	AOC1-BCW5	AOC1	0	0.5	Yes	0-0.5	--	--	In Place	0	0	0	0.5	0-0.5, 0-3	NE	NE	2019 H H E R A	Yes
AOC1-BCW5-118	10/4/2008	AOC1-BCW5	AOC1	2	3	Yes	0-03	S2-03	--	In Place	0	0	2	3	0-3	02-03, 02-06	NE	2019 H H E R A	Yes
AOC1-BCW5-119	10/4/2008	AOC1-BCW5	AOC1	5	6	Yes	0-06	S2-06	S5-06	In Place	0	0	5	6	NE	02-06	05-06, 05-10	2019 H H E R A	Yes
AOC1-BCW5-120	10/4/2008	AOC1-BCW5	AOC1	9	10	Yes	0-10	S2-10	S5-10	In Place	0	0	9	10	NE	NE	05-10	2019 H H E R A	Yes
AOC1-BCW5-121	10/4/2008	AOC1-BCW5	AOC1	9	10	Yes	0-10	S2-10	S5-10	In Place	0	0	9	10	NE	NE	05-10	2019 H H E R A	Yes
AOC1-BCW6-122	8/22/2008	AOC1-BCW6	AOC1	0	0.5	Yes	0-0.5	--	--	In Place	0	0	0	0.5	0-0.5, 0-3	NE	NE	2019 H H E R A	Yes
AOC1-BCW6-123	8/22/2008	AOC1-BCW6	AOC1	2	3	Yes	0-03	S2-03	--	In Place	0	0	2	3	0-3	02-03, 02-06	NE	2019 H H E R A	Yes
AOC1-BCW7-272	2/5/2016	AOC1-BCW7	AOC1	0	0.5	Yes	0-0.5	--	--	In Place	0	0	0	0.5	0-0.5, 0-3	NE	NE	2019 H H E R A	Yes
AOC1-BCW7-273	2/5/2016	AOC1-BCW7	AOC1	2	3	Yes	0-03	S2-03	--	In Place	0	0	2	3	0-3	02-03, 02-06	NE	2019 H H E R A	Yes
AOC1-BCW7-274	2/5/2016	AOC1-BCW7	AOC1	2	3	Yes	0-03	S2-03	--	In Place	0	0	2	3	0-3	02-03, 02-06	NE	2019 H H E R A	Yes
AOC1-BCW7-275	2/5/2016	AOC1-BCW7	AOC1	5	6	Yes	0-06	S2-06	S5-06	In Place	0	0	5	6	NE	02-06	05-06, 05-10	2019 H H E R A	Yes
AOC1-BCW7-276	2/5/2016	AOC1-BCW7	AOC1	9	10	Yes	0-10	S2-10	S5-10	In Place	0	0	9	10	NE	NE	05-10	2019 H H E R A	Yes
AOC1-BCW7-277	2/5/2016	AOC1-BCW7	AOC1	14	15	Yes	--	--	S5-15	In Place	0	0	14	15	NE	NE	NE	2019 H H E R A	No, Depth NA
AOC1-BCW7-278	2/5/2016	AOC1-BCW7	AOC1	19	20	No	--	--	--	In Place	0	0	19	20	NE	NE	NE	2019 H H E R A	No, Depth NA
AOC1-BCW7-279	2/5/2016	AOC1-BCW7	AOC1	19	20	No	--	--	--	In Place	0	0	19	20	NE	NE	NE	2019 H H E R A	No, Depth NA
AOC1-BCW8-280	2/4/2016	AOC1-BCW8	AOC1	0	0.5	Yes	0-0.5	--	--	In Place	0	0	0	0.5	0-0.5, 0-3	NE	NE	2019 H H E R A	Yes
AOC1-BCW8-281	2/4/2016	AOC1-BCW8	AOC1	2	3	Yes	0-03	S2-03	--	In Place	0	0	2	3	0-3	02-03, 02-06	NE	2019 H H E R A	Yes
AOC1-BCW8-282	2/4/2016	AOC1-BCW8	AOC1	5	6	Yes	0-06	S2-06	S5-06	In Place	0	0	5	6	NE	02-06	05-06, 05-10	2019 H H E R A	Yes
AOC1-BCW8-283	2/4/2016	AOC1-BCW8	AOC1	9	10	Yes	0-10	S2-10	S5-10	In Place	0	0	9	10	NE	NE	05-10	2019 H H E R A	Yes
AOC1-BCW9-285	2/4/2016	AOC1-BCW9	AOC1	0	0.5	Yes	0-0.5	--	--	In Place	0	0	0	0.5	0-0.5, 0-3	NE	NE	2019 H H E R A	Yes
AOC1-BCW9-286	2/4/2016	AOC1-BCW9	AOC1	2	3	Yes	0-03	S2-03	--	In Place	0	0	2	3	0-3	02-03, 02-06	NE	2019 H H E R A	Yes
AOC1-BCW9-287	2/4/2016	AOC1-BCW9	AOC1	5	6	Yes	0-06	S2-06	S5-06	In Place	0	0	5	6	NE	02-06	05-06, 05-10	2019 H H E R A	Yes
AOC1-BCW9-288	2/4/2016	AOC1-BCW9	AOC1	9	10	Yes	0-10	S2-10	S5-10	In Place	0	0	9	10	NE	NE	05-10	2019 H H E R A	Yes
AOC1-T1a-001	10/16/2008	AOC1-T1a	AOC1	0	0.5	Yes	0-0.5	--	--	In Place	0	0	0	0.5	0-0.5, 0-3	NE	NE	2019 H H E R A	Yes
AOC1-T1a-002	10/16/2008	AOC1-T1a	AOC1	2	3	Yes	0-03	S2-03	--	In Place	0	0	2	3	0-3	02-03, 02-06	NE	2019 H H E R A	Yes
AOC1-T1a-003	10/16/2008	AOC1-T1a	AOC1	5	6	Yes	0-06	S2-06	S5-06	In Place	0	0	5	6	NE	02-06	05-06, 05-10	2019 H H E R A	Yes
AOC1-T1a-004	10/16/2008	AOC1-T1a	AOC1	9	10	Yes	0-10	S2-10	S5-10	In Place	0	0	9	10	NE	NE	05-10	2019 H H E R A	Yes
AOC1-T1b-005	10/16/2008	AOC1-T1b	AOC1	0	0.5	Yes	0-0.5	--	--	In Place	0	0	0	0.5	0-0.5, 0-3	NE	NE	2019 H H E R A	Yes
AOC1-T1b-006	10/16/2008	AOC1-T1b	AOC1	0	0.5	Yes	0-0.5	--	--	In Place	0	0	0	0.5	0-0.5, 0-3	NE	NE	2019 H H E R A	Yes
AOC1-T1b-007	10/16/2008	AOC1-T1b	AOC1	2	3	Yes	0-03	S2-03	--	In Place	0	0	2	3	0-3	02-03, 02-06	NE	2019 H H E R A	Yes
AOC1-T1b-008	10/16/2008	AOC1-T1b	AOC1	5	6	Yes	0-06	S2-06	S5-06	In Place	0	0	5	6	NE	02-06	05-06, 05-10	2019 H H E R A	Yes
AOC1-T1b-009	10/16/2008	AOC1-T1b	AOC1	9	10	Yes	0-10	S2-10	S5-10	In Place	0	0	9	10	NE	NE	05-10	2019 H H E R A	Yes
AOC1-T1c-010	10/16/2008	AOC1-T1c	AOC1	0	0.5	Yes	0-0.5	--	--	In Place	0	0	0	0.5	0-0.5, 0-3	NE	NE	2019 H H E R A	Yes
AOC1-T1c-011	10/16/2008	AOC1-T1c	AOC1	2	3	Yes	0-03	S2-03	--	In Place	0	0	2	3	0-3	02-03, 02-06	NE	2019 H H E R A	Yes
AOC1-T1c-012	10/16/2008	AOC1-T1c	AOC1	2	3	Yes	0-03	S2-03	--	In Place	0	0	2	3	0-3	02-03, 02-06	NE	2019 H H E R A	Yes
AOC1-T1c-013	10/16/2008	AOC1-T1c	AOC1	5	6	Yes	0-06	S2-06	S5-06	In Place	0	0	5	6	NE	02-06	05-06, 05-10	2019 H H E R A	Yes
AOC1-T1c-014	10/16/2008	AOC1-T1c	AOC1	9	10	Yes	0-10	S2-10	S5-10	In Place	0	0	9	10	NE	NE	05-10	2019 H H E R A	Yes
AOC1-T1e-289	1/11/2016	AOC1-T1e	AOC1	0	1	Yes	0-0.5	--	--	In Place	0	0	0	1	0-0.5, 0-3	NE	NE	2019 H H E R A	Yes
AOC1-T1e-290	1/11/2016	AOC1-T1e	AOC1	2	3	Yes	0-03	S2-03	--	In Place	0	0	2	3	0-3	02-03, 02-06	NE	2019 H H E R A	Yes
AOC1-T1e-291	1/11/2016	AOC1-T1e	AOC1	5	6	Yes	0-06	S2-06	S5-06	In Place	0	0	5	6	NE	02-06	05-06, 05-10	2019 H H E R A	Yes
AOC1-T1e-292	1/11/2016	AOC1-T1e	AOC1	9	10	Yes	0-10	S2-10	S5-10	In Place	0	0	9	10	NE	NE	05-10	2019 H H E R A	Yes
AOC1-T1e-293	1/11/2016	AOC1-T1e	AOC1	9	10	Yes	0-10	S2-10	S5-10	In Place	0	0	9	10	NE	NE	05-10	2019 H H E R A	Yes
AOC1-T1e-294	1/11/2016	AOC1-T1e	AOC1	14	15	Yes	--	--	S5-15	In Place	0	0	14	15	NE	NE	NE	2019 H H E R A	No, Depth NA
AOC1-T1f-295	1/12/2016	AOC1-T1f	AOC1	0	1	Yes	0-0.5	--	--	In Place	0	0	0	1	0-0.5, 0-3	NE	NE	2019 H H E R A	Yes
AOC1-T1f-296	1/12/2016	AOC1-T1f	AOC1	2	3	Yes	0-03	S2-03	--	In Place	0	0	2	3	0-3	02-03, 02-06	NE	2019 H H E R A	Yes
AOC1-T1f-297	1/12/2016	AOC1-T1f	AOC1	5	6	Yes	0-06	S2-06	S5-06	In Place	0	0	5	6	NE	02-06	05-06, 05-10	2019 H H E R A	Yes
AOC1-T1f-298	1/12/2016	AOC1-T1f	AOC1	9	10	Yes	0-10	S2-10	S5-10	In Place	0	0	9	10	NE	NE	05-10	2019 H H E R A	Yes

Table BCW-1.1
Samples and Sampling Locations Included in the BCW Potential Exposure Area

Post-Soil N T C R A Human Health and Ecological Risk Assessment Report
PG&E Topock Compressor Station
Needles, California

SampleID[a]	Sample Date	Location ID	RFI Area	Original Upper Depth (ft bgs)	Original Lower Depth (ft bgs)	Used for EPCs (2019 H H E R A)?	Original Baseline (ft bgs)	Original Scouring 2 ft	Original Scouring 5 ft	Excavation Status	Excavation Depth (ft)	Backfill Depth (ft)	Current Upper Depth (ft bgs)	Current Lower Depth (ft bgs)	Current Baseline (ft bgs)	Current Scouring 2 ft	Current Scouring 5 ft	Sample Source (2019 H H E R A, N T C R A, or R F I Addition)	Used for Post-N T C R A H H E R A EPCs?[b]
AOC1-T1f-299	1/12/2016	AOC1-T1f	AOC1	9	10	Yes	0-10	S2-10	S5-10	In Place	0	0	9	10	NE	NE	05-10	2019 H H E R A	Yes
AOC1-T1f-300	1/12/2016	AOC1-T1f	AOC1	14	15	Yes	--	--	S5-15	In Place	0	0	14	15	NE	NE	NE	2019 H H E R A	No, Depth NA
AOC1-T1g-351	2/17/2017	AOC1-T1g	AOC1	0	0.5	Yes	0-0.5	--	--	In Place	0	0	0	0.5	0-0.5, 0-3	NE	NE	2019 H H E R A	Yes
AOC1-T1g-352	2/17/2017	AOC1-T1g	AOC1	0	0.5	Yes	0-0.5	--	--	In Place	0	0	0	0.5	0-0.5, 0-3	NE	NE	2019 H H E R A	Yes
AOC1-T1g-353	2/17/2017	AOC1-T1g	AOC1	2	3	Yes	0-03	S2-03	--	In Place	0	0	2	3	0-3	02-03, 02-06	NE	2019 H H E R A	Yes
AOC1-T1g-354	2/17/2017	AOC1-T1g	AOC1	5	6	Yes	0-06	S2-06	S5-06	In Place	0	0	5	6	NE	02-06	05-06, 05-10	2019 H H E R A	Yes
AOC1-T1g-355	2/17/2017	AOC1-T1g	AOC1	9	10	Yes	0-10	S2-10	S5-10	In Place	0	0	9	10	NE	NE	05-10	2019 H H E R A	Yes
AOC1-T2a-015	10/5/2008	AOC1-T2a	AOC1	0	0.5	Yes	0-0.5	--	--	In Place	0	0	0	0.5	0-0.5, 0-3	NE	NE	2019 H H E R A	Yes
AOC1-T2a-016	10/16/2008	AOC1-T2a	AOC1	2	3	Yes	0-03	S2-03	--	In Place	0	0	2	3	0-3	02-03, 02-06	NE	2019 H H E R A	Yes
AOC1-T2a-017	10/16/2008	AOC1-T2a	AOC1	5	6	Yes	0-06	S2-06	S5-06	In Place	0	0	5	6	NE	02-06	05-06, 05-10	2019 H H E R A	Yes
AOC1-T2a-018	10/16/2008	AOC1-T2a	AOC1	9	10	Yes	0-10	S2-10	S5-10	In Place	0	0	9	10	NE	NE	05-10	2019 H H E R A	Yes
AOC1-T2b-019	10/16/2008	AOC1-T2b	AOC1	0	0.5	Yes	0-0.5	--	--	Removed	--	0	--	--	NE	NE	NE	2019 H H E R A	No, Excavated
AOC1-T2b-020	10/16/2008	AOC1-T2b	AOC1	2	3	Yes	0-03	S2-03	--	Removed	--	0	--	--	NE	NE	NE	2019 H H E R A	No, Excavated
AOC1-T2b-021	10/16/2008	AOC1-T2b	AOC1	5	6	Yes	0-06	S2-06	S5-06	Removed	--	0	--	--	NE	NE	NE	2019 H H E R A	No, Excavated
AOC1-T2b-022	10/16/2008	AOC1-T2b	AOC1	9	10	Yes	0-10	S2-10	S5-10	Removed	--	0	--	--	NE	NE	NE	2019 H H E R A	No, Excavated
AOC1-T2b-023	10/16/2008	AOC1-T2b	AOC1	9	10	Yes	0-10	S2-10	S5-10	Removed	--	0	--	--	NE	NE	NE	2019 H H E R A	No, Excavated
AOC1-T2c-024	10/8/2008	AOC1-T2c	AOC1	0	0.5	Yes	0-0.5	--	--	In Place	0	0	0	0.5	0-0.5, 0-3	NE	NE	2019 H H E R A	Yes
AOC1-T2c-025	10/8/2008	AOC1-T2c	AOC1	2	3	Yes	0-03	S2-03	--	In Place	0	0	2	3	0-3	02-03, 02-06	NE	2019 H H E R A	Yes
AOC1-T2c-026	10/8/2008	AOC1-T2c	AOC1	5	6	Yes	0-06	S2-06	S5-06	In Place	0	0	5	6	NE	02-06	05-06, 05-10	2019 H H E R A	Yes
AOC1-T2c-027	10/8/2008	AOC1-T2c	AOC1	9	10	Yes	0-10	S2-10	S5-10	In Place	0	0	9	10	NE	NE	05-10	2019 H H E R A	Yes
AOC1-T2d-028	10/7/2008	AOC1-T2d	AOC1	0	0.5	Yes	0-0.5	--	--	Removed	--	0	--	--	NE	NE	NE	2019 H H E R A	No, Excavated
AOC1-T2d-029	10/7/2008	AOC1-T2d	AOC1	2	3	Yes	0-03	S2-03	--	Removed	--	0	--	--	NE	NE	NE	2019 H H E R A	No, Excavated
AOC1-T2d-030	10/7/2008	AOC1-T2d	AOC1	5	6	Yes	0-06	S2-06	S5-06	Removed	--	0	--	--	NE	NE	NE	2019 H H E R A	No, Excavated
AOC1-T2d-031	10/7/2008	AOC1-T2d	AOC1	9	10	Yes	0-10	S2-10	S5-10	Removed	--	0	--	--	NE	NE	NE	2019 H H E R A	No, Excavated
AOC1-T2d-032	10/7/2008	AOC1-T2d	AOC1	19	20	No	--	--	--	In Place	10	10	19	20	NE	NE	NE	2019 H H E R A	No, Depth NA
AOC1-T2d-033	10/7/2008	AOC1-T2d	AOC1	29	30	No	--	--	--	In Place	10	10	29	30	NE	NE	NE	2019 H H E R A	No, Depth NA
AOC1-T2d-034	10/7/2008	AOC1-T2d	AOC1	29	30	No	--	--	--	In Place	10	10	29	30	NE	NE	NE	2019 H H E R A	No, Depth NA
AOC1-T2d-035	10/7/2008	AOC1-T2d	AOC1	39	40	No	--	--	--	In Place	10	10	39	40	NE	NE	NE	2019 H H E R A	No, Depth NA
AOC1-T2d-036	10/7/2008	AOC1-T2d	AOC1	49	50	No	--	--	--	In Place	10	10	49	50	NE	NE	NE	2019 H H E R A	No, Depth NA
AOC1-T2d-037	10/8/2008	AOC1-T2d	AOC1	59	60	No	--	--	--	In Place	10	10	59	60	NE	NE	NE	2019 H H E R A	No, Depth NA
AOC1-T2d-038	10/8/2008	AOC1-T2d	AOC1	69	70	No	--	--	--	In Place	10	10	69	70	NE	NE	NE	2019 H H E R A	No, Depth NA
AOC1-T2e-042	10/16/2008	AOC1-T2e	AOC1	0	0.5	Yes	0-0.5	--	--	In Place	0	0	0	0.5	0-0.5, 0-3	NE	NE	2019 H H E R A	Yes
AOC1-T2e-043	10/16/2008	AOC1-T2e	AOC1	2	3	Yes	0-03	S2-03	--	In Place	0	0	2	3	0-3	02-03, 02-06	NE	2019 H H E R A	Yes
AOC1-T2e-044	10/16/2008	AOC1-T2e	AOC1	2	3	Yes	0-03	S2-03	--	In Place	0	0	2	3	0-3	02-03, 02-06	NE	2019 H H E R A	Yes
AOC1-T2e-045	10/16/2008	AOC1-T2e	AOC1	5	6	Yes	0-06	S2-06	S5-06	In Place	0	0	5	6	NE	02-06	05-06, 05-10	2019 H H E R A	Yes
AOC1-T2e-046	10/16/2008	AOC1-T2e	AOC1	9	10	Yes	0-10	S2-10	S5-10	In Place	0	0	9	10	NE	NE	05-10	2019 H H E R A	Yes
AOC1-T2f-301	12/17/2015	AOC1-T2f	AOC1	0	1	Yes	0-0.5	--	--	In Place	0	0	0	1	0-0.5, 0-3	NE	NE	2019 H H E R A	Yes
AOC1-T2f-302	12/17/2015	AOC1-T2f	AOC1	2	3	Yes	0-03	S2-03	--	In Place	0	0	2	3	0-3	02-03, 02-06	NE	2019 H H E R A	Yes
AOC1-T2g-320	3/3/2016	AOC1-T2g	AOC1	9	10	Yes	0-10	S2-10	S5-10	Removed	--	0	--	--	NE	NE	NE	2019 H H E R A	No, Excavated
AOC1-T2g-321	3/3/2016	AOC1-T2g	AOC1	14	15	Yes	--	--	S5-15	In Place	10	10	14	15	NE	NE	NE	2019 H H E R A	No, Depth NA
AOC1-T2g-322	3/3/2016	AOC1-T2g	AOC1	19	20	No	--	--	--	In Place	10	10	19	20	NE	NE	NE	2019 H H E R A	No, Depth NA
AOC1-T2g-323	3/3/2016	AOC1-T2g	AOC1	29	30	No	--	--	--	In Place	10	10	29	30	NE	NE	NE	2019 H H E R A	No, Depth NA
AOC1-T2g-324	3/3/2016	AOC1-T2g	AOC1	39	40	No	--	--	--	In Place	10	10	39	40	NE	NE	NE	2019 H H E R A	No, Depth NA
AOC1-T2g-325	3/3/2016	AOC1-T2g	AOC1	39	40	No	--	--	--	In Place	10	10	39	40	NE	NE	NE	2019 H H E R A	No, Depth NA
AOC1-T2g-326	3/3/2016	AOC1-T2g	AOC1	49	50	No	--	--	--	In Place	10	10	49	50	NE	NE	NE	2019 H H E R A	No, Depth NA
AOC1-T2g-327	3/3/2016	AOC1-T2g	AOC1	59	60	No	--	--	--	In Place	10	10	59	60	NE	NE	NE	2019 H H E R A	No, Depth NA
AOC1-T2g-328	3/3/2016	AOC1-T2g	AOC1	69	70	No	--	--	--	In Place	10	10	69	70	NE	NE	NE	2019 H H E R A	No, Depth NA
AOC1-T2h-329	3/4/2016	AOC1-T2h	AOC1	0	1	Yes	0-0.5	--	--	Removed	--	0	--	--	NE	NE	NE	2019 H H E R A	No, Excavated
AOC1-T2h-330	3/4/2016	AOC1-T2h	AOC1	2	3	Yes	0-03	S2-03	--	Removed	--	0	--	--	NE	NE	NE	2019 H H E R A	No, Excavated
AOC1-T2h-331	3/4/2016	AOC1-T2h	AOC1	5	6	Yes	0-06	S2-06	S5-06	Removed	--	0	--	--	NE	NE	NE	2019 H H E R A	No, Excavated
AOC1-T2h-332	3/4/2016	AOC1-T2h	AOC1	9	10	Yes	0-10	S2-10	S5-10	Removed	--	0	--	--	NE	NE	NE	2019 H H E R A	No, Excavated

Table BCW-1.1
Samples and Sampling Locations Included in the BCW Potential Exposure Area

Post-Soil N T C R A Human Health and Ecological Risk Assessment Report
PG&E Topock Compressor Station
Needles, California

SampleID[a]	Sample Date	Location ID	RFI Area	Original Upper Depth (ft bgs)	Original Lower Depth (ft bgs)	Used for EPCs (2019 H H E R A)?	Original Baseline (ft bgs)	Original Scouring 2 ft	Original Scouring 5 ft	Excavation Status	Excavation Depth (ft)	Backfill Depth (ft)	Current Upper Depth (ft bgs)	Current Lower Depth (ft bgs)	Current Baseline (ft bgs)	Current Scouring 2 ft	Current Scouring 5 ft	Sample Source (2019 H H E R A, N T C R A, or R F I Addition)	Used for Post-N T C R A H H E R A EPCs?[b]
AOC1-T2h-333	3/4/2016	AOC1-T2h	AOC1	14	15	Yes	--	--	S5-15	In Place	10	10	14	15	NE	NE	NE	2019 H H E R A	No, Depth NA
AOC1-T2h-334	3/4/2016	AOC1-T2h	AOC1	19	20	No	--	--	--	In Place	10	10	19	20	NE	NE	NE	2019 H H E R A	No, Depth NA
AOC1-T2h-335	3/4/2016	AOC1-T2h	AOC1	29	30	No	--	--	--	In Place	10	10	29	30	NE	NE	NE	2019 H H E R A	No, Depth NA
AOC1-T2h-336	3/4/2016	AOC1-T2h	AOC1	39	40	No	--	--	--	In Place	10	10	39	40	NE	NE	NE	2019 H H E R A	No, Depth NA
AOC1-T2i-337	3/5/2016	AOC1-T2i	AOC1	0	1	Yes	0-0.5	--	--	Removed	--	0	--	--	NE	NE	NE	2019 H H E R A	No, Excavated
AOC1-T2i-338	3/5/2016	AOC1-T2i	AOC1	2	3	Yes	0-03	S2-03	--	Removed	--	0	--	--	NE	NE	NE	2019 H H E R A	No, Excavated
AOC1-T2i-339	3/5/2016	AOC1-T2i	AOC1	5	6	Yes	0-06	S2-06	S5-06	Removed	--	0	--	--	NE	NE	NE	2019 H H E R A	No, Excavated
AOC1-T2i-340	3/5/2016	AOC1-T2i	AOC1	9	10	Yes	0-10	S2-10	S5-10	Removed	--	0	--	--	NE	NE	NE	2019 H H E R A	No, Excavated
AOC1-T2i-341	3/5/2016	AOC1-T2i	AOC1	14	15	Yes	--	--	S5-15	In Place	10	10	14	15	NE	NE	NE	2019 H H E R A	No, Depth NA
AOC1-T2i-342	3/5/2016	AOC1-T2i	AOC1	19	20	No	--	--	--	In Place	10	10	19	20	NE	NE	NE	2019 H H E R A	No, Depth NA
AOC1-T2j-343	3/5/2016	AOC1-T2j	AOC1	0	1	Yes	0-0.5	--	--	Removed	--	0	--	--	NE	NE	NE	2019 H H E R A	No, Excavated
AOC1-T2j-344	3/5/2016	AOC1-T2j	AOC1	2	3	Yes	0-03	S2-03	--	Removed	--	0	--	--	NE	NE	NE	2019 H H E R A	No, Excavated
AOC1-T2j-345	3/5/2016	AOC1-T2j	AOC1	2	3	Yes	0-03	S2-03	--	Removed	--	0	--	--	NE	NE	NE	2019 H H E R A	No, Excavated
AOC1-T2j-346	3/5/2016	AOC1-T2j	AOC1	5	6	Yes	0-06	S2-06	S5-06	Removed	--	0	--	--	NE	NE	NE	2019 H H E R A	No, Excavated
AOC1-T2j-347	3/5/2016	AOC1-T2j	AOC1	9	10	Yes	0-10	S2-10	S5-10	Removed	--	0	--	--	NE	NE	NE	2019 H H E R A	No, Excavated
AOC1-T2j-348	3/5/2016	AOC1-T2j	AOC1	14	15	Yes	--	--	S5-15	In Place	10	10	14	15	NE	NE	NE	2019 H H E R A	No, Depth NA
AOC1-T2j-349	3/5/2016	AOC1-T2j	AOC1	19	20	No	--	--	--	In Place	10	10	19	20	NE	NE	NE	2019 H H E R A	No, Depth NA
AOC1-T2j-350	3/5/2016	AOC1-T2j	AOC1	19	20	No	--	--	--	In Place	10	10	19	20	NE	NE	NE	2019 H H E R A	No, Depth NA
AOC1-T3a-047	10/5/2008	AOC1-T3a	AOC1	0	0.5	Yes	0-0.5	--	--	In Place	0	0	0	0.5	0-0.5, 0-3	NE	NE	2019 H H E R A	Yes
AOC1-T3a-048	10/17/2008	AOC1-T3a	AOC1	2	3	Yes	0-03	S2-03	--	In Place	0	0	2	3	0-3	02-03, 02-06	NE	2019 H H E R A	Yes
AOC1-T3a-049	10/17/2008	AOC1-T3a	AOC1	5	6	Yes	0-06	S2-06	S5-06	In Place	0	0	5	6	NE	02-06	05-06, 05-10	2019 H H E R A	Yes
AOC1-T3a-050	10/17/2008	AOC1-T3a	AOC1	9	10	Yes	0-10	S2-10	S5-10	In Place	0	0	9	10	NE	NE	05-10	2019 H H E R A	Yes
AOC1-T3b-051	10/5/2008	AOC1-T3b	AOC1	0	0.5	Yes	0-0.5	--	--	In Place	0	0	0	0.5	0-0.5, 0-3	NE	NE	2019 H H E R A	Yes
AOC1-T3b-052	10/17/2008	AOC1-T3b	AOC1	2	3	Yes	0-03	S2-03	--	In Place	0	0	2	3	0-3	02-03, 02-06	NE	2019 H H E R A	Yes
AOC1-T3b-053	10/17/2008	AOC1-T3b	AOC1	5	6	Yes	0-06	S2-06	S5-06	In Place	0	0	5	6	NE	02-06	05-06, 05-10	2019 H H E R A	Yes
AOC1-T3b-054	10/17/2008	AOC1-T3b	AOC1	9	10	Yes	0-10	S2-10	S5-10	In Place	0	0	9	10	NE	NE	05-10	2019 H H E R A	Yes
AOC1-T3c-056	10/5/2008	AOC1-T3c	AOC1	0	0.5	Yes	0-0.5	--	--	In Place	0	0	0	0.5	0-0.5, 0-3	NE	NE	2019 H H E R A	Yes
AOC1-T3c-057	10/5/2008	AOC1-T3c	AOC1	2	3	Yes	0-03	S2-03	--	In Place	0	0	2	3	0-3	02-03, 02-06	NE	2019 H H E R A	Yes
AOC1-T3c-058	10/5/2008	AOC1-T3c	AOC1	5	6	Yes	0-06	S2-06	S5-06	In Place	0	0	5	6	NE	02-06	05-06, 05-10	2019 H H E R A	Yes
AOC1-T3c-059	10/5/2008	AOC1-T3c	AOC1	9	10	Yes	0-10	S2-10	S5-10	In Place	0	0	9	10	NE	NE	05-10	2019 H H E R A	Yes
AOC1-T4a-060	10/3/2008	AOC1-T4a	AOC1	0	0.5	Yes	0-0.5	--	--	In Place	0	0	0	0.5	0-0.5, 0-3	NE	NE	2019 H H E R A	Yes
AOC1-T4a-061	10/3/2008	AOC1-T4a	AOC1	2	3	Yes	0-03	S2-03	--	In Place	0	0	2	3	0-3	02-03, 02-06	NE	2019 H H E R A	Yes
AOC1-T4a-062	10/3/2008	AOC1-T4a	AOC1	5	6	Yes	0-06	S2-06	S5-06	In Place	0	0	5	6	NE	02-06	05-06, 05-10	2019 H H E R A	Yes
AOC1-T4a-063	10/3/2008	AOC1-T4a	AOC1	9	10	Yes	0-10	S2-10	S5-10	In Place	0	0	9	10	NE	NE	05-10	2019 H H E R A	Yes
AOC1-T4b-064	10/2/2008	AOC1-T4b	AOC1	0	0.5	Yes	0-0.5	--	--	In Place	0	0	0	0.5	0-0.5, 0-3	NE	NE	2019 H H E R A	Yes
AOC1-T4b-065	10/2/2008	AOC1-T4b	AOC1	2	3	Yes	0-03	S2-03	--	In Place	0	0	2	3	0-3	02-03, 02-06	NE	2019 H H E R A	Yes
AOC1-T4b-066	10/2/2008	AOC1-T4b	AOC1	2	3	Yes	0-03	S2-03	--	In Place	0	0	2	3	0-3	02-03, 02-06	NE	2019 H H E R A	Yes
AOC1-T4b-067	10/2/2008	AOC1-T4b	AOC1	5	6	Yes	0-06	S2-06	S5-06	In Place	0	0	5	6	NE	02-06	05-06, 05-10	2019 H H E R A	Yes
AOC1-T4b-068	10/2/2008	AOC1-T4b	AOC1	9	10	Yes	0-10	S2-10	S5-10	In Place	0	0	9	10	NE	NE	05-10	2019 H H E R A	Yes
AOC1-T4c-069	10/4/2008	AOC1-T4c	AOC1	0	0.5	Yes	0-0.5	--	--	In Place	0	0	0	0.5	0-0.5, 0-3	NE	NE	2019 H H E R A	Yes
AOC1-T4c-070	10/4/2008	AOC1-T4c	AOC1	2	3	Yes	0-03	S2-03	--	In Place	0	0	2	3	0-3	02-03, 02-06	NE	2019 H H E R A	Yes
AOC1-T4c-071	10/4/2008	AOC1-T4c	AOC1	5	6	Yes	0-06	S2-06	S5-06	In Place	0	0	5	6	NE	02-06	05-06, 05-10	2019 H H E R A	Yes
AOC1-T4c-072	10/4/2008	AOC1-T4c	AOC1	9	10	Yes	0-10	S2-10	S5-10	In Place	0	0	9	10	NE	NE	05-10	2019 H H E R A	Yes
AOC1-T5a-073	10/4/2008	AOC1-T5a	AOC1	0	0.5	Yes	0-0.5	--	--	In Place	0	0	0	0.5	0-0.5, 0-3	NE	NE	2019 H H E R A	Yes
AOC1-T5a-074	10/4/2008	AOC1-T5a	AOC1	2	3	Yes	0-03	S2-03	--	In Place	0	0	2	3	0-3	02-03, 02-06	NE	2019 H H E R A	Yes
AOC1-T5a-075	10/4/2008	AOC1-T5a	AOC1	5	6	Yes	0-06	S2-06	S5-06	In Place	0	0	5	6	NE	02-06	05-06, 05-10	2019 H H E R A	Yes
AOC1-T5a-076	10/4/2008	AOC1-T5a	AOC1	9	10	Yes	0-10	S2-10	S5-10	In Place	0	0	9	10	NE	NE	05-10	2019 H H E R A	Yes
AOC1-T5a-077	10/4/2008	AOC1-T5a	AOC1	9	10	Yes	0-10	S2-10	S5-10	In Place	0	0	9	10	NE	NE	05-10	2019 H H E R A	Yes
AOC1-T5b-078	10/4/2008	AOC1-T5b	AOC1	0	0.5	Yes	0-0.5	--	--	In Place	0	0	0	0.5	0-0.5, 0-3	NE	NE	2019 H H E R A	Yes
AOC1-T5b-079	10/4/2008	AOC1-T5b	AOC1	2	3	Yes	0-03	S2-03	--	In Place	0	0	2	3	0-3	02-03, 02-06	NE	2019 H H E R A	Yes
AOC1-T5b-080	10/4/2008	AOC1-T5b	AOC1	5	6	Yes	0-06	S2-06	S5-06	In Place	0	0	5	6	NE	02-06	05-06, 05-10	2019 H H E R A	Yes

Table BCW-1.1
Samples and Sampling Locations Included in the BCW Potential Exposure Area

Post-Soil N T C R A Human Health and Ecological Risk Assessment Report
PG&E Topock Compressor Station
Needles, California

SampleID[a]	Sample Date	Location ID	RFI Area	Original Upper Depth (ft bgs)	Original Lower Depth (ft bgs)	Used for EPCs (2019 H H E R A)?	Original Baseline (ft bgs)	Original Scouring 2 ft	Original Scouring 5 ft	Excavation Status	Excavation Depth (ft)	Backfill Depth (ft)	Current Upper Depth (ft bgs)	Current Lower Depth (ft bgs)	Current Baseline (ft bgs)	Current Scouring 2 ft	Current Scouring 5 ft	Sample Source (2019 H H E R A, N T C R A, or R F I Addition)	Used for Post-N T C R A H H E R A EPCs?[b]
AOC1-T5b-081	10/4/2008	AOC1-T5b	AOC1	9	10	Yes	0-10	S2-10	S5-10	In Place	0	0	9	10	NE	NE	05-10	2019 H H E R A	Yes
AOC1-T5c-082	10/4/2008	AOC1-T5c	AOC1	0	0.5	Yes	0-0.5	--	--	In Place	0	0	0	0.5	0-0.5, 0-3	NE	NE	2019 H H E R A	Yes
AOC1-T5c-083	10/4/2008	AOC1-T5c	AOC1	2	3	Yes	0-03	S2-03	--	In Place	0	0	2	3	0-3	02-03, 02-06	NE	2019 H H E R A	Yes
AOC1-T5c-084	10/4/2008	AOC1-T5c	AOC1	5	6	Yes	0-06	S2-06	S5-06	In Place	0	0	5	6	NE	02-06	05-06, 05-10	2019 H H E R A	Yes
AOC1-T5c-085	10/4/2008	AOC1-T5c	AOC1	9	10	Yes	0-10	S2-10	S5-10	In Place	0	0	9	10	NE	NE	05-10	2019 H H E R A	Yes
AOC1-T5D-304	1/12/2016	AOC1-T5D	AOC1	0	1	Yes	0-0.5	--	--	Removed	--	0	--	--	NE	NE	NE	2019 H H E R A	No, Excavated
AOC1-T5D-305	1/12/2016	AOC1-T5D	AOC1	2	3	Yes	0-03	S2-03	--	Removed	--	0	--	--	NE	NE	NE	2019 H H E R A	No, Excavated
AOC1-T5D-306	1/12/2016	AOC1-T5D	AOC1	2	3	Yes	0-03	S2-03	--	Removed	--	0	--	--	NE	NE	NE	2019 H H E R A	No, Excavated
AOC1-T5D-307	1/12/2016	AOC1-T5D	AOC1	5	6	Yes	0-06	S2-06	S5-06	Removed	--	0	--	--	NE	NE	NE	2019 H H E R A	No, Excavated
AOC1-T5D-308	1/12/2016	AOC1-T5D	AOC1	9	10	Yes	0-10	S2-10	S5-10	In Place	7	7	9	10	NE	NE	05-10	2019 H H E R A	Yes
AOC1-T5D-309	1/12/2016	AOC1-T5D	AOC1	14	15	Yes	--	--	S5-15	In Place	7	7	14	15	NE	NE	NE	2019 H H E R A	No, Depth NA
AOC1-T5D-310	1/12/2016	AOC1-T5D	AOC1	19	20	No	--	--	--	In Place	7	7	19	20	NE	NE	NE	2019 H H E R A	No, Depth NA
AOC1-T5D-311	1/12/2016	AOC1-T5D	AOC1	19	20	No	--	--	--	In Place	7	7	19	20	NE	NE	NE	2019 H H E R A	No, Depth NA
AOC1-T6a-086	9/30/2008	AOC1-T6a	AOC1	0	0.5	Yes	0-0.5	--	--	In Place	0	0	0	0.5	0-0.5, 0-3	NE	NE	2019 H H E R A	Yes
AOC1-T6a-087	9/30/2008	AOC1-T6a	AOC1	2.5	3	Yes	0-03	S2-03	--	In Place	0	0	2.5	3	0-3	02-03, 02-06	NE	2019 H H E R A	Yes
AOC1-T6a-088	9/30/2008	AOC1-T6a	AOC1	2.5	3	Yes	0-03	S2-03	--	In Place	0	0	2.5	3	0-3	02-03, 02-06	NE	2019 H H E R A	Yes
AOC1-T6a-089	9/30/2008	AOC1-T6a	AOC1	5.5	6	Yes	0-06	S2-06	S5-06	In Place	0	0	5.5	6	NE	02-06	05-06, 05-10	2019 H H E R A	Yes
AOC1-T6a-090	9/30/2008	AOC1-T6a	AOC1	9.5	10	Yes	0-10	S2-10	S5-10	In Place	0	0	9.5	10	NE	NE	05-10	2019 H H E R A	Yes
AOC1-T6b-091	9/30/2008	AOC1-T6b	AOC1	0	0.5	Yes	0-0.5	--	--	In Place	0	0	0	0.5	0-0.5, 0-3	NE	NE	2019 H H E R A	Yes
AOC1-T6b-092	9/30/2008	AOC1-T6b	AOC1	2.5	3	Yes	0-03	S2-03	--	In Place	0	0	2.5	3	0-3	02-03, 02-06	NE	2019 H H E R A	Yes
AOC1-T6b-093	9/30/2008	AOC1-T6b	AOC1	5.5	6	Yes	0-06	S2-06	S5-06	In Place	0	0	5.5	6	NE	02-06	05-06, 05-10	2019 H H E R A	Yes
AOC1-T6b-099	9/30/2008	AOC1-T6b	AOC1	9.5	10	Yes	0-10	S2-10	S5-10	In Place	0	0	9.5	10	NE	NE	05-10	2019 H H E R A	Yes
AOC1-T6c-095	9/30/2008	AOC1-T6c	AOC1	0	0.5	Yes	0-0.5	--	--	In Place	0	0	0	0.5	0-0.5, 0-3	NE	NE	2019 H H E R A	Yes
AOC1-T6c-096	9/30/2008	AOC1-T6c	AOC1	2.5	3	Yes	0-03	S2-03	--	In Place	0	0	2.5	3	0-3	02-03, 02-06	NE	2019 H H E R A	Yes
AOC1-T6c-097	9/30/2008	AOC1-T6c	AOC1	5.5	6	Yes	0-06	S2-06	S5-06	In Place	0	0	5.5	6	NE	02-06	05-06, 05-10	2019 H H E R A	Yes
AOC1-T6D-312	2/9/2016	AOC1-T6D	AOC1	0	0.5	Yes	0-0.5	--	--	In Place	0	0	0	0.5	0-0.5, 0-3	NE	NE	2019 H H E R A	Yes
AOC1-T6D-313	2/9/2016	AOC1-T6D	AOC1	2	3	Yes	0-03	S2-03	--	In Place	0	0	2	3	0-3	02-03, 02-06	NE	2019 H H E R A	Yes
AOC1-T6D-314	2/9/2016	AOC1-T6D	AOC1	5	6	Yes	0-06	S2-06	S5-06	In Place	0	0	5	6	NE	02-06	05-06, 05-10	2019 H H E R A	Yes
AOC1-T6D-315	2/9/2016	AOC1-T6D	AOC1	9	10	Yes	0-10	S2-10	S5-10	In Place	0	0	9	10	NE	NE	05-10	2019 H H E R A	Yes
AOC1-T6D-316	2/9/2016	AOC1-T6D	AOC1	9	10	Yes	0-10	S2-10	S5-10	In Place	0	0	9	10	NE	NE	05-10	2019 H H E R A	Yes
AOC1-T6D-318	2/9/2016	AOC1-T6D	AOC1	14	15	Yes	--	--	S5-15	In Place	0	0	14	15	NE	NE	NE	2019 H H E R A	No, Depth NA
AOC1-T6D-319	2/9/2016	AOC1-T6D	AOC1	19	20	No	--	--	--	In Place	0	0	19	20	NE	NE	NE	2019 H H E R A	No, Depth NA
AOC1-T7-356	2/19/2017	AOC1-T7	AOC1	0	0.5	Yes	0-0.5	--	--	In Place	0	0	0	0.5	0-0.5, 0-3	NE	NE	2019 H H E R A	Yes
AOC1-T7-357	2/19/2017	AOC1-T7	AOC1	2	3	Yes	0-03	S2-03	--	In Place	0	0	2	3	0-3	02-03, 02-06	NE	2019 H H E R A	Yes
AOC1-T7-358	2/19/2017	AOC1-T7	AOC1	5	6	Yes	0-06	S2-06	S5-06	In Place	0	0	5	6	NE	02-06	05-06, 05-10	2019 H H E R A	Yes
AOC1-T7-359	2/19/2017	AOC1-T7	AOC1	9	10	Yes	0-10	S2-10	S5-10	In Place	0	0	9	10	NE	NE	05-10	2019 H H E R A	Yes
AOC1-T8-360	2/18/2017	AOC1-T8	AOC1	0	0.5	Yes	0-0.5	--	--	In Place	0	0	0	0.5	0-0.5, 0-3	NE	NE	2019 H H E R A	Yes
AOC1-T8-361	2/18/2017	AOC1-T8	AOC1	2	3	Yes	0-03	S2-03	--	In Place	0	0	2	3	0-3	02-03, 02-06	NE	2019 H H E R A	Yes
AOC1-T8-362	2/18/2017	AOC1-T8	AOC1	5	6	Yes	0-06	S2-06	S5-06	In Place	0	0	5	6	NE	02-06	05-06, 05-10	2019 H H E R A	Yes
AOC1-T8-363	2/18/2017	AOC1-T8	AOC1	9	10	Yes	0-10	S2-10	S5-10	In Place	0	0	9	10	NE	NE	05-10	2019 H H E R A	Yes
AOC1-T8-364	2/18/2017	AOC1-T8	AOC1	9	10	Yes	0-10	S2-10	S5-10	In Place	0	0	9	10	NE	NE	05-10	2019 H H E R A	Yes
AOC1TAA1-CF1-5	2/2/2023	AOC1TAA1-CF1	AOC1	5	5.5	No	--	--	--	Removed	--	0	--	--	NE	NE	NE	NTCRA	No, Excavated
AOC1TAA1-CF1-5R	3/2/2023	AOC1TAA1-CF1	AOC1	5	5.5	No	--	--	--	Removed	--	0	--	--	NE	NE	NE	NTCRA	No, Excavated
AOC1TAA1-CF1a-7	9/20/2023	AOC1TAA1-CF1a	AOC1	7	7.5	No	--	--	--	In Place	7	7	7	7.5	NE	NE	05-10	NTCRA	Yes
AOC1TAA1-CW1-3	2/2/2023	AOC1TAA1-CW1	AOC1	3	3.5	No	--	--	--	Removed	--	0	--	--	NE	NE	NE	NTCRA	No, Excavated
AOC1TAA1-CW1a-5	9/20/2023	AOC1TAA1-CW1a	AOC1	5	5.5	No	--	--	--	Removed	--	0	--	--	NE	NE	NE	NTCRA	No, Excavated
AOC1TAA1-CW1b-5	10/2/2023	AOC1TAA1-CW1b	AOC1	5	5.5	No	--	--	--	In Place	5	5	5	5.5	NE	02-06	05-06, 05-10	NTCRA	Yes
AOC1TAA1-CW1c-5	10/18/2023	AOC1TAA1-CW1c	AOC1	5	5.5	No	--	--	--	In Place	5	5	5	5.5	NE	02-06	05-06, 05-10	NTCRA	Yes
AOC1TAA1-CW1d-5	10/18/2023	AOC1TAA1-CW1d	AOC1	5	5.5	No	--	--	--	In Place	5	5	5	5.5	NE	02-06	05-06, 05-10	NTCRA	Yes
AOC1TAA1-CW2-3	2/2/2023	AOC1TAA1-CW2	AOC1	3	3.5	No	--	--	--	Removed	--	0	--	--	NE	NE	NE	NTCRA	No, Excavated
AOC1TAA1-CW2a-5	9/20/2023	AOC1TAA1-CW2a	AOC1	5	5.5	No	--	--	--	Removed	--	0	--	--	NE	NE	NE	NTCRA	No, Excavated

Table BCW-1.1
Samples and Sampling Locations Included in the BCW Potential Exposure Area

Post-Soil N T C R A Human Health and Ecological Risk Assessment Report
PG&E Topock Compressor Station
Needles, California

SampleID[a]	Sample Date	Location ID	RFI Area	Original Upper Depth (ft bgs)	Original Lower Depth (ft bgs)	Used for EPCs (2019 H H E R A)?	Original Baseline (ft bgs)	Original Scouring 2 ft	Original Scouring 5 ft	Excavation Status	Excavation Depth (ft)	Backfill Depth (ft)	Current Upper Depth (ft bgs)	Current Lower Depth (ft bgs)	Current Baseline (ft bgs)	Current Scouring 2 ft	Current Scouring 5 ft	Sample Source (2019 H H E R A, N T C R A, or R F I Addition)	Used for Post-N T C R A H H E R A EPCs?[b]
AOC1TAA1-CW2b-5	10/2/2023	AOC1TAA1-CW2b	AOC1	5	5.5	No	--	--	--	In Place	5	5	5	5.5	NE	02-06	05-06, 05-10	NTCRA	Yes
AOC1TAA1-CW2c-5	10/18/2023	AOC1TAA1-CW2c	AOC1	5	5.5	No	--	--	--	In Place	5	5	5	5.5	NE	02-06	05-06, 05-10	NTCRA	Yes
AOC1TAA1-CW2d-5	10/18/2023	AOC1TAA1-CW2d	AOC1	5	5.5	No	--	--	--	In Place	5	5	5	5.5	NE	02-06	05-06, 05-10	NTCRA	Yes
AOC1TAA1-CW3-2	2/2/2023	AOC1TAA1-CW3	AOC1	2	2.5	No	--	--	--	Removed	--	0	--	--	NE	NE	NE	NTCRA	No, Excavated
AOC1TAA1-CW3a-5	9/20/2023	AOC1TAA1-CW3a	AOC1	5	5.5	No	--	--	--	Removed	--	0	--	--	NE	NE	NE	NTCRA	No, Excavated
AOC1TAA1-CW3b-5	10/18/2023	AOC1TAA1-CW3b	AOC1	5	5.5	No	--	--	--	In Place	5	5	5	5.5	NE	02-06	05-06, 05-10	NTCRA	Yes
AOC1TAA1-CW4-2	2/2/2023	AOC1TAA1-CW4	AOC1	2	2.5	No	--	--	--	Removed	--	0	--	--	NE	NE	NE	NTCRA	No, Excavated
AOC1TAA1-CW4a-5	9/20/2023	AOC1TAA1-CW4a	AOC1	5	5.5	No	--	--	--	In Place	5	5	5	5.5	NE	02-06	05-06, 05-10	NTCRA	Yes
AOC1TAA1-PRE-1-2	7/20/2022	AOC1TAA1-PRE-1	AOC1	2	2.5	No	--	--	--	Removed	--	0	--	--	NE	NE	NE	NTCRA	No, Excavated
AOC1TAA2-CF1-10	9/27/2023	AOC1TAA2-CF1	AOC1	10	10.5	No	--	--	--	In Place	10	10	10	10.5	NE	NE	NE	NTCRA	No, Depth NA
AOC1TAA2-CF2-10	9/29/2023	AOC1TAA2-CF2	AOC1	10	10.5	No	--	--	--	In Place	10	10	10	10.5	NE	NE	NE	NTCRA	No, Depth NA
AOC1TAA2-CF3-10	10/26/2023	AOC1TAA2-CF3	AOC1	10	10.5	No	--	--	--	In Place	10	10	10	10.5	NE	NE	NE	NTCRA	No, Depth NA
AOC1TAA2-CF4-10	11/16/2023	AOC1TAA2-CF4	AOC1	10	10.5	No	--	--	--	In Place	10	10	10	10.5	NE	NE	NE	NTCRA	No, Depth NA
AOC1TAA2-CW1-5.5	9/25/2023	AOC1TAA2-CW1	AOC1	5.5	6	No	--	--	--	In Place	5.5	5.5	5.5	6	NE	02-06	05-06, 05-10	NTCRA	Yes
AOC1TAA2-CW10-4	11/28/2023	AOC1TAA2-CW10	AOC1	4	4.5	No	--	--	--	In Place	4	4	4	4.5	NE	02-06	NE	NTCRA	Yes
AOC1TAA2-CW11-4	11/28/2023	AOC1TAA2-CW11	AOC1	4	4.5	No	--	--	--	In Place	4	4	4	4.5	NE	02-06	NE	NTCRA	Yes
AOC1TAA2-CW12-3	12/1/2023	AOC1TAA2-CW12	AOC1	3	3.5	No	--	--	--	In Place	3	3	3	3.5	NE	02-06	NE	NTCRA	Yes
AOC1TAA2-CW2-5	9/27/2023	AOC1TAA2-CW2	AOC1	5	5.5	No	--	--	--	In Place	5	5	5	5.5	NE	02-06	05-06, 05-10	NTCRA	Yes
AOC1TAA2-CW3-5	9/27/2023	AOC1TAA2-CW3	AOC1	5	5.5	No	--	--	--	In Place	5	5	5	5.5	NE	02-06	05-06, 05-10	NTCRA	Yes
AOC1TAA2-CW4-5	9/29/2023	AOC1TAA2-CW4	AOC1	5	5.5	No	--	--	--	Removed	--	0	--	--	NE	NE	NE	NTCRA	No, Excavated
AOC1TAA2-CW4a-6	10/17/2023	AOC1TAA2-CW4a	AOC1	6	6.5	No	--	--	--	In Place	6	6	6	6.5	NE	NE	05-10	NTCRA	Yes
AOC1TAA2-CW5-7	9/29/2023	AOC1TAA2-CW5	AOC1	7	7.5	No	--	--	--	Removed	--	0	--	--	NE	NE	NE	NTCRA	No, Excavated
AOC1TAA2-CW5a-5	10/6/2023	AOC1TAA2-CW5a	AOC1	5	5.5	No	--	--	--	In Place	5	5	5	5.5	NE	02-06	05-06, 05-10	NTCRA	Yes
AOC1TAA2-CW5b-7	11/16/2023	AOC1TAA2-CW5b	AOC1	7	7.5	No	--	--	--	Removed	--	0	--	--	NE	NE	NE	NTCRA	No, Excavated
AOC1TAA2-CW5c-7	11/29/2023	AOC1TAA2-CW5c	AOC1	7	7.5	No	--	--	--	In Place	7	7	7	7.5	NE	NE	05-10	NTCRA	Yes
AOC1TAA2-CW6-6	10/16/2023	AOC1TAA2-CW6	AOC1	6	6.5	No	--	--	--	In Place	6	6	6	6.5	NE	NE	05-10	NTCRA	Yes
AOC1TAA2-CW6a-6	10/18/2023	AOC1TAA2-CW6a	AOC1	6	6.5	No	--	--	--	In Place	6	6	6	6.5	NE	NE	05-10	NTCRA	Yes
AOC1TAA2-CW6b-6	10/18/2023	AOC1TAA2-CW6b	AOC1	6	6.5	No	--	--	--	Removed	--	0	--	--	NE	NE	NE	NTCRA	No, Excavated
AOC1TAA2-CW6c-7	11/16/2023	AOC1TAA2-CW6c	AOC1	7	7.5	No	--	--	--	In Place	7	7	7	7.5	NE	NE	05-10	NTCRA	Yes
AOC1TAA2-CW7-8	10/17/2023	AOC1TAA2-CW7	AOC1	8	8.5	No	--	--	--	In Place	8	8	8	8.5	NE	NE	05-10	NTCRA	Yes
AOC1TAA2-CW8-7	10/19/2023	AOC1TAA2-CW8	AOC1	7	7.5	No	--	--	--	In Place	7	7	7	7.5	NE	NE	05-10	NTCRA	Yes
AOC1TAA2-CW9-4	11/28/2023	AOC1TAA2-CW9	AOC1	4	4.5	No	--	--	--	In Place	4	4	4	4.5	NE	02-06	NE	NTCRA	Yes
AOC1TAA2-PRE-1-2	7/19/2022	AOC1TAA2-PRE-1	AOC1	2	2.5	No	--	--	--	Removed	--	0	--	--	NE	NE	NE	NTCRA	No, Excavated
AOC1TAA3-CF1-4	1/12/2023	AOC1TAA3-CF1	AOC1	4	4.5	No	--	--	--	Removed	--	0	--	--	NE	NE	NE	NTCRA	No, Excavated
AOC1TAA3-CW1-3	1/12/2023	AOC1TAA3-CW1	AOC1	3	3.5	No	--	--	--	Removed	--	0	--	--	NE	NE	NE	NTCRA	No, Excavated
AOC1TAA3-CW2-3	1/12/2023	AOC1TAA3-CW2	AOC1	3	3.5	No	--	--	--	Removed	--	0	--	--	NE	NE	NE	NTCRA	No, Excavated
AOC1TAA3-CW3-3	1/12/2023	AOC1TAA3-CW3	AOC1	3	3.5	No	--	--	--	Removed	--	0	--	--	NE	NE	NE	NTCRA	No, Excavated
AOC1TAA3-CW4-4	1/13/2023	AOC1TAA3-CW4	AOC1	4	4.5	No	--	--	--	Removed	--	0	--	--	NE	NE	NE	NTCRA	No, Excavated
AOC1TAA3-CW5-1	1/19/2023	AOC1TAA3-CW5	AOC1	1	1.5	No	--	--	--	Removed	--	0	--	--	NE	NE	NE	NTCRA	No, Excavated
AOC1TAA3-PRE-1-1	7/19/2022	AOC1TAA3-PRE-1	AOC1	1	1.5	No	--	--	--	Removed	--	0	--	--	NE	NE	NE	NTCRA	No, Excavated
AOC4-1-3001	10/14/2008	AOC4-1	AOC1	0	0.5	Yes	0-0.5	--	--	In Place	0	0	0	0.5	0-0.5, 0-3	NE	NE	2019 H H E R A	Yes
AOC4-1-3002	10/14/2008	AOC4-1	AOC1	0.5	1	Yes	0-03	--	--	In Place	0	0	0.5	1	0-3	NE	NE	2019 H H E R A	Yes
AOC4-1-3003	10/14/2008	AOC4-1	AOC1	2	3	Yes	0-03	S2-03	--	In Place	0	0	2	3	0-3	02-03, 02-06	NE	2019 H H E R A	Yes
AOC4-BCW1-3126	1/6/2016	AOC4-BCW1	AOC4	0	1	Yes	0-0.5	--	--	In Place	0	0	0	1	0-0.5, 0-3	NE	NE	2019 H H E R A	Yes
AOC4-BCW1-3127	1/6/2016	AOC4-BCW1	AOC4	2	3	Yes	0-03	S2-03	--	In Place	0	0	2	3	0-3	02-03, 02-06	NE	2019 H H E R A	Yes
AOC4-BCW1-3128	1/6/2016	AOC4-BCW1	AOC4	5	6	Yes	0-06	S2-06	S5-06	In Place	0	0	5	6	NE	02-06	05-06, 05-10	2019 H H E R A	Yes
AOC4-BCW1-3129	1/6/2016	AOC4-BCW1	AOC4	9	10	Yes	0-10	S2-10	S5-10	In Place	0	0	9	10	NE	NE	05-10	2019 H H E R A	Yes
AOC4-BCW2-3130	1/6/2016	AOC4-BCW2	AOC4	0	1	Yes	0-0.5	--	--	In Place	0	0	0	1	0-0.5, 0-3	NE	NE	2019 H H E R A	Yes
AOC4-BCW2-3131	1/6/2016	AOC4-BCW2	AOC4	2	3	Yes	0-03	S2-03	--	In Place	0	0	2	3	0-3	02-03, 02-06	NE	2019 H H E R A	Yes
AOC4-BCW2-3132	1/6/2016	AOC4-BCW2	AOC4	5	6	Yes	0-06	S2-06	S5-06	In Place	0	0	5	6	NE	02-06	05-06, 05-10	2019 H H E R A	Yes
AOC4-BCW2-3133	1/6/2016	AOC4-BCW2	AOC4	9	10	Yes	0-10	S2-10	S5-10	In Place	0	0	9	10	NE	NE	05-10	2019 H H E R A	Yes

Table BCW-1.1
Samples and Sampling Locations Included in the BCW Potential Exposure Area

Post-Soil N T C R A Human Health and Ecological Risk Assessment Report
PG&E Topock Compressor Station
Needles, California

SampleID[a]	Sample Date	Location ID	RFI Area	Original Upper Depth (ft bgs)	Original Lower Depth (ft bgs)	Used for EPCs (2019 H H E R A)?	Original Baseline (ft bgs)	Original Scouring 2 ft	Original Scouring 5 ft	Excavation Status	Excavation Depth (ft)	Backfill Depth (ft)	Current Upper Depth (ft bgs)	Current Lower Depth (ft bgs)	Current Baseline (ft bgs)	Current Scouring 2 ft	Current Scouring 5 ft	Sample Source (2019 H H E R A, N T C R A, or R F I Addition)	Used for Post-N T C R A H H E R A EPCs?[b]
AOC4-BCW2-3134	1/6/2016	AOC4-BCW2	AOC4	9	10	Yes	0-10	S2-10	S5-10	In Place	0	0	9	10	NE	NE	05-10	2019 H H E R A	Yes
AOC4-BCW3-3136	1/6/2016	AOC4-BCW3	AOC4	0	1	Yes	0-0.5	--	--	In Place	0	0	0	1	0-0.5, 0-3	NE	NE	2019 H H E R A	Yes
AOC4-BCW3-3137	1/6/2016	AOC4-BCW3	AOC4	2	3	Yes	0-03	S2-03	--	In Place	0	0	2	3	0-3	02-03, 02-06	NE	2019 H H E R A	Yes
AOC4-BCW3-3138	1/6/2016	AOC4-BCW3	AOC4	5	6	Yes	0-06	S2-06	S5-06	In Place	0	0	5	6	NE	02-06	05-06, 05-10	2019 H H E R A	Yes
AOC4-BCW3-3139	1/6/2016	AOC4-BCW3	AOC4	9	10	Yes	0-10	S2-10	S5-10	In Place	0	0	9	10	NE	NE	05-10	2019 H H E R A	Yes
AOC4-BCW4-3140	1/6/2016	AOC4-BCW4	AOC4	0	1	Yes	0-0.5	--	--	In Place	0	0	0	1	0-0.5, 0-3	NE	NE	2019 H H E R A	Yes
AOC4-BCW4-3141	1/6/2016	AOC4-BCW4	AOC4	2	3	Yes	0-03	S2-03	--	In Place	0	0	2	3	0-3	02-03, 02-06	NE	2019 H H E R A	Yes
AOC4-BCW4-3142	1/6/2016	AOC4-BCW4	AOC4	5	6	Yes	0-06	S2-06	S5-06	In Place	0	0	5	6	NE	02-06	05-06, 05-10	2019 H H E R A	Yes
AOC4-BCW4-3143	1/6/2016	AOC4-BCW4	AOC4	9	10	Yes	0-10	S2-10	S5-10	In Place	0	0	9	10	NE	NE	05-10	2019 H H E R A	Yes
AOC4-BCW5-3144	1/6/2016	AOC4-BCW5	AOC4	0	1	Yes	0-0.5	--	--	In Place	0	0	0	1	0-0.5, 0-3	NE	NE	2019 H H E R A	Yes
AOC4-BCW5-3145	1/6/2016	AOC4-BCW5	AOC4	0	1	Yes	0-0.5	--	--	In Place	0	0	0	1	0-0.5, 0-3	NE	NE	2019 H H E R A	Yes
AOC4-BCW5-3146	1/6/2016	AOC4-BCW5	AOC4	2	3	Yes	0-03	S2-03	--	In Place	0	0	2	3	0-3	02-03, 02-06	NE	2019 H H E R A	Yes
AOC4-BCW5-3147	1/6/2016	AOC4-BCW5	AOC4	5	6	Yes	0-06	S2-06	S5-06	In Place	0	0	5	6	NE	02-06	05-06, 05-10	2019 H H E R A	Yes
AOC4-BCW5-3148	1/6/2016	AOC4-BCW5	AOC4	9	10	Yes	0-10	S2-10	S5-10	In Place	0	0	9	10	NE	NE	05-10	2019 H H E R A	Yes
AOC4-BCW6-3149	1/6/2016	AOC4-BCW6	AOC4	0	1	Yes	0-0.5	--	--	In Place	0	0	0	1	0-0.5, 0-3	NE	NE	2019 H H E R A	Yes
AOC4-BCW6-3150	1/6/2016	AOC4-BCW6	AOC4	2	3	Yes	0-03	S2-03	--	In Place	0	0	2	3	0-3	02-03, 02-06	NE	2019 H H E R A	Yes
AOC4-BCW6-3151	1/6/2016	AOC4-BCW6	AOC4	5	6	Yes	0-06	S2-06	S5-06	In Place	0	0	5	6	NE	02-06	05-06, 05-10	2019 H H E R A	Yes
AOC4-BCW6-3152	1/6/2016	AOC4-BCW6	AOC4	9	10	Yes	0-10	S2-10	S5-10	In Place	0	0	9	10	NE	NE	05-10	2019 H H E R A	Yes
AOC4-GB10-11234	2/10/2010	AOC4-GB10	AOC1	0	0.5	Yes	0-0.5	--	--	In Place	0	0	0	0.5	0-0.5, 0-3	NE	NE	2019 H H E R A	Yes
AOC4-GB11-11235	2/10/2010	AOC4-GB11	AOC1	0	0.5	Yes	0-0.5	--	--	In Place	0	0	0	0.5	0-0.5, 0-3	NE	NE	2019 H H E R A	Yes
AOC4-GB15-21235	2/10/2010	AOC4-GB11	AOC1	0	0.5	Yes	0-0.5	--	--	In Place	0	0	0	0.5	0-0.5, 0-3	NE	NE	2019 H H E R A	Yes
AOC4-GB12-11236	2/10/2010	AOC4-GB12	AOC1	0	0.5	Yes	0-0.5	--	--	In Place	0	0	0	0.5	0-0.5, 0-3	NE	NE	2019 H H E R A	Yes
MW-9-1	6/30/1997	MW-09	SWMU1	1	1	Yes	0-0.5	--	--	In Place	0	0	1	1	0-0.5, 0-3	NE	NE	2019 H H E R A	Yes
MW-9-3.5CL	6/30/1997	MW-09	SWMU1	3.5	3.5	Yes	0-06	S2-06	--	In Place	0	0	3.5	3.5	NE	02-06	NE	2019 H H E R A	Yes
MW-9-6	6/30/1997	MW-09	SWMU1	6	6	Yes	0-06	S2-06	S5-06	In Place	0	0	6	6	NE	02-06	05-06, 05-10	2019 H H E R A	Yes
MW-9-10	7/1/1997	MW-09	SWMU1	10	10	Yes	0-10	S2-10	S5-10	In Place	0	0	10	10	NE	NE	05-10	2019 H H E R A	Yes
MW-9-20	6/30/1997	MW-09	SWMU1	20	20	No	--	--	--	In Place	0	0	20	20	NE	NE	NE	2019 H H E R A	No, Depth NA
MW-9-30	7/1/1997	MW-09	SWMU1	30	30	No	--	--	--	In Place	0	0	30	30	NE	NE	NE	2019 H H E R A	No, Depth NA
MW-9-40	6/30/1997	MW-09	SWMU1	40	40	No	--	--	--	In Place	0	0	40	40	NE	NE	NE	2019 H H E R A	No, Depth NA
MW-9-50	7/1/1997	MW-09	SWMU1	50	50	No	--	--	--	In Place	0	0	50	50	NE	NE	NE	2019 H H E R A	No, Depth NA
MW-9-60	6/30/1997	MW-09	SWMU1	60	60	No	--	--	--	In Place	0	0	60	60	NE	NE	NE	2019 H H E R A	No, Depth NA
MW-9-70	6/30/1997	MW-09	SWMU1	70	70	No	--	--	--	In Place	0	0	70	70	NE	NE	NE	2019 H H E R A	No, Depth NA
MW-9-87CL	7/1/1997	MW-09	SWMU1	87	87	No	--	--	--	In Place	0	0	87	87	NE	NE	NE	2019 H H E R A	No, Depth NA
MW-10-1	6/27/1997	MW-10	AOC1	1	1	Yes	0-0.5	--	--	In Place	0	0	1	1	0-0.5, 0-3	NE	NE	2019 H H E R A	Yes
MW-10-3	6/27/1997	MW-10	AOC1	3	3	Yes	0-03	S2-03	--	In Place	0	0	3	3	0-3	02-03, 02-06	NE	2019 H H E R A	Yes
MW-10-6	6/27/1997	MW-10	AOC1	6	6	Yes	0-06	S2-06	S5-06	In Place	0	0	6	6	NE	02-06	05-06, 05-10	2019 H H E R A	Yes
MW-10-10	6/27/1997	MW-10	AOC1	10	10	Yes	0-10	S2-10	S5-10	In Place	0	0	10	10	NE	NE	05-10	2019 H H E R A	Yes
MW-10-20	6/27/1997	MW-10	AOC1	20	20	No	--	--	--	In Place	0	0	20	20	NE	NE	NE	2019 H H E R A	No, Depth NA
MW-10-25	6/27/1997	MW-10	AOC1	25	25	No	--	--	--	In Place	0	0	25	25	NE	NE	NE	2019 H H E R A	No, Depth NA
MW-10-30	6/27/1997	MW-10	AOC1	30	30	No	--	--	--	In Place	0	0	30	30	NE	NE	NE	2019 H H E R A	No, Depth NA
MW-10-40	6/27/1997	MW-10	AOC1	40	40	No	--	--	--	In Place	0	0	40	40	NE	NE	NE	2019 H H E R A	No, Depth NA
MW-10-50	6/28/1997	MW-10	AOC1	50	50	No	--	--	--	In Place	0	0	50	50	NE	NE	NE	2019 H H E R A	No, Depth NA
MW-10-60	6/27/1997	MW-10	AOC1	60	60	No	--	--	--	In Place	0	0	60	60	NE	NE	NE	2019 H H E R A	No, Depth NA
MW-10-70	6/27/1997	MW-10	AOC1	70	70	No	--	--	--	In Place	0	0	70	70	NE	NE	NE	2019 H H E R A	No, Depth NA
MW-10-75	6/27/1997	MW-10	AOC1	75	75	No	--	--	--	In Place	0	0	75	75	NE	NE	NE	2019 H H E R A	No, Depth NA
MW-10-75CL	6/27/1997	MW-10	AOC1	75	75	No	--	--	--	In Place	0	0	75	75	NE	NE	NE	2019 H H E R A	No, Depth NA
MW-10-82	6/27/1997	MW-10	AOC1	82	82	No	--	--	--	In Place	0	0	82	82	NE	NE	NE	2019 H H E R A	No, Depth NA
MW-11-1	6/29/1997	MW-11	AOC1	1	1	Yes	0-0.5	--	--	In Place	0	0	1	1	0-0.5, 0-3	NE	NE	2019 H H E R A	Yes
MW-11-3	6/29/1997	MW-11	AOC1	3	3	Yes	0-03	S2-03	--	In Place	0	0	3	3	0-3	02-03, 02-06	NE	2019 H H E R A	Yes
MW-11-6	6/29/1997	MW-11	AOC1	6	6	Yes	0-06	S2-06	S5-06	In Place	0	0	6	6	NE	02-06	05-06, 05-10	2019 H H E R A	Yes
MW-11-10	6/29/1997	MW-11	AOC1	10	10	Yes	0-10	S2-10	S5-10	In Place	0	0	10	10	NE	NE	05-10	2019 H H E R A	Yes

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Samples and Sampling Locations Included in the BCW Potential Exposure Area

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PG&E Topock Compressor Station
Needles, California

SampleID[a]	Sample Date	Location ID	RFI Area	Original Upper Depth (ft bgs)	Original Lower Depth (ft bgs)	Used for EPCs (2019 H H E R A)?	Original Baseline (ft bgs)	Original Scouring 2 ft	Original Scouring 5 ft	Excavation Status	Excavation Depth (ft)	Backfill Depth (ft)	Current Upper Depth (ft bgs)	Current Lower Depth (ft bgs)	Current Baseline (ft bgs)	Current Scouring 2 ft	Current Scouring 5 ft	Sample Source (2019 H H E R A, N T C R A, or R F I Addition)	Used for Post-N T C R A H H E R A EPCs?[b]
MW-11-20	6/29/1997	MW-11	AOC1	20	20	No	--	--	--	In Place	0	0	20	20	NE	NE	NE	2019 H H E R A	No, Depth NA
MW-11-30	6/29/1997	MW-11	AOC1	30	30	No	--	--	--	In Place	0	0	30	30	NE	NE	NE	2019 H H E R A	No, Depth NA
MW-11-40	6/29/1997	MW-11	AOC1	40	40	No	--	--	--	In Place	0	0	40	40	NE	NE	NE	2019 H H E R A	No, Depth NA
MW-11-50	6/29/1997	MW-11	AOC1	50	50	No	--	--	--	In Place	0	0	50	50	NE	NE	NE	2019 H H E R A	No, Depth NA
MW-11-60	6/29/1997	MW-11	AOC1	60	60	No	--	--	--	In Place	0	0	60	60	NE	NE	NE	2019 H H E R A	No, Depth NA
MW-11-60CL	6/29/1997	MW-11	AOC1	60	60	No	--	--	--	In Place	0	0	60	60	NE	NE	NE	2019 H H E R A	No, Depth NA
MW-11-69	6/29/1997	MW-11	AOC1	69	69	No	--	--	--	In Place	0	0	69	69	NE	NE	NE	2019 H H E R A	No, Depth NA
MW-13-10	7/9/1997	MW-13	AOC1	10	10	Yes	0-10	S2-10	S5-10	In Place	0	0	10	10	NE	NE	05-10	2019 H H E R A	Yes
MW-13-20	7/9/1997	MW-13	AOC1	20	20	No	--	--	--	In Place	0	0	20	20	NE	NE	NE	2019 H H E R A	No, Depth NA
MW-13-30	7/9/1997	MW-13	AOC1	30	30	No	--	--	--	In Place	0	0	30	30	NE	NE	NE	2019 H H E R A	No, Depth NA
MW-13-40	7/9/1997	MW-13	AOC1	40	40	No	--	--	--	In Place	0	0	40	40	NE	NE	NE	2019 H H E R A	No, Depth NA
Old Well-BCW-1	9/11/2013	Old Well-BCW-1	AOC1	7	8	Yes	0-10	S2-10	S5-10	Removed	--	0	--	--	NE	NE	NE	2019 H H E R A	No, Excavated
Old Well-BCW-2	9/11/2013	Old Well-BCW-2	AOC1	4	5	Yes	0-06	S2-06	S5-06	Removed	--	0	--	--	NE	NE	NE	2019 H H E R A	No, Excavated
P-2-WP	11/13/1998	P-2Soil	SWMU1	3.5	3.5	Yes	0-06	S2-06	--	In Place	0	0	3.5	3.5	NE	02-06	NE	2019 H H E R A	Yes
PA-01-1	11/9/2015	PA-01	Perimeter	0	1	Yes	0-0.5	--	--	In Place	0	0	0	1	0-0.5, 0-3	NE	NE	2019 H H E R A	Yes
PA-03-1	11/9/2015	PA-03	AOC18	0	1	Yes	0-0.5	--	--	In Place	0	0	0	1	0-0.5, 0-3	NE	NE	2019 H H E R A	Yes
PA-04-1	11/9/2015	PA-04	Perimeter	0	1	Yes	0-0.5	--	--	In Place	0	0	0	1	0-0.5, 0-3	NE	NE	2019 H H E R A	Yes
PA-14-01	1/27/2016	PA-14	Perimeter	0	1	Yes	0-0.5	--	--	In Place	0	0	0	1	0-0.5, 0-3	NE	NE	2019 H H E R A	Yes
PA-15-01	1/27/2016	PA-15	Perimeter	0	1	Yes	0-0.5	--	--	In Place	0	0	0	1	0-0.5, 0-3	NE	NE	2019 H H E R A	Yes
PA-16-01	1/27/2016	PA-16	Perimeter	0	1	Yes	0-0.5	--	--	In Place	0	0	0	1	0-0.5, 0-3	NE	NE	2019 H H E R A	Yes
PA-17-01	1/27/2016	PA-17	Perimeter	0	1	Yes	0-0.5	--	--	In Place	0	0	0	1	0-0.5, 0-3	NE	NE	2019 H H E R A	Yes
RR-1	2/2/2000	RR-1	AOC14	0	0	Yes	0-0.5	--	--	In Place	0	0	0	0	0-0.5, 0-3	NE	NE	2019 H H E R A	Yes
SD-14-01	1/11/2016	SD-14	StormDrains	0	1	Yes	0-0.5	--	--	In Place	0	0	0	1	0-0.5, 0-3	NE	NE	2019 H H E R A	Yes
SD-14-03	1/11/2016	SD-14	StormDrains	2	3	Yes	0-03	S2-03	--	In Place	0	0	2	3	0-3	02-03, 02-06	NE	2019 H H E R A	Yes
SD-14-06	1/11/2016	SD-14	StormDrains	5	6	Yes	0-06	S2-06	S5-06	In Place	0	0	5	6	NE	02-06	05-06, 05-10	2019 H H E R A	Yes
SD-14-10	1/11/2016	SD-14	StormDrains	9	10	Yes	0-10	S2-10	S5-10	In Place	0	0	9	10	NE	NE	05-10	2019 H H E R A	Yes
SD-15-01	1/12/2016	SD-15	StormDrains	0	0.5	Yes	0-0.5	--	--	In Place	0	0	0	0.5	0-0.5, 0-3	NE	NE	2019 H H E R A	Yes
SD-15-03	1/12/2016	SD-15	StormDrains	2	3	Yes	0-03	S2-03	--	In Place	0	0	2	3	0-3	02-03, 02-06	NE	2019 H H E R A	Yes
SD-15-06	1/12/2016	SD-15	StormDrains	5	6	Yes	0-06	S2-06	S5-06	In Place	0	0	5	6	NE	02-06	05-06, 05-10	2019 H H E R A	Yes
SD-15-10	1/12/2016	SD-15	StormDrains	9	10	Yes	0-10	S2-10	S5-10	In Place	0	0	9	10	NE	NE	05-10	2019 H H E R A	Yes
SD-16-01	1/12/2016	SD-16	StormDrains	0	0.5	Yes	0-0.5	--	--	In Place	0	0	0	0.5	0-0.5, 0-3	NE	NE	2019 H H E R A	Yes
SD-16-03	1/12/2016	SD-16	StormDrains	2	3	Yes	0-03	S2-03	--	In Place	0	0	2	3	0-3	02-03, 02-06	NE	2019 H H E R A	Yes
SD-16-06	1/12/2016	SD-16	StormDrains	5	6	Yes	0-06	S2-06	S5-06	In Place	0	0	5	6	NE	02-06	05-06, 05-10	2019 H H E R A	Yes
SD-16-10	1/12/2016	SD-16	StormDrains	9	10	Yes	0-10	S2-10	S5-10	In Place	0	0	9	10	NE	NE	05-10	2019 H H E R A	Yes
SD-17-01	12/17/2015	SD-17	StormDrains	0	0.5	Yes	0-0.5	--	--	In Place	0	0	0	0.5	0-0.5, 0-3	NE	NE	2019 H H E R A	Yes
SD-17-02	12/17/2015	SD-17	StormDrains	2	3	Yes	0-03	S2-03	--	In Place	0	0	2	3	0-3	02-03, 02-06	NE	2019 H H E R A	Yes
SD-18-01	12/17/2015	SD-18	StormDrains	0	0.5	Yes	0-0.5	--	--	In Place	0	0	0	0.5	0-0.5, 0-3	NE	NE	2019 H H E R A	Yes
SD-19-D1	1/13/2016	SD-19	StormDrains	0	0.5	Yes	0-0.5	--	--	In Place	0	0	0	0.5	0-0.5, 0-3	NE	NE	2019 H H E R A	Yes
SD-19-D2	1/13/2016	SD-19	StormDrains	2	3	Yes	0-03	S2-03	--	In Place	0	0	2	3	0-3	02-03, 02-06	NE	2019 H H E R A	Yes
SD-19-D3	1/13/2016	SD-19	StormDrains	5	6	Yes	0-06	S2-06	S5-06	In Place	0	0	5	6	NE	02-06	05-06, 05-10	2019 H H E R A	Yes
SD-19-D4	1/13/2016	SD-19	StormDrains	8	8.5	Yes	0-10	S2-10	S5-10	In Place	0	0	8	8.5	NE	NE	05-10	2019 H H E R A	Yes
SD-25-01	3/10/2016	SD-25	StormDrains	0	1	Yes	0-0.5	--	--	In Place	0	0	0	1	0-0.5, 0-3	NE	NE	2019 H H E R A	Yes
SD-26-01	3/10/2016	SD-26	StormDrains	0	1	Yes	0-0.5	--	--	In Place	0	0	0	1	0-0.5, 0-3	NE	NE	2019 H H E R A	Yes
SD-33-OS1-1001	12/20/2016	SD-OS33	StormDrains	1.5	2	Yes	0-03	S2-03	--	In Place	0	0	1.5	2	0-3	02-03, 02-06	NE	2019 H H E R A	Yes
SS-1-0.5	6/29/1997	SS-1	AOC1	0.5	0.5	Yes	0-0.5	--	--	In Place	0	0	0.5	0.5	0-0.5, 0-3	NE	NE	2019 H H E R A	Yes
SS-1-1.5	6/29/1997	SS-1	AOC1	1.5	1.5	Yes	0-03	--	--	In Place	0	0	1.5	1.5	0-3	NE	NE	2019 H H E R A	Yes
SS-2-0.5	6/29/1997	SS-2	AOC1	0.5	0.5	Yes	0-0.5	--	--	In Place	0	0	0.5	0.5	0-0.5, 0-3	NE	NE	2019 H H E R A	Yes
SS-2-1.5	6/29/1997	SS-2	AOC1	1.5	1.5	Yes	0-03	--	--	In Place	0	0	1.5	1.5	0-3	NE	NE	2019 H H E R A	Yes
SS-3-0	6/29/1997	SS-3	AOC1	0.5	0.5	Yes	0-0.5	--	--	Removed	--	0	--	--	NE	NE	NE	2019 H H E R A	No, Excavated
SS-4-0	6/29/1997	SS-4	AOC1	0.5	0.5	Yes	0-0.5	--	--	In Place	0	0	0.5	0.5	0-0.5, 0-3	NE	NE	2019 H H E R A	Yes
SS-5-0	6/29/1997	SS-5	AOC1	0.5	0.5	Yes	0-0.5	--	--	In Place	0	0	0.5	0.5	0-0.5, 0-3	NE	NE	2019 H H E R A	Yes

Table BCW-1.1
Samples and Sampling Locations Included in the BCW Potential Exposure Area

Post-Soil N T C R A Human Health and Ecological Risk Assessment Report
PG&E Topock Compressor Station
Needles, California

SampleID[a]	Sample Date	Location ID	RFI Area	Original Upper Depth (ft bgs)	Original Lower Depth (ft bgs)	Used for EPCs (2019 H H E R A)?	Original Baseline (ft bgs)	Original Scouring 2 ft	Original Scouring 5 ft	Excavation Status	Excavation Depth (ft)	Backfill Depth (ft)	Current Upper Depth (ft bgs)	Current Lower Depth (ft bgs)	Current Baseline (ft bgs)	Current Scouring 2 ft	Current Scouring 5 ft	Sample Source (2019 H H E R A, N T C R A, or R F I Addition)	Used for Post-N T C R A H H E R A EPCs?[b]
SS-6-0	6/29/1997	SS-6	AOC1	0.5	0.5	Yes	0-0.5	--	--	In Place	0	0	0.5	0.5	0-0.5, 0-3	NE	NE	2019 H H E R A	Yes
SS-7-0	6/29/1997	SS-7	AOC1	0.5	0.5	Yes	0-0.5	--	--	In Place	0	0	0.5	0.5	0-0.5, 0-3	NE	NE	2019 H H E R A	Yes
SS-8-0	6/29/1997	SS-8	AOC1	0.5	0.5	Yes	0-0.5	--	--	In Place	0	0	0.5	0.5	0-0.5, 0-3	NE	NE	2019 H H E R A	Yes
SSB-1-1	6/25/1997	SSB-1	AOC1	1	1	Yes	0-0.5	--	--	In Place	0	0	1	1	0-0.5, 0-3	NE	NE	2019 H H E R A	Yes
SSB-1-3	6/25/1997	SSB-1	AOC1	3	3	Yes	0-03	S2-03	--	In Place	0	0	3	3	0-3	02-03, 02-06	NE	2019 H H E R A	Yes
SSB-1-6	6/25/1997	SSB-1	AOC1	6	6	Yes	0-06	S2-06	S5-06	In Place	0	0	6	6	NE	02-06	05-06, 05-10	2019 H H E R A	Yes
SSB-1-10	6/25/1997	SSB-1	AOC1	10	10	Yes	0-10	S2-10	S5-10	In Place	0	0	10	10	NE	NE	05-10	2019 H H E R A	Yes
SSB-2-1	6/30/1997	SSB-2	SWMU1	1	1	Yes	0-0.5	--	--	Removed	--	0	--	--	NE	NE	NE	2019 H H E R A	No, Excavated
SSB-2-3	6/30/1997	SSB-2	SWMU1	3	3	Yes	0-03	S2-03	--	Removed	--	0	--	--	NE	NE	NE	2019 H H E R A	No, Excavated
SSB-2-6	6/30/1997	SSB-2	SWMU1	6	6	Yes	0-06	S2-06	S5-06	In Place	4	4	6	6	NE	02-06	05-06, 05-10	2019 H H E R A	Yes
SSB-2-10	6/30/1997	SSB-2	SWMU1	10	10	Yes	0-10	S2-10	S5-10	In Place	4	4	10	10	NE	NE	05-10	2019 H H E R A	Yes
SSB-3-1	6/30/1997	SSB-3	SWMU1	1	1	Yes	0-0.5	--	--	In Place	0	0	1	1	0-0.5, 0-3	NE	NE	2019 H H E R A	Yes
SSB-3-3	6/30/1997	SSB-3	SWMU1	3	3	Yes	0-03	S2-03	--	In Place	0	0	3	3	0-3	02-03, 02-06	NE	2019 H H E R A	Yes
SSB-3-6	6/30/1997	SSB-3	SWMU1	6	6	Yes	0-06	S2-06	S5-06	In Place	0	0	6	6	NE	02-06	05-06, 05-10	2019 H H E R A	Yes
SSB-3-10	6/30/1997	SSB-3	SWMU1	10	10	Yes	0-10	S2-10	S5-10	In Place	0	0	10	10	NE	NE	05-10	2019 H H E R A	Yes
SSB-4-1	6/30/1997	SSB-4	SWMU1	1	1	Yes	0-0.5	--	--	Removed	--	0	--	--	NE	NE	NE	2019 H H E R A	No, Excavated
SSB-4-3	6/30/1997	SSB-4	SWMU1	3	3	Yes	0-03	S2-03	--	Removed	--	0	--	--	NE	NE	NE	2019 H H E R A	No, Excavated
SSB-4-6	6/30/1997	SSB-4	SWMU1	6	6	Yes	0-06	S2-06	S5-06	Removed	--	0	--	--	NE	NE	NE	2019 H H E R A	No, Excavated
SSB-4-10	6/30/1997	SSB-4	SWMU1	10	10	Yes	0-10	S2-10	S5-10	Removed	--	0	--	--	NE	NE	NE	2019 H H E R A	No, Excavated
SSB-5-1	6/30/1997	SSB-5	SWMU1	1	1	Yes	0-0.5	--	--	Removed	--	0	--	--	NE	NE	NE	2019 H H E R A	No, Excavated
SSB-5-3	6/30/1997	SSB-5	SWMU1	3	3	Yes	0-03	S2-03	--	Removed	--	0	--	--	NE	NE	NE	2019 H H E R A	No, Excavated
SSB-5-6	6/30/1997	SSB-5	SWMU1	6	6	Yes	0-06	S2-06	S5-06	Removed	--	0	--	--	NE	NE	NE	2019 H H E R A	No, Excavated
SSB-5-10	6/30/1997	SSB-5	SWMU1	10	10	Yes	0-10	S2-10	S5-10	Removed	--	0	--	--	NE	NE	NE	2019 H H E R A	No, Excavated
SSB-6-1	6/30/1997	SSB-6	AOC1	1	1	Yes	0-0.5	--	--	In Place	0	0	1	1	0-0.5, 0-3	NE	NE	2019 H H E R A	Yes
SSB-6-3	6/30/1997	SSB-6	AOC1	3	3	Yes	0-03	S2-03	--	In Place	0	0	3	3	0-3	02-03, 02-06	NE	2019 H H E R A	Yes
SSB-6-6	6/30/1997	SSB-6	AOC1	6	6	Yes	0-06	S2-06	S5-06	In Place	0	0	6	6	NE	02-06	05-06, 05-10	2019 H H E R A	Yes
SSB-6-10	6/30/1997	SSB-6	AOC1	10	10	Yes	0-10	S2-10	S5-10	In Place	0	0	10	10	NE	NE	05-10	2019 H H E R A	Yes
SSB-7-1	6/30/1997	SSB-7	AOC1	1	1	Yes	0-0.5	--	--	In Place	0	0	1	1	0-0.5, 0-3	NE	NE	2019 H H E R A	Yes
SSB-7-3	6/30/1997	SSB-7	AOC1	3	3	Yes	0-03	S2-03	--	In Place	0	0	3	3	0-3	02-03, 02-06	NE	2019 H H E R A	Yes
SSB-7-6	6/30/1997	SSB-7	AOC1	6	6	Yes	0-06	S2-06	S5-06	In Place	0	0	6	6	NE	02-06	05-06, 05-10	2019 H H E R A	Yes
SSB-7-10	6/30/1997	SSB-7	AOC1	10	10	Yes	0-10	S2-10	S5-10	In Place	0	0	10	10	NE	NE	05-10	2019 H H E R A	Yes
SSB-8-1	7/10/1997	SSB-8	AOC1	1	1	Yes	0-0.5	--	--	In Place	0	0	1	1	0-0.5, 0-3	NE	NE	2019 H H E R A	Yes
SSB-8-3	7/10/1997	SSB-8	AOC1	3	3	Yes	0-03	S2-03	--	In Place	0	0	3	3	0-3	02-03, 02-06	NE	2019 H H E R A	Yes
SSB-8-6	7/10/1997	SSB-8	AOC1	6	6	Yes	0-06	S2-06	S5-06	In Place	0	0	6	6	NE	02-06	05-06, 05-10	2019 H H E R A	Yes
SSB-8-10	7/10/1997	SSB-8	AOC1	10	10	Yes	0-10	S2-10	S5-10	In Place	0	0	10	10	NE	NE	05-10	2019 H H E R A	Yes
SSB-9-1	7/10/1997	SSB-9	AOC1	1	1	Yes	0-0.5	--	--	In Place	0	0	1	1	0-0.5, 0-3	NE	NE	2019 H H E R A	Yes
SSB-9-3	7/10/1997	SSB-9	AOC1	3	3	Yes	0-03	S2-03	--	In Place	0	0	3	3	0-3	02-03, 02-06	NE	2019 H H E R A	Yes
SSB-9-6	7/10/1997	SSB-9	AOC1	6	6	Yes	0-06	S2-06	S5-06	In Place	0	0	6	6	NE	02-06	05-06, 05-10	2019 H H E R A	Yes
SSB-9-10	7/10/1997	SSB-9	AOC1	10	10	Yes	0-10	S2-10	S5-10	In Place	0	0	10	10	NE	NE	05-10	2019 H H E R A	Yes
SWMU1-1-1001	10/16/2008	SWMU1-1	SWMU1	0	0.5	Yes	0-0.5	--	--	Removed	--	0	--	--	NE	NE	NE	2019 H H E R A	No, Excavated
SWMU1-1-1002	10/16/2008	SWMU1-1	SWMU1	2	3	Yes	0-03	S2-03	--	Removed	--	0	--	--	NE	NE	NE	2019 H H E R A	No, Excavated
SWMU1-1-1003	10/16/2008	SWMU1-1	SWMU1	5	6	Yes	0-06	S2-06	S5-06	Removed	--	0	--	--	NE	NE	NE	2019 H H E R A	No, Excavated
SWMU1-1-1004	10/16/2008	SWMU1-1	SWMU1	9	10	Yes	0-10	S2-10	S5-10	Removed	--	0	--	--	NE	NE	NE	2019 H H E R A	No, Excavated
SWMU1-10-1053	10/14/2008	SWMU1-10	SWMU1	0	0.5	Yes	0-0.5	--	--	In Place	0	0	0	0.5	0-0.5, 0-3	NE	NE	2019 H H E R A	Yes
SWMU1-10-1054	10/14/2008	SWMU1-10	SWMU1	2	3	Yes	0-03	S2-03	--	In Place	0	0	2	3	0-3	02-03, 02-06	NE	2019 H H E R A	Yes
SWMU1-10-1055	10/14/2008	SWMU1-10	SWMU1	5	6	Yes	0-06	S2-06	S5-06	In Place	0	0	5	6	NE	02-06	05-06, 05-10	2019 H H E R A	Yes
SWMU1-10-1056	10/14/2008	SWMU1-10	SWMU1	5	6	Yes	0-06	S2-06	S5-06	In Place	0	0	5	6	NE	02-06	05-06, 05-10	2019 H H E R A	Yes
SWMU1-10-1057	10/14/2008	SWMU1-10	SWMU1	9	10	Yes	0-10	S2-10	S5-10	In Place	0	0	9	10	NE	NE	05-10	2019 H H E R A	Yes
SWMU1-11-1058	10/15/2008	SWMU1-11	SWMU1	0	0.5	Yes	0-0.5	--	--	Removed	--	0	--	--	NE	NE	NE	2019 H H E R A	No, Excavated
SWMU1-11-1059	10/15/2008	SWMU1-11	SWMU1	2	3	Yes	0-03	S2-03	--	Removed	--	0	--	--	NE	NE	NE	2019 H H E R A	No, Excavated
SWMU1-11-1060	10/15/2008	SWMU1-11	SWMU1	5	6	Yes	0-06	S2-06	S5-06	Removed	--	0	--	--	NE	NE	NE	2019 H H E R A	No, Excavated

Table BCW-1.1
Samples and Sampling Locations Included in the BCW Potential Exposure Area

Post-Soil N T C R A Human Health and Ecological Risk Assessment Report
PG&E Topock Compressor Station
Needles, California

SampleID[a]	Sample Date	Location ID	RFI Area	Original Upper Depth (ft bgs)	Original Lower Depth (ft bgs)	Used for EPCs (2019 H H E R A)?	Original Baseline (ft bgs)	Original Scouring 2 ft	Original Scouring 5 ft	Excavation Status	Excavation Depth (ft)	Backfill Depth (ft)	Current Upper Depth (ft bgs)	Current Lower Depth (ft bgs)	Current Baseline (ft bgs)	Current Scouring 2 ft	Current Scouring 5 ft	Sample Source (2019 H H E R A, N T C R A, or R F I Addition)	Used for Post-N T C R A H H E R A EPCs?[b]
SWMU1-11-1061	10/15/2008	SWMU1-11	SWMU1	9	10	Yes	0-10	S2-10	S5-10	Removed	--	0	--	--	NE	NE	NE	2019 H H E R A	No, Excavated
SWMU1-12-1062	10/14/2008	SWMU1-12	SWMU1	0	0.5	Yes	0-0.5	--	--	In Place	0	0	0	0.5	0-0.5, 0-3	NE	NE	2019 H H E R A	Yes
SWMU1-12-1063	10/14/2008	SWMU1-12	SWMU1	2	3	Yes	0-03	S2-03	--	In Place	0	0	2	3	0-3	02-03, 02-06	NE	2019 H H E R A	Yes
SWMU1-12-1064	10/14/2008	SWMU1-12	SWMU1	5	6	Yes	0-06	S2-06	S5-06	In Place	0	0	5	6	NE	02-06	05-06, 05-10	2019 H H E R A	Yes
SWMU1-12-1065	10/14/2008	SWMU1-12	SWMU1	9	10	Yes	0-10	S2-10	S5-10	In Place	0	0	9	10	NE	NE	05-10	2019 H H E R A	Yes
SWMU1-13-1066	10/14/2008	SWMU1-13	SWMU1	0	0.5	Yes	0-0.5	--	--	In Place	0	0	0	0.5	0-0.5, 0-3	NE	NE	2019 H H E R A	Yes
SWMU1-13-1067	10/14/2008	SWMU1-13	SWMU1	2	3	Yes	0-03	S2-03	--	In Place	0	0	2	3	0-3	02-03, 02-06	NE	2019 H H E R A	Yes
SWMU1-13-1069	10/14/2008	SWMU1-13	SWMU1	5	6	Yes	0-06	S2-06	S5-06	In Place	0	0	5	6	NE	02-06	05-06, 05-10	2019 H H E R A	Yes
SWMU1-13-1070	10/14/2008	SWMU1-13	SWMU1	9	10	Yes	0-10	S2-10	S5-10	In Place	0	0	9	10	NE	NE	05-10	2019 H H E R A	Yes
SWMU1-14-1071	10/14/2008	SWMU1-14	SWMU1	0	0.5	Yes	0-0.5	--	--	In Place	0	0	0	0.5	0-0.5, 0-3	NE	NE	2019 H H E R A	Yes
SWMU1-14-1072	10/14/2008	SWMU1-14	SWMU1	2	3	Yes	0-03	S2-03	--	In Place	0	0	2	3	0-3	02-03, 02-06	NE	2019 H H E R A	Yes
SWMU1-14-1073	10/14/2008	SWMU1-14	SWMU1	5	6	Yes	0-06	S2-06	S5-06	In Place	0	0	5	6	NE	02-06	05-06, 05-10	2019 H H E R A	Yes
SWMU1-14-1074	10/14/2008	SWMU1-14	SWMU1	9	10	Yes	0-10	S2-10	S5-10	In Place	0	0	9	10	NE	NE	05-10	2019 H H E R A	Yes
SWMU1-15-1075	9/22/2008	SWMU1-15	SWMU1	0	0.5	Yes	0-0.5	--	--	In Place	0	0	0	0.5	0-0.5, 0-3	NE	NE	2019 H H E R A	Yes
SWMU1-15-1076	9/22/2008	SWMU1-15	SWMU1	2	3	Yes	0-03	S2-03	--	In Place	0	0	2	3	0-3	02-03, 02-06	NE	2019 H H E R A	Yes
SWMU1-15-1077	9/22/2008	SWMU1-15	SWMU1	5	6	Yes	0-06	S2-06	S5-06	In Place	0	0	5	6	NE	02-06	05-06, 05-10	2019 H H E R A	Yes
SWMU1-15-1078	9/22/2008	SWMU1-15	SWMU1	9	10	Yes	0-10	S2-10	S5-10	In Place	0	0	9	10	NE	NE	05-10	2019 H H E R A	Yes
SWMU1-15-1079	9/22/2008	SWMU1-15	SWMU1	9	10	Yes	0-10	S2-10	S5-10	In Place	0	0	9	10	NE	NE	05-10	2019 H H E R A	Yes
SWMU1-15-1080	9/22/2008	SWMU1-15	SWMU1	19	20	No	--	--	--	In Place	0	0	19	20	NE	NE	NE	2019 H H E R A	No, Depth NA
SWMU1-15-1081	9/22/2008	SWMU1-15	SWMU1	29	30	No	--	--	--	In Place	0	0	29	30	NE	NE	NE	2019 H H E R A	No, Depth NA
SWMU1-15-1082	9/22/2008	SWMU1-15	SWMU1	39	40	No	--	--	--	In Place	0	0	39	40	NE	NE	NE	2019 H H E R A	No, Depth NA
SWMU1-15-1083	9/22/2008	SWMU1-15	SWMU1	49	50	No	--	--	--	In Place	0	0	49	50	NE	NE	NE	2019 H H E R A	No, Depth NA
SWMU1-15-1084	9/22/2008	SWMU1-15	SWMU1	59	60	No	--	--	--	In Place	0	0	59	60	NE	NE	NE	2019 H H E R A	No, Depth NA
SWMU1-15-1089	9/22/2008	SWMU1-15	SWMU1	59	60	No	--	--	--	In Place	0	0	59	60	NE	NE	NE	2019 H H E R A	No, Depth NA
SWMU1-15-1085	9/22/2008	SWMU1-15	SWMU1	69	70	No	--	--	--	In Place	0	0	69	70	NE	NE	NE	2019 H H E R A	No, Depth NA
SWMU1-15-1086	9/22/2008	SWMU1-15	SWMU1	79	80	No	--	--	--	In Place	0	0	79	80	NE	NE	NE	2019 H H E R A	No, Depth NA
SWMU1-15-1087	9/23/2008	SWMU1-15	SWMU1	89	90	No	--	--	--	In Place	0	0	89	90	NE	NE	NE	2019 H H E R A	No, Depth NA
SWMU1-16-1090	9/21/2008	SWMU1-16	SWMU1	0	0.5	Yes	0-0.5	--	--	In Place	0	0	0	0.5	0-0.5, 0-3	NE	NE	2019 H H E R A	Yes
SWMU1-16-1091	9/21/2008	SWMU1-16	SWMU1	2	3	Yes	0-03	S2-03	--	In Place	0	0	2	3	0-3	02-03, 02-06	NE	2019 H H E R A	Yes
SWMU1-16-1092	9/21/2008	SWMU1-16	SWMU1	5	6	Yes	0-06	S2-06	S5-06	In Place	0	0	5	6	NE	02-06	05-06, 05-10	2019 H H E R A	Yes
SWMU1-17-1094	9/21/2008	SWMU1-17	SWMU1	0	0.5	Yes	0-0.5	--	--	In Place	0	0	0	0.5	0-0.5, 0-3	NE	NE	2019 H H E R A	Yes
SWMU1-17-1095	9/21/2008	SWMU1-17	SWMU1	2	3	Yes	0-03	S2-03	--	In Place	0	0	2	3	0-3	02-03, 02-06	NE	2019 H H E R A	Yes
SWMU1-17-1096	9/21/2008	SWMU1-17	SWMU1	5	6	Yes	0-06	S2-06	S5-06	In Place	0	0	5	6	NE	02-06	05-06, 05-10	2019 H H E R A	Yes
SWMU1-17-1097	9/21/2008	SWMU1-17	SWMU1	9	10	Yes	0-10	S2-10	S5-10	In Place	0	0	9	10	NE	NE	05-10	2019 H H E R A	Yes
SWMU1-17-1098	9/21/2008	SWMU1-17	SWMU1	9	10	Yes	0-10	S2-10	S5-10	In Place	0	0	9	10	NE	NE	05-10	2019 H H E R A	Yes
SWMU1-18-1100	1/7/2016	SWMU1-18	SWMU1	0	1	Yes	0-0.5	--	--	In Place	0	0	0	1	0-0.5, 0-3	NE	NE	2019 H H E R A	Yes
SWMU1-18-1101	1/7/2016	SWMU1-18	SWMU1	2	3	Yes	0-03	S2-03	--	In Place	0	0	2	3	0-3	02-03, 02-06	NE	2019 H H E R A	Yes
SWMU1-18-1102	1/7/2016	SWMU1-18	SWMU1	5	6	Yes	0-06	S2-06	S5-06	In Place	0	0	5	6	NE	02-06	05-06, 05-10	2019 H H E R A	Yes
SWMU1-18-1103	1/7/2016	SWMU1-18	SWMU1	9	10	Yes	0-10	S2-10	S5-10	In Place	0	0	9	10	NE	NE	05-10	2019 H H E R A	Yes
SWMU1-18-1104	1/7/2016	SWMU1-18	SWMU1	14	15	Yes	--	--	S5-15	In Place	0	0	14	15	NE	NE	NE	2019 H H E R A	No, Depth NA
SWMU1-18-1105	1/7/2016	SWMU1-18	SWMU1	14	15	Yes	--	--	S5-15	In Place	0	0	14	15	NE	NE	NE	2019 H H E R A	No, Depth NA
SWMU1-18-1106	1/7/2016	SWMU1-18	SWMU1	19	20	No	--	--	--	In Place	0	0	19	20	NE	NE	NE	2019 H H E R A	No, Depth NA
SWMU1-18-1107	1/7/2016	SWMU1-18	SWMU1	29	30	No	--	--	--	In Place	0	0	29	30	NE	NE	NE	2019 H H E R A	No, Depth NA
SWMU1-18-1108	1/7/2016	SWMU1-18	SWMU1	39	40	No	--	--	--	In Place	0	0	39	40	NE	NE	NE	2019 H H E R A	No, Depth NA
SWMU1-18-1109	1/8/2016	SWMU1-18	SWMU1	49	50	No	--	--	--	In Place	0	0	49	50	NE	NE	NE	2019 H H E R A	No, Depth NA
SWMU1-18-1110	1/8/2016	SWMU1-18	SWMU1	59	60	No	--	--	--	In Place	0	0	59	60	NE	NE	NE	2019 H H E R A	No, Depth NA
SWMU1-18-1111	1/8/2016	SWMU1-18	SWMU1	69	70	No	--	--	--	In Place	0	0	69	70	NE	NE	NE	2019 H H E R A	No, Depth NA
SWMU1-18-1112	1/8/2016	SWMU1-18	SWMU1	79	80	No	--	--	--	In Place	0	0	79	80	NE	NE	NE	2019 H H E R A	No, Depth NA
SWMU1-19-1113	1/9/2016	SWMU1-19	SWMU1	0	1	Yes	0-0.5	--	--	Removed	--	0	--	--	NE	NE	NE	2019 H H E R A	No, Excavated
SWMU1-19-1114	1/9/2016	SWMU1-19	SWMU1	2	3	Yes	0-03	S2-03	--	Removed	--	0	--	--	NE	NE	NE	2019 H H E R A	No, Excavated
SWMU1-19-1115	1/9/2016	SWMU1-19	SWMU1	5	6	Yes	0-06	S2-06	S5-06	Removed	--	0	--	--	NE	NE	NE	2019 H H E R A	No, Excavated

Table BCW-1.1
Samples and Sampling Locations Included in the BCW Potential Exposure Area

Post-Soil N T C R A Human Health and Ecological Risk Assessment Report
PG&E Topock Compressor Station
Needles, California

SampleID[a]	Sample Date	Location ID	RFI Area	Original Upper Depth (ft bgs)	Original Lower Depth (ft bgs)	Used for EPCs (2019 H H E R A)?	Original Baseline (ft bgs)	Original Scouring 2 ft	Original Scouring 5 ft	Excavation Status	Excavation Depth (ft)	Backfill Depth (ft)	Current Upper Depth (ft bgs)	Current Lower Depth (ft bgs)	Current Baseline (ft bgs)	Current Scouring 2 ft	Current Scouring 5 ft	Sample Source (2019 H H E R A, N T C R A, or R F I Addition)	Used for Post-N T C R A H H E R A EPCs?[b]
SWMU1-19-1116	1/9/2016	SWMU1-19	SWMU1	9	10	Yes	0-10	S2-10	S5-10	Removed	--	0	--	--	NE	NE	NE	2019 H H E R A	No, Excavated
SWMU1-19-1117	1/9/2016	SWMU1-19	SWMU1	14	15	Yes	--	--	S5-15	In Place	10	10	14	15	NE	NE	NE	2019 H H E R A	No, Depth NA
SWMU1-19-1118	1/9/2016	SWMU1-19	SWMU1	19	20	No	--	--	--	In Place	10	10	19	20	NE	NE	NE	2019 H H E R A	No, Depth NA
SWMU1-19-1119	1/9/2016	SWMU1-19	SWMU1	19	20	No	--	--	--	In Place	10	10	19	20	NE	NE	NE	2019 H H E R A	No, Depth NA
SWMU1-19-1120	1/9/2016	SWMU1-19	SWMU1	29	30	No	--	--	--	In Place	10	10	29	30	NE	NE	NE	2019 H H E R A	No, Depth NA
SWMU1-19-1121	1/9/2016	SWMU1-19	SWMU1	39	40	No	--	--	--	In Place	10	10	39	40	NE	NE	NE	2019 H H E R A	No, Depth NA
SWMU1-19-1122	1/9/2016	SWMU1-19	SWMU1	49	50	No	--	--	--	In Place	10	10	49	50	NE	NE	NE	2019 H H E R A	No, Depth NA
SWMU1-19-1123	1/9/2016	SWMU1-19	SWMU1	59	60	No	--	--	--	In Place	10	10	59	60	NE	NE	NE	2019 H H E R A	No, Depth NA
SWMU1-19-1124	1/10/2016	SWMU1-19	SWMU1	69	70	No	--	--	--	In Place	10	10	69	70	NE	NE	NE	2019 H H E R A	No, Depth NA
SWMU1-19-1125	1/10/2016	SWMU1-19	SWMU1	79	80	No	--	--	--	In Place	10	10	79	80	NE	NE	NE	2019 H H E R A	No, Depth NA
SWMU1-2-1005	10/15/2008	SWMU1-2	SWMU1	0	0.5	Yes	0-0.5	--	--	Removed	--	0	--	--	NE	NE	NE	2019 H H E R A	No, Excavated
SWMU1-2-1006	10/15/2008	SWMU1-2	SWMU1	2	3	Yes	0-03	S2-03	--	Removed	--	0	--	--	NE	NE	NE	2019 H H E R A	No, Excavated
SWMU1-2-1007	10/15/2008	SWMU1-2	SWMU1	5	6	Yes	0-06	S2-06	S5-06	Removed	--	0	--	--	NE	NE	NE	2019 H H E R A	No, Excavated
SWMU1-2-1008	10/15/2008	SWMU1-2	SWMU1	9	10	Yes	0-10	S2-10	S5-10	Removed	--	0	--	--	NE	NE	NE	2019 H H E R A	No, Excavated
SWMU1-20-1152-1	1/13/2016	SWMU1-20	SWMU1	1	1.5	Yes	0-0.5	--	--	Removed	--	0	--	--	NE	NE	NE	2019 H H E R A	No, Excavated
SWMU1-20-1152-2	1/13/2016	SWMU1-20	SWMU1	2	3	Yes	0-03	S2-03	--	Removed	--	0	--	--	NE	NE	NE	2019 H H E R A	No, Excavated
SWMU1-20-1152-5	1/13/2016	SWMU1-20	SWMU1	5	6	Yes	0-06	S2-06	S5-06	Removed	--	0	--	--	NE	NE	NE	2019 H H E R A	No, Excavated
SWMU1-20-1152-10	1/13/2016	SWMU1-20	SWMU1	9	10	Yes	0-10	S2-10	S5-10	Removed	--	0	--	--	NE	NE	NE	2019 H H E R A	No, Excavated
SWMU1-20-1126	1/13/2016	SWMU1-20	SWMU1	14	15	Yes	--	--	S5-15	In Place	10	10	14	15	NE	NE	NE	2019 H H E R A	No, Depth NA
SWMU1-20-1127	1/13/2016	SWMU1-20	SWMU1	14	15	Yes	--	--	S5-15	In Place	10	10	14	15	NE	NE	NE	2019 H H E R A	No, Depth NA
SWMU1-20-1128	1/13/2016	SWMU1-20	SWMU1	19	20	No	--	--	--	In Place	10	10	19	20	NE	NE	NE	2019 H H E R A	No, Depth NA
SWMU1-20-1130	1/14/2016	SWMU1-20	SWMU1	39	40	No	--	--	--	In Place	10	10	39	40	NE	NE	NE	2019 H H E R A	No, Depth NA
SWMU1-20-1131	1/14/2016	SWMU1-20	SWMU1	49	50	No	--	--	--	In Place	10	10	49	50	NE	NE	NE	2019 H H E R A	No, Depth NA
SWMU1-20-1132	1/14/2016	SWMU1-20	SWMU1	59	60	No	--	--	--	In Place	10	10	59	60	NE	NE	NE	2019 H H E R A	No, Depth NA
SWMU1-20-1133	1/14/2016	SWMU1-20	SWMU1	69	70	No	--	--	--	In Place	10	10	69	70	NE	NE	NE	2019 H H E R A	No, Depth NA
SWMU1-20-1134	1/14/2016	SWMU1-20	SWMU1	79	80	No	--	--	--	In Place	10	10	79	80	NE	NE	NE	2019 H H E R A	No, Depth NA
SWMU1-21-1153	1/26/2016	SWMU1-21	SWMU1	0	1	Yes	0-0.5	--	--	Removed	--	0	--	--	NE	NE	NE	2019 H H E R A	No, Excavated
SWMU1-21-1154	1/26/2016	SWMU1-21	SWMU1	2	3	Yes	0-03	S2-03	--	Removed	--	0	--	--	NE	NE	NE	2019 H H E R A	No, Excavated
SWMU1-21-1155	1/26/2016	SWMU1-21	SWMU1	5	6	Yes	0-06	S2-06	S5-06	Removed	--	0	--	--	NE	NE	NE	2019 H H E R A	No, Excavated
SWMU1-21-1156	1/26/2016	SWMU1-21	SWMU1	9	10	Yes	0-10	S2-10	S5-10	Removed	--	0	--	--	NE	NE	NE	2019 H H E R A	No, Excavated
SWMU1-21-1135	1/26/2016	SWMU1-21	SWMU1	14	15	Yes	--	--	S5-15	In Place	10	10	14	15	NE	NE	NE	2019 H H E R A	No, Depth NA
SWMU1-21-1136	1/26/2016	SWMU1-21	SWMU1	19	20	No	--	--	--	In Place	10	10	19	20	NE	NE	NE	2019 H H E R A	No, Depth NA
SWMU1-21-1137	1/27/2016	SWMU1-21	SWMU1	29	30	No	--	--	--	In Place	10	10	29	30	NE	NE	NE	2019 H H E R A	No, Depth NA
SWMU1-21-1138	1/27/2016	SWMU1-21	SWMU1	39	40	No	--	--	--	In Place	10	10	39	40	NE	NE	NE	2019 H H E R A	No, Depth NA
SWMU1-21-1139	1/27/2016	SWMU1-21	SWMU1	49	50	No	--	--	--	In Place	10	10	49	50	NE	NE	NE	2019 H H E R A	No, Depth NA
SWMU1-21-1140	1/27/2016	SWMU1-21	SWMU1	59	60	No	--	--	--	In Place	10	10	59	60	NE	NE	NE	2019 H H E R A	No, Depth NA
SWMU1-21-1141	1/27/2016	SWMU1-21	SWMU1	69	70	No	--	--	--	In Place	10	10	69	70	NE	NE	NE	2019 H H E R A	No, Depth NA
SWMU1-21-1142	1/27/2016	SWMU1-21	SWMU1	79	80	No	--	--	--	In Place	10	10	79	80	NE	NE	NE	2019 H H E R A	No, Depth NA
SWMU1-22-1144	12/17/2015	SWMU1-22	SWMU1	0	1	Yes	0-0.5	--	--	Removed	--	0	--	--	NE	NE	NE	2019 H H E R A	No, Excavated
SWMU1-23-1146	12/17/2015	SWMU1-23	SWMU1	0	1	Yes	0-0.5	--	--	Removed	--	0	--	--	NE	NE	NE	2019 H H E R A	No, Excavated
SWMU1-24-1147	12/17/2015	SWMU1-24	SWMU1	0	1	Yes	0-0.5	--	--	Removed	--	0	--	--	NE	NE	NE	2019 H H E R A	No, Excavated
SWMU1-25-1148	1/26/2016	SWMU1-25	SWMU1	0	1	Yes	0-0.5	--	--	Removed	--	0	--	--	NE	NE	NE	2019 H H E R A	No, Excavated
SWMU1-25-1149	1/26/2016	SWMU1-25	SWMU1	2	3	Yes	0-03	S2-03	--	Removed	--	0	--	--	NE	NE	NE	2019 H H E R A	No, Excavated
SWMU1-25-1150	1/26/2016	SWMU1-25	SWMU1	5	6	Yes	0-06	S2-06	S5-06	Removed	--	0	--	--	NE	NE	NE	2019 H H E R A	No, Excavated
SWMU1-25-1151	1/26/2016	SWMU1-25	SWMU1	9	10	Yes	0-10	S2-10	S5-10	Removed	--	0	--	--	NE	NE	NE	2019 H H E R A	No, Excavated
SWMU1-26-1158	1/8/2017	SWMU1-26	SWMU1	0	0.5	Yes	0-0.5	--	--	Removed	--	0	--	--	NE	NE	NE	2019 H H E R A	No, Excavated
SWMU1-26-1159	1/8/2017	SWMU1-26	SWMU1	2	3	Yes	0-03	S2-03	--	Removed	--	0	--	--	NE	NE	NE	2019 H H E R A	No, Excavated
SWMU1-26-1160	1/8/2017	SWMU1-26	SWMU1	5	6	Yes	0-06	S2-06	S5-06	Removed	--	0	--	--	NE	NE	NE	2019 H H E R A	No, Excavated
SWMU1-26-1161	1/8/2017	SWMU1-26	SWMU1	9	10	Yes	0-10	S2-10	S5-10	Removed	--	0	--	--	NE	NE	NE	2019 H H E R A	No, Excavated
SWMU1-26-1162	1/8/2017	SWMU1-26	SWMU1	14	15	Yes	--	--	S5-15	In Place	10	10	14	15	NE	NE	NE	2019 H H E R A	No, Depth NA
SWMU1-26-1163	1/8/2017	SWMU1-26	SWMU1	19	20	No	--	--	--	In Place	10	10	19	20	NE	NE	NE	2019 H H E R A	No, Depth NA

Table BCW-1.1
Samples and Sampling Locations Included in the BCW Potential Exposure Area

Post-Soil N T C R A Human Health and Ecological Risk Assessment Report
PG&E Topock Compressor Station
Needles, California

SampleID[a]	Sample Date	Location ID	RFI Area	Original Upper Depth (ft bgs)	Original Lower Depth (ft bgs)	Used for EPCs (2019 H H E R A)?	Original Baseline (ft bgs)	Original Scouring 2 ft	Original Scouring 5 ft	Excavation Status	Excavation Depth (ft)	Backfill Depth (ft)	Current Upper Depth (ft bgs)	Current Lower Depth (ft bgs)	Current Baseline (ft bgs)	Current Scouring 2 ft	Current Scouring 5 ft	Sample Source (2019 H H E R A, N T C R A, or R F I Addition)	Used for Post-N T C R A H H E R A EPCs?[b]
SWMU1-27-1165	1/7/2017	SWMU1-27	SWMU1	0	0.5	Yes	0-0.5	--	--	Removed	--	0	--	--	NE	NE	NE	2019 H H E R A	No, Excavated
SWMU1-27-1166	1/7/2017	SWMU1-27	SWMU1	2	3	Yes	0-03	S2-03	--	Removed	--	0	--	--	NE	NE	NE	2019 H H E R A	No, Excavated
SWMU1-27-1167	1/7/2017	SWMU1-27	SWMU1	5	6	Yes	0-06	S2-06	S5-06	Removed	--	0	--	--	NE	NE	NE	2019 H H E R A	No, Excavated
SWMU1-27-1168	1/7/2017	SWMU1-27	SWMU1	9	10	Yes	0-10	S2-10	S5-10	Removed	--	0	--	--	NE	NE	NE	2019 H H E R A	No, Excavated
SWMU1-27-1169	1/7/2017	SWMU1-27	SWMU1	14	15	Yes	--	--	S5-15	In Place	0	0	14	15	NE	NE	NE	2019 H H E R A	No, Depth NA
SWMU1-27-1170	1/7/2017	SWMU1-27	SWMU1	19	20	No	--	--	--	In Place	0	0	19	20	NE	NE	NE	2019 H H E R A	No, Depth NA
SWMU1-28-1172	2/14/2017	SWMU1-28	SWMU1	0	0.5	Yes	0-0.5	--	--	In Place	0	0	0	0.5	0-0.5, 0-3	NE	NE	2019 H H E R A	Yes
SWMU1-28-1173	2/14/2017	SWMU1-28	SWMU1	0	0.5	Yes	0-0.5	--	--	In Place	0	0	0	0.5	0-0.5, 0-3	NE	NE	2019 H H E R A	Yes
SWMU1-28-1174	2/14/2017	SWMU1-28	SWMU1	2	3	Yes	0-03	S2-03	--	In Place	0	0	2	3	0-3	02-03, 02-06	NE	2019 H H E R A	Yes
SWMU1-29-1175	2/16/2017	SWMU1-29	SWMU1	0	0.5	Yes	0-0.5	--	--	Removed	--	0	--	--	NE	NE	NE	2019 H H E R A	No, Excavated
SWMU1-29-1176	2/16/2017	SWMU1-29	SWMU1	2	3	Yes	0-03	S2-03	--	Removed	--	0	--	--	NE	NE	NE	2019 H H E R A	No, Excavated
SWMU1-29-1177	2/16/2017	SWMU1-29	SWMU1	5	6	Yes	0-06	S2-06	S5-06	Removed	--	0	--	--	NE	NE	NE	2019 H H E R A	No, Excavated
SWMU1-29-1178	2/16/2017	SWMU1-29	SWMU1	9	10	Yes	0-10	S2-10	S5-10	Removed	--	0	--	--	NE	NE	NE	2019 H H E R A	No, Excavated
SWMU1-3-1009	10/6/2008	SWMU1-3	SWMU1	0	0.5	Yes	0-0.5	--	--	Removed	--	0	--	--	NE	NE	NE	2019 H H E R A	No, Excavated
SWMU1-3-1010	10/6/2008	SWMU1-3	SWMU1	2	3	Yes	0-03	S2-03	--	Removed	--	0	--	--	NE	NE	NE	2019 H H E R A	No, Excavated
SWMU1-3-1011	10/6/2008	SWMU1-3	SWMU1	2	3	Yes	0-03	S2-03	--	Removed	--	0	--	--	NE	NE	NE	2019 H H E R A	No, Excavated
SWMU1-3-1012	10/6/2008	SWMU1-3	SWMU1	5	6	Yes	0-06	S2-06	S5-06	Removed	--	0	--	--	NE	NE	NE	2019 H H E R A	No, Excavated
SWMU1-3-1013	10/6/2008	SWMU1-3	SWMU1	9	10	Yes	0-10	S2-10	S5-10	Removed	--	0	--	--	NE	NE	NE	2019 H H E R A	No, Excavated
SWMU1-3-1014	10/6/2008	SWMU1-3	SWMU1	19	20	No	--	--	--	In Place	10	10	19	20	NE	NE	NE	2019 H H E R A	No, Depth NA
SWMU1-3-1015	10/6/2008	SWMU1-3	SWMU1	29	30	No	--	--	--	In Place	10	10	29	30	NE	NE	NE	2019 H H E R A	No, Depth NA
SWMU1-3-1016	10/6/2008	SWMU1-3	SWMU1	39	40	No	--	--	--	In Place	10	10	39	40	NE	NE	NE	2019 H H E R A	No, Depth NA
SWMU1-3-1017	10/6/2008	SWMU1-3	SWMU1	49	50	No	--	--	--	In Place	10	10	49	50	NE	NE	NE	2019 H H E R A	No, Depth NA
SWMU1-3-1018	10/6/2008	SWMU1-3	SWMU1	59	60	No	--	--	--	In Place	10	10	59	60	NE	NE	NE	2019 H H E R A	No, Depth NA
SWMU1-3-1019	10/7/2008	SWMU1-3	SWMU1	69	70	No	--	--	--	In Place	10	10	69	70	NE	NE	NE	2019 H H E R A	No, Depth NA
SWMU1-3-1020	10/7/2008	SWMU1-3	SWMU1	79	80	No	--	--	--	In Place	10	10	79	80	NE	NE	NE	2019 H H E R A	No, Depth NA
SWMU1-3-1022	10/7/2008	SWMU1-3	SWMU1	79	80	No	--	--	--	In Place	10	10	79	80	NE	NE	NE	2019 H H E R A	No, Depth NA
SWMU1-4-1025	10/15/2008	SWMU1-4	SWMU1	0	0.5	Yes	0-0.5	--	--	Removed	--	0	--	--	NE	NE	NE	2019 H H E R A	No, Excavated
SWMU1-4-1026	10/15/2008	SWMU1-4	SWMU1	2	3	Yes	0-03	S2-03	--	Removed	--	0	--	--	NE	NE	NE	2019 H H E R A	No, Excavated
SWMU1-4-1027	10/15/2008	SWMU1-4	SWMU1	5	6	Yes	0-06	S2-06	S5-06	Removed	--	0	--	--	NE	NE	NE	2019 H H E R A	No, Excavated
SWMU1-4-1028	10/15/2008	SWMU1-4	SWMU1	7	8	Yes	0-10	S2-10	S5-10	Removed	--	0	--	--	NE	NE	NE	2019 H H E R A	No, Excavated
SWMU1-4-1029	10/15/2008	SWMU1-4	SWMU1	9	10	Yes	0-10	S2-10	S5-10	Removed	--	0	--	--	NE	NE	NE	2019 H H E R A	No, Excavated
SWMU1-4-1030	10/15/2008	SWMU1-4	SWMU1	13	14	Yes	--	--	S5-15	In Place	10	10	13	14	NE	NE	NE	2019 H H E R A	No, Depth NA
SWMU1-5-1031	10/15/2008	SWMU1-5	SWMU1	9	10	Yes	0-10	S2-10	S5-10	Removed	--	0	--	--	NE	NE	NE	2019 H H E R A	No, Excavated
SWMU1-5-1032	10/15/2008	SWMU1-5	SWMU1	13	14	Yes	--	--	S5-15	In Place	10	10	13	14	NE	NE	NE	2019 H H E R A	No, Depth NA
SWMU1-5-1033	10/15/2008	SWMU1-5	SWMU1	13	14	Yes	--	--	S5-15	In Place	10	10	13	14	NE	NE	NE	2019 H H E R A	No, Depth NA
SWMU1-5-1034	10/15/2008	SWMU1-5	SWMU1	15	16	No	--	--	--	In Place	10	10	15	16	NE	NE	NE	2019 H H E R A	No, Depth NA
SWMU1-5-1035	10/15/2008	SWMU1-5	SWMU1	19	20	No	--	--	--	In Place	10	10	19	20	NE	NE	NE	2019 H H E R A	No, Depth NA
SWMU1-6-1036	10/15/2008	SWMU1-6	SWMU1	0	0.5	Yes	0-0.5	--	--	Removed	--	0	--	--	NE	NE	NE	2019 H H E R A	No, Excavated
SWMU1-6-1037	10/15/2008	SWMU1-6	SWMU1	2	3	Yes	0-03	S2-03	--	Removed	--	0	--	--	NE	NE	NE	2019 H H E R A	No, Excavated
SWMU1-6-1038	10/15/2008	SWMU1-6	SWMU1	5	6	Yes	0-06	S2-06	S5-06	Removed	--	0	--	--	NE	NE	NE	2019 H H E R A	No, Excavated
SWMU1-6-1039	10/15/2008	SWMU1-6	SWMU1	9	10	Yes	0-10	S2-10	S5-10	Removed	--	0	--	--	NE	NE	NE	2019 H H E R A	No, Excavated
SWMU1-7-1040	10/15/2008	SWMU1-7	SWMU1	0	0.5	Yes	0-0.5	--	--	Removed	--	0	--	--	NE	NE	NE	2019 H H E R A	No, Excavated
SWMU1-7-1041	10/15/2008	SWMU1-7	SWMU1	2	3	Yes	0-03	S2-03	--	Removed	--	0	--	--	NE	NE	NE	2019 H H E R A	No, Excavated
SWMU1-7-1042	10/15/2008	SWMU1-7	SWMU1	5	6	Yes	0-06	S2-06	S5-06	Removed	--	0	--	--	NE	NE	NE	2019 H H E R A	No, Excavated
SWMU1-7-1043	10/15/2008	SWMU1-7	SWMU1	9	10	Yes	0-10	S2-10	S5-10	Removed	--	0	--	--	NE	NE	NE	2019 H H E R A	No, Excavated
SWMU1-7-1044	10/15/2008	SWMU1-7	SWMU1	9	10	Yes	0-10	S2-10	S5-10	Removed	--	0	--	--	NE	NE	NE	2019 H H E R A	No, Excavated
SWMU1-8-1045	10/15/2008	SWMU1-8	SWMU1	0	0.5	Yes	0-0.5	--	--	Removed	--	0	--	--	NE	NE	NE	2019 H H E R A	No, Excavated
SWMU1-8-1046	10/15/2008	SWMU1-8	SWMU1	2	3	Yes	0-03	S2-03	--	Removed	--	0	--	--	NE	NE	NE	2019 H H E R A	No, Excavated
SWMU1-8-1047	10/15/2008	SWMU1-8	SWMU1	5	6	Yes	0-06	S2-06	S5-06	Removed	--	0	--	--	NE	NE	NE	2019 H H E R A	No, Excavated
SWMU1-8-1048	10/15/2008	SWMU1-8	SWMU1	9	10	Yes	0-10	S2-10	S5-10	Removed	--	0	--	--	NE	NE	NE	2019 H H E R A	No, Excavated
SWMU1-9-1049	10/14/2008	SWMU1-9	SWMU1	0	0.5	Yes	0-0.5	--	--	Removed	--	0	--	--	NE	NE	NE	2019 H H E R A	No, Excavated

Table BCW-1.1
Samples and Sampling Locations Included in the BCW Potential Exposure Area

Post-Soil N T C R A Human Health and Ecological Risk Assessment Report
PG&E Topock Compressor Station
Needles, California

SampleID[a]	Sample Date	Location ID	RFI Area	Original Upper Depth (ft bgs)	Original Lower Depth (ft bgs)	Used for EPCs (2019 H H E R A)?	Original Baseline (ft bgs)	Original Scouring 2 ft	Original Scouring 5 ft	Excavation Status	Excavation Depth (ft)	Backfill Depth (ft)	Current Upper Depth (ft bgs)	Current Lower Depth (ft bgs)	Current Baseline (ft bgs)	Current Scouring 2 ft	Current Scouring 5 ft	Sample Source (2019 H H E R A, N T C R A, or R F I Addition)	Used for Post-N T C R A H H E R A EPCs?[b]
SWMU1-9-1050	10/14/2008	SWMU1-9	SWMU1	2	3	Yes	0-03	S2-03	--	Removed	--	0	--	--	NE	NE	NE	2019 H H E R A	No, Excavated
SWMU1-9-1051	10/14/2008	SWMU1-9	SWMU1	5	6	Yes	0-06	S2-06	S5-06	Removed	--	0	--	--	NE	NE	NE	2019 H H E R A	No, Excavated
SWMU1-9-1052	10/14/2008	SWMU1-9	SWMU1	9	10	Yes	0-10	S2-10	S5-10	Removed	--	0	--	--	NE	NE	NE	2019 H H E R A	No, Excavated
SWMU1TAA1-CF1-10	10/10/2022	SWMU1TAA1-CF1	SWMU1	10	10.5	No	--	--	--	In Place	10	10	10	10.5	NE	NE	NE	NTCRA	No, Depth NA
SWMU1TAA1-CF10-6	2/16/2023	SWMU1TAA1-CF10	SWMU1	6	6.5	No	--	--	--	Removed	--	0	--	--	NE	NE	NE	NTCRA	No, Excavated
SWMU1TAA1-CF10a-7	2/28/2023	SWMU1TAA1-CF10a	SWMU1	7	7.5	No	--	--	--	In Place	7	7	7	7.5	NE	NE	05-10	NTCRA	Yes
SWMU1TAA1-CF11-10	6/23/2023	SWMU1TAA1-CF11	SWMU1	10	10.5	No	--	--	--	In Place	10	10	10	10.5	NE	NE	NE	NTCRA	No, Depth NA
SWMU1TAA1-CF12-10	6/23/2023	SWMU1TAA1-CF12	SWMU1	10	10.5	No	--	--	--	In Place	10	10	10	10.5	NE	NE	NE	NTCRA	No, Depth NA
SWMU1TAA1-CF12-10FD	6/23/2023	SWMU1TAA1-CF12	SWMU1	10	10.5	No	--	--	--	In Place	10	10	10	10.5	NE	NE	NE	NTCRA	No, Depth NA
SWMU1TAA1-CF13-10	9/19/2023	SWMU1TAA1-CF13	SWMU1	10	10.5	No	--	--	--	In Place	10	10	10	10.5	NE	NE	NE	NTCRA	No, Depth NA
SWMU1TAA1-CF14-10	9/22/2023	SWMU1TAA1-CF14	SWMU1	10	10.5	No	--	--	--	In Place	10	10	10	10.5	NE	NE	NE	NTCRA	No, Depth NA
SWMU1TAA1-CF15-10	9/22/2023	SWMU1TAA1-CF15	SWMU1	10	10.5	No	--	--	--	In Place	10	10	10	10.5	NE	NE	NE	NTCRA	No, Depth NA
SWMU1TAA1-CF16-10	10/3/2023	SWMU1TAA1-CF16	SWMU1	10	10.5	No	--	--	--	In Place	10	10	10	10.5	NE	NE	NE	NTCRA	No, Depth NA
SWMU1TAA1-CF17-10	10/25/2023	SWMU1TAA1-CF17	SWMU1	10	10.5	No	--	--	--	In Place	10	10	10	10.5	NE	NE	NE	NTCRA	No, Depth NA
SWMU1TAA1-CF18-10	10/25/2023	SWMU1TAA1-CF18	SWMU1	10	10.5	No	--	--	--	In Place	10	10	10	10.5	NE	NE	NE	NTCRA	No, Depth NA
SWMU1TAA1-CF19-10	11/14/2023	SWMU1TAA1-CF19	SWMU1	10	10.5	No	--	--	--	In Place	10	10	10	10.5	NE	NE	NE	NTCRA	No, Depth NA
SWMU1TAA1-CF2-10	10/10/2022	SWMU1TAA1-CF2	SWMU1	10	10.5	No	--	--	--	In Place	10	10	10	10.5	NE	NE	NE	NTCRA	No, Depth NA
SWMU1TAA1-CF20-10	11/30/2023	SWMU1TAA1-CF20	SWMU1	10	10.5	No	--	--	--	In Place	10	10	10	10.5	NE	NE	NE	NTCRA	No, Depth NA
SWMU1TAA1-CF21-5	12/1/2023	SWMU1TAA1-CF21	SWMU1	5	5.5	No	--	--	--	In Place	5	5	5	5.5	NE	02-06	05-06, 05-10	NTCRA	Yes
SWMU1TAA1-CF22-10	12/19/2023	SWMU1TAA1-CF22	SWMU1	10	10.5	No	--	--	--	In Place	10	10	10	10.5	NE	NE	NE	NTCRA	No, Depth NA
SWMU1TAA1-CF3-10	10/11/2022	SWMU1TAA1-CF3	SWMU1	10	10.5	No	--	--	--	In Place	10	10	10	10.5	NE	NE	NE	NTCRA	No, Depth NA
SWMU1TAA1-CF4-10	10/13/2022	SWMU1TAA1-CF4	SWMU1	10	10.5	No	--	--	--	In Place	10	10	10	10.5	NE	NE	NE	NTCRA	No, Depth NA
SWMU1TAA1-CF5-8	1/18/2023	SWMU1TAA1-CF5	SWMU1	8	8.5	No	--	--	--	In Place	8	8	8	8.5	NE	NE	05-10	NTCRA	Yes
SWMU1TAA1-CF6-4	1/27/2023	SWMU1TAA1-CF6	SWMU1	4	4.5	No	--	--	--	In Place	4	4	4	4.5	NE	02-06	NE	NTCRA	Yes
SWMU1TAA1-CF7-6	2/1/2023	SWMU1TAA1-CF7	SWMU1	6	6.5	No	--	--	--	In Place	6	6	6	6.5	NE	NE	05-10	NTCRA	Yes
SWMU1TAA1-CF8-3	2/1/2023	SWMU1TAA1-CF8	SWMU1	3	3.5	No	--	--	--	Removed	--	0	--	--	NE	NE	NE	NTCRA	No, Excavated
SWMU1TAA1-CF9-6	2/16/2023	SWMU1TAA1-CF9	SWMU1	6	6.5	No	--	--	--	Removed	--	0	--	--	NE	NE	NE	NTCRA	No, Excavated
SWMU1TAA1-CF9a-7	2/28/2023	SWMU1TAA1-CF9a	SWMU1	7	7.5	No	--	--	--	In Place	7	7	7	7.5	NE	NE	05-10	NTCRA	Yes
SWMU1TAA1-CW1-5	10/8/2022	SWMU1TAA1-CW1	SWMU1	5	5.5	No	--	--	--	In Place	5	5	5	5.5	NE	02-06	05-06, 05-10	NTCRA	Yes
SWMU1TAA1-CW1-5FD	10/8/2022	SWMU1TAA1-CW1	SWMU1	5	5.5	No	--	--	--	In Place	5	5	5	5.5	NE	02-06	05-06, 05-10	NTCRA	Yes
SWMU1TAA1-CW10-2	2/1/2023	SWMU1TAA1-CW10	SWMU1	2	2.5	No	--	--	--	Removed	--	0	--	--	NE	NE	NE	NTCRA	No, Excavated
SWMU1TAA1-CW10a-2	2/16/2023	SWMU1TAA1-CW10a	SWMU1	2	2.5	No	--	--	--	In Place	2	2	2	2.5	0-3	02-03, 02-06	NE	NTCRA	Yes
SWMU1TAA1-CW11-1	2/1/2023	SWMU1TAA1-CW11	SWMU1	1	1.5	No	--	--	--	In Place	1	1	1	1.5	0-3	NE	NE	NTCRA	Yes
SWMU1TAA1-CW12-2	2/1/2023	SWMU1TAA1-CW12	SWMU1	2	2.5	No	--	--	--	Removed	--	0	--	--	NE	NE	NE	NTCRA	No, Excavated
SWMU1TAA1-CW13-4	2/16/2023	SWMU1TAA1-CW13	SWMU1	4	4.5	No	--	--	--	In Place	4	4	4	4.5	NE	02-06	NE	NTCRA	Yes
SWMU1TAA1-CW14-5	2/16/2023	SWMU1TAA1-CW14	SWMU1	5	5.5	No	--	--	--	In Place	5	5	5	5.5	NE	02-06	05-06, 05-10	NTCRA	Yes
SWMU1TAA1-CW15-2	2/16/2023	SWMU1TAA1-CW15	SWMU1	2	2.5	No	--	--	--	In Place	2	2	2	2.5	0-3	02-03, 02-06	NE	NTCRA	Yes
SWMU1TAA1-CW16-5	6/23/2023	SWMU1TAA1-CW16	SWMU1	5	5.5	No	--	--	--	In Place	5	5	5	5.5	NE	02-06	05-06, 05-10	NTCRA	Yes
SWMU1TAA1-CW17-5	9/19/2023	SWMU1TAA1-CW17	SWMU1	5	5.5	No	--	--	--	Removed	--	0	--	--	NE	NE	NE	NTCRA	No, Excavated
SWMU1TAA1-CW18-6	9/19/2023	SWMU1TAA1-CW18	SWMU1	6	6.5	No	--	--	--	Removed	--	0	--	--	NE	NE	NE	NTCRA	No, Excavated
SWMU1TAA1-CW19-5	9/19/2023	SWMU1TAA1-CW19	SWMU1	5	5.5	No	--	--	--	Removed	--	0	--	--	NE	NE	NE	NTCRA	No, Excavated
SWMU1TAA1-CW2-5	10/10/2022	SWMU1TAA1-CW2	SWMU1	5	5.5	No	--	--	--	Removed	--	0	--	--	NE	NE	NE	NTCRA	No, Excavated
SWMU1TAA1-CW20-6	9/22/2023	SWMU1TAA1-CW20	SWMU1	6	6.5	No	--	--	--	Removed	--	0	--	--	NE	NE	NE	NTCRA	No, Excavated
SWMU1TAA1-CW20a-5	10/25/2023	SWMU1TAA1-CW20a-5	SWMU1	5	5.5	No	--	--	--	In Place	5	5	5	5.5	NE	02-06	05-06, 05-10	NTCRA	Yes
SWMU1TAA1-CW21-6	9/27/2023	SWMU1TAA1-CW21	SWMU1	6	6.5	No	--	--	--	In Place	6	6	6	6.5	NE	NE	05-10	NTCRA	Yes
SWMU1TAA1-CW22-6	10/3/2023	SWMU1TAA1-CW22	SWMU1	6	6.5	No	--	--	--	In Place	6	6	6	6.5	NE	NE	05-10	NTCRA	Yes
SWMU1TAA1-CW23-2	10/3/2023	SWMU1TAA1-CW23	SWMU1	2	2.5	No	--	--	--	In Place	2	2	2	2.5	0-3	02-03, 02-06	NE	NTCRA	Yes
SWMU1TAA1-CW24-7	10/5/2023	SWMU1TAA1-CW24	SWMU1	7	7.5	No	--	--	--	Removed	--	0	--	--	NE	NE	NE	NTCRA	No, Excavated
SWMU1TAA1-CW24a-5	10/25/2023	SWMU1TAA1-CW24a	SWMU1	5	5.5	No	--	--	--	In Place	5	5	5	5.5	NE	02-06	05-06, 05-10	NTCRA	Yes
SWMU1TAA1-CW25-7	10/19/2023	SWMU1TAA1-CW25	SWMU1	7	7.5	No	--	--	--	Removed	--	0	--	--	NE	NE	NE	NTCRA	No, Excavated
SWMU1TAA1-CW25a-5	10/25/2023	SWMU1TAA1-CW25a	SWMU1	5	5.5	No	--	--	--	In Place	5	5	5	5.5	NE	02-06	05-06, 05-10	NTCRA	Yes

Table BCW-1.1
Samples and Sampling Locations Included in the BCW Potential Exposure Area

Post-Soil N T C R A Human Health and Ecological Risk Assessment Report
PG&E Topock Compressor Station
Needles, California

SampleID[a]	Sample Date	Location ID	RFI Area	Original Upper Depth (ft bgs)	Original Lower Depth (ft bgs)	Used for EPCs (2019 H H E R A)?	Original Baseline (ft bgs)	Original Scouring 2 ft	Original Scouring 5 ft	Excavation Status	Excavation Depth (ft)	Backfill Depth (ft)	Current Upper Depth (ft bgs)	Current Lower Depth (ft bgs)	Current Baseline (ft bgs)	Current Scouring 2 ft	Current Scouring 5 ft	Sample Source (2019 H H E R A, N T C R A, or R F I Addition)	Used for Post-N T C R A H H E R A EPCs?[b]
SWMU1TAA1-CW26-7	10/19/2023	SWMU1TAA1-CW26	SWMU1	7.5	8	No	--	--	--	Removed	--	0	--	--	NE	NE	NE	NTCRA	No, Excavated
SWMU1TAA1-CW26a-5	12/19/2023	SWMU1TAA1-CW26a	SWMU1	5	5.5	No	--	--	--	In Place	5	5	5	5.5	NE	02-06	05-06, 05-10	NTCRA	Yes
SWMU1TAA1-CW27-5	10/25/2023	SWMU1TAA1-CW27	SWMU1	5	5.5	No	--	--	--	In Place	5	5	5	5.5	NE	02-06	05-06, 05-10	NTCRA	Yes
SWMU1TAA1-CW27-FD	10/25/2023	SWMU1TAA1-CW27	SWMU1	5	5.5	No	--	--	--	In Place	5	5	5	5.5	NE	02-06	05-06, 05-10	NTCRA	Yes
SWMU1TAA1-CW28-5	10/25/2023	SWMU1TAA1-CW28	SWMU1	5	5.5	No	--	--	--	In Place	5	5	5	5.5	NE	02-06	05-06, 05-10	NTCRA	Yes
SWMU1TAA1-CW29-5	11/14/2023	SWMU1TAA1-CW29	SWMU1	5	5.5	No	--	--	--	Removed	--	0	--	--	NE	NE	NE	NTCRA	No, Excavated
SWMU1TAA1-CW29a-4	11/29/2023	SWMU1TAA1-CW29a	SWMU1	4	4.5	No	--	--	--	In Place	4	4	4	4.5	NE	02-06	NE	NTCRA	Yes
SWMU1TAA1-CW2a-5	11/14/2023	SWMU1TAA1-CW2a	SWMU1	5	5.5	No	--	--	--	In Place	5	5	5	5.5	NE	02-06	05-06, 05-10	NTCRA	Yes
SWMU1TAA1-CW3-5	10/11/2022	SWMU1TAA1-CW3	SWMU1	5	5.5	No	--	--	--	Removed	--	0	--	--	NE	NE	NE	NTCRA	No, Excavated
SWMU1TAA1-CW30-5	11/30/2023	SWMU1TAA1-CW30	SWMU1	5	5.5	No	--	--	--	In Place	5	5	5	5.5	NE	02-06	05-06, 05-10	NTCRA	Yes
SWMU1TAA1-CW31-5	11/30/2023	SWMU1TAA1-CW31	SWMU1	5	5.5	No	--	--	--	In Place	5	5	5	5.5	NE	02-06	05-06, 05-10	NTCRA	Yes
SWMU1TAA1-CW32-4	12/1/2023	SWMU1TAA1-CW32	SWMU1	4	4.5	No	--	--	--	Removed	--	0	--	--	NE	NE	NE	NTCRA	No, Excavated
SWMU1TAA1-CW32a-4	12/8/2023	SWMU1TAA1-CW32a	SWMU1	4	4.5	No	--	--	--	In Place	4	4	4	4.5	NE	02-06	NE	NTCRA	Yes
SWMU1TAA1-CW32a-4FD	12/8/2023	SWMU1TAA1-CW32a	SWMU1	4	4.5	No	--	--	--	In Place	4	4	4	4.5	NE	02-06	NE	NTCRA	Yes
SWMU1TAA1-CW33-4	12/1/2023	SWMU1TAA1-CW33	SWMU1	4	4.5	No	--	--	--	In Place	4	4	4	4.5	NE	02-06	NE	NTCRA	Yes
SWMU1TAA1-CW34-4	12/1/2023	SWMU1TAA1-CW34	SWMU1	4	4.5	No	--	--	--	In Place	4	4	4	4.5	NE	02-06	NE	NTCRA	Yes
SWMU1TAA1-CW35-5	12/19/2023	SWMU1TAA1-CW35	SWMU1	5	5.5	No	--	--	--	In Place	5	5	5	5.5	NE	02-06	05-06, 05-10	NTCRA	Yes
SWMU1TAA1-CW36-3	12/20/2023	SWMU1TAA1-CW36	SWMU1	3	3.5	No	--	--	--	In Place	3	3	3	3.5	NE	02-06	NE	NTCRA	Yes
SWMU1TAA1-CW36-3FD	12/20/2023	SWMU1TAA1-CW36	SWMU1	3	3.5	No	--	--	--	In Place	3	3	3	3.5	NE	02-06	NE	NTCRA	Yes
SWMU1TAA1-CW37-3	12/20/2023	SWMU1TAA1-CW37	SWMU1	3	3.5	No	--	--	--	In Place	3	3	3	3.5	NE	02-06	NE	NTCRA	Yes
SWMU1TAA1-CW38-4	12/20/2023	SWMU1TAA1-CW38	SWMU1	4	4.5	No	--	--	--	In Place	4	4	4	4.5	NE	02-06	NE	NTCRA	Yes
SWMU1TAA1-CW39-4	12/20/2023	SWMU1TAA1-CW39	SWMU1	4	4.5	No	--	--	--	In Place	4	4	4	4.5	NE	02-06	NE	NTCRA	Yes
SWMU1TAA1-CW3a-5	6/23/2023	SWMU1TAA1-CW3a	SWMU1	5	5.5	No	--	--	--	In Place	5	5	5	5.5	NE	02-06	05-06, 05-10	NTCRA	Yes
SWMU1TAA1-CW4-5	10/11/2022	SWMU1TAA1-CW4	SWMU1	5	5.5	No	--	--	--	In Place	5	5	5	5.5	NE	02-06	05-06, 05-10	NTCRA	Yes
SWMU1TAA1-CW40-4	12/21/2023	SWMU1TAA1-CW40	SWMU1	4	4.5	No	--	--	--	In Place	4	4	4	4.5	NE	02-06	NE	NTCRA	Yes
SWMU1TAA1-CW5-5	10/13/2022	SWMU1TAA1-CW5	SWMU1	5	5.5	No	--	--	--	In Place	5	5	5	5.5	NE	02-06	05-06, 05-10	NTCRA	Yes
SWMU1TAA1-CW6-6	1/18/2023	SWMU1TAA1-CW6	SWMU1	6	6.5	No	--	--	--	In Place	6	6	6	6.5	NE	NE	05-10	NTCRA	Yes
SWMU1TAA1-CW7-5	1/18/2023	SWMU1TAA1-CW7	SWMU1	5	5.5	No	--	--	--	Removed	--	0	--	--	NE	NE	NE	NTCRA	No, Excavated
SWMU1TAA1-CW7a-5	11/14/2023	SWMU1TAA1-CW7a	SWMU1	5	5.5	No	--	--	--	In Place	5	5	5	5.5	NE	02-06	05-06, 05-10	NTCRA	Yes
SWMU1TAA1-CW7b-6	11/30/2023	SWMU1TAA1-CW7b	SWMU1	6	6.5	No	--	--	--	In Place	6	6	6	6.5	NE	NE	05-10	NTCRA	Yes
SWMU1TAA1-CW8-2	1/27/2023	SWMU1TAA1-CW8	SWMU1	2	2.5	No	--	--	--	In Place	2	2	2	2.5	0-3	02-03, 02-06	NE	NTCRA	Yes
SWMU1TAA1-CW8-2FD	1/27/2023	SWMU1TAA1-CW8	SWMU1	2	2.5	No	--	--	--	In Place	2	2	2	2.5	0-3	02-03, 02-06	NE	NTCRA	Yes
SWMU1TAA1-CW9-2	1/27/2023	SWMU1TAA1-CW9	SWMU1	2	2.5	No	--	--	--	In Place	2	2	2	2.5	0-3	02-03, 02-06	NE	NTCRA	Yes
SWMU1TAA1-PRE-1-2	7/19/2022	SWMU1TAA1-PRE-1	SWMU1	2	2.5	No	--	--	--	Removed	--	0	--	--	NE	NE	NE	NTCRA	No, Excavated
SWMU1TAA2-CF1-4	12/8/2023	SWMU1TAA2-CF1	SWMU1	4	4.5	No	--	--	--	In Place	4	4	4	4.5	NE	02-06	NE	NTCRA	Yes
SWMU1TAA2-CF2-4	12/11/2023	SWMU1TAA2-CF2	SWMU1	4	4.5	No	--	--	--	In Place	4	4	4	4.5	NE	02-06	NE	NTCRA	Yes
SWMU1TAA2-CF3-4	12/14/2023	SWMU1TAA2-CF3	SWMU1	4	4.5	No	--	--	--	In Place	4	4	4	4.5	NE	02-06	NE	NTCRA	Yes
SWMU1TAA2-CW1-3	12/8/2023	SWMU1TAA2-CW1	SWMU1	3	3.5	No	--	--	--	In Place	3	3	3	3.5	NE	02-06	NE	NTCRA	Yes
SWMU1TAA2-CW2-3	12/11/2023	SWMU1TAA2-CW2	SWMU1	3	3.5	No	--	--	--	In Place	3	3	3	3.5	NE	02-06	NE	NTCRA	Yes
SWMU1TAA2-CW3-3	12/11/2023	SWMU1TAA2-CW3	SWMU1	3	3.5	No	--	--	--	In Place	3	3	3	3.5	NE	02-06	NE	NTCRA	Yes
SWMU1TAA2-CW4-1.5	12/12/2023	SWMU1TAA2-CW4	SWMU1	1.5	2	No	--	--	--	In Place	1.5	1.5	1.5	2	0-3	02-03, 02-06	NE	NTCRA	Yes
SWMU1TAA2-CW5-3	12/14/2023	SWMU1TAA2-CW5	SWMU1	3	3.5	No	--	--	--	In Place	3	3	3	3.5	NE	02-06	NE	NTCRA	Yes
SWMU1TAA2-CW6-1.5	12/14/2023	SWMU1TAA2-CW6	SWMU1	1.5	2	No	--	--	--	In Place	1.5	1.5	1.5	2	0-3	02-03, 02-06	NE	NTCRA	Yes
SWMU1TAA2-CW6-FD-1.5	12/14/2023	SWMU1TAA2-CW6	SWMU1	1.5	2	No	--	--	--	In Place	1.5	1.5	1.5	2	0-3	02-03, 02-06	NE	NTCRA	Yes
SWMU1TAA2-CW7-3	12/15/2023	SWMU1TAA2-CW7	SWMU1	3	3.5	No	--	--	--	In Place	3	3	3	3.5	NE	02-06	NE	NTCRA	Yes
SWMU1TAA2-CW8-3	12/15/2023	SWMU1TAA2-CW8	SWMU1	3	3.5	No	--	--	--	In Place	3	3	3	3.5	NE	02-06	NE	NTCRA	Yes
SWMU1TAA3-CF1-3	11/28/2023	SWMU1TAA3-CF1	SWMU1	3	3.5	No	--	--	--	Removed	--	0	--	--	NE	NE	NE	NTCRA	No, Excavated
SWMU1TAA3-CF1a-3	12/4/2023	SWMU1TAA3-CF1a	SWMU1	3	3.5	No	--	--	--	In Place	3	0	0	0.5	0-0.5, 0-3	NE	NE	NTCRA	Yes
SWMU1TAA3-CW1-2	11/28/2023	SWMU1TAA3-CW1	SWMU1	2	2.5	No	--	--	--	In Place	2	0	0	0.5	0-0.5, 0-3	NE	NE	NTCRA	Yes
SWMU1TAA3-CW2-2	11/28/2023	SWMU1TAA3-CW2	SWMU1	2	2.5	No	--	--	--	Removed	--	0	--	--	NE	NE	NE	NTCRA	No, Excavated
SWMU1TAA3-CW3-2	11/28/2023	SWMU1TAA3-CW3	SWMU1	2	2.5	No	--	--	--	In Place	2	0	0	0.5	0-0.5, 0-3	NE	NE	NTCRA	Yes

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Samples and Sampling Locations Included in the BCW Potential Exposure Area

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PG&E Topock Compressor Station
Needles, California

SampleID[a]	Sample Date	Location ID	RFI Area	Original Upper Depth (ft bgs)	Original Lower Depth (ft bgs)	Used for EPCs (2019 H H E R A)?	Original Baseline (ft bgs)	Original Scouring 2 ft	Original Scouring 5 ft	Excavation Status	Excavation Depth (ft)	Backfill Depth (ft)	Current Upper Depth (ft bgs)	Current Lower Depth (ft bgs)	Current Baseline (ft bgs)	Current Scouring 2 ft	Current Scouring 5 ft	Sample Source (2019 H H E R A, N T C R A, or R F I Addition)	Used for Post-N T C R A H H E R A EPCs?[b]
SWMU1TAA3-CW4-2	11/28/2023	SWMU1TAA3-CW4	SWMU1	2	2.5	No	--	--	--	Removed	--	0	--	--	NE	NE	NE	NTCRA	No, Excavated
SWMU1TAA3-CW4a-1.5	1/12/2024	SWMU1TAA3-CW4a	SWMU1	1.5	2	No	--	--	--	In Place	1.5	0	0	0.5	0-0.5, 0-3	NE	NE	NTCRA	Yes
SWMU1TAA3-CW5-2	12/4/2023	SWMU1TAA3-CW5	SWMU1	2	2.5	No	--	--	--	In Place	2	0	0	0.5	0-0.5, 0-3	NE	NE	NTCRA	Yes
SWMU1-WP10-2068	10/5/2008	SWMU1-WP-10	SWMU1	0	0.5	Yes	0-0.5	--	--	Removed	--	0	--	--	NE	NE	NE	2019 H H E R A	No, Excavated
SWMU1-WP10-2069	10/5/2008	SWMU1-WP-10	SWMU1	2	3	Yes	0-03	S2-03	--	Removed	--	0	--	--	NE	NE	NE	2019 H H E R A	No, Excavated
SWMU1-WP10-2070	10/5/2008	SWMU1-WP-10	SWMU1	5	6	Yes	0-06	S2-06	S5-06	In Place	4	4	5	6	NE	02-06	05-06, 05-10	2019 H H E R A	Yes
SWMU1-WP10-2073	10/5/2008	SWMU1-WP-10	SWMU1	9	10	Yes	0-10	S2-10	S5-10	In Place	4	4	9	10	NE	NE	05-10	2019 H H E R A	Yes
SWMU1-WP-1h-2001	10/7/2008	SWMU1-WP-1h	SWMU1	0	0.5	Yes	0-0.5	--	--	Removed	--	0	--	--	NE	NE	NE	2019 H H E R A	No, Excavated
SWMU1-WP-1h-2002	10/7/2008	SWMU1-WP-1h	SWMU1	2	3	Yes	0-03	S2-03	--	Removed	--	0	--	--	NE	NE	NE	2019 H H E R A	No, Excavated
SWMU1-WP-1h-2003	10/7/2008	SWMU1-WP-1h	SWMU1	5	6	Yes	0-06	S2-06	S5-06	Removed	--	0	--	--	NE	NE	NE	2019 H H E R A	No, Excavated
SWMU1-WP-1h-2005	10/7/2008	SWMU1-WP-1h	SWMU1	9	10	Yes	0-10	S2-10	S5-10	Removed	--	0	--	--	NE	NE	NE	2019 H H E R A	No, Excavated
SWMU1-WP-3a-2006	10/14/2008	SWMU1-WP-3a	SWMU1	0	0.5	Yes	0-0.5	--	--	In Place	0	0	0	0.5	0-0.5, 0-3	NE	NE	2019 H H E R A	Yes
SWMU1-WP-3a-2007	10/14/2008	SWMU1-WP-3a	SWMU1	2	3	Yes	0-03	S2-03	--	In Place	0	0	2	3	0-3	02-03, 02-06	NE	2019 H H E R A	Yes
SWMU1-WP-3a-2008	10/14/2008	SWMU1-WP-3a	SWMU1	5	6	Yes	0-06	S2-06	S5-06	In Place	0	0	5	6	NE	02-06	05-06, 05-10	2019 H H E R A	Yes
SWMU1-WP-3a-2009	10/14/2008	SWMU1-WP-3a	SWMU1	7	8	Yes	0-10	S2-10	S5-10	In Place	0	0	7	8	NE	NE	05-10	2019 H H E R A	Yes
SWMU1-WP-3a-2010	10/14/2008	SWMU1-WP-3a	SWMU1	9	10	Yes	0-10	S2-10	S5-10	In Place	0	0	9	10	NE	NE	05-10	2019 H H E R A	Yes
SWMU1-WP-3a-2011	10/14/2008	SWMU1-WP-3a	SWMU1	9	10	Yes	0-10	S2-10	S5-10	In Place	0	0	9	10	NE	NE	05-10	2019 H H E R A	Yes
SWMU1-WP-3a-2012	10/14/2008	SWMU1-WP-3a	SWMU1	11	12	Yes	--	S2-12	S5-15	In Place	0	0	11	12	NE	NE	NE	2019 H H E R A	No, Depth NA
SWMU1-WP-3a-2013	10/14/2008	SWMU1-WP-3a	SWMU1	13	14	Yes	--	--	S5-15	In Place	0	0	13	14	NE	NE	NE	2019 H H E R A	No, Depth NA
SWMU1-WP-3h-2014	10/7/2008	SWMU1-WP-3h	SWMU1	0	0.5	Yes	0-0.5	--	--	Removed	--	0	--	--	NE	NE	NE	2019 H H E R A	No, Excavated
SWMU1-WP-3h-2015	10/7/2008	SWMU1-WP-3h	SWMU1	2	3	Yes	0-03	S2-03	--	Removed	--	0	--	--	NE	NE	NE	2019 H H E R A	No, Excavated
SWMU1-WP-3h-2016	10/7/2008	SWMU1-WP-3h	SWMU1	5	6	Yes	0-06	S2-06	S5-06	In Place	4	4	5	6	NE	02-06	05-06, 05-10	2019 H H E R A	Yes
SWMU1-WP-5a-2019	10/5/2008	SWMU1-WP-5a	SWMU1	0	0.5	Yes	0-0.5	--	--	In Place	0	0	0	0.5	0-0.5, 0-3	NE	NE	2019 H H E R A	Yes
SWMU1-WP-5a-2020	10/5/2008	SWMU1-WP-5a	SWMU1	2	3	Yes	0-03	S2-03	--	In Place	0	0	2	3	0-3	02-03, 02-06	NE	2019 H H E R A	Yes
SWMU1-WP-5a-2021	10/5/2008	SWMU1-WP-5a	SWMU1	5	6	Yes	0-06	S2-06	S5-06	In Place	0	0	5	6	NE	02-06	05-06, 05-10	2019 H H E R A	Yes
SWMU1-WP-5a-2022	10/5/2008	SWMU1-WP-5a	SWMU1	5	6	Yes	0-06	S2-06	S5-06	In Place	0	0	5	6	NE	02-06	05-06, 05-10	2019 H H E R A	Yes
SWMU1-WP-5a-2023	10/5/2008	SWMU1-WP-5a	SWMU1	7	8	Yes	0-10	S2-10	S5-10	In Place	0	0	7	8	NE	NE	05-10	2019 H H E R A	Yes
SWMU1-WP-5a-2024	10/5/2008	SWMU1-WP-5a	SWMU1	9	10	Yes	0-10	S2-10	S5-10	In Place	0	0	9	10	NE	NE	05-10	2019 H H E R A	Yes
SWMU1-WP-5a-2025	10/5/2008	SWMU1-WP-5a	SWMU1	11	12	Yes	--	S2-12	S5-15	In Place	0	0	11	12	NE	NE	NE	2019 H H E R A	No, Depth NA
SWMU1-WP-5a-2026	10/5/2008	SWMU1-WP-5a	SWMU1	13	14	Yes	--	--	S5-15	In Place	0	0	13	14	NE	NE	NE	2019 H H E R A	No, Depth NA
SWMU1-WP-5h-2027	10/7/2008	SWMU1-WP-5h	SWMU1	0	0.5	Yes	0-0.5	--	--	Removed	--	0	--	--	NE	NE	NE	2019 H H E R A	No, Excavated
SWMU1-WP-5h-2028	10/7/2008	SWMU1-WP-5h	SWMU1	2	3	Yes	0-03	S2-03	--	Removed	--	0	--	--	NE	NE	NE	2019 H H E R A	No, Excavated
SWMU1-WP-5h-2029	10/7/2008	SWMU1-WP-5h	SWMU1	5	5	Yes	0-06	S2-06	S5-06	In Place	4	4	5	5	NE	02-06	05-06, 05-10	2019 H H E R A	Yes
SWMU1-WP-6a-2032	10/5/2008	SWMU1-WP-6a	SWMU1	0	0.5	Yes	0-0.5	--	--	In Place	0	0	0	0.5	0-0.5, 0-3	NE	NE	2019 H H E R A	Yes
SWMU1-WP-6a-2033	10/5/2008	SWMU1-WP-6a	SWMU1	2	3	Yes	0-03	S2-03	--	In Place	0	0	2	3	0-3	02-03, 02-06	NE	2019 H H E R A	Yes
SWMU1-WP-6a-2034	10/5/2008	SWMU1-WP-6a	SWMU1	2	3	Yes	0-03	S2-03	--	In Place	0	0	2	3	0-3	02-03, 02-06	NE	2019 H H E R A	Yes
SWMU1-WP-6a-2035	10/5/2008	SWMU1-WP-6a	SWMU1	5	6	Yes	0-06	S2-06	S5-06	In Place	0	0	5	6	NE	02-06	05-06, 05-10	2019 H H E R A	Yes
SWMU1-WP-6a-2036	10/5/2008	SWMU1-WP-6a	SWMU1	7	8	Yes	0-10	S2-10	S5-10	In Place	0	0	7	8	NE	NE	05-10	2019 H H E R A	Yes
SWMU1-WP-6a-2037	10/5/2008	SWMU1-WP-6a	SWMU1	9	10	Yes	0-10	S2-10	S5-10	In Place	0	0	9	10	NE	NE	05-10	2019 H H E R A	Yes
SWMU1-WP-6a-2038	10/5/2008	SWMU1-WP-6a	SWMU1	11	12	Yes	--	S2-12	S5-15	In Place	0	0	11	12	NE	NE	NE	2019 H H E R A	No, Depth NA
SWMU1-WP-6a-2039	10/5/2008	SWMU1-WP-6a	SWMU1	13	14	Yes	--	--	S5-15	In Place	0	0	13	14	NE	NE	NE	2019 H H E R A	No, Depth NA
SWMU1-WP-6h-2040	10/6/2008	SWMU1-WP-6h	SWMU1	0	0.5	Yes	0-0.5	--	--	Removed	--	0	--	--	NE	NE	NE	2019 H H E R A	No, Excavated
SWMU1-WP-6h-2041	10/6/2008	SWMU1-WP-6h	SWMU1	2	3	Yes	0-03	S2-03	--	Removed	--	0	--	--	NE	NE	NE	2019 H H E R A	No, Excavated
SWMU1-WP-6h-2042	10/6/2008	SWMU1-WP-6h	SWMU1	5	6	Yes	0-06	S2-06	S5-06	In Place	4	4	5	6	NE	02-06	05-06, 05-10	2019 H H E R A	Yes
SWMU1-WP-6h-2043	10/6/2008	SWMU1-WP-6h	SWMU1	5	6	Yes	0-06	S2-06	S5-06	In Place	4	4	5	6	NE	02-06	05-06, 05-10	2019 H H E R A	Yes
SWMU1-WP-6h-2045	10/6/2008	SWMU1-WP-6h	SWMU1	9	10	Yes	0-10	S2-10	S5-10	In Place	4	4	9	10	NE	NE	05-10	2019 H H E R A	Yes
SWMU1-WP7-2046	10/6/2008	SWMU1-WP-7	SWMU1	0	0.5	Yes	0-0.5	--	--	Removed	--	0	--	--	NE	NE	NE	2019 H H E R A	No, Excavated
SWMU1-WP7-2047	10/6/2008	SWMU1-WP-7	SWMU1	2	3	Yes	0-03	S2-03	--	Removed	--	0	--	--	NE	NE	NE	2019 H H E R A	No, Excavated
SWMU1-WP7-2048	10/6/2008	SWMU1-WP-7	SWMU1	5	6	Yes	0-06	S2-06	S5-06	In Place	4	4	5	6	NE	02-06	05-06, 05-10	2019 H H E R A	Yes
SWMU1-WP7-2050	10/6/2008	SWMU1-WP-7	SWMU1	9	10	Yes	0-10	S2-10	S5-10	In Place	4	4	9	10	NE	NE	05-10	2019 H H E R A	Yes
SWMU1-WP8-2053	10/6/2008	SWMU1-WP-8	SWMU1	0	0.5	Yes	0-0.5	--	--	Removed	--	0	--	--	NE	NE	NE	2019 H H E R A	No, Excavated

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Needles, California

SampleID[a]	Sample Date	Location ID	RFI Area	Original Upper Depth (ft bgs)	Original Lower Depth (ft bgs)	Used for EPCs (2019 H H E R A)?	Original Baseline (ft bgs)	Original Scouring 2 ft	Original Scouring 5 ft	Excavation Status	Excavation Depth (ft)	Backfill Depth (ft)	Current Upper Depth (ft bgs)	Current Lower Depth (ft bgs)	Current Baseline (ft bgs)	Current Scouring 2 ft	Current Scouring 5 ft	Sample Source (2019 H H E R A, N T C R A, or R F I Addition)	Used for Post-N T C R A H H E R A EPCs?[b]
SWMU1-WP8-2054	10/6/2008	SWMU1-WP-8	SWMU1	2	3	Yes	0-03	S2-03	--	Removed	--	0	--	--	NE	NE	NE	2019 H H E R A	No, Excavated
SWMU1-WP8-2055	10/6/2008	SWMU1-WP-8	SWMU1	5	6	Yes	0-06	S2-06	S5-06	In Place	4	4	5	6	NE	02-06	05-06, 05-10	2019 H H E R A	Yes
SWMU1-WP8-2057	10/6/2008	SWMU1-WP-8	SWMU1	9	10	Yes	0-10	S2-10	S5-10	In Place	4	4	9	10	NE	NE	05-10	2019 H H E R A	Yes
SWMU1-WP9-2060	9/21/2008	SWMU1-WP-9	SWMU1	0	0.5	Yes	0-0.5	--	--	In Place	0	0	0	0.5	0-0.5, 0-3	NE	NE	2019 H H E R A	Yes
SWMU1-WP9-2061	9/21/2008	SWMU1-WP-9	SWMU1	2	3	Yes	0-03	S2-03	--	In Place	0	0	2	3	0-3	02-03, 02-06	NE	2019 H H E R A	Yes
SWMU1-WP9-2063	9/21/2008	SWMU1-WP-9	SWMU1	5	6	Yes	0-06	S2-06	S5-06	In Place	0	0	5	6	NE	02-06	05-06, 05-10	2019 H H E R A	Yes
SWMU1-WP9-2064	9/21/2008	SWMU1-WP-9	SWMU1	7	8	Yes	0-10	S2-10	S5-10	In Place	0	0	7	8	NE	NE	05-10	2019 H H E R A	Yes
SWMU1-WP9-2065	9/21/2008	SWMU1-WP-9	SWMU1	9	10	Yes	0-10	S2-10	S5-10	In Place	0	0	9	10	NE	NE	05-10	2019 H H E R A	Yes
SWMU1-WP9-2066	9/21/2008	SWMU1-WP-9	SWMU1	11	12	Yes	--	S2-12	S5-15	In Place	0	0	11	12	NE	NE	NE	2019 H H E R A	No, Depth NA
SWMU1-WP9-2067	9/21/2008	SWMU1-WP-9	SWMU1	13	14	Yes	--	--	S5-15	In Place	0	0	13	14	NE	NE	NE	2019 H H E R A	No, Depth NA
SWMU1-WP-T3a-2076	10/5/2008	SWMU1-WP-T3a	SWMU1	0	0.5	Yes	0-0.5	--	--	In Place	0	0	0	0.5	0-0.5, 0-3	NE	NE	2019 H H E R A	Yes
SWMU1-WP-T3a-2077	10/5/2008	SWMU1-WP-T3a	SWMU1	2	3	Yes	0-03	S2-03	--	In Place	0	0	2	3	0-3	02-03, 02-06	NE	2019 H H E R A	Yes
SWMU1-WP-T3a-2078	10/5/2008	SWMU1-WP-T3a	SWMU1	5	6	Yes	0-06	S2-06	S5-06	In Place	0	0	5	6	NE	02-06	05-06, 05-10	2019 H H E R A	Yes
SWMU1-WP-T3a-2080	10/5/2008	SWMU1-WP-T3a	SWMU1	7	8	Yes	0-10	S2-10	S5-10	In Place	0	0	7	8	NE	NE	05-10	2019 H H E R A	Yes
SWMU1-WP-T3a-2081	10/5/2008	SWMU1-WP-T3a	SWMU1	9	10	Yes	0-10	S2-10	S5-10	In Place	0	0	9	10	NE	NE	05-10	2019 H H E R A	Yes
SWMU1-WP-T3a-2082	10/5/2008	SWMU1-WP-T3a	SWMU1	11	12	Yes	--	S2-12	S5-15	In Place	0	0	11	12	NE	NE	NE	2019 H H E R A	No, Depth NA
SWMU1-WP-T3a-2083	10/5/2008	SWMU1-WP-T3a	SWMU1	13	14	Yes	--	--	S5-15	In Place	0	0	13	14	NE	NE	NE	2019 H H E R A	No, Depth NA
T-3-B	11/13/1998	T-3-B	SWMU1	0	0	Yes	0-0.5	--	--	Removed	--	0	--	--	NE	NE	NE	2019 H H E R A	No, Excavated
TCS-4-01	3/25/2014	TCS-4	AOC1	59	60	No	--	--	--	Removed	--	0	--	--	NE	NE	NE	2019 H H E R A	No, Excavated
TCS-4-02	3/25/2014	TCS-4	AOC1	113	113	No	--	--	--	Removed	--	0	--	--	NE	NE	NE	2019 H H E R A	No, Excavated
TCS4-E-05	3/1/2016	TCS4-E	AOC1	4	5	Yes	0-06	S2-06	S5-06	Removed	--	0	--	--	NE	NE	NE	2019 H H E R A	No, Excavated
TCS4-E-05D	3/1/2016	TCS4-E	AOC1	4	5	Yes	0-06	S2-06	S5-06	Removed	--	0	--	--	NE	NE	NE	2019 H H E R A	No, Excavated
TCS4-E-06	3/1/2016	TCS4-E	AOC1	5	6	Yes	0-06	S2-06	S5-06	Removed	--	0	--	--	NE	NE	NE	2019 H H E R A	No, Excavated
TCS4-N-05	3/1/2016	TCS4-N	AOC1	4	5	Yes	0-06	S2-06	S5-06	Removed	--	0	--	--	NE	NE	NE	2019 H H E R A	No, Excavated
TCS4-N-06	3/1/2016	TCS4-N	AOC1	5	6	Yes	0-06	S2-06	S5-06	Removed	--	0	--	--	NE	NE	NE	2019 H H E R A	No, Excavated
TCS4-S-05	3/1/2016	TCS4-S	AOC1	4	5	Yes	0-06	S2-06	S5-06	Removed	--	0	--	--	NE	NE	NE	2019 H H E R A	No, Excavated
TCS4-S-06	3/1/2016	TCS4-S	AOC1	5	6	Yes	0-06	S2-06	S5-06	Removed	--	0	--	--	NE	NE	NE	2019 H H E R A	No, Excavated
WP-1	6/30/1997	WP-1	SWMU1	0	0	Yes	0-0.5	--	--	Removed	--	0	--	--	NE	NE	NE	2019 H H E R A	No, Excavated
WP-2A	9/18/1997	WP-2	SWMU1	0	0	Yes	0-0.5	--	--	Removed	--	0	--	--	NE	NE	NE	2019 H H E R A	No, Excavated
WP-3-.5A	9/18/1997	WP-3	SWMU1	0.5	0.5	Yes	0-0.5	--	--	Removed	--	0	--	--	NE	NE	NE	2019 H H E R A	No, Excavated
WP-3-2A	9/18/1997	WP-3	SWMU1	2	2	Yes	0-03	S2-03	--	Removed	--	0	--	--	NE	NE	NE	2019 H H E R A	No, Excavated
WP-4A	9/18/1997	WP-4	SWMU1	0	0	Yes	0-0.5	--	--	Removed	--	0	--	--	NE	NE	NE	2019 H H E R A	No, Excavated
WP-5-0A	9/18/1997	WP-5	SWMU1	0	0	Yes	0-0.5	--	--	Removed	--	0	--	--	NE	NE	NE	2019 H H E R A	No, Excavated
WP-5-1A	9/18/1997	WP-5	SWMU1	1	1	Yes	0-03	--	--	Removed	--	0	--	--	NE	NE	NE	2019 H H E R A	No, Excavated
WP-5-2A	9/18/1997	WP-5	SWMU1	2	2	Yes	0-03	S2-03	--	Removed	--	0	--	--	NE	NE	NE	2019 H H E R A	No, Excavated
WP-5-3A	9/18/1997	WP-5	SWMU1	3	3	Yes	0-03	S2-03	--	Removed	--	0	--	--	NE	NE	NE	2019 H H E R A	No, Excavated
WP-5-4A	9/18/1997	WP-5	SWMU1	4	4	Yes	0-06	S2-06	--	In Place	4	4	4	4	NE	02-06	NE	2019 H H E R A	Yes
WP-6-0A	9/18/1997	WP-6	SWMU1	0	0	Yes	0-0.5	--	--	Removed	--	0	--	--	NE	NE	NE	2019 H H E R A	No, Excavated
WP-6-1A	9/18/1997	WP-6	SWMU1	1	1	Yes	0-03	--	--	Removed	--	0	--	--	NE	NE	NE	2019 H H E R A	No, Excavated
WP-6-2A	9/18/1997	WP-6	SWMU1	2	2	Yes	0-03	S2-03	--	Removed	--	0	--	--	NE	NE	NE	2019 H H E R A	No, Excavated
WP-Bank1	11/23/1998	WP-Bank1	SWMU1	0	0	Yes	0-0.5	--	--	Removed	--	0	--	--	NE	NE	NE	2019 H H E R A	No, Excavated
WP-Bank2	11/23/1998	WP-Bank2	SWMU1	0	0	Yes	0-0.5	--	--	Removed	--	0	--	--	NE	NE	NE	2019 H H E R A	No, Excavated
XMW-9-3	6/25/1997	XMW-9	AOC1	3	3	Yes	0-03	S2-03	--	In Place	0	0	3	3	0-3	02-03, 02-06	NE	2019 H H E R A	Yes
XMW-9-10	6/25/1997	XMW-9	AOC1	10	10	Yes	0-10	S2-10	S5-10	In Place	0	0	10	10	NE	NE	05-10	2019 H H E R A	Yes
XMW-9-30	6/25/1997	XMW-9	AOC1	30	30	No	--	--	--	In Place	0	0	30	30	NE	NE	NE	2019 H H E R A	No, Depth NA

Table BCW-1.1
Samples and Sampling Locations Included in the BCW Potential Exposure Area

Post-Soil N T C R A Human Health and Ecological Risk Assessment Report
PG&E Topock Compressor Station
Needles, California

SampleID[a]	Sample Date	Location ID	RFI Area	Original Upper Depth (ft bgs)	Original Lower Depth (ft bgs)	Used for EPCs (2019 H H E R A)?	Original Baseline (ft bgs)	Original Scouring 2 ft	Original Scouring 5 ft	Excavation Status	Excavation Depth (ft)	Backfill Depth (ft)	Current Upper Depth (ft bgs)	Current Lower Depth (ft bgs)	Current Baseline (ft bgs)	Current Scouring 2 ft	Current Scouring 5 ft	Sample Source (2019 H H E R A, N T C R A, or R F I Addition)	Used for Post-N T C R A H H E R A EPCs?[b]
XMW-9-50	6/25/1997	XMW-9	AOC1	50	50	No	--	--	--	In Place	0	0	50	50	NE	NE	NE	2019 H H E R A	No, Depth NA
XMW-9-70	6/25/1997	XMW-9	AOC1	70	70	No	--	--	--	In Place	0	0	70	70	NE	NE	NE	2019 H H E R A	No, Depth NA

Note:
[a] Samples evaluated in the 2019 HHERA for the 0 to 10 foot bgs interval for the baseline, 2 foot scouring, and 5 foot scouring for chromium, hexavalent chromium, copper, and dioxin TEQ are included in the table.
[b] Sample locations represent data evaluated in the Post-NTCRA HHERA for the 0 to 3 foot bgs interval in the baseline, 2 foot scouring, and 5 foot scouring scenarios.

Abbreviations:
"--" = not applicable
< = less than
> = greater than
A O C = area of concern
bgs = below ground surface
ft = foot
H H E R A = human health and ecological risk assessment
Depth NA = depth not applicable to the dataset
NE = not evaluated (i.e., sample was excavated or depth interval not applicable to the dataset)
N T C R A = non time critical removal action
R F I = RCRA Facility Investigation

Table BCW-2.1
Comparison of Soil Data for Non-Risk-Driving Constituents in the 2019 HHERA and NTCRA/RFI Additions for the Baseline (No Scouring) Scenario for BCW (0 to 0.5 foot bgs and 0 to 3 feet bgs)

Post-Soil N T C R A Human Health and Ecological Risk Assessment Report
PG&E Topock Compressor Station
Needles, California

Category[a]	Constituent	Units	Soil Depth Interval (ft bgs)	Detects	Total Samples	Frequency of Detection	Minimum Detect	Maximum Detect	Minimum Nondetect	Maximum Nondetect	Mean Detected	Kaplan Meier Mean	Median	Variance	Standard Deviation
HHERA	Lead	mg/kg	0-0.5	130	131	99	1.1	25	1.1	1.1	6.278	6.238	4.9	20.95	4.577
HHERA	Mercury	mg/kg	0-0.5	4	130	3	0.1	0.28	0.099	0.14	0.158	0.101	0.125	0.00683	0.0826
HHERA	Molybdenum	mg/kg	0-0.5	16	131	12	1	20	1	2.8	3.263	1.278	1.9	22.11	4.702
HHERA	Zinc	mg/kg	0-0.5	155	155	100	11.9	673	N/A	N/A	55.08	55.08	40	3968	62.99
HHERA	Lead	mg/kg	0-3	245	248	99	1.1	32	1	1.1	5.677	5.62	4	22.1	4.701
HHERA	Mercury	mg/kg	0-3	6	247	2	0.1	0.28	0.099	0.14	0.172	0.101	0.13	0.00654	0.0808
HHERA	Molybdenum	mg/kg	0-3	35	248	14	1	20	1	5.2	2.689	1.242	1.8	11.48	3.388
HHERA	Zinc	mg/kg	0-3	292	292	100	11.9	673	N/A	N/A	52.19	52.19	39	2874	53.61
NTCRA	Lead	mg/kg	0-0.5	5	5	100	2	35	N/A	N/A	11.72	11.72	8.5	177.4	13.32
NTCRA	Mercury	mg/kg	0-0.5	0	5	0	N/A	N/A	0.1	0.1	N/A	N/A	N/A	N/A	N/A
NTCRA	Molybdenum	mg/kg	0-0.5	1	5	20	2.2	2.2	1	1	2.2	1.24	2.2	N/A	N/A
NTCRA	Zinc	mg/kg	0-0.5	5	5	100	28	170	N/A	N/A	64	64	37	3602	60.01
NTCRA	Lead	mg/kg	0-3	13	13	100	2	35	N/A	N/A	7.769	7.769	4.4	75.78	8.705
NTCRA	Mercury	mg/kg	0-3	0	13	0	N/A	N/A	0.1	0.11	N/A	N/A	N/A	N/A	N/A
NTCRA	Molybdenum	mg/kg	0-3	1	13	8	2.2	2.2	1	1.1	2.2	1.092	2.2	N/A	N/A
NTCRA	Zinc	mg/kg	0-3	13	13	100	28	300	N/A	N/A	66.92	66.92	37	6314	79.46

Notes:
[a] The HHERA dataset is consistent with the 2019 HHERA (Arcadis 2019). The NTCRA dataset consists of 1) data collected as part of the NTCRA and 2) data collected after the submittal of the 2019 HHERA to support the RFI.

Abbreviations:
"--" = not applicable
AOC = area of concern
BCW = Bat Cave Wash
COPC = constituent of potential concern
COPEC = constituent of potential ecological concern
FOD = frequency of detection, percent
ft bgs = feet below ground surface
KM = Kaplan-Meier
mg/kg = milligrams per kilogram
NA = not applicable
ND = not detected
PG&E = Pacific Gas and Electric Company
NTCRA = non time critical removal action

References:
Arcadis. 2019. Final Soil Human Health and Ecological Risk Assessment Report, Topock Compressor Station, Needles, California.

Table BCW-2.2
Comparison of Soil Data for Non-Risk-Driving Constituents in the 2019 HHERA and NTCRA/RFI Additions for the 2-Foot Scouring Scenario for BCW (2 to 3 feet bgs and 2 to 6 feet bgs)

Post-Soil N T C R A Human Health and Ecological Risk Assessment Report
PG&E Topock Compressor Station
Needles, California

Category[a]	Constituent	Units	Soil Depth Interval (ft bgs)	Detects	Total Samples	Frequency of Detection	Minimum Detect	Maximum Detect	Minimum Nondetect	Maximum Nondetect	Mean Detected	Kaplan Meier Mean	Median	Variance	Standard Deviation
HHERA	Lead	mg/kg	2-3	114	116	98	1.1	32	1	1	4.954	4.885	3.35	22.7	4.765
HHERA	Mercury	mg/kg	2-3	2	116	2	0.13	0.27	0.099	0.14	0.2	0.101	0.2	0.0098	0.099
HHERA	Molybdenum	mg/kg	2-3	19	116	16	1	8.2	1	5.2	2.205	1.203	1.7	2.715	1.648
HHERA	Zinc	mg/kg	2-3	132	132	100	20.4	360	N/A	N/A	48.97	48.97	37.5	1697	41.2
HHERA	Lead	mg/kg	2-6	223	230	97	1	120	1	1.1	4.666	4.554	3	75.64	8.697
HHERA	Mercury	mg/kg	2-6	6	230	3	0.11	0.3	0.099	0.15	0.173	0.101	0.125	0.00763	0.0873
HHERA	Molybdenum	mg/kg	2-6	44	230	19	1	15	1	5.2	3.198	1.427	2.1	7.702	2.775
HHERA	Zinc	mg/kg	2-6	260	260	100	6.4	660	N/A	N/A	51.96	51.96	37.5	2955	54.36
NTCRA	Lead	mg/kg	2-3	7	7	100	3.1	12	N/A	N/A	5.757	5.757	4.2	10.22	3.197
NTCRA	Mercury	mg/kg	2-3	0	7	0	N/A	N/A	0.1	0.11	N/A	N/A	N/A	N/A	N/A
NTCRA	Molybdenum	mg/kg	2-3	0	7	0	N/A	N/A	1	1.1	N/A	N/A	N/A	N/A	N/A
NTCRA	Zinc	mg/kg	2-3	7	7	100	28	300	N/A	N/A	74	74	38	9958	99.79
NTCRA	Lead	mg/kg	2-6	60	61	98	1.3	12	1.3	1.3	3.897	3.854	3.4	5.462	2.337
NTCRA	Mercury	mg/kg	2-6	0	61	0	N/A	N/A	0.1	0.13	N/A	N/A	N/A	N/A	N/A
NTCRA	Molybdenum	mg/kg	2-6	0	61	0	N/A	N/A	1	1.3	N/A	N/A	N/A	N/A	N/A
NTCRA	Zinc	mg/kg	2-6	61	61	100	12	300	N/A	N/A	44.15	44.15	36	1378	37.13

Notes:
[a] The HHERA dataset is consistent with the 2019 HHERA (Arcadis 2019). The NTCRA dataset consists of 1) data collected as part of the NTCRA and 2) data collected after the submittal of the 2019 HHERA to support the RFI.

Abbreviations:
"--" = not applicable
AOC = area of concern
BCW = Bat Cave Wash
COPC = constituent of potential concern
COPEC = constituent of potential ecological concern
FOD = frequency of detection, percent
ft bgs = feet below ground surface
KM = Kaplan-Meier
mg/kg = milligrams per kilogram
NA = not applicable
ND = not detected
PG&E = Pacific Gas and Electric Company
NTCRA = non time critical removal action

References:
Arcadis. 2019. Final Soil Human Health and Ecological Risk Assessment Report, Topock Compressor Station, Needles, California.

Table BCW-2.3
Comparison of Soil Data for Non-Risk-Driving Constituents in the 2019 HHERA and NTCRA/RFI Additions for the 5-Foot Scouring Scenario for BCW (5 to 6 feet bgs and 5 to 10 feet bgs)

Post-Soil N T C R A Human Health and Ecological Risk Assessment Report
PG&E Topock Compressor Station
Needles, California

Category[a]	Constituent	Units	Soil Depth Interval (ft bgs)	Detects	Total Samples	Frequency of Detection	Minimum Detect	Maximum Detect	Minimum Nondetect	Maximum Nondetect	Mean Detected	Kaplan Meier Mean	Median	Variance	Standard Deviation
HHERA	Lead	mg/kg	5-6	109	114	96	1	120	1	1.1	4.365	4.218	2.7	131.6	11.47
HHERA	Mercury	mg/kg	5-6	4	114	4	0.11	0.3	0.099	0.15	0.16	0.101	0.115	0.00873	0.0935
HHERA	Molybdenum	mg/kg	5-6	25	114	22	1.1	15	1	2.1	3.952	1.652	3	10.39	3.223
HHERA	Zinc	mg/kg	5-6	127	127	100	15	660	N/A	N/A	55.4	55.4	37	4270	65.35
HHERA	Lead	mg/kg	5-10	222	239	93	1	120	1	1.2	3.585	3.401	2.6	66.48	8.154
HHERA	Mercury	mg/kg	5-10	9	226	4	0.11	0.34	0.099	0.15	0.183	0.102	0.12	0.00853	0.0923
HHERA	Molybdenum	mg/kg	5-10	39	239	16	0.071	18	0.2	5.2	3.715	0.778	2.4	15.14	3.891
HHERA	Zinc	mg/kg	5-10	252	252	100	15	660	N/A	N/A	51.26	51.26	38	2654	51.51
NTCRA	Lead	mg/kg	5-6	30	30	100	1.3	12	N/A	N/A	3.967	3.967	3.4	5.875	2.424
NTCRA	Mercury	mg/kg	5-6	0	30	0	N/A	N/A	0.1	0.12	N/A	N/A	N/A	N/A	N/A
NTCRA	Molybdenum	mg/kg	5-6	0	30	0	N/A	N/A	1	1.1	N/A	N/A	N/A	N/A	N/A
NTCRA	Zinc	mg/kg	5-6	30	30	100	32	130	N/A	N/A	44.43	44.43	39	402.9	20.07
NTCRA	Lead	mg/kg	5-10	46	46	100	1.3	12	N/A	N/A	4.2	4.2	3.5	6.415	2.533
NTCRA	Mercury	mg/kg	5-10	0	46	0	N/A	N/A	0.1	0.12	N/A	N/A	N/A	N/A	N/A
NTCRA	Molybdenum	mg/kg	5-10	1	46	2	1.8	1.8	1	1.1	1.8	1.017	1.8	N/A	N/A
NTCRA	Zinc	mg/kg	5-10	46	46	100	26	150	N/A	N/A	45.87	45.87	39.5	546.2	23.37

Notes:
[a] The HHERA dataset is consistent with the 2019 HHERA (Arcadis 2019). The NTCRA dataset consists of 1) data collected as part of the NTCRA and 2) data collected after the submittal of the 2019 HHERA to support the RFI.

Abbreviations:
"--" = not applicable
AOC = area of concern
BCW = Bat Cave Wash
COPC = constituent of potential concern
COPEC = constituent of potential ecological concern
FOD = frequency of detection, percent
ft bgs = feet below ground surface
KM = Kaplan-Meier
mg/kg = milligrams per kilogram
NA = not applicable
ND = not detected
PG&E = Pacific Gas and Electric Company
NTCRA = non time critical removal action

References:
Arcadis. 2019. Final Soil Human Health and Ecological Risk Assessment Report, Topock Compressor Station, Needles, California.

Table BCW-3.1
Summary Statistics for Depth-Weighted Soil Data and Exposure Point Concentrations for the Baseline (No Scouring) Scenario for BCW (0 to 0.5 foot bgs and 0 to 3 feet bgs)

Post-Soil N T C R A Human Health and Ecological Risk Assessment Report
PG&E Topock Compressor Station
Needles, California

Category	Constituent [a]	Units	Soil Depth Interval (ft bgs)	Detects	Total	Frequency of Detection	Minimum Detect	Maximum Detect	Minimum Nondetect	Maximum Nondetect	Mean Detected	Kaplan Meier Mean	Median	Variance	Standard Deviation	COPC/COPEC? [b]	EPC (Depth-Weighted UCL) [c,d]	EPC Basis (Depth-Weighted UCL)	EPC (Area-Weighted UCL) [c,d]	EPC Basis (Area-Weighted UCL)
Inorganics	Aluminum	mg/kg	0-0.5	38	38	100	5700	14000	NA	NA	8645	8645	8400	3321999	1823	--	--	--	--	--
Inorganics	Antimony	mg/kg	0-0.5	1	131	1	18	18	1	2.85	18	1.13	18	NA	NA	X	18	Max Detect	18	Max Detect
Inorganics	Arsenic	mg/kg	0-0.5	121	131	92	1.1	14	0.5	2.65	3.535	3.312	3.3	3.285	1.812	--	--	--	--	--
Inorganics	Barium	mg/kg	0-0.5	131	131	100	37	440	NA	NA	127.7	127.7	110	3344	57.82	--	--	--	--	--
Inorganics	Cadmium	mg/kg	0-0.5	7	131	5	1.1	1.5	0.5	1.4	1.329	0.544	1.4	0.019	0.138	--	--	--	--	--
Inorganics	Chromium, hexavalent	mg/kg	0-0.5	33	123	27	0.22	2.6	0.025	0.25	0.868	0.251	0.65	0.434	0.658	X	0.348	95% KM Approximate Gamma UCL	0.301	Bootstrap BCA 95UCL
Inorganics	Chromium, total	mg/kg	0-0.5	118	118	100	8.2	170	N/A	N/A	28.05	28.05	25	310.6	17.62	X	29.9	95% H-UCL	28.8	Bootstrap BCA 95UCL
Inorganics	Cobalt	mg/kg	0-0.5	130	130	100	3.7	12	NA	NA	7.698	7.698	7.55	1.984	1.409	X	7.9	95% Student's-t UCL	7.5	Bootstrap BCA 95UCL
Inorganics	Copper	mg/kg	0-0.5	118	118	100	4.3	85	N/A	N/A	13.35	13.35	13	61.34	7.832	X	14.5	95% Student's-t UCL	13.2	Bootstrap BCA 95UCL
Inorganics	Iron	mg/kg	0-0.5	43	43	100	4760	29000	NA	NA	18420	18420	18000	17442914	4176	--	--	--	--	--
Inorganics	Lead	mg/kg	0-0.5	130	131	99	1.1	25	0.55	0.55	6.278	6.234	4.9	20.95	4.577	X	6.96	95% KM Approximate Gamma UCL	6.75	Bootstrap BCA 95UCL
Inorganics	Manganese	mg/kg	0-0.5	43	43	100	67.4	420	NA	NA	244.1	244.1	250	2923	54.07	--	--	--	--	--
Inorganics	Mercury	mg/kg	0-0.5	4	130	3	0.1	0.28	0.0495	0.07	0.158	0.0528	0.125	0.00683	0.0826	X	0.0566	95% KM (t) UCL	0.0566	Bootstrap BCA 95UCL
Inorganics	Molybdenum	mg/kg	0-0.5	16	131	12	1	20	0.5	1.4	3.263	0.838	1.9	22.11	4.702	--	--	--	--	--
Inorganics	Nickel	mg/kg	0-0.5	155	155	100	3.6	35	NA	NA	12.89	12.89	13	17.77	4.216	--	--	--	--	--
Inorganics	Thallium	mg/kg	0-0.5	1	131	1	2.4	2.4	1	5.5	2.4	1.011	2.4	NA	NA	X	2.4	Max Detect	2.4	Max Detect
Inorganics	Vanadium	mg/kg	0-0.5	131	131	100	18	48	NA	NA	31.03	31.03	31	34.77	5.896	--	--	--	--	--
Inorganics	Zinc	mg/kg	0-0.5	155	155	100	11.9	673	NA	NA	55.08	55.08	40	3968	62.99	X	77.1	95% Chebyshev (Mean, Sd) UCL	55.9	Bootstrap BCA 95UCL
Semi-Volatile Organic Compounds	Bis (2-ethylhexyl) phthalate	µg/kg	0-0.5	1	68	1	2000	2000	165	1700	2000	192	2000	NA	NA	X	2000	Max Detect	2000	Max Detect
Polycyclic Aromatic Hydrocarbons	PAH low molecular weight	µg/kg	0-0.5	27	101	27	5.3	165	0	0	23.42	6.261	11	1226	35.02	X	27	99% KM (Chebyshev) UCL	10	Bootstrap BCA 95UCL
Polycyclic Aromatic Hydrocarbons	PAH high molecular weight	µg/kg	0-0.5	49	101	49	5.1	2650	0	0	222.6	108	76.2	188353	434	X	427	99% KM (Chebyshev) UCL	146	Bootstrap BCA 95UCL
Polycyclic Aromatic Hydrocarbons	Anthracene	µg/kg	0-0.5	3	99	3	6.1	9.7	2.5	175	7.567	2.66	6.9	3.573	1.89	X	9.7	Max Detect	9.7	Max Detect
Polycyclic Aromatic Hydrocarbons	Benzo (a) anthracene	µg/kg	0-0.5	29	101	29	5.3	210	2.5	175	28.81	10.31	14	1784	42.23	X	9.16	KM H-UCL	43.7	Bootstrap BCA 95UCL
Polycyclic Aromatic Hydrocarbons	Benzo (a) pyrene	µg/kg	0-0.5	30	101	30	5.4	350	2.5	175	33.31	12.02	13	4160	64.5	X	9.97	KM H-UCL	46.3	Bootstrap BCA 95UCL
Polycyclic Aromatic Hydrocarbons	Benzo (b) fluoranthene	µg/kg	0-0.5	38	101	38	5.1	720	2.5	175	54.34	22.48	18	14995	122.5	X	56.9	95% KM (Chebyshev) UCL	60.1	Bootstrap BCA 95UCL
Polycyclic Aromatic Hydrocarbons	Benzo (ghi) perylene	µg/kg	0-0.5	27	99	27	5.5	180	2.5	175	20.15	7.567	10	1119	33.45	X	16.1	95% KM (Chebyshev) UCL	43.6	Bootstrap BCA 95UCL
Polycyclic Aromatic Hydrocarbons	Benzo (k) fluoranthene	µg/kg	0-0.5	28	101	28	6.1	240	2.5	175	26.97	9.588	12.5	2064	45.43	X	8.42	KM H-UCL	44.6	Bootstrap BCA 95UCL
Polycyclic Aromatic Hydrocarbons	Chrysene	µg/kg	0-0.5	37	101	37	5.2	350	2.5	175	33.44	14.19	13	3765	61.36	X	12.6	KM H-UCL	48.1	Bootstrap BCA 95UCL
Polycyclic Aromatic Hydrocarbons	Dibenzo (a,h) anthracene	µg/kg	0-0.5	3	99	3	5.9	9.1	2.5	175	7.033	2.655	6.1	3.213	1.793	X	9.1	Max Detect	9.1	Max Detect
Polycyclic Aromatic Hydrocarbons	Fluoranthene	µg/kg	0-0.5	45	101	45	5.4	440	2.5	175	44.75	21.74	16	6520	80.75	X	20.9	KM H-UCL	53.8	Bootstrap BCA 95UCL
Polycyclic Aromatic Hydrocarbons	Indeno (1,2,3-cd) pyrene	µg/kg	0-0.5	23	99	23	5.3	180	2.5	175	18.79	6.49	10	1270	35.64	X	14.7	95% KM (Chebyshev) UCL	43.3	Bootstrap BCA 95UCL
Polycyclic Aromatic Hydrocarbons	Naphthalene	µg/kg	0-0.5	1	99	1	5.5	5.5	2.5	3.55	5.5	2.53	5.5	NA	NA	X	5.5	Max Detect	5.5	Max Detect
Polycyclic Aromatic Hydrocarbons	Phenanthrene	µg/kg	0-0.5	27	101	27	5.3	150	2.5	175	21.53	7.796	11	1023	31.98	X	16.2	95% KM (Chebyshev) UCL	41.9	Bootstrap BCA 95UCL
Polycyclic Aromatic Hydrocarbons	Pyrene	µg/kg	0-0.5	39	101	39	5.3	360	2.5	175	44.96	19.27	21	5073	71.23	X	18.5	KM H-UCL	51.2	Bootstrap BCA 95UCL
Polycyclic Aromatic Hydrocarbons	B(a)P equivalent	µg/kg	0-0.5	49	101	49	5.8	490	5.8	400	37.31	21.58	16	5388	73.41	--	--	--	--	--
Polychlorinated Biphenyls	Total PCBs	µg/kg	0-0.5	35	89	39	18	1340	0	36	190.9	75.47	96	72023	268.4	X	124	95% KM Approximate Gamma UCL	108	Bootstrap BCA 95UCL
Dioxins	TEQ Human	ng/kg	0-0.5	58	58	100	0.26	190	N/A	N/A	38.72	38.72	19	2463	49.63	X	52.2	95% Approximate Gamma UCL	48.9	Bootstrap BCA 95UCL
Dioxins	TEQ Avian	ng/kg	0-0.5	58	58	100	0.34	130	N/A	N/A	23.47	23.47	11.5	963.4	31.04	X	31.4	95% Approximate Gamma UCL	31.1	Bootstrap BCA 95UCL
Dioxins	TEQ Mammals	ng/kg	0-0.5	58	58	100	0.26	190	N/A	N/A	38.72	38.72	19	2463	49.63	X [e]	52.2	95% Approximate Gamma UCL	48.9	Bootstrap BCA 95UCL
Dioxins	2,3,7,8-TCDD	ng/kg	0-0.5	9	67	13	0.17	67	0.0145	2.5	10.18	1.384	0.69	486.6	22.06	X	6.22	95% KM Approximate Gamma UCL	2.76	Bootstrap BCA 95UCL
Total Petroleum Hydrocarbons	TPH as diesel	mg/kg	0-0.5	10	71	14	10.1	28.9	5	5.5	15.94	6.541	14.2	31.29	5.593	X	7.44	95% KM (t) UCL	9.36	Bootstrap BCA 95UCL
Total Petroleum Hydrocarbons	TPH as motor oil	mg/kg	0-0.5	38	71	54	10.9	168	5	5.5	40.56	24.03	26.1	1411	37.57	X	28.9	KM H-UCL	27	Bootstrap BCA 95UCL
Miscellaneous	Chloride	mg/kg	0-0.5	2	2	100	46	227	NA	NA	136.5	136.5	136.5	16381	128	X	227	Max Detect	227	Max Detect
Miscellaneous	Nitrate	mg/kg	0-0.5	2	2	100	8	54	NA	NA	31	31	31	1058	32.53	X	54	Max Detect	54	Max Detect
Miscellaneous	Phosphate	mg/kg	0-0.5	2	2	100	161	358	NA	NA	259.5	259.5	259.5	19405	139.3	X	358	Max Detect	358	Max Detect
Miscellaneous	Sulfate	mg/kg	0-0.5	2	2	100	448	1010	NA	NA	729	729	729	157922	397.4	X	1010	Max Detect	1010	Max Detect

Table BCW-3.1
Summary Statistics for Depth-Weighted Soil Data and Exposure Point Concentrations for the Baseline (No Scouring) Scenario for BCW (0 to 0.5 foot bgs and 0 to 3 feet bgs)

Post-Soil N T C R A Human Health and Ecological Risk Assessment Report
PG&E Topock Compressor Station
Needles, California

Category	Constituent [a]	Units	Soil Depth Interval (ft bgs)	Detects	Total	Frequency of Detection	Minimum Detect	Maximum Detect	Minimum Nondetect	Maximum Nondetect	Mean Detected	Kaplan Meier Mean	Median	Variance	Standard Deviation	COPC/COPEC? [b]	EPC (Depth-Weighted UCL) [c,d]	EPC Basis (Depth-Weighted UCL)	EPC (Area-Weighted UCL) [c,d]	EPC Basis (Area-Weighted UCL)
Inorganics	Aluminum	mg/kg	0-3	38	38	100	5700	14000	NA	NA	8671	8671	8400	3279296	1811	--	--	--	--	--
Inorganics	Antimony	mg/kg	0-3	2	132	2	5	12.8	1	2.87	8.9	1.12	8.9	30.42	5.515	X	12.8	Max Detect	12.8	Max Detect
Inorganics	Arsenic	mg/kg	0-3	126	132	95	0.9	11.8	0.5	0.55	3.363	3.233	3.235	2.354	1.534	--	--	--	--	--
Inorganics	Barium	mg/kg	0-3	132	132	100	35.3	700	NA	NA	128.7	128.7	116	4383	66.21	--	--	--	--	--
Inorganics	Cadmium	mg/kg	0-3	7	132	5	1.1	1.37	0.5	1.42	1.261	0.541	1.3	0.0123	0.111	--	--	--	--	--
Inorganics	Chromium, hexavalent	mg/kg	0-3	56	133	42	0.143	7.8	0.025	0.453	0.706	0.318	0.364	1.16	1.077	X	0.429	95% KM (t) UCL	0.556	Bootstrap BCA 95UCL
Inorganics	Chromium, total	mg/kg	0-3	128	128	100	9.03	920	N/A	N/A	34.68	34.68	24.5	6509	80.68	X	46.5	95% Student's-t UCL	62.0	Bootstrap BCA 95UCL
Inorganics	Cobalt	mg/kg	0-3	131	131	100	3.7	12.2	NA	NA	7.771	7.771	7.73	1.496	1.223	X	7.95	95% Student's-t UCL	7.67	Bootstrap BCA 95UCL
Inorganics	Copper	mg/kg	0-3	128	128	100	5.17	59.7	N/A	N/A	12.91	12.91	12	31.42	5.605	X	13.7	95% Student's-t UCL	12.6	Bootstrap BCA 95UCL
Inorganics	Iron	mg/kg	0-3	43	43	100	4760	29000	NA	NA	18436	18436	18000	17163643	4143	--	--	--	--	--
Inorganics	Lead	mg/kg	0-3	132	132	100	0.733	25	NA	NA	6.01	6.01	4.685	18.24	4.271	X	6.77	95% H-UCL	6.24	Bootstrap BCA 95UCL
Inorganics	Manganese	mg/kg	0-3	43	43	100	67.4	420	NA	NA	247.8	247.8	250	3465	58.86	--	--	--	--	--
Inorganics	Mercury	mg/kg	0-3	4	132	3	0.0967	0.277	0.0497	0.07	0.151	0.0528	0.115	0.00729	0.0854	X	0.0564	95% KM (t) UCL	0.0557	Bootstrap BCA 95UCL
Inorganics	Molybdenum	mg/kg	0-3	26	132	20	0.667	13.5	0.5	1.57	2.072	0.811	1.165	6.918	2.63	--	--	--	--	--
Inorganics	Nickel	mg/kg	0-3	157	157	100	3.6	35	NA	NA	12.79	12.79	12.7	14.53	3.812	--	--	--	--	--
Inorganics	Selenium	mg/kg	0-3	2	132	2	0.7	1.17	0.5	1.42	0.935	0.507	0.935	0.11	0.332	--	--	--	--	--
Inorganics	Thallium	mg/kg	0-3	1	132	1	1.95	1.95	1	4.4	1.95	1.008	1.95	NA	NA	X	1.95	Max Detect	1.95	Max Detect
Inorganics	Vanadium	mg/kg	0-3	132	132	100	18	44.7	NA	NA	31.11	31.11	31.3	23.94	4.893	--	--	--	--	--
Inorganics	Zinc	mg/kg	0-3	157	157	100	15	673	NA	NA	55.88	55.88	41.3	3920	62.61	X	64.6	95% Modified-t UCL	54.1	Bootstrap BCA 95UCL
Volatile Organic Compounds	Methyl acetate	µg/kg	0-3	2	35	6	6.6	12	1.9	9.5	9.3	2.327	9.3	14.58	3.818	X	12	Max Detect	12	Max Detect
Semi-Volatile Organic Compounds	Bis (2-ethylhexyl) phthalate	µg/kg	0-3	2	68	3	380	2000	165	1700	1190	195.3	1190	1312200	1146	X	2000	Max Detect	2000	Max Detect
Polycyclic Aromatic Hydrocarbons	PAH low molecular weight	µg/kg	0-3	35	102	34	1.67	165	0	0	16.9	5.798	8	910.8	30.18	X	25	99% KM (Chebyshev) UCL	8.4	Bootstrap BCA 95UCL
Polycyclic Aromatic Hydrocarbons	PAH high molecular weight	µg/kg	0-3	58	102	57	1.7	2650	0	0	171.8	97.67	60	150668	388.2	X	174	95% KM Approximate Gamma UCL	128	Bootstrap BCA 95UCL
Polycyclic Aromatic Hydrocarbons	Anthracene	µg/kg	0-3	3	100	3	4.97	9.7	2.5	175	7.19	2.647	6.9	5.656	2.378	X	9.7	Max Detect	9.7	Max Detect
Polycyclic Aromatic Hydrocarbons	Benzo (a) anthracene	µg/kg	0-3	37	102	36	3.5	210	2.5	175	21.74	9.707	10.9	1393	37.32	X	8.71	KM H-UCL	43.5	Bootstrap BCA 95UCL
Polycyclic Aromatic Hydrocarbons	Benzo (a) pyrene	µg/kg	0-3	37	102	36	3.6	350	2.5	175	26.69	11.61	12	3414	58.43	X	9.75	KM H-UCL	45.5	Bootstrap BCA 95UCL
Polycyclic Aromatic Hydrocarbons	Benzo (b) fluoranthene	µg/kg	0-3	47	102	46	3.37	720	2.5	175	42.98	21.59	14	12219	110.5	X	55.2	95% KM (Chebyshev) UCL	57	Bootstrap BCA 95UCL
Polycyclic Aromatic Hydrocarbons	Benzo (ghi) perylene	µg/kg	0-3	33	100	33	3.47	180	2.5	175	15.89	7.143	8.18	952.7	30.87	X	15.4	95% KM (Chebyshev) UCL	43.1	Bootstrap BCA 95UCL
Polycyclic Aromatic Hydrocarbons	Benzo (k) fluoranthene	µg/kg	0-3	33	102	32	4.13	240	2.5	175	21.94	9.073	10.6	1779	42.17	X	20.2	95% KM (Chebyshev) UCL	43.1	Bootstrap BCA 95UCL
Polycyclic Aromatic Hydrocarbons	Chrysene	µg/kg	0-3	43	102	42	4.37	350	2.5	175	27.24	13.26	10.2	3222	56.76	X	11.6	KM H-UCL	46.7	Bootstrap BCA 95UCL
Polycyclic Aromatic Hydrocarbons	Dibenzo (a,h) anthracene	µg/kg	0-3	4	100	4	4.77	6.93	2.5	175	5.488	2.635	5.125	0.981	0.99	X	2.77	95% KM (t) UCL	40.1	Bootstrap BCA 95UCL
Polycyclic Aromatic Hydrocarbons	Fluoranthene	µg/kg	0-3	52	102	51	4.67	294	2.5	175	34.7	19.29	12.6	3645	60.38	X	39.3	95% KM (Chebyshev) UCL	50.2	Bootstrap BCA 95UCL
Polycyclic Aromatic Hydrocarbons	Indeno (1,2,3-cd) pyrene	µg/kg	0-3	30	100	30	3.37	180	2.5	175	14.23	6.198	7.29	1012	31.81	X	14.2	95% KM (Chebyshev) UCL	42.2	Bootstrap BCA 95UCL
Polycyclic Aromatic Hydrocarbons	Naphthalene	µg/kg	0-3	2	100	2	5	5.5	2.33	3.43	5.25	2.388	5.25	0.125	0.354	X	5.5	Max Detect	5.5	Max Detect
Polycyclic Aromatic Hydrocarbons	Phenanthrene	µg/kg	0-3	35	102	34	3.4	150	2.5	175	16.37	7.456	8.18	742.3	27.24	X	15.2	95% KM (Chebyshev) UCL	41	Bootstrap BCA 95UCL
Polycyclic Aromatic Hydrocarbons	Pyrene	µg/kg	0-3	47	102	46	4.2	241	2.5	175	33.51	17.13	14	2803	52.94	X	17.1	KM H-UCL	48.2	Bootstrap BCA 95UCL
Polycyclic Aromatic Hydrocarbons	B(a)P equivalent	µg/kg	0-3	58	102	57	5.82	490	5.8	400	30.74	20.44	12.05	4520	67.23	--	--	--	--	--
Polychlorinated Biphenyls	Total PCBs	µg/kg	0-3	39	90	43	14.8	944	0	36	159.5	70.8	72	45519	213.4	X	110	95% KM Approximate Gamma UCL	76.9	Bootstrap BCA 95UCL
Dioxins	TEQ Human	ng/kg	0-3	66	66	100	0.25	154	N/A	N/A	28.04	28.04	12.9	1280	35.78	X	37.1	95% Approximate Gamma UCL	36.4	Bootstrap BCA 95UCL
Dioxins	TEQ Avian	ng/kg	0-3	66	66	100	0.3	102	N/A	N/A	16.85	16.85	7.515	481.7	21.95	X	22.1	95% Approximate Gamma UCL	23.1	Bootstrap BCA 95UCL
Dioxins	TEQ Mammals	ng/kg	0-3	66	66	100	0.25	154	N/A	N/A	28.04	28.04	12.9	1280	35.78	X	37.1	95% Approximate Gamma UCL	36.4	Bootstrap BCA 95UCL
Dioxins	2,3,7,8-TCDD	ng/kg	0-3	14	67	21	0.11	44.7	0.0172	2.5	5.214	1.112	0.794	150.6	12.27	X	0.395	KM H-UCL	2.06	Bootstrap BCA 95UCL
Total Petroleum Hydrocarbons	TPH as diesel	mg/kg	0-3	13	72	18	8.33	22.8	5	5.5	12.23	6.305	12	14.47	3.804	X	6.96	95% KM (t) UCL	8.17	Bootstrap BCA 95UCL
Total Petroleum Hydrocarbons	TPH as motor oil	mg/kg	0-3	49	72	68	6.67	117	5	5.5	31.23	22.85	21	770.7	27.76	X	29	95% KM Approximate Gamma UCL	23.4	Bootstrap BCA 95UCL

Table BCW-3.1
Summary Statistics for Depth-Weighted Soil Data and Exposure Point Concentrations for the Baseline (No Scouring) Scenario for BCW (0 to 0.5 foot bgs and 0 to 3 feet bgs)

Post-Soil N T C R A Human Health and Ecological Risk Assessment Report
PG&E Topock Compressor Station
Needles, California

Category	Constituent [a]	Units	Soil Depth Interval (ft bgs)	Detects	Total	Frequency of Detection	Minimum Detect	Maximum Detect	Minimum Nondetect	Maximum Nondetect	Mean Detected	Kaplan Meier Mean	Median	Variance	Standard Deviation	COPC/ COPEC? [b]	EPC (Depth-Weighted UCL) [c,d]	EPC Basis (Depth-Weighted UCL)	EPC (Area-Weighted UCL) [c,d]	EPC Basis (Area-Weighted UCL)
Miscellaneous	Chloride	mg/kg	0-3	2	2	100	46	227	NA	NA	136.5	136.5	136.5	16381	128	X	227	Max Detect	227	Max Detect
Miscellaneous	Nitrate	mg/kg	0-3	2	2	100	8	54	NA	NA	31	31	31	1058	32.53	X	54	Max Detect	54	Max Detect
Miscellaneous	Phosphate	mg/kg	0-3	2	2	100	161	358	NA	NA	259.5	259.5	259.5	19405	139.3	X	358	Max Detect	358	Max Detect
Miscellaneous	Sulfate	mg/kg	0-3	2	2	100	448	1010	NA	NA	729	729	729	157922	397.4	X	1010	Max Detect	1010	Max Detect

Notes:

[a] The constituents presented consists of analytes detected at least once at the Topock Compressor Station site and measured in soil in this exposure area. The datasets for chromium (total and hexavalent), copper, and dioxins (TEQ Human, TEQ Mammal, and TEQ Avian) were updated to reflect the non-time critical removal actions outlined in Arcadis (2024).

[b] COPCs selected in the 2019 Soil Risk Assessment (Arcadis 2019) were also evaluated in this Post-NTCRA HHERA; and only risk-driving COPECs were evaluated in this Post-NTCRA HHERA (see footnote e).

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

[d] EPCs and summary statistics were not calculated for some constituents (i.e., dioxin congeners and essential nutrients). Those data, if available, are presented in Attachment A1 of each exposure area-specific appendix in the Soil Human Health and Ecological Risk Assessment Report (Arcadis 2019).

[e] Identifed as a COPEC for the Post-NTCRA HHERA

Abbreviations:

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

References:

Arcadis. 2019. Final Soil Human Health and Ecological Risk Assessment Report, Topock Compressor Station, Needles, California.
Arcadis. 2024. Soil Risk Assessment Addendum: Proposed Approach to Update the Human Health and Ecological Risk Assessment after Completion of the 2023 Non-Time Critical Removal Action. January 30.

Table BCW-3.2
Summary Statistics for Depth-Weighted Soil Data and Exposure Point Concentrations for the 2-Foot Scouring Scenario for BCW (2 to 3 feet bgs and 2 to 6 feet bgs)

Post-Soil N T C R A Human Health and Ecological Risk Assessment Report
PG&E Topock Compressor Station
Needles, California

Category	Constituent [a]	Units	Soil Depth Interval (ft bgs)	Detects	Total	Frequency of Detection	Minimum Detect	Maximum Detect	Minimum Nondetect	Maximum Nondetect	Mean Detected	Kaplan Meier Mean	Median	Variance	Standard Deviation	COPC/ COPEC? [b]	EPC (Depth-Weighted UCL) [c,d]	EPC Basis (Depth-Weighted UCL)	EPC (Area-Weighted UCL) [c,d]	EPC Basis (Area-Weighted UCL)
Inorganics	Aluminum	mg/kg	2-3	3	3	100	6600	9900	NA	NA	8500	8500	9000	2910000	1706	--	--	--	--	--
Inorganics	Antimony	mg/kg	2-3	2	116	2	2.4	13	1	2.9	7.7	1.116	7.7	56.18	7.495	X	13	Max Detect	13	Max Detect
Inorganics	Arsenic	mg/kg	2-3	103	116	89	1.1	9.7	0.5	0.55	3.357	3.037	2.9	2.6	1.613	--	--	--	--	--
Inorganics	Barium	mg/kg	2-3	116	116	100	32	1900	NA	NA	134.2	134.2	110	29360	171.3	--	--	--	--	--
Inorganics	Cadmium	mg/kg	2-3	6	116	5	1	1.3	0.5	1.45	1.133	0.533	1.1	0.0107	0.103	--	--	--	--	--
Inorganics	Chromium, hexavalent	mg/kg	2-3	27	105	26	0.22	7.8	0.025	0.95	0.989	0.274	0.36	2.78	1.667	X	0.428	95% KM (t) UCL	0.63	Bootstrap BCA 95UCL
Inorganics	Chromium, total	mg/kg	2-3	105	105	100	10	920	N/A	N/A	35.56	35.56	22	8096	89.98	X	50.13	95% Student's-t UCL	71.8	Bootstrap BCA 95UCL
Inorganics	Cobalt	mg/kg	2-3	116	116	100	4.5	19	NA	NA	7.947	7.947	7.7	2.617	1.618	X	8.18	95% Approximate Gamma UCL	8.22	Bootstrap BCA 95UCL
Inorganics	Copper	mg/kg	2-3	105	105	100	6.1	29	N/A	N/A	11.39	11.39	10	16.63	4.078	X	12.05	95% Student's-t UCL	11.4	Bootstrap BCA 95UCL
Inorganics	Iron	mg/kg	2-3	3	3	100	14000	17000	NA	NA	15667	15667	16000	2333333	1528	--	--	--	--	--
Inorganics	Lead	mg/kg	2-3	114	116	98	1.1	32	0.5	0.5	4.954	4.877	3.35	22.7	4.765	X	6.8	95% KM (Chebyshev) UCL	5.38	Bootstrap BCA 95UCL
Inorganics	Manganese	mg/kg	2-3	3	3	100	210	720	NA	NA	383.3	383.3	220	85033	291.6	--	--	--	--	--
Inorganics	Mercury	mg/kg	2-3	2	116	2	0.13	0.27	0.0495	0.07	0.2	0.0521	0.2	0.0098	0.099	X	0.27	Max Detect	0.27	Max Detect
Inorganics	Molybdenum	mg/kg	2-3	19	116	16	1	8.2	0.5	2.6	2.205	0.783	1.7	2.715	1.648	--	--	--	--	--
Inorganics	Nickel	mg/kg	2-3	131	131	100	4.2	21	NA	NA	12.4	12.4	12	9.889	3.145	--	--	--	--	--
Inorganics	Selenium	mg/kg	2-3	2	116	2	1.1	2.5	0.5	1.45	1.8	0.522	1.8	0.98	0.99	--	--	--	--	--
Inorganics	Vanadium	mg/kg	2-3	116	116	100	19	42	NA	NA	31.27	31.27	32	23.92	4.891	--	--	--	--	--
Inorganics	Zinc	mg/kg	2-3	131	131	100	20.4	360	NA	NA	49.05	49.05	37.4	1706	41.31	X	55.3	95% Modified-t UCL	48.4	Bootstrap BCA 95UCL
Volatile Organic Compounds	Methyl acetate	µg/kg	2-3	2	29	7	6.6	12	1.9	9.5	9.3	2.416	9.3	14.58	3.818	X	12	Max Detect	12	Max Detect
Semi-Volatile Organic Compounds	Bis (2-ethylhexyl) phthalate	µg/kg	2-3	1	55	2	810	810	165	850	810	176.9	810	NA	NA	X	810	Max Detect	810	Max Detect
Polycyclic Aromatic Hydrocarbons	PAH low molecular weight	µg/kg	2-3	12	82	15	5.1	56.7	0	0	16.98	2.484	7.1	332.4	18.23	X	12.8	99% KM (Chebyshev) UCL	3.58	Bootstrap BCA 95UCL
Polycyclic Aromatic Hydrocarbons	PAH high molecular weight	µg/kg	2-3	19	82	23	5.1	973	0	0	154.7	35.84	80.2	54694	233.9	X	76.8	95% KM Approximate Gamma UCL	52.9	Bootstrap BCA 95UCL
Polycyclic Aromatic Hydrocarbons	Anthracene	µg/kg	2-3	1	82	1	6.9	6.9	2.5	13	6.9	2.554	6.9	NA	NA	X	6.9	Max Detect	6.9	Max Detect
Polycyclic Aromatic Hydrocarbons	Benzo (a) anthracene	µg/kg	2-3	13	82	16	5.4	100	2.5	13	21.42	5.506	9	783.7	27.99	X	11.9	95% KM (Chebyshev) UCL	7.38	Bootstrap BCA 95UCL
Polycyclic Aromatic Hydrocarbons	Benzo (a) pyrene	µg/kg	2-3	14	82	17	5.7	84	2.5	13	18.74	5.281	8.75	518.8	22.78	X	10.7	95% KM (Chebyshev) UCL	6.85	Bootstrap BCA 95UCL
Polycyclic Aromatic Hydrocarbons	Benzo (b) fluoranthene	µg/kg	2-3	17	82	21	5.1	140	2.5	13	24.56	7.084	10	1211	34.8	X	15.9	95% KM (Chebyshev) UCL	10.3	Bootstrap BCA 95UCL
Polycyclic Aromatic Hydrocarbons	Benzo (ghi) perylene	µg/kg	2-3	11	82	13	5.3	38	2.5	13	12.31	3.821	6.6	137.1	11.71	X	6.49	95% KM (Chebyshev) UCL	4.43	Bootstrap BCA 95UCL
Polycyclic Aromatic Hydrocarbons	Benzo (k) fluoranthene	µg/kg	2-3	12	82	15	6.3	53	2.5	13	18	4.776	11	212.5	14.58	X	6.58	95% KM Approximate Gamma UCL	5.66	Bootstrap BCA 95UCL
Polycyclic Aromatic Hydrocarbons	Chrysene	µg/kg	2-3	15	82	18	6.1	110	2.5	13	22.69	6.203	9.7	810.4	28.47	X	13.2	95% KM (Chebyshev) UCL	8.19	Bootstrap BCA 95UCL
Polycyclic Aromatic Hydrocarbons	Dibenzo (a,h) anthracene	µg/kg	2-3	1	82	1	11	11	2.5	13	11	2.605	11	NA	NA	X	11	Max Detect	11	Max Detect
Polycyclic Aromatic Hydrocarbons	Fluoranthene	µg/kg	2-3	17	82	21	8.7	220	2.5	13	36.58	9.57	18	2713	52.09	X	22.9	95% KM (Chebyshev) UCL	14.1	Bootstrap BCA 95UCL
Polycyclic Aromatic Hydrocarbons	Indeno (1,2,3-cd) pyrene	µg/kg	2-3	10	82	12	5.1	34	2.5	13	12.21	3.69	6.5	129.6	11.39	X	6.19	95% KM (Chebyshev) UCL	4.31	Bootstrap BCA 95UCL
Polycyclic Aromatic Hydrocarbons	Naphthalene	µg/kg	2-3	1	82	1	9.7	9.7	1.9	3.25	9.7	1.995	9.7	NA	NA	X	9.7	Max Detect	9.7	Max Detect
Polycyclic Aromatic Hydrocarbons	Phenanthrene	µg/kg	2-3	12	82	15	5.1	47	2.5	13	15.59	4.421	7.1	231.9	15.23	X	8.07	95% KM (Chebyshev) UCL	5.63	Bootstrap BCA 95UCL
Polycyclic Aromatic Hydrocarbons	Pyrene	µg/kg	2-3	17	82	21	7.4	200	2.5	13	32.66	8.759	15	2276	47.7	X	20.9	95% KM (Chebyshev) UCL	12.8	Bootstrap BCA 95UCL
Polycyclic Aromatic Hydrocarbons	B(a)P equivalent	µg/kg	2-3	19	82	23	6	110	5.8	30	23.35	9.884	13	827.4	28.76	--	--	--	--	--
Polychlorinated Biphenyls	Total PCBs	µg/kg	2-3	6	53	11	26.5	690	0	36	195.8	22.66	90.75	66725	258.3	X	48.1	95% KM (t) UCL	75.9	Bootstrap BCA 95UCL
Dioxins	TEQ Human	ng/kg	2-3	51	52	98	0.092	100	0.44	0.44	9.073	8.903	1.5	358.8	18.94	X	26.39	KM H-UCL	19.6	Bootstrap BCA 95UCL
Dioxins	TEQ Avian	ng/kg	2-3	51	52	98	0.099	70	0.42	0.42	5.688	5.583	1.1	146.5	12.1	X	10.77	KM H-UCL	11.6	Bootstrap BCA 95UCL
Dioxins	TEQ Mammals	ng/kg	2-3	51	52	98	0.092	100	0.44	0.44	9.073	8.903	1.5	358.8	18.94	X [e]	26.39	KM H-UCL	19.6	Bootstrap BCA 95UCL
Dioxins	2,3,7,8-TCDD	ng/kg	2-3	6	57	11	0.2	6.2	0.012	1.75	2.27	0.251	1.72	5.923	2.434	X	0.493	95% KM (t) UCL	0.708	Bootstrap BCA 95UCL
Total Petroleum Hydrocarbons	TPH as diesel	mg/kg	2-3	4	61	7	10.5	21.3	5	5.5	14.95	5.652	14	21.31	4.616	X	6.31	95% KM (t) UCL	6.19	Bootstrap BCA 95UCL
Total Petroleum Hydrocarbons	TPH as motor oil	mg/kg	2-3	30	61	49	10	276	5	5.5	32.21	18.38	15.65	2576	50.75	X	39.7	95% KM (Chebyshev) UCL	21.5	Bootstrap BCA 95UCL

Table BCW-3.2
Summary Statistics for Depth-Weighted Soil Data and Exposure Point Concentrations for the 2-Foot Scouring Scenario for BCW (2 to 3 feet bgs and 2 to 6 feet bgs)

Post-Soil N T C R A Human Health and Ecological Risk Assessment Report
PG&E Topock Compressor Station
Needles, California

Category	Constituent [a]	Units	Soil Depth Interval (ft bgs)	Detects	Total	Frequency of Detection	Minimum Detect	Maximum Detect	Minimum Nondetect	Maximum Nondetect	Mean Detected	Kaplan Meier Mean	Median	Variance	Standard Deviation	COPC/ COPEC? [b]	EPC (Depth-Weighted UCL) [c,d]	EPC Basis (Depth-Weighted UCL)	EPC (Area-Weighted UCL) [c,d]	EPC Basis (Area-Weighted UCL)
Inorganics	Aluminum	mg/kg	2-6	3	3	100	7200	9830	NA	NA	8927	8927	9750	2237633	1496	--	--	--	--	--
Inorganics	Antimony	mg/kg	2-6	5	120	4	2.04	10.4	1	2.9	5.834	1.202	6.49	13.85	3.722	X	1.4	95% KM (t) UCL	1.26	Bootstrap BCA 95UCL
Inorganics	Arsenic	mg/kg	2-6	115	120	96	0.65	19	0.5	0.55	3.413	3.292	3.03	6.3	2.51	--	--	--	--	--
Inorganics	Barium	mg/kg	2-6	120	120	100	29.5	1440	NA	NA	125.9	125.9	110	16194	127.3	--	--	--	--	--
Inorganics	Cadmium	mg/kg	2-6	7	120	6	0.725	1.25	0.5	1.45	1.079	0.534	1.1	0.0289	0.17	--	--	--	--	--
Inorganics	Chromium, hexavalent	mg/kg	2-6	68	171	40	0.0294	10.2	0.025	0.38	1.163	0.48	0.56	2.901	1.703	X	0.608	KM H-UCL	0.40	Bootstrap BCA 95UCL
Inorganics	Chromium, total	mg/kg	2-6	171	171	100	8.13	920	N/A	N/A	37.06	37.06	23.3	5377	73.33	X	46.33	95% Student's-t UCL	40.8	Bootstrap BCA 95UCL
Inorganics	Cobalt	mg/kg	2-6	120	120	100	4.88	16.3	NA	NA	7.981	7.981	7.825	2.041	1.429	X	8.2	95% Student's-t UCL	8.14	Bootstrap BCA 95UCL
Inorganics	Copper	mg/kg	2-6	171	171	100	3.2	28	N/A	N/A	11.29	11.29	11	12.64	3.555	X	11.75	95% H-UCL	11.0	Bootstrap BCA 95UCL
Inorganics	Iron	mg/kg	2-6	4	4	100	6790	17500	NA	NA	14073	14073	16000	24737692	4974	--	--	--	--	--
Inorganics	Lead	mg/kg	2-6	120	120	100	0.65	42	NA	NA	4.825	4.825	3.305	27.02	5.198	X	5.28	95% H-UCL	5.11	Bootstrap BCA 95UCL
Inorganics	Manganese	mg/kg	2-6	4	4	100	112	603	NA	NA	289.5	289.5	221.5	46347	215.3	--	--	--	--	--
Inorganics	Mercury	mg/kg	2-6	4	120	3	0.065	0.278	0.0496	0.0713	0.134	0.0524	0.0963	0.01	0.1	X	0.0562	95% KM (t) UCL	0.0554	Bootstrap BCA 95UCL
Inorganics	Molybdenum	mg/kg	2-6	36	120	30	0.65	8.2	0.5	2.21	2.183	1.009	1.4	4.038	2.01	--	--	--	--	--
Inorganics	Nickel	mg/kg	2-6	137	137	100	4.2	21.5	NA	NA	12.33	12.33	12.3	10.25	3.201	--	--	--	--	--
Inorganics	Selenium	mg/kg	2-6	2	120	2	1.23	2.2	0.5	1.45	1.715	0.52	1.715	0.47	0.686	--	--	--	--	--
Inorganics	Thallium	mg/kg	2-6	1	120	1	1.36	1.36	1	4.29	1.36	1.003	1.36	NA	NA	X	1.36	Max Detect	1.36	Max Detect
Inorganics	Vanadium	mg/kg	2-6	120	120	100	18.8	61	NA	NA	32.13	32.13	31.9	40.78	6.386	--	--	--	--	--
Inorganics	Zinc	mg/kg	2-6	137	137	100	6.4	283	NA	NA	51.55	51.55	38.2	1660	40.75	X	66.7	95% Chebyshev (Mean, Sd) UCL	46.8	Bootstrap BCA 95UCL
Volatile Organic Compounds	Methyl acetate	µg/kg	2-6	2	29	7	6.6	12	1.9	9.5	9.3	2.416	9.3	14.58	3.818	X	12	Max Detect	12	Max Detect
Semi-Volatile Organic Compounds	Bis (2-ethylhexyl) phthalate	µg/kg	2-6	2	55	4	216	810	165	680	513	177.7	513	176418	420	X	810	Max Detect	810	Max Detect
Polycyclic Aromatic Hydrocarbons	PAH low molecular weight	µg/kg	2-6	14	85	16	4.05	57.5	0	0	16.45	2.709	7.04	298.9	17.29	X	12.9	99% KM (Chebyshev) UCL	3.38	Bootstrap BCA 95UCL
Polycyclic Aromatic Hydrocarbons	PAH high molecular weight	µg/kg	2-6	22	85	26	3.03	1120	0	0	152.3	39.42	57.9	70673	265.8	X	87.1	95% KM Approximate Gamma UCL	52.6	Bootstrap BCA 95UCL
Polycyclic Aromatic Hydrocarbons	Anthracene	µg/kg	2-6	3	85	4	5.88	9.91	2.5	10.4	7.227	2.67	5.89	5.4	2.324	X	9.91	Max Detect	9.91	Max Detect
Polycyclic Aromatic Hydrocarbons	Benzo (a) anthracene	µg/kg	2-6	14	85	16	4.93	139	2.5	10.4	24.48	6.129	8.625	1429	37.8	X	5.02	KM H-UCL	8.03	Bootstrap BCA 95UCL
Polycyclic Aromatic Hydrocarbons	Benzo (a) pyrene	µg/kg	2-6	15	85	18	4.65	83.8	2.5	10.4	18.21	5.283	8.13	593.6	24.36	X	4.74	KM H-UCL	6.54	Bootstrap BCA 95UCL
Polycyclic Aromatic Hydrocarbons	Benzo (b) fluoranthene	µg/kg	2-6	19	85	22	4.46	154	2.5	10.4	25.56	7.667	11	1566	39.58	X	6.37	KM H-UCL	10.1	Bootstrap BCA 95UCL
Polycyclic Aromatic Hydrocarbons	Benzo (ghi) perylene	µg/kg	2-6	12	85	14	4	48.8	2.5	10.4	12.14	3.868	6.33	191.4	13.84	X	6.83	95% KM (Chebyshev) UCL	4.56	Bootstrap BCA 95UCL
Polycyclic Aromatic Hydrocarbons	Benzo (k) fluoranthene	µg/kg	2-6	13	85	15	5.36	78.3	2.5	10.4	19.42	5.094	11.7	430.9	20.76	X	4.76	KM H-UCL	5.92	Bootstrap BCA 95UCL
Polycyclic Aromatic Hydrocarbons	Chrysene	µg/kg	2-6	17	85	20	6.1	148	2.5	10.4	27.61	7.536	9.6	1478	38.45	X	6.25	KM H-UCL	8.56	Bootstrap BCA 95UCL
Polycyclic Aromatic Hydrocarbons	Dibenzo (a,h) anthracene	µg/kg	2-6	2	85	2	4.08	17.5	2.5	10.4	10.79	2.696	10.79	90.05	9.489	X	17.5	Max Detect	17.5	Max Detect
Polycyclic Aromatic Hydrocarbons	Fluoranthene	µg/kg	2-6	19	85	22	3.45	202	2.5	10.4	37.4	10.31	16.3	2965	54.45	X	8.29	KM H-UCL	13.3	Bootstrap BCA 95UCL
Polycyclic Aromatic Hydrocarbons	Indeno (1,2,3-cd) pyrene	µg/kg	2-6	10	85	12	4.48	45	2.5	10.4	13.02	3.744	5.95	193.5	13.91	X	6.56	95% KM (Chebyshev) UCL	4.41	Bootstrap BCA 95UCL
Polycyclic Aromatic Hydrocarbons	Naphthalene	µg/kg	2-6	1	85	1	7.86	7.86	1.93	8.16	7.86	2.001	7.86	NA	NA	X	7.86	Max Detect	7.86	Max Detect
Polycyclic Aromatic Hydrocarbons	Phenanthrene	µg/kg	2-6	14	85	16	4.69	49.5	2.5	10.4	15.39	4.631	7.98	207.4	14.4	X	8.26	95% KM (Chebyshev) UCL	5.42	Bootstrap BCA 95UCL
Polycyclic Aromatic Hydrocarbons	Pyrene	µg/kg	2-6	19	85	22	3.33	202	2.5	10.4	33.65	9.469	14	2755	52.49	X	7.55	KM H-UCL	12.3	Bootstrap BCA 95UCL
Polycyclic Aromatic Hydrocarbons	B(a)P equivalent	µg/kg	2-6	22	85	26	5.83	137	5.8	24	22.44	10.14	10.75	1068	32.68	--	--	--	--	--
Polychlorinated Biphenyls	Total PCBs	µg/kg	2-6	6	56	11	24.1	522	0	36	162.2	17.78	75.75	38821	197	X	36.7	95% KM (t) UCL	63.3	Bootstrap BCA 95UCL
Dioxins	TEQ Human	ng/kg	2-6	105	106	99	0.11	320	0.44	0.44	21.24	21.04	2.6	2423	49.22	X	28.95	95% KM (t) UCL	32.5	Bootstrap BCA 95UCL
Dioxins	TEQ Avian	ng/kg	2-6	105	106	99	0.16	130	0.42	0.42	9.783	9.693	1.9	408.3	20.21	X	12.94	95% KM (t) UCL	14.2	Bootstrap BCA 95UCL
Dioxins	TEQ Mammals	ng/kg	2-6	105	106	99	0.11	320	0.44	0.44	21.24	21.04	2.6	2423	49.22	X	28.95	95% KM (t) UCL	32.5	Bootstrap BCA 95UCL
Dioxins	2,3,7,8-TCDD	ng/kg	2-6	10	61	16	0.154	4.8	0.0155	1.64	1.426	0.248	0.612	2.48	1.575	X	0.429	95% KM (t) UCL	0.603	Bootstrap BCA 95UCL
Total Petroleum Hydrocarbons	TPH as diesel	mg/kg	2-6	6	62	10	7.38	78.8	5	5.5	23	6.742	12.75	758.8	27.55	X	6.7	KM H-UCL	9.03	Bootstrap BCA 95UCL
Total Petroleum Hydrocarbons	TPH as motor oil	mg/kg	2-6	37	62	60	7.63	948	5	5.5	50.06	31.89	14.4	24291	155.9	X	99.7	95% KM (Chebyshev) UCL	57.3	Bootstrap BCA 95UCL

Table BCW-3.2
Summary Statistics for Depth-Weighted Soil Data and Exposure Point Concentrations for the 2-Foot Scouring Scenario for BCW (2 to 3 feet bgs and 2 to 6 feet bgs)

Post-Soil N T C R A Human Health and Ecological Risk Assessment Report
PG&E Topock Compressor Station
Needles, California

Category	Constituent [a]	Units	Soil Depth Interval (ft bgs)	Detects	Total	Frequency of Detection	Minimum Detect	Maximum Detect	Minimum Nondetect	Maximum Nondetect	Mean Detected	Kaplan Meier Mean	Median	Variance	Standard Deviation	C O P C/ C O P E C? [b]	EPC (Depth-Weighted UCL) [c,d]	EPC Basis (Depth-Weighted UCL)	EPC (Area-Weighted UCL) [c,d]	EPC Basis (Area-Weighted UCL)
Miscellaneous	Chloride	mg/kg	2-6	1	1	100	34	34	NA	NA	34	NA	34	NA	NA	X	34	Max Detect	34	Max Detect
Miscellaneous	Nitrate	mg/kg	2-6	1	1	100	6	6	NA	NA	6	NA	6	NA	NA	X	6	Max Detect	6	Max Detect
Miscellaneous	Phosphate	mg/kg	2-6	1	1	100	8,8	8,8	NA	NA	8,8	NA	8,8	NA	NA	X	8,8	Max Detect	8,8	Max Detect
Miscellaneous	Sulfate	mg/kg	2-6	1	1	100	53	53	NA	NA	53	NA	53	NA	NA	X	53	Max Detect	53	Max Detect

Notes:

[a] The constituents presented consists of analytes detected at least once at the Topock Compressor Station site and measured in soil in this exposure area. The datasets for chromium (total and hexavalent), copper, and dioxins (TEQ Human, TEQ Mammal, and TEQ Avian) were updated to reflect the non-time critical removal actions outlined in Arcadis (2024).

[b] COPCs selected in the 2019 Soil Risk Assessment (Arcadis 2019) were also evaluated in this Post-NTCRA HHERA; and only risk-driving COPECs were evaluated in this Post-NTCRA HHERA (see footnote e).

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

[d] EPCs and summary statistics were not calculated for some constituents (i.e., dioxin congeners and essential nutrients). Those data, if available, are presented in Attachment A1 of each exposure area-specific appendix in the Soil Human Health and Ecological Risk Assessment Report (Arcadis 2019).

[e] Identifed as a COPEC for the Post-NTCRA HHERA.

Abbreviations:

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

References:

Arcadis. 2019. Final Soil Human Health and Ecological Risk Assessment Report, Topock Compressor Station, Needles, California.
Arcadis. 2024. Soil Risk Assessment Addendum: Proposed Approach to Update the Human Health and Ecological Risk Assessment after Completion of the 2023 Non-Time Critical Removal Action. January 30.

Table BCW-3.3
Summary Statistics for Depth-Weighted Soil Data and Exposure Point Concentrations for the 5-Foot Scouring Scenario for BCW (5 to 6 feet bgs and 5 to 10 feet bgs)

Post-Soil N T C R A Human Health and Ecological Risk Assessment Report
PG&E Topock Compressor Station
Needles, California

Category	Constituent [a]	Units	Soil Depth Interval (ft bgs)	Detects	Total	Frequency of Detection	Minimum Detect	Maximum Detect	Minimum Nondetect	Maximum Nondetect	Mean Detected	Kaplan Meier Mean	Median	Variance	Standard Deviation	COPC/COPEC? [b]	EPC (Depth-Weighted UCL) [c,d]	EPC Basis (Depth-Weighted UCL)	EPC (Area-Weighted UCL) [c,d]	EPC Basis (Area-Weighted UCL)
Inorganics	Aluminum	mg/kg	5-6	3	3	100	9000	12000	NA	NA	10200	10200	9600	2520000	1587	–	–	–	–	–
Inorganics	Antimony	mg/kg	5-6	4	111	4	1.05	6.9	1	1.55	3.888	1.104	3.8	6.674	2.583	X	1.23	95% KM (t) UCL	1.12	Bootstrap BCA 95UCL
Inorganics	Arsenic	mg/kg	5-6	97	111	87	0.5	19	0.5	0.55	3.195	2.855	2.7	5.488	2.343	–	–	–	–	–
Inorganics	Barium	mg/kg	5-6	111	111	100	22	420	NA	NA	100.4	100.4	95	2637	51.35	–	–	–	–	–
Inorganics	Cadmium	mg/kg	5-6	5	111	5	1.1	1.2	0.5	0.75	1.14	0.529	1.1	0.003	0.0548	–	–	–	–	–
Inorganics	Chromium, hexavalent	mg/kg	5-6	39	128	30	0.06	6.2	0.025	0.215	1.068	0.345	0.64	1.242	1.115	X	0.494	95% KM Approximate Gamma UCL	0.35	Bootstrap BCA 95UCL
Inorganics	Chromium, total	mg/kg	5-6	128	128	100	8.6	467	N/A	N/A	32.46	32.46	23	1941	44.05	X	38.91	95% Student's-t UCL	30.1	Bootstrap BCA 95UCL
Inorganics	Cobalt	mg/kg	5-6	111	111	100	3.3	15	NA	NA	8.249	8.249	7.9	3.381	1.839	X	8.54	95% Modified-t UCL	7.86	Bootstrap BCA 95UCL
Inorganics	Copper	mg/kg	5-6	128	128	100	5.3	64	N/A	N/A	11.2	11.2	9.8	37.99	6.163	X	12.1	95% Student's-t UCL	11.4	Bootstrap BCA 95UCL
Inorganics	Iron	mg/kg	5-6	3	3	100	17000	22000	NA	NA	19000	19000	18000	7000000	2646	–	–	–	–	–
Inorganics	Lead	mg/kg	5-6	107	111	96	0.5	120	0.5	0.55	4.287	4.15	2.7	134.1	11.58	X	8.86	95% KM (Chebyshev) UCL	7.81	Bootstrap BCA 95UCL
Inorganics	Manganese	mg/kg	5-6	3	3	100	220	260	NA	NA	243.3	243.3	250	433.3	20.82	–	–	–	–	–
Inorganics	Mercury	mg/kg	5-6	4	111	4	0.11	0.3	0.0495	0.075	0.16	0.0535	0.115	0.00873	0.0935	X	0.0582	95% KM (t) UCL	0.0552	Bootstrap BCA 95UCL
Inorganics	Molybdenum	mg/kg	5-6	24	111	22	0.5	15	0.5	1.05	3.533	1.156	2.7	9.751	3.123	–	–	–	–	–
Inorganics	Nickel	mg/kg	5-6	123	123	100	5.5	42	NA	NA	12.55	12.55	12	25.11	5.011	–	–	–	–	–
Inorganics	Selenium	mg/kg	5-6	2	111	2	1.3	1.6	0.5	0.75	1.45	0.517	1.45	0.045	0.212	–	–	–	–	–
Inorganics	Thallium	mg/kg	5-6	1	111	1	2.3	2.3	1	2.15	2.3	1.012	2.3	NA	NA	X	2.3	Max Detect	2.3	Max Detect
Inorganics	Vanadium	mg/kg	5-6	111	111	100	15	61	NA	NA	32.15	32.15	32	47.48	6.89	–	–	–	–	–
Inorganics	Zinc	mg/kg	5-6	123	123	100	15	660	NA	NA	53.8	53.8	37	4212	64.9	X	79.3	95% Chebyshev (Mean, Sd) UCL	63	Bootstrap BCA 95UCL
Semi-Volatile Organic Compounds	Bis (2-ethylhexyl) phthalate	µg/kg	5-6	1	52	2	370	370	165	175	370	168.9	370	NA	NA	X	370	Max Detect	370	Max Detect
Polycyclic Aromatic Hydrocarbons	PAH low molecular weight	µg/kg	5-6	3	79	4	35	182	0	0	98.33	3.734	78	5712	75.58	X	182	Max Detect	182	Max Detect
Polycyclic Aromatic Hydrocarbons	PAH high molecular weight	µg/kg	5-6	7	79	9	0	2870	0	0	587.4	52.05	75.6	1092330	1045	X	119	95% KM (t) UCL	120	Bootstrap BCA 95UCL
Polycyclic Aromatic Hydrocarbons	Anthracene	µg/kg	5-6	2	79	3	16	32	2.5	25	24	3.047	24	128	11.31	X	32	Max Detect	32	Max Detect
Polycyclic Aromatic Hydrocarbons	Benzo (a) anthracene	µg/kg	5-6	4	79	5	6	380	2.5	25	124.3	8.665	55.5	30156	173.7	X	18	95% KM (t) UCL	22	Bootstrap BCA 95UCL
Polycyclic Aromatic Hydrocarbons	Benzo (a) pyrene	µg/kg	5-6	4	79	5	2.7	170	2.5	28.5	56.25	5.223	26.15	6110	78.17	X	9.39	95% KM (t) UCL	9.63	Bootstrap BCA 95UCL
Polycyclic Aromatic Hydrocarbons	Benzo (b) fluoranthene	µg/kg	5-6	5	79	6	2.7	410	2.5	28.5	112.1	9.439	58	28856	169.9	X	28.7	95% KM Approximate Gamma UCL	19.7	Bootstrap BCA 95UCL
Polycyclic Aromatic Hydrocarbons	Benzo (ghi) perylene	µg/kg	5-6	4	79	5	7.5	81	2.5	28.5	30.43	3.921	16.6	1202	34.67	X	5.9	95% KM (t) UCL	5.6	Bootstrap BCA 95UCL
Polycyclic Aromatic Hydrocarbons	Benzo (k) fluoranthene	µg/kg	5-6	4	79	5	10	190	2.5	28.5	74.25	6.135	48.5	6344	79.65	X	10.9	95% KM (t) UCL	10.4	Bootstrap BCA 95UCL
Polycyclic Aromatic Hydrocarbons	Chrysene	µg/kg	5-6	5	79	6	2.7	400	2.5	25	113.7	9.537	65	27003	164.3	X	28.1	95% KM Approximate Gamma UCL	23.4	Bootstrap BCA 95UCL
Polycyclic Aromatic Hydrocarbons	Dibenzo (a,h) anthracene	µg/kg	5-6	2	79	3	8.8	37	2.5	28.5	22.9	3.019	22.9	397.6	19.94	X	37	Max Detect	37	Max Detect
Polycyclic Aromatic Hydrocarbons	Fluoranthene	µg/kg	5-6	6	79	8	6.3	560	2.5	25	147.6	13.52	45.5	47600	218.2	X	27.3	95% KM (t) UCL	26.8	Bootstrap BCA 95UCL
Polycyclic Aromatic Hydrocarbons	Indeno (1,2,3-cd) pyrene	µg/kg	5-6	3	79	4	6.4	78	2.5	28.5	36.8	3.808	26	1369	37	X	78	Max Detect	78	Max Detect
Polycyclic Aromatic Hydrocarbons	Phenanthrene	µg/kg	5-6	3	79	4	35	150	2.5	25	82.33	5.532	62	3616	60.14	X	150	Max Detect	150	Max Detect
Polycyclic Aromatic Hydrocarbons	Pyrene	µg/kg	5-6	6	79	8	5.8	560	2.5	25	134.2	12.51	41.5	46709	216.1	X	25.8	95% KM (t) UCL	27.2	Bootstrap BCA 95UCL
Polycyclic Aromatic Hydrocarbons	B(a)P equivalent	µg/kg	5-6	7	79	9	5.8	300	5.8	63	59.7	10.58	12	11772	108.5	–	–	–	–	–
Dioxins	TEQ Human	ng/kg	5-6	58	61	95	0.099	280	0.11	0.13	21.4	20.35	2.75	2331	48.28	X	30.47	95% KM (t) UCL	27.6	Bootstrap BCA 95UCL
Dioxins	TEQ Avian	ng/kg	5-6	58	61	95	0.11	100	0.18	0.3	9.372	8.919	1.9	345.7	18.59	X	18.8	KM H-UCL	11.01	Bootstrap BCA 95UCL
Dioxins	TEQ Mammals	ng/kg	5-6	58	61	95	0.099	280	0.11	0.13	21.4	20.35	2.75	2331	48.28	X	30.47	95% KM (t) UCL	27.6	Bootstrap BCA 95UCL
Dioxins	2,3,7,8-TCDD	ng/kg	5-6	5	46	11	0.23	1.2	0.0125	2.4	0.572	0.0771	0.5	0.143	0.378	X	0.137	95% KM (t) UCL	0.419	Bootstrap BCA 95UCL
Total Petroleum Hydrocarbons	TPH as diesel	mg/kg	5-6	2	57	4	14.5	300	5	5.5	157.3	10.34	157.3	40755	201.9	X	300	Max Detect	300	Max Detect
Total Petroleum Hydrocarbons	TPH as motor oil	mg/kg	5-6	25	57	44	10.9	3700	5	5.5	170.1	77.41	19.4	540927	735.5	X	363	95% KM (Chebyshev) UCL	333	Bootstrap BCA 95UCL

Table BCW-3.3
Summary Statistics for Depth-Weighted Soil Data and Exposure Point Concentrations for the 5-Foot Scouring Scenario for BCW (5 to 6 feet bgs and 5 to 10 feet bgs)

Post-Soil N T C R A Human Health and Ecological Risk Assessment Report
PG&E Topock Compressor Station
Needles, California

Category	Constituent [a]	Units	Soil Depth Interval (ft bgs)	Detects	Total	Frequency of Detection	Minimum Detect	Maximum Detect	Minimum Nondetect	Maximum Nondetect	Mean Detected	Kaplan Meier Mean	Median	Variance	Standard Deviation	COPC/COPEC? [b]	EPC (Depth-Weighted UCL) [c,d]	EPC Basis (Depth-Weighted UCL)	EPC (Area-Weighted UCL) [c,d]	EPC Basis (Area-Weighted UCL)
Inorganics	Aluminum	mg/kg	5-10	3	3	100	9100	11500	NA	NA	10160	10160	9880	1498800	1224	–	–	–	–	–
Inorganics	Antimony	mg/kg	5-10	5	114	4	1.05	6.9	1	1.48	3.948	1.129	4.5	5.318	2.306	X	1.26	95% KM (t) UCL	1.11	Bootstrap BCA 95UCL
Inorganics	Arsenic	mg/kg	5-10	109	114	96	0.5	19	0.5	0.55	3.019	2.908	2.62	4.923	2.219	–	–	–	–	–
Inorganics	Barium	mg/kg	5-10	127	127	100	24.2	364	NA	NA	99.86	99.86	95.6	2057	45.36	–	–	–	–	–
Inorganics	Cadmium	mg/kg	5-10	6	114	5	0.7	1.2	0.5	0.72	1.052	0.529	1.12	0.0352	0.188	–	–	–	–	–
Inorganics	Chromium, hexavalent	mg/kg	5-10	57	147	39	0.0565	14	0.025	0.213	1.473	0.589	0.852	4.373	2.091	X	0.825	KM H-UCL	0.38	Bootstrap BCA 95UCL
Inorganics	Chromium, total	mg/kg	5-10	147	147	100	8.55	3300	N/A	N/A	57.71	57.71	23	74255	272.5	X	94.91	95% Student's-t UCL	73.2	Bootstrap BCA 95UCL
Inorganics	Cobalt	mg/kg	5-10	114	114	100	4.64	13.4	NA	NA	8.24	8.24	7.96	2.49	1.578	X	8.49	95% Modified-t UCL	8.05	Bootstrap BCA 95UCL
Inorganics	Copper	mg/kg	5-10	147	147	100	5.6	52.8	N/A	N/A	11.4	11.4	10	26.6	5.157	X	12.1	95% Student's-t UCL	10.6	Bootstrap BCA 95UCL
Inorganics	Iron	mg/kg	5-10	16	16	100	7220	22600	NA	NA	14087	14087	14450	18292970	4277	–	–	–	–	–
Inorganics	Lead	mg/kg	5-10	126	127	99	0.5	96.4	0.54	0.54	3.81	3.784	2.62	74.23	8.616	X	7.11	95% KM (Chebyshev) UCL	6.16	Bootstrap BCA 95UCL
Inorganics	Manganese	mg/kg	5-10	16	16	100	114	345	NA	NA	215.3	215.3	213.5	3518	59.31	–	–	–	–	–
Inorganics	Mercury	mg/kg	5-10	7	114	6	0.076	0.308	0.0496	0.072	0.148	0.0556	0.106	0.00899	0.0948	X	0.0567	KM H-UCL	0.0557	Bootstrap BCA 95UCL
Inorganics	Molybdenum	mg/kg	5-10	32	127	25	0.071	18	0.1	1.35	3.328	0.92	2.13	16.18	4.022	–	–	–	–	–
Inorganics	Nickel	mg/kg	5-10	128	128	100	5.81	38.2	NA	NA	12.81	12.81	11.8	27.19	5.214	–	–	–	–	–
Inorganics	Selenium	mg/kg	5-10	3	114	3	0.82	2.1	0.5	0.72	1.507	0.526	1.6	0.416	0.645	–	–	–	–	–
Inorganics	Thallium	mg/kg	5-10	1	114	1	2.36	2.36	1	2.66	2.36	1.012	2.36	NA	NA	X	2.36	Max Detect	2.36	Max Detect
Inorganics	Vanadium	mg/kg	5-10	127	127	100	15.5	61	NA	NA	31.3	31.3	31.6	46.44	6.815	–	–	–	–	–
Inorganics	Zinc	mg/kg	5-10	128	128	100	17.2	535	NA	NA	53.99	53.99	38	3024	54.99	X	75.2	95% Chebyshev (Mean, Sd) UCL	58.1	Bootstrap BCA 95UCL
Semi-Volatile Organic Compounds	Bis (2-ethylhexyl) phthalate	µg/kg	5-10	1	54	2	329	329	165	185	329	168	329	NA	NA	X	329	Max Detect	329	Max Detect
Polycyclic Aromatic Hydrocarbons	PAH low molecular weight	µg/kg	5-10	5	82	6	3.2	151	0	0	54.24	3.307	35	3401	58.32	X	7.06	95% KM (t) UCL	6.32	Bootstrap BCA 95UCL
Polycyclic Aromatic Hydrocarbons	PAH high molecular weight	µg/kg	5-10	9	82	11	0	2380	0	0	385.4	42.3	14	605924	778.4	X	359	99% KM (Chebyshev) UCL	120	Bootstrap BCA 95UCL
Polycyclic Aromatic Hydrocarbons	2-Methyl naphthalene	µg/kg	5-10	1	82	1	3.04	3.04	2.5	20.5	3.04	2.507	3.04	NA	NA	X	3.04	Max Detect	3.04	Max Detect
Polycyclic Aromatic Hydrocarbons	Anthracene	µg/kg	5-10	3	82	4	3.94	26.9	2.5	20.5	14.71	2.949	13.3	133.3	11.55	X	26.9	Max Detect	26.9	Max Detect
Polycyclic Aromatic Hydrocarbons	Benzo (a) anthracene	µg/kg	5-10	5	82	6	3.62	316	2.5	20.5	83.93	7.466	27	17498	132.3	X	21	95% KM Approximate Gamma UCL	15.1	Bootstrap BCA 95UCL
Polycyclic Aromatic Hydrocarbons	Benzo (a) pyrene	µg/kg	5-10	4	82	5	2.7	143	2.5	23.3	47.14	4.679	21.43	4313	65.68	X	8.04	95% KM (t) UCL	8.26	Bootstrap BCA 95UCL
Polycyclic Aromatic Hydrocarbons	Benzo (b) fluoranthene	µg/kg	5-10	5	82	6	2.7	334	2.5	23.3	94.47	8.11	46.9	18977	137.8	X	15.8	95% KM (t) UCL	19.2	Bootstrap BCA 95UCL
Polycyclic Aromatic Hydrocarbons	Benzo (ghi) perylene	µg/kg	5-10	4	82	5	6.52	68.6	2.5	23.3	25.96	3.65	14.35	847.1	29.11	X	5.25	95% KM (t) UCL	5.05	Bootstrap BCA 95UCL
Polycyclic Aromatic Hydrocarbons	Benzo (k) fluoranthene	µg/kg	5-10	5	82	6	3.24	160	2.5	23.3	51.53	5.492	39	4031	63.49	X	9.25	95% KM (t) UCL	9.1	Bootstrap BCA 95UCL
Polycyclic Aromatic Hydrocarbons	Chrysene	µg/kg	5-10	7	82	9	2.7	334	2.5	20.5	70.02	8.265	8.2	14489	120.4	X	22.4	95% KM Approximate Gamma UCL	18.8	Bootstrap BCA 95UCL
Polycyclic Aromatic Hydrocarbons	Dibenzo (a,h) anthracene	µg/kg	5-10	2	82	2	7.55	30.9	2.5	23.3	19.23	2.909	19.23	272.6	16.51	X	30.9	Max Detect	30.9	Max Detect
Polycyclic Aromatic Hydrocarbons	Fluoranthene	µg/kg	5-10	8	82	10	4.04	465	2.5	20.5	94.43	11.47	8.46	26123	161.6	X	5.4	KM H-UCL	25.3	Bootstrap BCA 95UCL
Polycyclic Aromatic Hydrocarbons	Fluorene	µg/kg	5-10	1	82	1	3.58	3.58	2.5	20.5	3.58	2.513	3.58	NA	NA	X	3.58	Max Detect	3.58	Max Detect
Polycyclic Aromatic Hydrocarbons	Indeno (1,2,3-cd) pyrene	µg/kg	5-10	3	82	4	5.64	65.8	2.5	23.3	30.91	3.543	21.3	974.1	31.21	X	65.8	Max Detect	65.8	Max Detect
Polycyclic Aromatic Hydrocarbons	Naphthalene	µg/kg	5-10	1	82	1	5.36	5.36	1.87	20.5	5.36	1.913	5.36	NA	NA	X	5.36	Max Detect	5.36	Max Detect
Polycyclic Aromatic Hydrocarbons	Phenanthrene	µg/kg	5-10	4	82	5	17	124	2.5	20.5	56.53	5.138	42.55	2207	46.97	X	8.26	95% KM (t) UCL	7.64	Bootstrap BCA 95UCL
Polycyclic Aromatic Hydrocarbons	Pyrene	µg/kg	5-10	8	82	10	3.86	464	2.5	20.5	86.05	10.65	7.86	25176	158.7	X	5.15	KM H-UCL	27.1	Bootstrap BCA 95UCL
Polycyclic Aromatic Hydrocarbons	B(a)P equivalent	µg/kg	5-10	9	82	11	5.86	250	4.92	51.6	40.65	8.946	6.2	6447	80.29	–	–	–	–	–
Polychlorinated Biphenyls	Total PCBs	µg/kg	5-10	1	29	3	23.1	23.1	0	37.2	23.1	1.216	23.1	NA	NA	X	23.1	Max Detect	23.1	Max Detect
Dioxins	TEQ Human	ng/kg	5-10	76	78	97	0.11	280	0.12	0.124	23.26	22.66	4.64	2067	45.46	X	31.15	95% KM (t) UCL	25.5	Bootstrap BCA 95UCL
Dioxins	TEQ Avian	ng/kg	5-10	76	78	97	0.16	100	0.182	0.282	10.26	10	2.35	313.2	17.7	X	13.31	95% KM (t) UCL	9.98	Bootstrap BCA 95UCL
Dioxins	TEQ Mammals	ng/kg	5-10	76	78	97	0.11	280	0.12	0.124	23.26	22.66	4.64	2067	45.46	X	31.15	95% KM (t) UCL	25.5	Bootstrap BCA 95UCL
Dioxins	2,3,7,8-TCDD	ng/kg	5-10	5	48	10	0.23	1.88	0.0129	1.93	0.668	0.0841	0.406	0.468	0.684	X	0.232	Gamma Adjusted KM-UCL (use when k<=1 and 15 < n < 50 but k<=1)	0.362	Bootstrap BCA 95UCL

Table BCW-3.3
Summary Statistics for Depth-Weighted Soil Data and Exposure Point Concentrations for the 5-Foot Scouring Scenario for BCW (5 to 6 feet bgs and 5 to 10 feet bgs)

Post-Soil N T C R A Human Health and Ecological Risk Assessment Report
PG&E Topock Compressor Station
Needles, California

Category	Constituent [a]	Units	Soil Depth Interval (ft bgs)	Detects	Total	Frequency of Detection	Minimum Detect	Maximum Detect	Minimum Nondetect	Maximum Nondetect	Mean Detected	Kaplan Meier Mean	Median	Variance	Standard Deviation	C O P C/ C O P E C? [b]	EPC (Depth-Weighted UCL) [c,d]	EPC Basis (Depth-Weighted UCL)	EPC (Area-Weighted UCL) [c,d]	EPC Basis (Area-Weighted UCL)
Total Petroleum Hydrocarbons	TPH as diesel	mg/kg	5-10	3	59	5	8.28	241	5	5.5	87.93	9.217	14.5	17583	132.6	X	241	Max Detect	241	Max Detect
Total Petroleum Hydrocarbons	TPH as motor oil	mg/kg	5-10	30	59	51	5.55	2970	5	5.5	116.1	61.51	16.4	290612	539.1	X	282	95% KM (Chebyshev) UCL	259	Bootstrap BCA 95UCL
Miscellaneous	Orthophosphate	mg/kg	5-10	13	13	100	204	359	NA	NA	290.8	290.8	299	1502	38.75	X	310	95% Student's-t UCL	281	Bootstrap BCA 95UCL
Miscellaneous	Sulfate	mg/kg	5-10	13	13	100	9.2	34	NA	NA	15.61	15.61	13	50.56	7.111	X	19.1	95% Student's-t UCL	14.9	Bootstrap BCA 95UCL

Notes:

[a] The constituents presented consists of analytes detected at least once at the Topock Compressor Station site and measured in soil in this exposure area. The datasets for chromium (total and hexavalent), copper, and dioxins (TEQ Human, TEQ Mammal, and TEQ Avian) were updated to reflect the non-time critical removal actions outlined in Arcadis (2024).

[b] COPCs selected in the 2019 Soil Risk Assessment (Arcadis 2019) were also evaluated in this Post-NTCRA HHERA. However, no COPECs were identified in this AOC scouring scenario.

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

[d] EPCs and summary statistics were not calculated for some constituents (i.e., dioxin congeners and essential nutrients). Those data, if available, are presented in Attachment A1 of each exposure area-specific appendix in the Soil Human Health and Ecological Risk Assessment Report (Arcadis 2019).

Abbreviations:

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

References:

Arcadis. 2019. Final Soil Human Health and Ecological Risk Assessment Report, Topock Compressor Station, Needles, California.
Arcadis. 2024. Soil Risk Assessment Addendum: Proposed Approach to Update the Human Health and Ecological Risk Assessment after Completion of the 2023 Non-Time Critical Removal Action. January 30.

Table BCW-4.1a
Summary of C O P Cs Evaluated in the HHRA for BCW: Baseline Scenario

Post-Soil N T C R A Human Health and Ecological Risk Assessment Repo
PG&E Topock Compressor Station
Needles, California

C O P C	C O P Cs in Surface Soil (0 to 0.5 foot bgs)	C O P Cs in Shallow Soil (0 to 3 feet bgs)	C O P Cs in Subsurface II Soil (0 to 10 feet bgs)
Inorganics			
Antimony	x	x	x
Chromium, Hexavalent	x	x	x
Chromium, total	x	x	x
Cobalt	x	x	x
Copper	x	x	x
Lead	x	x	x
Mercury (inorganic)	x	x	x
Nitrate	x	x	x
Orthophosphate	--	--	x
Phosphate	x	x	x
Thallium	x	x	x
Zinc	x	x	x
Volatile Organic Compounds			
Methyl acetate	--	x	x
Semi-Volatile Organic Compounds			
bis (2-ethylhexyl) phthalate	x	x	x
Polycyclic Aromatic Hydrocarbons			
2-Methyl naphthalene	--	--	x
Anthracene	x	x	x
Benzo (ghi) perylene	x	x	x

Table BCW-4.1a
Summary of C O P Cs Evaluated in the HHRA for BCW: Baseline Scenario

Post-Soil N T C R A Human Health and Ecological Risk Assessment Repo
PG&E Topock Compressor Station
Needles, California

C O P C	C O P Cs in Surface Soil (0 to 0.5 foot bgs)	C O P Cs in Shallow Soil (0 to 3 feet bgs)	C O P Cs in Subsurface II Soil (0 to 10 feet bgs)
Fluoranthene	x	x	x
Fluorene	--	--	x
Naphthalene	x	x	x
Phenanthrene	x	x	x
Pyrene	x	x	x
Polychlorinated Biphenyls			
Total PCBs	x	x	x
Total Petroleum Hydrocarbons			
TPH as diesel	x	x	x
TPH as motor oil	x	x	x
Dioxins/Furans			
TEQ Human	x	x	x

Abbreviations:
bgs = below ground surface.
C O P C = Constituent of Potential Concern.
-- = not detected or not analyzed.
x = Chemical included as C O P C in human health risk assessment.
PCB = Polychlorinated biphenyls.
TPH = Total Petroleum Hydrocarbons.
TEQ = Toxic Equivalent.

Table BCW-4.1b
Summary of C O P Cs Evaluated in the HHRA for BCW: 2-Foot Scouring Scenario

Post-Soil N T C R A Human Health and Ecological Risk Assessment Repo
PG&E Topock Compressor Station
Needles, California

C O P C	C O P Cs in Surface Soil (2 to 3 feet bgs)	C O P Cs in Shallow Soil (2 to 6 feet bgs)	C O P Cs in Subsurface II Soil (2 to 12 feet bgs)
Inorganics			
Antimony	x	x	x
Chromium, Hexavalent	x	x	x
Chromium, total	x	x	x
Cobalt	x	x	x
Copper	x	x	x
Lead	x	x	x
Mercury (inorganic)	x	x	x
Nitrate	--	x	x
Orthophosphate	--	--	x
Phosphate	--	x	x
Thallium	--	x	x
Zinc	x	x	x
Volatile Organic Compounds			
Methyl acetate	x	x	x
Semi-Volatile Organic Compounds			
bis (2-ethylhexyl) phthalate	x	x	x
Polycyclic Aromatic Hydrocarbons			
2-Methyl naphthalene	--	--	x
Anthracene	x	x	x
Benzo (ghi) perylene	x	x	x

Table BCW-4.1b
Summary of C O P Cs Evaluated in the HHRA for BCW: 2-Foot Scouring Scenario

Post-Soil N T C R A Human Health and Ecological Risk Assessment Repo
PG&E Topock Compressor Station
Needles, California

C O P C	C O P Cs in Surface Soil (2 to 3 feet bgs)	C O P Cs in Shallow Soil (2 to 6 feet bgs)	C O P Cs in Subsurface II Soil (2 to 12 feet bgs)
Fluoranthene	x	x	x
Fluorene	--	--	x
Naphthalene	x	x	x
Phenanthrene	x	x	x
Pyrene	x	x	x
Polychlorinated Biphenyls			
Total PCBs	x	x	x
Total Petroleum Hydrocarbons			
TPH as diesel	x	x	x
TPH as motor oil	x	x	x
Dioxins/Furans			
TEQ Human	x	x	x

Abbreviations:
bgs = below ground surface.
C O P C = Constituent of Potential Concern.
-- = not detected or not analyzed.
x = Chemical included as C O P C in human health risk assessment.
PCB = Polychlorinated biphenyls.
TPH = Total Petroleum Hydrocarbons.
TEQ = Toxic Equivalent.

Table BCW-4.1c
Summary of C O P Cs Evaluated in the HHRA for BCW: 5-Foot Scouring Scenario

Post-Soil N T C R A Human Health and Ecological Risk Assessment Repo
PG&E Topock Compressor Station
Needles, California

C O P C	C O P Cs in Surface Soil (5 to 6 feet bgs)	C O P Cs in Subsurface I Soil (5 to 15 feet bgs)
Inorganics		
Antimony	x	x
Chromium, Hexavalent	x	x
Chromium, total	x	x
Cobalt	x	x
Copper	x	x
Lead	x	x
Mercury (inorganic)	x	x
Orthophosphate	--	x
Thallium	x	x
Zinc	x	x
Semi-Volatile Organic Compounds		
bis (2-ethylhexyl) phthalate	x	x
Polycyclic Aromatic Hydrocarbons		
2-Methyl naphthalene	--	x
Acenaphthylene	--	--
Anthracene	x	x
Benzo (ghi) perylene	x	x

Table BCW-4.1c
Summary of C O P Cs Evaluated in the HHRA for BCW: 5-Foot Scouring Scenario

Post-Soil N T C R A Human Health and Ecological Risk Assessment Repo
PG&E Topock Compressor Station
Needles, California

C O P C	C O P Cs in Surface Soil (5 to 6 feet bgs)	C O P Cs in Subsurface I Soil (5 to 15 feet bgs)
Fluoranthene	x	x
Fluorene	--	x
Naphthalene	--	x
Phenanthrene	x	x
Pyrene	x	x
Polychlorinated Biphenyls		
Total PCBs	--	x
Total Petroleum Hydrocarbons		
TPH as diesel	x	x
TPH as motor oil	x	x
Dioxins/Furans		
TEQ Human	x	x

Abbreviations:
bgs = below ground surface.
C O P C = Constituent of Potential Concern.
-- = not detected or not analyzed.
x = Chemical included as C O P C in human health risk assessment.
PCB = Polychlorinated biphenyls.
TPH = Total Petroleum Hydrocarbons.
TEQ = Toxic Equivalent.

Table BCW-4.2a
Baseline Scenario Depth-Weighted Exposure Point Concentrations and Predicted Outdoor Air Concentrations for Recreational Users:
C O P Cs in BCW Surface Soil (0 to 0.5 foot bgs)

Post-Soil N T C R A Human Health and Ecological Risk Assessment Report
PG&E Topock Compressor Station
Needles, California

C O P C	Exposure Point Concentration for Surface Soil: 0 to 0.5 foot bgs (mg/kg) [a]	Exposure Point Concentration for Subsurface II Soil: 0 to 10 feet bgs (mg/kg) [b]	Recreational User - Camper Outdoor Airborne Particulate Concentration (mg/m^3) [c]	Recreational User - Camper Outdoor Vapor Concentration (mg/m^3) [d]	Recreational User - Hiker Outdoor Airborne Particulate Concentration (mg/m^3) [c]	Recreational User - Hiker Outdoor Vapor Concentration (mg/m^3) [d]	Recreational User - Off Highway Vehicle Rider Outdoor Airborne Particulate Concentration (mg/m^3) [e]	Recreational User - Off Highway Vehicle Rider Outdoor Vapor Concentration (mg/m^3) [d]
Inorganics								
Antimony	1.8E+01	1.3E+00	1.3E-08	NV	1.3E-08	NV	2.1E-05	NV
Chromium, Hexavalent	3.5E-01	6.2E+00	2.6E-10	NV	2.6E-10	NV	4.1E-07	NV
Chromium, total	3.0E+01	4.3E+02	2.2E-08	NV	2.2E-08	NV	3.5E-05	NV
Cobalt	7.9E+00	8.1E+00	5.8E-09	NV	5.8E-09	NV	9.3E-06	NV
Copper	1.5E+01	1.3E+01	1.1E-08	NV	1.1E-08	NV	1.7E-05	NV
Lead	7.0E+00	7.2E+00	5.1E-09	NV	5.1E-09	NV	8.2E-06	NV
Mercury (inorganic)	5.7E-02	5.9E-02	4.2E-11	NV	4.2E-11	NV	6.7E-08	NV
Nitrate	5.4E+01	5.4E+01	4.0E-08	NV	4.0E-08	NV	6.4E-05	NV
Orthophosphate	NS	3.1E+02	NA	NV	NA	NV	NA	NV
Phosphate	3.6E+02	3.6E+02	2.6E-07	NV	2.6E-07	NV	4.2E-04	NV
Thallium	2.4E+00	2.0E+00	1.8E-09	NV	1.8E-09	NV	2.8E-06	NV
Zinc	7.7E+01	8.4E+01	5.7E-08	NV	5.7E-08	NV	9.1E-05	NV
Volatile Organic Compounds								
Methyl acetate	ND	1.2E-02	NA	1.2E-06	NA	1.2E-06	NA	1.2E-06
Semi-Volatile Organic Compounds								
bis (2-ethylhexyl) phthalate	2.0E+00	2.0E+00	1.5E-09	NV	1.5E-09	NV	2.4E-06	NV
Polycyclic Aromatic Hydrocarbons								
2-Methyl naphthalene	ND	2.8E-03	NA	3.7E-08	NA	3.7E-08	NA	3.7E-08
Anthracene	9.7E-03	3.1E-03	7.1E-12	4.7E-09	7.1E-12	4.7E-09	1.1E-08	4.7E-09
Benzo (ghi) perylene	1.6E-02	1.4E-02	1.2E-11	NV	1.2E-11	NV	1.9E-08	NV
Fluoranthene	2.1E-02	3.3E-02	1.5E-11	NV	1.5E-11	NV	2.5E-08	NV
Fluorene	ND	3.1E-03	NA	8.5E-09	NA	8.5E-09	NA	8.5E-09
Naphthalene	5.5E-03	5.5E-03	4.0E-12	9.3E-08	4.0E-12	9.3E-08	6.5E-09	9.3E-08
Phenanthrene	1.6E-02	1.4E-02	1.2E-11	NV	1.2E-11	NV	1.9E-08	NV
Pyrene	1.9E-02	1.4E-02	1.4E-11	4.4E-09	1.4E-11	4.4E-09	2.2E-08	4.4E-09

Table BCW-4.2a
Baseline Scenario Depth-Weighted Exposure Point Concentrations and Predicted Outdoor Air Concentrations for Recreational Users:
C O P Cs in BCW Surface Soil (0 to 0.5 foot bgs)

Post-Soil N T C R A Human Health and Ecological Risk Assessment Report
PG&E Topock Compressor Station
Needles, California

C O P C	Exposure Point Concentration for Surface Soil: 0 to 0.5 foot bgs (mg/kg) [a]	Exposure Point Concentration for Subsurface II Soil: 0 to 10 feet bgs (mg/kg) [b]	Recreational User - Camper Outdoor Airborne Particulate Concentration (mg/m^3) [c]	Recreational User - Camper Outdoor Vapor Concentration (mg/m^3) [d]	Recreational User - Hiker Outdoor Airborne Particulate Concentration (mg/m^3) [c]	Recreational User - Hiker Outdoor Vapor Concentration (mg/m^3) [d]	Recreational User - Off Highway Vehicle Rider Outdoor Airborne Particulate Concentration (mg/m^3) [e]	Recreational User - Off Highway Vehicle Rider Outdoor Vapor Concentration (mg/m^3) [d]
Polychlorinated Biphenyls								
Total PCBs	1.2E-01	1.9E-01	9.1E-11	2.9E-07	9.1E-11	2.9E-07	1.5E-07	2.9E-07
Total Petroleum Hydrocarbons								
TPH as diesel	7.4E+00	1.4E+01	5.5E-09	5.8E-03	5.5E-09	5.8E-03	8.8E-06	5.8E-03
TPH as motor oil	3.0E+01	1.3E+02	2.2E-08	NV	2.2E-08	NV	3.5E-05	NV
Dioxins/Furans								
TEQ Human	5.2E-05	3.1E-04	3.8E-14	1.3E-10	3.8E-14	1.3E-10	6.2E-11	1.3E-10

Notes:

[a] Exposure point concentrations (EPCs) for surface soil (0 to 0.5 feet bgs) are used to evaluate inhalation of particulates in outdoor air.

[b] EPCs for subsurface II soil (0 to 10 feet bgs) are used to evaluate inhalation of volatiles in outdoor air.

[c] Outdoor airborne particulate concentration is calculated by dividing the soil EPCs by the particulate emission factor (PEF). Default PEF of 1.4×10^9 m^3/kg was used for recreational users (campers and hikers) as recommended by Department of Toxic Substances Control (2014).

[d] Chemical-specific volatilization factors (VFs) were estimated as discussed in Section 4.0, Exposure Assessment, of the main report. Outdoor vapor concentration is calculated by dividing the soil EPC by the VF.

[e] PEF of 8.5×10^5 m^3/kg was used for recreational users (off-highway vehicle rider) as calculated in United States Environmental Protection Agency (2008, 2009) and recommended in "Revised Technical Memorandum, Recreational Visitor Exposure Scenario for Federal Land, PG&E Topock Compressor Station Remediation Project, California," prepared by the Department of the Interior (DOI).

Abbreviations:

bgs = below ground surface.
C O P C = Constituent of Potential Concern.
mg/kg = milligrams per kilogram.
mg/m^3 = milligrams per cubic meter.
NA = not applicable.
ND = Not detected.
NS = Not sampled.
NV = Not volatile.
PCB = Polychlorinated biphenyls.
TPH = Total Petroleum Hydrocarbons.
TEQ = Toxic Equivalent.

References:

Department of Toxic Substances Control (DTSC). 2014. DTSC/HERO Human Health Risk Assessment (HHRA) Note Number 1: Recommended DTSC Default Exposure Factors for Use in Risk Assessment at California Hazardous Waste Sites and United States Environmental Protection Agency (U S E P A). 2008. Clear Creek Management Areas Asbestos Exposure and Human Health Risk Assessment. Region 9. May. Available at:

U S E P A. 2009. Baseline Human Health Risk Assessment for the Standard Mine Site, Gunnison County, CO; Addendum. Prepared by SRC for USEPA Region 8. November 24. Available at: http://www2.epa.gov/sites/production/files/documents/SM_HH

Table BCW-4.2b
Baseline Scenario Depth-Weighted Exposure Point Concentrations and Predicted Outdoor Air Concentrations for Recreational Users:
C O P Cs in BCW Shallow Soil (0 to 3 feet bgs)

Post-Soil N T C R A Human Health and Ecological Risk Assessment Report
PG&E Topock Compressor Station
Needles, California

C O P C	Exposure Point Concentration for Shallow Soil: 0 to 3 feet bgs (mg/kg) [a]	Exposure Point Concentration for Subsurface II Soil: 0 to 10 feet bgs (mg/kg) [b]	Recreational User - Camper Outdoor Airborne Particulate Concentration (mg/m^3) [c]	Recreational User - Camper Outdoor Vapor Concentration (mg/m^3) [d]	Recreational User - Hiker Outdoor Airborne Particulate Concentration (mg/m^3) [c]	Recreational User - Hiker Outdoor Vapor Concentration (mg/m^3) [d]	Recreational User - Off Highway Vehicle Rider Outdoor Airborne Particulate Concentration (mg/m^3) [e]	Recreational User - Off Highway Vehicle Rider Outdoor Vapor Concentration (mg/m^3) [d]
Inorganics								
Antimony	1.3E+01	1.3E+00	9.4E-09	NV	9.4E-09	NV	1.5E-05	NV
Chromium, Hexavalent	4.3E-01	6.2E+00	3.2E-10	NV	3.2E-10	NV	5.1E-07	NV
Chromium, total	4.7E+01	4.3E+02	3.4E-08	NV	3.4E-08	NV	5.5E-05	NV
Cobalt	8.0E+00	8.1E+00	5.8E-09	NV	5.8E-09	NV	9.4E-06	NV
Copper	1.4E+01	1.3E+01	1.0E-08	NV	1.0E-08	NV	1.6E-05	NV
Lead	6.8E+00	7.2E+00	5.0E-09	NV	5.0E-09	NV	8.0E-06	NV
Mercury (inorganic)	5.6E-02	5.9E-02	4.1E-11	NV	4.1E-11	NV	6.7E-08	NV
Nitrate	5.4E+01	5.4E+01	4.0E-08	NV	4.0E-08	NV	6.4E-05	NV
Orthophosphate	NS	3.1E+02	NA	NV	NA	NV	NA	NV
Phosphate	3.6E+02	3.6E+02	2.6E-07	NV	2.6E-07	NV	4.2E-04	NV
Thallium	2.0E+00	2.0E+00	1.4E-09	NV	1.4E-09	NV	2.3E-06	NV
Zinc	6.5E+01	8.4E+01	4.8E-08	NV	4.8E-08	NV	7.6E-05	NV
Volatile Organic Compounds								
Methyl acetate	1.2E-02	1.2E-02	8.8E-12	1.2E-06	8.8E-12	1.2E-06	1.4E-08	1.2E-06
Semi-Volatile Organic Compounds								
bis (2-ethylhexyl) phthalate	2.0E+00	2.0E+00	1.5E-09	NV	1.5E-09	NV	2.4E-06	NV
Polycyclic Aromatic Hydrocarbons								
2-Methyl naphthalene	ND	2.8E-03	NA	3.7E-08	NA	3.7E-08	NA	3.7E-08
Anthracene	9.7E-03	3.1E-03	7.1E-12	4.7E-09	7.1E-12	4.7E-09	1.1E-08	4.7E-09
Benzo (ghi) perylene	1.5E-02	1.4E-02	1.1E-11	NV	1.1E-11	NV	1.8E-08	NV
Fluoranthene	3.9E-02	3.3E-02	2.9E-11	NV	2.9E-11	NV	4.6E-08	NV
Fluorene	ND	3.1E-03	NA	8.5E-09	NA	8.5E-09	NA	8.5E-09
Naphthalene	5.5E-03	5.5E-03	4.0E-12	9.3E-08	4.0E-12	9.3E-08	6.5E-09	9.3E-08
Phenanthrene	1.5E-02	1.4E-02	1.1E-11	NV	1.1E-11	NV	1.8E-08	NV
Pyrene	1.7E-02	1.4E-02	1.3E-11	4.4E-09	1.3E-11	4.4E-09	2.0E-08	4.4E-09

Table BCW-4.2b
Baseline Scenario Depth-Weighted Exposure Point Concentrations and Predicted Outdoor Air Concentrations for Recreational Users:
C O P Cs in BCW Shallow Soil (0 to 3 feet bgs)

Post-Soil N T C R A Human Health and Ecological Risk Assessment Report
PG&E Topock Compressor Station
Needles, California

C O P C	Exposure Point Concentration for Shallow Soil: 0 to 3 feet bgs (mg/kg) [a]	Exposure Point Concentration for Subsurface II Soil: 0 to 10 feet bgs (mg/kg) [b]	Recreational User - Camper Outdoor Airborne Particulate Concentration (mg/m^3) [c]	Recreational User - Camper Outdoor Vapor Concentration (mg/m^3) [d]	Recreational User - Hiker Outdoor Airborne Particulate Concentration (mg/m^3) [c]	Recreational User - Hiker Outdoor Vapor Concentration (mg/m^3) [d]	Recreational User - Off Highway Vehicle Rider Outdoor Airborne Particulate Concentration (mg/m^3) [e]	Recreational User - Off Highway Vehicle Rider Outdoor Vapor Concentration (mg/m^3) [d]
Polychlorinated Biphenyls								
Total PCBs	1.1E-01	1.9E-01	8.1E-11	2.9E-07	8.1E-11	2.9E-07	1.3E-07	2.9E-07
Total Petroleum Hydrocarbons								
TPH as diesel	7.0E+00	1.4E+01	5.1E-09	5.8E-03	5.1E-09	5.8E-03	8.2E-06	5.8E-03
TPH as motor oil	2.9E+01	1.3E+02	2.1E-08	NV	2.1E-08	NV	3.4E-05	NV
Dioxins/Furans								
TEQ Human	3.7E-05	3.1E-04	2.7E-14	1.3E-10	2.7E-14	1.3E-10	4.4E-11	1.3E-10

Notes:

[a] Exposure point concentrations (EPCs) for shallow soil (0 to 3 feet bgs) are used to evaluate inhalation of particulates in outdoor air.

[b] EPCs for subsurface II soil (0 to 10 feet bgs) are used to evaluate inhalation of volatiles in outdoor air.

[c] Outdoor airborne particulate concentration is calculated by dividing the soil EPCs by the particulate emission factor (PEF). Default PEF of 1.4×10^9 m^3/kg was used for recreational users (campers and hikers) as recommended by Department of Toxic Substances Control (2014).

[d] Chemical-specific volatilization factors (VFs) were estimated as discussed in Section 4.0, Exposure Assessment, of the main report. Outdoor vapor concentration is calculated by dividing the soil EPC by the VF.

[e] PEF of 8.5×10^5 m^3/kg was used for recreational users (off-highway vehicle rider) as calculated in United States Environmental Protection Agency (2008, 2009)and recommended in "Revised Technical Memorandum, Recreational Visitor Exposure Scenario for Federal Land, PG&E Topock Compressor Station Remediation Project, California," prepared by the Department of the Interior (DOI).

Abbreviations:

bgs = below ground surface.
C O P C = Constituent of Potential Concern.
mg/kg = milligrams per kilogram.
mg/m^3 = milligrams per cubic meter.
NA = not applicable.
ND = Not detected.
NS = Not sampled.
NV = Not volatile.
PCB = Polychlorinated biphenyls.
TPH = Total Petroleum Hydrocarbons.
TEQ = Toxic Equivalent.

References:

Department of Toxic Substances Control (DTSC). 2014. DTSC/HERO Human Health Risk Assessment (HHRA) Note Number 1: Recommended DTSC Default Exposure Factors for Use in Risk Assessment at California Hazardous Waste Sites and United States Environmental Protection Agency (U S E P A). 2008. Clear Creek Management Areas Asbestos Exposure and Human Health Risk Assessment. Region 9. May. Available at:

U S E P A. 2009. Baseline Human Health Risk Assessment for the Standard Mine Site, Gunnison County, CO; Addendum. Prepared by SRC for USEPA Region 8. November 24. Available at: http://www2.epa.gov/sites/production/files/documents/SM_HH

Table BCW-4.3a
2-Foot Scouring Scenario Depth-Weighted Exposure Point Concentrations and Predicted Outdoor Air Concentrations for Recreational Users:
C O P Cs in BCW Surface Soil (2 to 3 feet bgs)

Post-Soil N T C R A Human Health and Ecological Risk Assessment Report
PG&E Topock Compressor Station
Needles, California

C O P C	Exposure Point Concentration for Surface Soil: 2 to 3 feet bgs (mg/kg) [a]	Exposure Point Concentration for Subsurface II Soil: 2 to 12 feet bgs (mg/kg) [b]	Recreational User Camper Outdoor Airborne Particulate Concentration (mg/m^3) [c]	Recreational User Camper Outdoor Vapor Concentration (mg/m^3) [d]	Recreational User Hiker Outdoor Airborne Particulate Concentration (mg/m^3) [c]	Recreational User Hiker Outdoor Vapor Concentration (mg/m^3) [d]	Recreational User Off Highway Vehicle Rider Outdoor Airborne Particulate Concentration (mg/m^3) [e]	Recreational User Off Highway Vehicle Rider Outdoor Vapor Concentration (mg/m^3) [d]
Inorganics								
Antimony	1.3E+01	1.3E+00	9.6E-09	NV	9.6E-09	NV	1.5E-05	NV
Chromium, Hexavalent	4.3E-01	6.5E+00	3.1E-10	NV	3.1E-10	NV	5.1E-07	NV
Chromium, total	5.0E+01	4.5E+02	3.7E-08	NV	3.7E-08	NV	5.9E-05	NV
Cobalt	8.2E+00	8.3E+00	6.0E-09	NV	6.0E-09	NV	9.7E-06	NV
Copper	1.2E+01	1.2E+01	8.9E-09	NV	8.9E-09	NV	1.4E-05	NV
Lead	6.8E+00	6.0E+00	5.0E-09	NV	5.0E-09	NV	8.0E-06	NV
Mercury (inorganic)	2.7E-01	6.0E-02	2.0E-10	NV	2.0E-10	NV	3.2E-07	NV
Nitrate	NS	6.0E+00	NA	NV	NA	NV	NA	NV
Orthophosphate	NS	3.1E+02	NA	NV	NA	NV	NA	NV
Phosphate	NS	8.8E+00	NA	NV	NA	NV	NA	NV
Thallium	ND	2.0E+00	NA	NV	NA	NV	NA	NV
Zinc	5.5E+01	6.7E+01	4.1E-08	NV	4.1E-08	NV	6.5E-05	NV
Volatile Organic Compounds								
Methyl acetate	1.2E-02	1.2E-02	8.8E-12	1.2E-06	8.8E-12	1.2E-06	1.4E-08	1.2E-06
Semi-Volatile Organic Compounds								
bis (2-ethylhexyl) phthalate	8.1E-01	8.1E-01	6.0E-10	NV	6.0E-10	NV	9.6E-07	NV
Polycyclic Aromatic Hydrocarbons								
2-Methyl naphthalene	ND	3.3E-03	NA	4.5E-08	NA	4.5E-08	NA	4.5E-08
Anthracene	6.9E-03	3.1E-03	5.1E-12	4.7E-09	5.1E-12	4.7E-09	8.1E-09	4.7E-09
Benzo (ghi) perylene	6.5E-03	6.2E-03	4.8E-12	NV	4.8E-12	NV	7.7E-09	NV
Fluoranthene	2.3E-02	7.0E-03	1.7E-11	NV	1.7E-11	NV	2.7E-08	NV
Fluorene	ND	4.2E-03	NA	1.1E-08	NA	1.1E-08	NA	1.1E-08
Naphthalene	9.7E-03	6.7E-03	7.1E-12	1.1E-07	7.1E-12	1.1E-07	1.1E-08	1.1E-07
Phenanthrene	8.1E-03	6.6E-03	5.9E-12	NV	5.9E-12	NV	9.5E-09	NV
Pyrene	2.1E-02	2.3E-02	1.5E-11	7.5E-09	1.5E-11	7.5E-09	2.5E-08	7.5E-09

Table BCW-4.3a
2-Foot Scouring Scenario Depth-Weighted Exposure Point Concentrations and Predicted Outdoor Air Concentrations for Recreational Users:
C O P Cs in BCW Surface Soil (2 to 3 feet bgs)

Post-Soil N T C R A Human Health and Ecological Risk Assessment Report
PG&E Topock Compressor Station
Needles, California

C O P C	Exposure Point Concentration for Surface Soil: 2 to 3 feet bgs (mg/kg) [a]	Exposure Point Concentration for Subsurface II Soil: 2 to 12 feet bgs (mg/kg) [b]	Recreational User Camper Outdoor Airborne Particulate Concentration (mg/m^3) [c]	Recreational User Camper Outdoor Vapor Concentration (mg/m^3) [d]	Recreational User Hiker Outdoor Airborne Particulate Concentration (mg/m^3) [c]	Recreational User Hiker Outdoor Vapor Concentration (mg/m^3) [d]	Recreational User Off Highway Vehicle Rider Outdoor Airborne Particulate Concentration (mg/m^3) [e]	Recreational User Off Highway Vehicle Rider Outdoor Vapor Concentration (mg/m^3) [d]
Polychlorinated Biphenyls								
Total PCBs	4.8E-02	2.2E-02	3.5E-11	3.3E-08	3.5E-11	3.3E-08	5.7E-08	3.3E-08
Total Petroleum Hydrocarbons								
TPH as diesel	6.3E+00	1.6E+01	4.6E-09	6.4E-03	4.6E-09	6.4E-03	7.4E-06	6.4E-03
TPH as motor oil	4.0E+01	1.4E+02	2.9E-08	NV	2.9E-08	NV	4.7E-05	NV
Dioxins/Furans								
TEQ Human	2.6E-05	1.4E-04	1.9E-14	5.6E-11	1.9E-14	5.6E-11	3.1E-11	5.6E-11

Notes:

[a] Exposure point concentrations (EPCs) for surface soil (2 to 3 feet bgs) are used to evaluate inhalation of particulates in outdoor air.

[b] EPCs for subsurface II soil (2 to 12 feet bgs) are used to evaluate inhalation of volatiles in outdoor air.

[c] Outdoor airborne particulate concentration is calculated by dividing the soil EPCs by the particulate emission factor (PEF). Default PEF of 1.4×10^9 m^3/kg was used for recreational users (campers and hikers) as recommended by Department of Toxic Substances Control (2014).

[d] Chemical-specific volatilization factors (VFs) were estimated as discussed in Section 4.0, Exposure Assessment, of the main report. Outdoor vapor concentration is calculated by dividing the soil EPC by the VF.

[e] PEF of 8.5×10^5 m^3/kg was used for recreational users (off-highway vehicle rider) as calculated in United States Environmental Protection Agency (2008, 2009) and recommended in "Revised Technical Memorandum, Recreational Visitor Exposure Scenario for Federal Land, PG&E Topock Compressor Station Remediation Project, California," prepared by the Department of the Interior (DOI).

Abbreviations:

bgs = below ground surface.
C O P C = Constituent of Potential Concern.
mg/kg = milligrams per kilogram.
mg/m^3 = milligrams per cubic meter.
NA = not applicable.
ND = Not detected.
NS = Not sampled.
NV = Not volatile.
PCB = Polychlorinated biphenyls.
TPH = Total Petroleum Hydrocarbons.
TEQ = Toxic Equivalent.

References:

Department of Toxic Substances Control (DTSC). 2014. DTSC/HERO Human Health Risk Assessment (HHRA) Note Number 1: Recommended DTSC Default Exposure Factors for Use in Risk Assessment at California Hazardous Waste Sites and United States Environmental Protection Agency (U S E P A). 2008. Clear Creek Management Areas Asbestos Exposure and Human Health Risk Assessment. Region 9. May. Available at:

U S E P A. 2009. Baseline Human Health Risk Assessment for the Standard Mine Site, Gunnison County, CO; Addendum. Prepared by SRC for U S E P A Region 8. November 24. Available at: http://www2.epa.gov/sites/production/files/documents/SM_H

Table BCW-4.3b
2-Foot Scouring Scenario Depth-Weighted Exposure Point Concentrations and Predicted Outdoor Air Concentrations for Recreational Users:
C O P Cs in BCW Shallow Soil (2 to 6 feet bgs)

Post-Soil N T C R A Human Health and Ecological Risk Assessment Report
PG&E Topock Compressor Station
Needles, California

C O P C	Exposure Point Concentration for Shallow Soil: 2 to 6 feet bgs (mg/kg) [a]	Exposure Point Concentration for Subsurface II Soil: 2 to 12 feet bgs (mg/kg) [b]	Recreational User Camper Outdoor Airborne Particulate Concentration (mg/m^3) [c]	Recreational User Camper Outdoor Vapor Concentration (mg/m^3) [d]	Recreational User Hiker Outdoor Airborne Particulate Concentration (mg/m^3) [c]	Recreational User Hiker Outdoor Vapor Concentration (mg/m^3) [d]	Recreational User Off Highway Vehicle Rider Outdoor Airborne Particulate Concentration (mg/m^3) [e]	Recreational User Off Highway Vehicle Rider Outdoor Vapor Concentration (mg/m^3) [d]
Inorganics								
Antimony	1.4E+00	1.3E+00	1.0E-09	NV	1.0E-09	NV	1.7E-06	NV
Chromium, Hexavalent	6.1E-01	6.5E+00	4.5E-10	NV	4.5E-10	NV	7.2E-07	NV
Chromium, total	4.6E+01	4.5E+02	3.4E-08	NV	3.4E-08	NV	5.5E-05	NV
Cobalt	8.2E+00	8.3E+00	6.0E-09	NV	6.0E-09	NV	9.7E-06	NV
Copper	1.2E+01	1.2E+01	8.6E-09	NV	8.6E-09	NV	1.4E-05	NV
Lead	5.3E+00	6.0E+00	3.9E-09	NV	3.9E-09	NV	6.2E-06	NV
Mercury (inorganic)	5.6E-02	6.0E-02	4.1E-11	NV	4.1E-11	NV	6.6E-08	NV
Nitrate	6.0E+00	6.0E+00	4.4E-09	NV	4.4E-09	NV	7.1E-06	NV
Orthophosphate	NS	3.1E+02	NA	NV	NA	NV	NA	NV
Phosphate	8.8E+00	8.8E+00	6.5E-09	NV	6.5E-09	NV	1.0E-05	NV
Thallium	1.4E+00	2.0E+00	1.0E-09	NV	1.0E-09	NV	1.6E-06	NV
Zinc	6.7E+01	6.7E+01	4.9E-08	NV	4.9E-08	NV	7.9E-05	NV
Volatile Organic Compounds								
Methyl acetate	1.2E-02	1.2E-02	8.8E-12	1.2E-06	8.8E-12	1.2E-06	1.4E-08	1.2E-06
Semi-Volatile Organic Compounds								
bis (2-ethylhexyl) phthalate	8.1E-01	8.1E-01	6.0E-10	NV	6.0E-10	NV	9.6E-07	NV
Polycyclic Aromatic Hydrocarbons								
2-Methyl naphthalene	ND	3.3E-03	NA	4.5E-08	NA	4.5E-08	NA	4.5E-08
Anthracene	9.9E-03	3.1E-03	7.3E-12	4.7E-09	7.3E-12	4.7E-09	1.2E-08	4.7E-09
Benzo (ghi) perylene	6.8E-03	6.2E-03	5.0E-12	NV	5.0E-12	NV	8.1E-09	NV
Fluoranthene	8.3E-03	7.0E-03	6.1E-12	NV	6.1E-12	NV	9.8E-09	NV
Fluorene	ND	4.2E-03	NA	1.1E-08	NA	1.1E-08	NA	1.1E-08
Naphthalene	7.9E-03	6.7E-03	5.8E-12	1.1E-07	5.8E-12	1.1E-07	9.3E-09	1.1E-07
Phenanthrene	8.3E-03	6.6E-03	6.1E-12	NV	6.1E-12	NV	9.8E-09	NV
Pyrene	7.6E-03	2.3E-02	5.6E-12	7.5E-09	5.6E-12	7.5E-09	8.9E-09	7.5E-09

Table BCW-4.3b
2-Foot Scouring Scenario Depth-Weighted Exposure Point Concentrations and Predicted Outdoor Air Concentrations for Recreational Users:
C O P Cs in BCW Shallow Soil (2 to 6 feet bgs)

Post-Soil N T C R A Human Health and Ecological Risk Assessment Report
PG&E Topock Compressor Station
Needles, California

C O P C	Exposure Point Concentration for Shallow Soil: 2 to 6 feet bgs (mg/kg) [a]	Exposure Point Concentration for Subsurface II Soil: 2 to 12 feet bgs (mg/kg) [b]	Recreational User Camper Outdoor Airborne Particulate Concentration (mg/m^3) [c]	Recreational User Camper Outdoor Vapor Concentration (mg/m^3) [d]	Recreational User Hiker Outdoor Airborne Particulate Concentration (mg/m^3) [c]	Recreational User Hiker Outdoor Vapor Concentration (mg/m^3) [d]	Recreational User Off Highway Vehicle Rider Outdoor Airborne Particulate Concentration (mg/m^3) [e]	Recreational User Off Highway Vehicle Rider Outdoor Vapor Concentration (mg/m^3) [d]
Polychlorinated Biphenyls								
Total PCBs	3.7E-02	2.2E-02	2.7E-11	3.3E-08	2.7E-11	3.3E-08	4.3E-08	3.3E-08
Total Petroleum Hydrocarbons								
TPH as diesel	6.7E+00	1.6E+01	4.9E-09	6.4E-03	4.9E-09	6.4E-03	7.9E-06	6.4E-03
TPH as motor oil	1.0E+02	1.4E+02	7.3E-08	NV	7.3E-08	NV	1.2E-04	NV
Dioxins/Furans								
TEQ Human	2.9E-05	1.4E-04	2.1E-14	5.6E-11	2.1E-14	5.6E-11	3.4E-11	5.6E-11

Notes:

[a] Exposure point concentrations (EPCs) for shallow soil (2 to 6 feet bgs) are used to evaluate inhalation of particulates in outdoor air.

[b] EPCs for subsurface II soil (2 to 12 feet bgs) are used to evaluate inhalation of volatiles in outdoor air.

[c] Outdoor airborne particulate concentration is calculated by dividing the soil EPCs by the particulate emission factor (PEF). Default PEF of 1.4×10^9 m^3/kg was used for recreational users (campers and hikers) as recommended by Department of Toxic Substances Control (2014).

[d] Chemical-specific volatilization factors (VFs) were estimated as discussed in Section 4.0, Exposure Assessment, of the main report. Outdoor vapor concentration is calculated by dividing the soil EPC by the VF.

[e] PEF of 8.5×10^5 m^3/kg was used for recreational users (off-highway vehicle rider) as calculated in United States Environmental Protection Agency (2008, 2009) and recommended in "Revised Technical Memorandum, Recreational Visitor Exposure Scenario for Federal Land, PG&E Topock Compressor Station Remediation Project, California," prepared by the Department of the Interior (DOI).

Abbreviations:

bgs = below ground surface.
C O P C = Constituent of Potential Concern.
mg/kg = milligrams per kilogram.
mg/m^3 = milligrams per cubic meter.
NA = not applicable.
ND = Not detected.
NS = Not sampled.
NV = Not volatile.
PCB = Polychlorinated biphenyls.
TPH = Total Petroleum Hydrocarbons.
TEQ = Toxic Equivalent.

References:

Department of Toxic Substances Control (DTSC). 2014. DTSC/HERO Human Health Risk Assessment (HHRA) Note Number 1: Recommended DTSC Default Exposure Factors for Use in Risk Assessment at California Hazardous Waste Sites and
United States Environmental Protection Agency (U S E P A). 2008. Clear Creek Management Areas Asbestos Exposure and Human Health Risk Assessment. Region 9. May. Available at:
U S E P A. 2009. Baseline Human Health Risk Assessment for the Standard Mine Site, Gunnison County, CO; Addendum. Prepared by SRC for U S E P A Region 8. November 24. Available at: http://www2.epa.gov/sites/production/files/documents/SM_H

Table BCW-4.4a
5-Foot Scouring Scenario Depth-Weighted Exposure Point Concentrations and Predicted Outdoor Air Concentrations for Recreational Users:
C O P Cs in BCW Surface Soil (5 to 6 feet bgs)

Post-Soil N T C R A Human Health and Ecological Risk Assessment Report
PG&E Topock Compressor Station
Needles, California

C O P C	Exposure Point Concentration for Surface Soil: 5 to 6 feet bgs (mg/kg) [a]	Exposure Point Concentration for Subsurface I Soil: 5 to 15 feet bgs (mg/kg) [b]	Recreational User Camper Outdoor Airborne Particulate Concentration (mg/m^3) [c]	Recreational User Camper Outdoor Vapor Concentration (mg/m^3) [d]	Recreational User Hiker Outdoor Airborne Particulate Concentration (mg/m^3) [c]	Recreational User Hiker Outdoor Vapor Concentration (mg/m^3) [d]	Recreational User Off Highway Vehicle Rider Outdoor Airborne Particulate Concentration (mg/m^3) [e]	Recreational User Off Highway Vehicle Rider Outdoor Vapor Concentration (mg/m^3) [d]
Inorganics								
Antimony	1.2E+00	1.2E+00	9.0E-10	NV	9.0E-10	NV	1.5E-06	NV
Chromium, Hexavalent	4.9E-01	6.6E+00	3.6E-10	NV	3.6E-10	NV	5.8E-07	NV
Chromium, total	3.9E+01	4.5E+02	2.9E-08	NV	2.9E-08	NV	4.6E-05	NV
Cobalt	8.5E+00	8.6E+00	6.3E-09	NV	6.3E-09	NV	1.0E-05	NV
Copper	1.2E+01	1.2E+01	8.9E-09	NV	8.9E-09	NV	1.4E-05	NV
Lead	8.9E+00	4.9E+00	6.5E-09	NV	6.5E-09	NV	1.0E-05	NV
Mercury (inorganic)	5.8E-02	6.1E-02	4.3E-11	NV	4.3E-11	NV	6.9E-08	NV
Orthophosphate	NS	3.1E+02	NA	NV	NA	NV	NA	NV
Thallium	2.3E+00	2.5E+00	1.7E-09	NV	1.7E-09	NV	2.7E-06	NV
Zinc	7.9E+01	5.7E+01	5.8E-08	NV	5.8E-08	NV	9.4E-05	NV
Semi-Volatile Organic Compounds								
bis (2-ethylhexyl) phthalate	3.7E-01	2.5E-01	2.7E-10	NV	2.7E-10	NV	4.4E-07	NV
Polycyclic Aromatic Hydrocarbons								
2-Methyl naphthalene	ND	4.1E-03	NA	5.5E-08	NA	5.5E-08	NA	5.5E-08
Acenaphthylene	ND	ND	NA	NA	NA	NA	NA	NA
Anthracene	3.2E-02	1.7E-02	2.4E-11	2.6E-08	2.4E-11	2.6E-08	3.8E-08	2.6E-08
Benzo (ghi) perylene	5.9E-03	4.2E-03	4.3E-12	NV	4.3E-12	NV	7.0E-09	NV
Fluoranthene	2.7E-02	5.0E-03	2.0E-11	NV	2.0E-11	NV	3.2E-08	NV
Fluorene	ND	5.7E-03	NA	1.6E-08	NA	1.6E-08	NA	1.6E-08
Naphthalene	ND	1.1E-02	NA	1.8E-07	NA	1.8E-07	NA	1.8E-07
Phenanthrene	1.5E-01	6.7E-03	1.1E-10	NV	1.1E-10	NV	1.8E-07	NV
Pyrene	2.6E-02	4.8E-03	1.9E-11	1.5E-09	1.9E-11	1.5E-09	3.0E-08	1.5E-09

Table BCW-4.4a
5-Foot Scouring Scenario Depth-Weighted Exposure Point Concentrations and Predicted Outdoor Air Concentrations for Recreational Users:
C O P Cs in BCW Surface Soil (5 to 6 feet bgs)

Post-Soil N T C R A Human Health and Ecological Risk Assessment Report
PG&E Topock Compressor Station
Needles, California

C O P C	Exposure Point Concentration for Surface Soil: 5 to 6 feet bgs (mg/kg) [a]	Exposure Point Concentration for Subsurface I Soil: 5 to 15 feet bgs (mg/kg) [b]	Recreational User Camper Outdoor Airborne Particulate Concentration (mg/m^3) [c]	Recreational User Camper Outdoor Vapor Concentration (mg/m^3) [d]	Recreational User Hiker Outdoor Airborne Particulate Concentration (mg/m^3) [c]	Recreational User Hiker Outdoor Vapor Concentration (mg/m^3) [d]	Recreational User Off Highway Vehicle Rider Outdoor Airborne Particulate Concentration (mg/m^3) [e]	Recreational User Off Highway Vehicle Rider Outdoor Vapor Concentration (mg/m^3) [d]
Polychlorinated Biphenyls								
Total PCBs	ND	3.2E-02	NA	4.9E-08	NA	4.9E-08	NA	4.9E-08
Total Petroleum Hydrocarbons								
TPH as diesel	3.0E+02	1.2E+02	2.2E-07	5.0E-02	2.2E-07	5.0E-02	3.5E-04	5.0E-02
TPH as motor oil	3.6E+02	1.5E+02	2.7E-07	NV	2.7E-07	NV	4.3E-04	NV
Dioxins/Furans								
TEQ Human	3.0E-05	1.3E-04	2.2E-14	5.3E-11	2.2E-14	5.3E-11	3.6E-11	5.3E-11

Notes:

[a] Exposure point concentrations (EPCs) for surface soil (5 to 6 feet bgs) are used to evaluate inhalation of particulates in outdoor air.

[b] EPCs for subsurface I soil (5 to 15 feet bgs) are used to evaluate inhalation of volatiles in outdoor air.

[c] Outdoor airborne particulate concentration is calculated by dividing the soil EPCs by the particulate emission factor (PEF). Default PEF of 1.4×10^9 m^3/kg was used for recreational users (campers and hikers) as recommended by Department of Toxic Substances Control (2014).

[d] Chemical-specific volatilization factors (VFs) were estimated as discussed in Section 4.0, Exposure Assessment, of the main report. Outdoor vapor concentration is calculated by dividing the soil EPC by the VF.

[e] PEF of 8.5×10^5 m^3/kg was used for recreational users (off-highway vehicle rider) as calculated in United States Environmental Protection Agency (2008, 2009) and recommended in "Revised Technical Memorandum, Recreational Visitor Exposure Scenario for Federal Land, PG&E Topock Compressor Station Remediation Project, California," prepared by the Department of the Interior (DOI).

Abbreviations:

bgs = below ground surface.
C O P C = Constituent of Potential Concern.
mg/kg = milligrams per kilogram.
mg/m^3 = milligrams per cubic meter.
NA = not applicable.
ND = Not detected.
NS = Not sampled.
NV = Not volatile.
PCB = Polychlorinated biphenyls.
TPH = Total Petroleum Hydrocarbons.
TEQ = Toxic Equivalent.

References:

Department of Toxic Substances Control (DTSC). 2014. DTSC/HERO Human Health Risk Assessment (HHRA) Note Number 1: Recommended DTSC Default Exposure Factors for Use in Risk Assessment at California Hazardous Waste Sites and United States Environmental Protection Agency (U S E P A). 2008. Clear Creek Management Areas Asbestos Exposure and Human Health Risk Assessment. Region 9. May. Available at:

U S E P A. 2009. Baseline Human Health Risk Assessment for the Standard Mine Site, Gunnison County, CO; Addendum. Prepared by SRC for U S E P A Region 8. November 24. Available at: http://www2.epa.gov/sites/production/files/documents/SM_H

Table BCW-4.4b
5-Foot Scouring Scenario Depth-Weighted Exposure Point Concentrations and Predicted Outdoor Air Concentrations for Recreational Users:
C O P Cs in BCW Shallow Soil (5 to 10 feet bgs)

Post-Soil N T C R A Human Health and Ecological Risk Assessment Report
PG&E Topock Compressor Station
Needles, California

C O P C	Exposure Point Concentration for Shallow Soil: 5 to 10 feet bgs (mg/kg) [a]	Exposure Point Concentration for Subsurface I Soil: 5 to 15 feet bgs (mg/kg) [b]	Recreational User Camper Outdoor Airborne Particulate Concentration (mg/m^3) [c]	Recreational User Camper Outdoor Vapor Concentration (mg/m^3) [d]	Recreational User Hiker Outdoor Airborne Particulate Concentration (mg/m^3) [c]	Recreational User Hiker Outdoor Vapor Concentration (mg/m^3) [d]	Recreational User Off Highway Vehicle Rider Outdoor Airborne Particulate Concentration (mg/m^3) [e]	Recreational User Off Highway Vehicle Rider Outdoor Vapor Concentration (mg/m^3) [d]
Inorganics								
Antimony	1.3E+00	1.2E+00	9.3E-10	NV	9.3E-10	NV	1.5E-06	NV
Chromium, Hexavalent	8.3E-01	6.6E+00	6.1E-10	NV	6.1E-10	NV	9.7E-07	NV
Chromium, total	9.5E+01	4.5E+02	7.0E-08	NV	7.0E-08	NV	1.1E-04	NV
Cobalt	8.5E+00	8.6E+00	6.2E-09	NV	6.2E-09	NV	1.0E-05	NV
Copper	1.2E+01	1.2E+01	8.9E-09	NV	8.9E-09	NV	1.4E-05	NV
Lead	7.1E+00	4.9E+00	5.2E-09	NV	5.2E-09	NV	8.4E-06	NV
Mercury (inorganic)	5.7E-02	6.1E-02	4.2E-11	NV	4.2E-11	NV	6.7E-08	NV
Orthophosphate	3.1E+02	3.1E+02	2.3E-07	NV	2.3E-07	NV	3.7E-04	NV
Thallium	2.4E+00	2.5E+00	1.7E-09	NV	1.7E-09	NV	2.8E-06	NV
Zinc	7.5E+01	5.7E+01	5.5E-08	NV	5.5E-08	NV	8.9E-05	NV
Semi-Volatile Organic Compounds								
bis (2-ethylhexyl) phthalate	3.3E-01	2.5E-01	2.4E-10	NV	2.4E-10	NV	3.9E-07	NV
Polycyclic Aromatic Hydrocarbons								
2-Methyl naphthalene	3.0E-03	4.1E-03	2.2E-12	5.5E-08	2.2E-12	5.5E-08	3.6E-09	5.5E-08
Acenaphthylene	ND	ND	NA	NA	NA	NA	NA	NA
Anthracene	2.7E-02	1.7E-02	2.0E-11	2.6E-08	2.0E-11	2.6E-08	3.2E-08	2.6E-08
Benzo (ghi) perylene	5.3E-03	4.2E-03	3.9E-12	NV	3.9E-12	NV	6.2E-09	NV
Fluoranthene	5.4E-03	5.0E-03	4.0E-12	NV	4.0E-12	NV	6.4E-09	NV
Fluorene	3.6E-03	5.7E-03	2.6E-12	1.6E-08	2.6E-12	1.6E-08	4.2E-09	1.6E-08
Naphthalene	5.4E-03	1.1E-02	3.9E-12	1.8E-07	3.9E-12	1.8E-07	6.3E-09	1.8E-07
Phenanthrene	8.3E-03	6.7E-03	6.1E-12	NV	6.1E-12	NV	9.8E-09	NV
Pyrene	5.2E-03	4.8E-03	3.8E-12	1.5E-09	3.8E-12	1.5E-09	6.1E-09	1.5E-09

Table BCW-4.4b
5-Foot Scouring Scenario Depth-Weighted Exposure Point Concentrations and Predicted Outdoor Air Concentrations for Recreational Users:
C O P Cs in BCW Shallow Soil (5 to 10 feet bgs)

Post-Soil N T C R A Human Health and Ecological Risk Assessment Report
PG&E Topock Compressor Station
Needles, California

C O P C	Exposure Point Concentration for Shallow Soil: 5 to 10 feet bgs (mg/kg) [a]	Exposure Point Concentration for Subsurface I Soil: 5 to 15 feet bgs (mg/kg) [b]	Recreational User Camper Outdoor Airborne Particulate Concentration (mg/m^3) [c]	Recreational User Camper Outdoor Vapor Concentration (mg/m^3) [d]	Recreational User Hiker Outdoor Airborne Particulate Concentration (mg/m^3) [c]	Recreational User Hiker Outdoor Vapor Concentration (mg/m^3) [d]	Recreational User Off Highway Vehicle Rider Outdoor Airborne Particulate Concentration (mg/m^3) [e]	Recreational User Off Highway Vehicle Rider Outdoor Vapor Concentration (mg/m^3) [d]
Polychlorinated Biphenyls								
Total PCBs	2.3E-02	3.2E-02	1.7E-11	4.9E-08	1.7E-11	4.9E-08	2.7E-08	4.9E-08
Total Petroleum Hydrocarbons								
TPH as diesel	2.4E+02	1.2E+02	1.8E-07	5.0E-02	1.8E-07	5.0E-02	2.8E-04	5.0E-02
TPH as motor oil	2.8E+02	1.5E+02	2.1E-07	NV	2.1E-07	NV	3.3E-04	NV
Dioxins/Furans								
TEQ Human	3.1E-05	1.3E-04	2.3E-14	5.3E-11	2.3E-14	5.3E-11	3.7E-11	5.3E-11

Notes:

[a] Exposure point concentrations (EPCs) for shallow soil (5 to 10 feet bgs) are used to evaluate inhalation of particulates in outdoor air.

[b] EPCs for subsurface I soil (5 to 15 feet bgs) are used to evaluate inhalation of volatiles in outdoor air.

[c] Outdoor airborne particulate concentration is calculated by dividing the soil EPCs by the particulate emission factor (PEF). Default PEF of 1.4×10^9 m^3/kg was used for recreational users (campers and hikers) as recommended by Department of Toxic Substances Control (2014).

[d] Chemical-specific volatilization factors (VFs) were estimated as discussed in Section 4.0, Exposure Assessment, of the main report. Outdoor vapor concentration is calculated by dividing the soil EPC by the VF.

[e] PEF of 8.5×10^5 m^3/kg was used for recreational users (off-highway vehicle rider) as calculated in United States Environmental Protection Agency (2008, 2009) and recommended in "Revised Technical Memorandum, Recreational Visitor Exposure Scenario for Federal Land, PG&E Topock Compressor Station Remediation Project, California," prepared by the Department of the Interior (DOI).

Abbreviations:

bgs = below ground surface.
C O P C = Constituent of Potential Concern.
mg/kg = milligrams per kilogram.
mg/m^3 = milligrams per cubic meter.
NA = not applicable.
ND = Not detected.
NS = Not sampled.
NV = Not volatile.
PCB = Polychlorinated biphenyls.
TPH = Total Petroleum Hydrocarbons.
TEQ = Toxic Equivalent.

References:

Department of Toxic Substances Control (DTSC). 2014. DTSC/HERO Human Health Risk Assessment (HHRA) Note Number 1: Recommended DTSC Default Exposure Factors for Use in Risk Assessment at California Hazardous Waste Sites and United States Environmental Protection Agency (U S E P A). 2008. Clear Creek Management Areas Asbestos Exposure and Human Health Risk Assessment. Region 9. May. Available at:

U S E P A. 2009. Baseline Human Health Risk Assessment for the Standard Mine Site, Gunnison County, CO; Addendum. Prepared by SRC for U S E P A Region 8. November 24. Available at: http://www2.epa.gov/sites/production/files/documents/SM_H

Table BCW-4.5a
Human Health Risk and Hazard Estimate Summary at BCW for the Baseline Scenario Using Depth-Weighted Exposure Point Concentrations

Post-Soil N T C R A Human Health and Ecological Risk Assessment Report
PG&E Topock Compressor Station
Needles, California

Receptor	Depth Interval	ILCR	H I
Recreational User - Camper	Surface	3E-07	1E-01
Recreational User - Camper	Shallow	3E-07	1E-01
Recreational User - Hiker	Surface	6E-07	2E-01
Recreational User - Hiker	Shallow	5E-07	2E-01
Recreational User - OHV Rider	Surface	5E-07	4E-02
Recreational User - OHV Rider	Shallow	5E-07	4E-02

Abbreviations:
ILCR = Incremental Lifetime Cancer Risk
H I = Hazard Index

Table BCW-4.5b
Human Health Risk and Hazard Estimate Summary at BCW for the 2-Foot Scouring Scenario Using Depth-Weighted Exposure Point Concentrations

Post-Soil N T C R A Human Health and Ecological Risk Assessment Report
PG&E Topock Compressor Station
Needles, California

Receptor	Depth Interval	ILCR	H I
Recreational User - Camper	Surface	2E-07	3E-02
Recreational User - Camper	Shallow	2E-07	7E-02
Recreational User - Hiker	Surface	4E-07	7E-02
Recreational User - Hiker	Shallow	4E-07	1E-01
Recreational User - OHV Rider	Surface	4E-07	2E-02
Recreational User - OHV Rider	Shallow	5E-07	3E-02

Abbreviations:
ILCR = Incremental Lifetime Cancer Risk
H I = Hazard Index

Table BCW-4.5c
Human Health Risk and Hazard Estimate Summary at BCW for the 5-Foot Scouring Scenario Using Depth-Weighted Exposure Point Concentrations

Post-Soil N T C R A Human Health and Ecological Risk Assessment Report
PG&E Topock Compressor Station
Needles, California

Receptor	Depth Interval	ILCR	H I
Recreational User - Camper	Surface	2E-07	1E-01
Recreational User - Camper	Shallow	2E-07	1E-01
Recreational User - Hiker	Surface	4E-07	2E-01
Recreational User - Hiker	Shallow	5E-07	2E-01
Recreational User - OHV Rider	Surface	4E-07	4E-02
Recreational User - OHV Rider	Shallow	5E-07	4E-02

Abbreviations:
ILCR = Incremental Lifetime Cancer Risk
H I = Hazard Index

Table BCW-5.1
Depth-Weighted Exposure Point Concentrations for Soil and Biota for BCW

Post-Soil N T C R A Human Health and Ecological Risk Assessment Report
PG&E Topock Compressor Station
Needles, California

Category	C O P E C	Units	Soil EPC (0-0.5 ft bgs)	Soil EPC (2-3 ft bgs)	Soil EPC (5-6 ft bgs)	Biota EPC (0-0.5 ft bgs) [a]	Biota EPC (2-3 ft bgs) [a]	Biota EPC (5-6 ft bgs) [a]
Inorganics	Chromium, hexavalent	mg/kg	3.48E-01	4.28E-01	4.94E-01	1.06E-01	1.31E-01	1.51E-01
Inorganics	Chromium, total	mg/kg	2.99E+01	5.01E+01	3.89E+01	9.15E+00	1.53E+01	1.19E+01
Inorganics	Copper	mg/kg	1.45E+01	1.21E+01	1.21E+01	7.49E+00	6.21E+00	6.23E+00
Dioxins	TEQ Mammals	ng/kg	5.22E+01	2.64E+01	3.05E+01	2.97E+02	1.33E+02	1.57E+02

Notes:

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

Abbreviations:

BCW = Bat Cave Wash
C O P E C = constituent of potential ecological concern
EPC = exposure point concentration
ft bgs = feet below ground surface
mg/kg = milligrams per kilogram
ng/kg = nanograms per kilogram
TEQ = toxicity equivalent

Table BCW-5.2
Area-Weighted Exposure Point Concentrations for Soil and Biota for BCW

Post-Soil N T C R A Human Health and Ecological Risk Assessment Report
PG&E Topock Compressor Station
Needles, California

Category	C O P E C	Units	Soil EPC (0-0.5 ft bgs)	Soil EPC (2-3 ft bgs)	Soil EPC (5-6 ft bgs)	Biota EPC (0-0.5 ft bgs) [a]	Biota EPC (2-3 ft bgs) [a]	Biota EPC (5-6 ft bgs) [a]
Inorganics	Chromium, hexavalent	mg/kg	3.01E-01	6.26E-01	3.50E-01	9.22E-02	1.92E-01	1.07E-01
Inorganics	Chromium, total	mg/kg	2.88E+01	7.18E+01	3.01E+01	8.82E+00	2.20E+01	9.23E+00
Inorganics	Copper	mg/kg	1.32E+01	1.14E+01	1.14E+01	6.78E+00	5.87E+00	5.86E+00
Dioxins	TEQ Mammals	ng/kg	4.89E+01	1.96E+01	2.76E+01	2.75E+02	9.35E+01	1.40E+02

Notes:

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

Abbreviations:

BCW = Bat Cave Wash
C O P E C = constituent of potential ecological concern
EPC = exposure point concentration
ft bgs = feet below ground surface
mg/kg = milligrams per kilogram
ng/kg = nanograms per kilogram
TEQ = toxicity equivalent

Table BCW-5.3
Toxic Equivalency Factors for Dioxin Congeners and Calculated Tissue Exposure Point Concentrations for Dioxin TEQ for BCW

Post-Soil N T C R A Human Health and Ecological Risk Assessment Report
PG&E Topock Compressor Station
Needles, California

Constituent	Units	Soil EPC 95% UCL (0-0.5 ft bgs)	Soil EPC 95% UCL (2-3 ft bgs)	Soil EPC 95% UCL (5-6 ft bgs)	Terrestrial Invertebrate Bioaccumulation Factors	Terrestrial Invertebrate Tissue EPC (0-0.5 ft bgs)	Terrestrial Invertebrate Tissue EPC (2-3 ft bgs)	Terrestrial Invertebrate Tissue EPC (5-6 ft bgs)	Mammal TEFs[a]	Terrestrial Invertebrate Tissue EPCs (0-0.5 ft bgs, Mammal TEF Applied)	Terrestrial Invertebrate Tissue EPCs (2-3 ft bgs, Mammal TEF Applied)	Terrestrial Invertebrate Tissue EPCs (5-6 ft bgs, Mammal TEF Applied)
Congener-Specific Approach (USEPA 1999)												
1,2,3,4,6,7,8-hpcdd	ng/kg	1861	3100	15000	0.081	151	251	1215	0.01	1.51	2.51	12.2
1,2,3,4,6,7,8-hpcdf	ng/kg	125.2	53.77	127.2	0.017	2.13	0.91	2.16	0.01	0.021	0.0091	0.022
1,2,3,4,7,8,9-hpcdf	ng/kg	7.498	1.382	8.731	0.62	4.65	0.86	5.41	0.01	0.046	0.0086	0.054
1,2,3,4,7,8-hxcdd	ng/kg	8.396	2.941	3.871	0.49	4.11	1.44	1.90	0.1	0.41	0.144	0.19
1,2,3,4,7,8-hxcdf	ng/kg	4.501	1.105	10.02	0.121	0.54	0.13	1.21	0.1	0.054	0.013	0.12
1,2,3,6,7,8-hxcdd	ng/kg	45.82	12.31	28.73	0.19	8.71	2.34	5.46	0.1	0.87	0.23	0.55
1,2,3,6,7,8-hxcdf	ng/kg	4.771	0.807	3.668	0.3	1.43	0.24	1.10	0.1	0.14	0.024	0.11
1,2,3,7,8,9-hxcdd	ng/kg	16.72	3.921	9.999	0.22	3.68	0.86	2.20	0.1	0.37	0.086	0.22
1,2,3,7,8,9-hxcdf	ng/kg	1.02	0.397	1.639	1	1.02	0.40	1.64	0.1	0.10	0.040	0.16
1,2,3,7,8-pecdd	ng/kg	2.996	0.454	1.931	1.46	4.37	0.66	2.82	1	4.37	0.66	2.82
1,2,3,7,8-pecdf	ng/kg	1.351	4.5	0.602	0.32	0.43	1.44	0.19	0.03	0.013	0.043	0.0058
2,3,4,6,7,8-hxcdf	ng/kg	4.595	0.87	5.902	1.07	4.92	0.93	6.32	0.1	0.49	0.093	0.63
2,3,4,7,8-pecdf	ng/kg	2.889	0.424	2.163	2.54	7.34	1.08	5.49	0.3	2.20	0.32	1.65
2,3,7,8-tcdd	ng/kg	0.258	0.38	0.201	1.59	0.41	0.60	0.32	1	0.41	0.60	0.32
2,3,7,8-tcdf	ng/kg	1.042	0.323	0.47	1.27	1.32	0.41	0.60	0.1	0.13	0.041	0.060
ocdd	ng/kg	16063	5410	200000	0.019	305	103	3800	0.0003	0.092	0.031	1.14
ocdf	ng/kg	466.2	265	379.6	0.025	11.7	6.63	9.49	0.0003	0.0035	0.0020	0.0028
Dioxin TEQ	ng/kg									**11.2**	**4.87**	**20.2**
Congener-Specific Approach (Fagervold et al. 2010)[b]												
1,2,3,4,6,7,8-hpcdd	ng/kg	1861	3100	15000	0.20	368.32	614	2969	0.01	3.68	6.14	29.7
1,2,3,4,6,7,8-hpcdf	ng/kg	125.2	53.77	127.2	0.36	44.49	19.11	45.20	0.01	0.44	0.19	0.45
1,2,3,4,7,8,9-hpcdf	ng/kg	7.498	1.382	8.731	0.34	2.53	0.47	2.95	0.01	0.025	0.0047	0.030
1,2,3,4,7,8-hxcdd	ng/kg	8.396	2.941	3.871	0.23	1.92	0.67	0.89	0.1	0.19	0.067	0.089
1,2,3,4,7,8-hxcdf	ng/kg	4.501	1.105	10.02	0.48	2.14	0.53	4.76	0.1	0.21	0.053	0.48
1,2,3,6,7,8-hxcdd	ng/kg	45.82	12.31	28.73	0.19	8.82	2.37	5.53	0.1	0.88	0.24	0.55
1,2,3,6,7,8-hxcdf	ng/kg	4.771	0.807	3.668	0.59	2.79	0.47	2.15	0.1	0.28	0.047	0.21
1,2,3,7,8,9-hxcdd	ng/kg	16.72	3.921	9.999	0.13	2.15	0.50	1.28	0.1	0.21	0.050	0.13
1,2,3,7,8,9-hxcdf	ng/kg	1.02	0.397	1.639	1.22	1.25	0.48	2.00	0.1	0.12	0.048	0.20
1,2,3,7,8-pecdd	ng/kg	2.996	0.454	1.931	0.18	0.55	0.08	0.35	1	0.55	0.083	0.35
1,2,3,7,8-pecdf	ng/kg	1.351	4.5	0.602	0.79	1.06	3.54	0.47	0.03	0.032	0.11	0.014
2,3,4,6,7,8-hxcdf	ng/kg	4.595	0.87	5.902	0.33	1.53	0.29	1.96	0.1	0.15	0.029	0.20
2,3,4,7,8-pecdf	ng/kg	2.889	0.424	2.163	0.56	1.63	0.24	1.22	0.3	0.49	0.072	0.37
2,3,7,8-tcdd	ng/kg	0.258	0.38	0.201	1.65	0.43	0.63	0.33	1	0.43	0.63	0.33
2,3,7,8-tcdf	ng/kg	1.042	0.323	0.47	1.21	1.26	0.39	0.57	0.1	0.13	0.039	0.057
ocdd	ng/kg	16063	5410	200000	0.25	4055	1366	50483	0.0003	1.22	0.41	15.1
ocdf	ng/kg	466.2	265	379.6	0.27	127.78	72.63	104.04	0.0003	0.038	0.022	0.031
Dioxin TEQ	ng/kg									**9.09**	**8.22**	**48.3**
ERA Approach[c]												
TEQ mammals	ng/kg	52.18	26.39	30.47	ln(Ci) = 1.182 * ln(Cs) + 3.533	--	--	--	--	**297**	**133**	**157**

Table BCW-5.3
Toxic Equivalency Factors for Dioxin Congeners and Calculated Tissue Exposure Point Concentrations for Dioxin TEQ for BCW

Post-Soil N T C R A Human Health and Ecological Risk Assessment Report
PG&E Topock Compressor Station
Needles, California

Notes:

[a] Toxic Equivalentcy Factors (TEFs) from Van den Berg (2006) for mammals.
[b] Fagervold et al. (2010) bioaccumulation factors calculated using soil-to-earthworm 2,3,7,8-TCDD BAF for soil at location SW-20 (BAF = 1.65) and congener-specific earthworm bioaccumulation equivalency factors. See Table 6-34 of the 2019 H H E R A (Arcadis 2019).
[c] ERA approach bioaccumulation factor based on tetrachlorodibenzo-p-dioxin (TCDD) in Sample et al. (1998).

Abbreviations:
BCW = Bat Cave Wash
C O P E C = constituent of potential ecological concern
EPC = exposure point concentration
ft bgs = feet below ground surface
ng/kg = nanograms per kilogram
TEQ = toxicity equivalent
TEF = toxic equivalency factor

References:
Arcadis. 2019. Final Soil Human Health and Ecological Risk Assessment Report, Topock Compressor Station, Needles, California.
Fagervold, SK, Y Chai, JW Davis, M Wilken, G Cornelissen, and U Ghosh. 2010. Bioaccumulation of polychlorinated dibenzo-p-dioxins/dibenzofurans in E. fetida from floodplain soils and the effect of activated carbon amendment. Environ Sci Technol. 44(14):5546-52
Sample, B.E., J.J. Beauchamp, R.A. Efroymson, G.W. Suter, II, and T.L. Ashwood. 1998. Development and Validation of Bioaccumulation Models for Earthworms. ES/ER/TM-220. Oak Ridge National Laboratory, Oak Ridge TN. 93 pp.47
USEPA. 1999. Screening Level Ecological Risk Assessment Protocol for Hazardous Waste Combustion Facilities. U.S. Environmental Protection Agency Peer Review Draft. August
Van den Berg, et al. 2006. The 2005 World Health Organization reevaluation of human and mammalian TEFs for dioxins and dioxin-like compounds. Toxicological Sciences 93:223-241.

Table BCW-5.4
Desert Shrew Risk Estimate Summary Using Depth-Weighted Exposure Point Concentrations (Wildlife SUF = 1, TRVs used for RBRG Development, and Selected BAFs) for BCW

Post-Soil N T C R A Human Health and Ecological Risk Assessment Report
PG&E Topock Compressor Station
Needles, California

Scenario	Category	C O P E C	Desert Shrew N O A E L HQ TRV Used for RBRG Development SUF = 1	N O A E L HQ TRV Basis[a]	N O A E L HQ Notes	Desert Shrew L O A E L HQ TRV Used for RBRG Development SUF = 1	L O A E L HQ TRV Basis[a]	L O A E L HQ Notes
Baseline	Inorganics	Chromium, hexavalent	2E-03	Selected TRV	None	6E-04	Selected TRV	None
Baseline	Inorganics	Chromium, total	8E-01	Selected TRV	None	2E-01	Selected TRV	None
Baseline	Inorganics	Copper	2E-01	Selected TRV	None	1E-01	Selected TRV	None
Baseline	Dioxins	TEQ Mammals	**1E+01**	Alternate TRV	Note 1	**2E+00**	Alternate TRV	Note 2
2 ft Scouring	Inorganics	Chromium, hexavalent	3E-03	Selected TRV	None	7E-04	Selected TRV	None
2 ft Scouring	Inorganics	Chromium, total	1E+00	Selected TRV	None	3E-01	Selected TRV	None
2 ft Scouring	Inorganics	Copper	1E-01	Selected TRV	None	8E-02	Selected TRV	None
2 ft Scouring	Dioxins	TEQ Mammals	**6E+00**	Alternate TRV	Note 1	9E-01	Alternate TRV	None
5 ft Scouring	Inorganics	Chromium, hexavalent	4E-03	Selected TRV	None	9E-04	Selected TRV	None
5 ft Scouring	Inorganics	Chromium, total	1E+00	Selected TRV	None	3E-01	Selected TRV	None
5 ft Scouring	Inorganics	Copper	1E-01	Selected TRV	None	8E-02	Selected TRV	None
5 ft Scouring	Dioxins	TEQ Mammals	**7E+00**	Alternate TRV	Note 1	1E+00	Alternate TRV	None

Notes:

[a] Selected TRVs for metals are based on the TRVs used to develop the U S E P A Ecological Soil Screening Levels (U S E P A 2005).
Alternate TRVs for dioxin TEQ were developed for mammals based the geometric mean of the reproduction and growth endpoints for the NOAEL and LOAEL effect levels, respectively.

Note 1	N O A E L HQ greater than 1
Note 2	L O A E L HQ greater than 1
Note 3	L O A E L HQ greater than 10
Note 4	L O A E L HQ greater than 100

Abbreviations:

BAF = bioaccumulation factor
BCW = Bat Cave Wash
C O P E C = constituent of potential ecological concern
HQ = hazard quotient
LOAEL = lowest observed adverse effect level
NOAEL = no-observed adverse effect level
RBRG = risk-based remedial goal
S U F = site use factor
TEQ = toxicity equivalent
TRV = toxicity reference value
U S E P A = United States Environmental Protection Agency

Table BCW-5.5
Desert Shrew Risk Estimate Summary Using Area-Weighted Exposure Point Concentrations (Wildlife SUF = 1, TRVs used for RBRG Development, and Selected BAFs) for BCW

Post-Soil N T C R A Human Health and Ecological Risk Assessment Report
PG&E Topock Compressor Station
Needles, California

Scenario	Category	C O P E C	Desert Shrew N O A E L HQ TRV Used for RBRG Development SUF = 1	N O A E L HQ TRV Basis[a]	N O A E L HQ Notes	Desert Shrew L O A E L HQ TRV Used for RBRG Development SUF = 1	L O A E L HQ TRV Basis[a]	L O A E L HQ Notes
Baseline	Inorganics	Chromium, hexavalent	2E-03	Selected TRV	None	5E-04	Selected TRV	None
Baseline	Inorganics	Chromium, total	8E-01	Selected TRV	None	2E-01	Selected TRV	None
Baseline	Inorganics	Copper	2E-01	Selected TRV	None	9E-02	Selected TRV	None
Baseline	Dioxins	TEQ Mammals	**1E+01**	Alternate TRV	Note 1	**2E+00**	Alternate TRV	Note 2
2 ft Scouring	Inorganics	Chromium, hexavalent	4E-03	Selected TRV	None	1E-03	Selected TRV	None
2 ft Scouring	Inorganics	Chromium, total	**2E+00**	Selected TRV	Note 1	5E-01	Selected TRV	None
2 ft Scouring	Inorganics	Copper	1E-01	Selected TRV	None	8E-02	Selected TRV	None
2 ft Scouring	Dioxins	TEQ Mammals	**4E+00**	Alternate TRV	Note 1	6E-01	Alternate TRV	None
5 ft Scouring	Inorganics	Chromium, hexavalent	3E-03	Selected TRV	None	6E-04	Selected TRV	None
5 ft Scouring	Inorganics	Chromium, total	8E-01	Selected TRV	None	2E-01	Selected TRV	None
5 ft Scouring	Inorganics	Copper	1E-01	Selected TRV	None	8E-02	Selected TRV	None
5 ft Scouring	Dioxins	TEQ Mammals	**6E+00**	Alternate TRV	Note 1	1E+00	Alternate TRV	None

Notes:
[a] Selected TRVs for metals are based on the TRVs used to develop the U S E P A Ecological Soil Screening Levels (U S E P A 2005). Alternate TRVs for dioxin TEQ were developed for mammals based the geometric mean of the reproduction and growth endpoints for the NOAEL and LOAEL effect levels, respectively.

Note 1	N O A E L HQ greater than 1
Note 2	L O A E L HQ greater than 1
Note 3	L O A E L HQ greater than 10
Note 4	L O A E L HQ greater than 100

Abbreviations:
BAF = bioaccumulation factor
BCW = Bat Cave Wash
C O P E C = constituent of potential ecological concern
HQ = hazard quotient
LOAEL = lowest observed adverse effect level
NOAEL = no-observed adverse effect level
RBRG = risk-based remedial goal
S U F = site use factor
TEQ = toxicity equivalent
TRV = toxicity reference value
U S E P A = United States Environmental Protection Agency

Table BCW-5.6
Desert Shrew Risk Estimate Summary for Dioxin TEQ Using Depth-Weighted Exposure Point Concentrations and Congener-Specific BAFs (Wildlife SUF = 1, TRVs used for RBRG Development) for BCW

Post-Soil N T C R A Human Health and Ecological Risk Assessment Report
PG&E Topock Compressor Station
Needles, California

Scenario	Category	BAF Type	C O P E C	Desert Shrew N O A E L HQ TRV Used for RBRG Development SUF = 1	N O A E L HQ TRV Basis[a]	N O A E L HQ Notes	Desert Shrew L O A E L HQ TRV Used for RBRG Development SUF = 1	L O A E L HQ TRV Basis[a]	L O A E L HQ Notes
Baseline	Dioxins	Congener-Specific (USEPA 1999)	TEQ Mammals	5E-01	Alternate TRV	None	8E-02	Alternate TRV	None
2 ft Scouring	Dioxins	Congener-Specific (USEPA 1999)	TEQ Mammals	2E-01	Alternate TRV	None	4E-02	Alternate TRV	None
5 ft Scouring	Dioxins	Congener-Specific (USEPA 1999)	TEQ Mammals	9E-01	Alternate TRV	None	1E-01	Alternate TRV	None
Baseline	Dioxins	Congener-Specific (Fagervold et al. 2010)	TEQ Mammals	4E-01	Alternate TRV	None	7E-02	Alternate TRV	None
2 ft Scouring	Dioxins	Congener-Specific (Fagervold et al. 2010)	TEQ Mammals	4E-01	Alternate TRV	None	6E-02	Alternate TRV	None
5 ft Scouring	Dioxins	Congener-Specific (Fagervold et al. 2010)	TEQ Mammals	**2E+00**	Alternate TRV	Note 1	3E-01	Alternate TRV	None

Notes:
[a] Selected TRVs for metals are based on the TRVs used to develop the U S E P A Ecological Soil Screening Levels (U S E P A 2005). Alternate TRVs for dioxin TEQ were developed for mammals based the geometric mean of the reproduction and growth endpoints for the NOAEL and LOAEL effect levels, respectively.

Note 1	N O A E L HQ greater than 1
Note 2	L O A E L HQ greater than 1
Note 3	L O A E L HQ greater than 10
Note 4	L O A E L HQ greater than 100

Abbreviations:
BAF = bioaccumulation factor
BCW = Bat Cave Wash
C O P E C = constituent of potential ecological concern
HQ = hazard quotient
LOAEL = lowest observed adverse effect level
NOAEL = no-observed adverse effect level
RBRG = risk-based remedial goal
S U F = site use factor
TEQ = toxicity equivalent
TRV = toxicity reference value
U S E P A = United States Environmental Protection Agency

Table BCW-6.1
Desert Shrew Risk Estimate Summary Using Depth-Weighted and Area-Weighted Exposure Point Concentrations for BCW

Post-Soil N T C R A Human Health and Ecological Risk Assessment Report
PG&E Topock Compressor Station
Needles, California

Scenario	Category	C O P E C	BAF Type'	Desert Shrew Depth-Weighted N O A E L HQ TRV Used for RBRG Development SUF = 1	Desert Shrew Depth-Weighted N O A E L HQ Notes	Desert Shrew Depth-Weighted L O A E L HQ TRV Used for RBRG Development SUF = 1	Desert Shrew Depth-Weighted L O A E L HQ Notes	Desert Shrew Area-Weighted N O A E L HQ TRV Used for RBRG Development SUF = 1	Desert Shrew Area-Weighted N O A E L HQ Notes	Desert Shrew Area-Weighted L O A E L HQ TRV Used for RBRG Development SUF = 1	Desert Shrew Area-Weighted L O A E L HQ Notes	W O E Result[a]
Baseline	Inorganics	Chromium, hexavalent	Selected BAF	2E-03	None	6E-04	None	2E-03	None	5E-04	None	HQ less than or equal to 1
Baseline	Inorganics	Chromium, total	Selected BAF	8E-01	None	2E-01	None	8E-01	None	2E-01	None	HQ less than or equal to 1
Baseline	Inorganics	Copper	Selected BAF	2E-01	None	1E-01	None	2E-01	None	9E-02	None	HQ less than or equal to 1
Baseline	Dioxins	TEQ Mammals	Selected BAF	1E+01	Note 1	2E+00	Note 2	1E+01	Note 1	2E+00	Note 2	See W O E for Alternate BAFs
Baseline	Dioxins	TEQ Mammals	Alternate BAF (USEPA 1999)	5E-01	None	8E-02	None	--	None	--	None	HQ less than or equal to 1
Baseline	Dioxins	TEQ Mammals	Alternate BAF (Fagervold et al. 2010)	4E-01	None	7E-02	None	--	None	--	None	HQ less than or equal to 1
2 ft Scouring	Inorganics	Chromium, hexavalent	Selected BAF	3E-03	None	7E-04	None	4E-03	None	1E-03	None	HQ less than or equal to 1
2 ft Scouring	Inorganics	Chromium, total	Selected BAF	1E+00	None	3E-01	None	2E+00	None	5E-01	None	HQ less than or equal to 1
2 ft Scouring	Inorganics	Copper	Selected BAF	1E-01	None	8E-02	None	1E-01	None	8E-02	None	HQ less than or equal to 1
2 ft Scouring	Dioxins	TEQ Mammals	Selected BAF	6E+00	Note 1	9E-01	None	4E+00	Note 1	6E-01	None	See W O E for Alternate BAFs
2 ft Scouring	Dioxins	TEQ Mammals	Alternate BAF (USEPA 1999)	2E-01	None	4E-02	None	--	None	--	None	HQ less than or equal to 1
2 ft Scouring	Dioxins	TEQ Mammals	Alternate BAF (Fagervold et al. 2010)	4E-01	None	6E-02	None	--	None	--	None	HQ less than or equal to 1
5 ft Scouring	Inorganics	Chromium, hexavalent	Selected BAF	4E-03	None	9E-04	None	3E-03	None	6E-04	None	HQ less than or equal to 1
5 ft Scouring	Inorganics	Chromium, total	Selected BAF	1E+00	None	3E-01	None	8E-01	None	2E-01	None	HQ less than or equal to 1
5 ft Scouring	Inorganics	Copper	Selected BAF	1E-01	None	8E-02	None	1E-01	None	8E-02	None	HQ less than or equal to 1
5 ft Scouring	Dioxins	TEQ Mammals	Selected BAF	7E+00	Note 1	1E+00	None	6E+00	Note 1	1E+00	None	See W O E for Alternate BAFs
5 ft Scouring	Dioxins	TEQ Mammals	Alternate BAF (USEPA 1999)	9E-01	None	1E-01	None	--	None	--	None	HQ less than or equal to 1
5 ft Scouring	Dioxins	TEQ Mammals	Alternate BAF (Fagervold et al. 2010)	2E+00	Note 1	3E-01	None	--	None	--	None	Unlikely

Notes:

[a] W O E result for dioxin TEQ is risk conclusion based on 1) L O A E L HQ based on depth-weighted EPCs and assumptions used for RBRG development (i.e., a SUF of 1, congener-specific BAFs, and alternate TRVs), and 2) supporting L O E s. W O E result for metals is risk conclusion based on 1) L O A E L HQ based on area-weighted EPCs and assumptions used for RBRG development (i.e., a SUF of 1 and selected BAFs and TRVs), and 2) supporting L O E s.

Note 1	N O A E L HQ greater than 1
Note 2	L O A E L HQ greater than 1
Note 3	L O A E L HQ greater than 10
Note 4	L O A E L HQ greater than 100

Abbreviations:

"--" = not applicable
BAF = bioaccumulation factor
BCW = Bat Cave Wash
C O P E C = constituent of potential ecological concern
E P C = exposure point concentration
H Q = hazard quotient
L O A E L = lowest observed adverse effect level
L O E = line of evidence
N O A E L = no-observed adverse effect level
R B R G = risk-based remedial goal
S U F = site use factor
T E Q = toxicity equivalent
T R V = toxicity reference value
U S E P A = United States Environmental Protection Agency
W O E = weight of evidence, considering multiple L O E s. If HQs/L O A E L HQs are greater than 1, W O E Result is either 1) not expected, 2) unlikely, or 3) possible.

FIGURES

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Notes:

1. All sample locations with a labeled location ID are included in the BCW exposure area.
2. Samples represent data evaluated in the 2019 HHERA for the 0 to 10 foot below ground surface interval in the baseline, 2 foot scouring, and 5 foot scouring scenarios.
3. Source data for the figure is the 2019 Soil Human Health and Ecological Risk Assessment (Arcadis 2019).

Legend:

- Soil Sampling Location
- Sediment Sampling Location
- Area of Concern
- Bat Cave Wash (BCW) Exposure Area
- Exposure Area
- Solid Waste Management Unit
- SWMU1 Exposure Area
- Potential Burning Related Location
- Property Boundaries
- Contour Line (10 feet interval)
- Inside the Topock Compressor Station boundary, as defined by current fenceline
- Fencing
- BCW — Label for Exposure Area
- AOC 4 — Label for Area of Concern

0 140 280
SCALE IN FEET

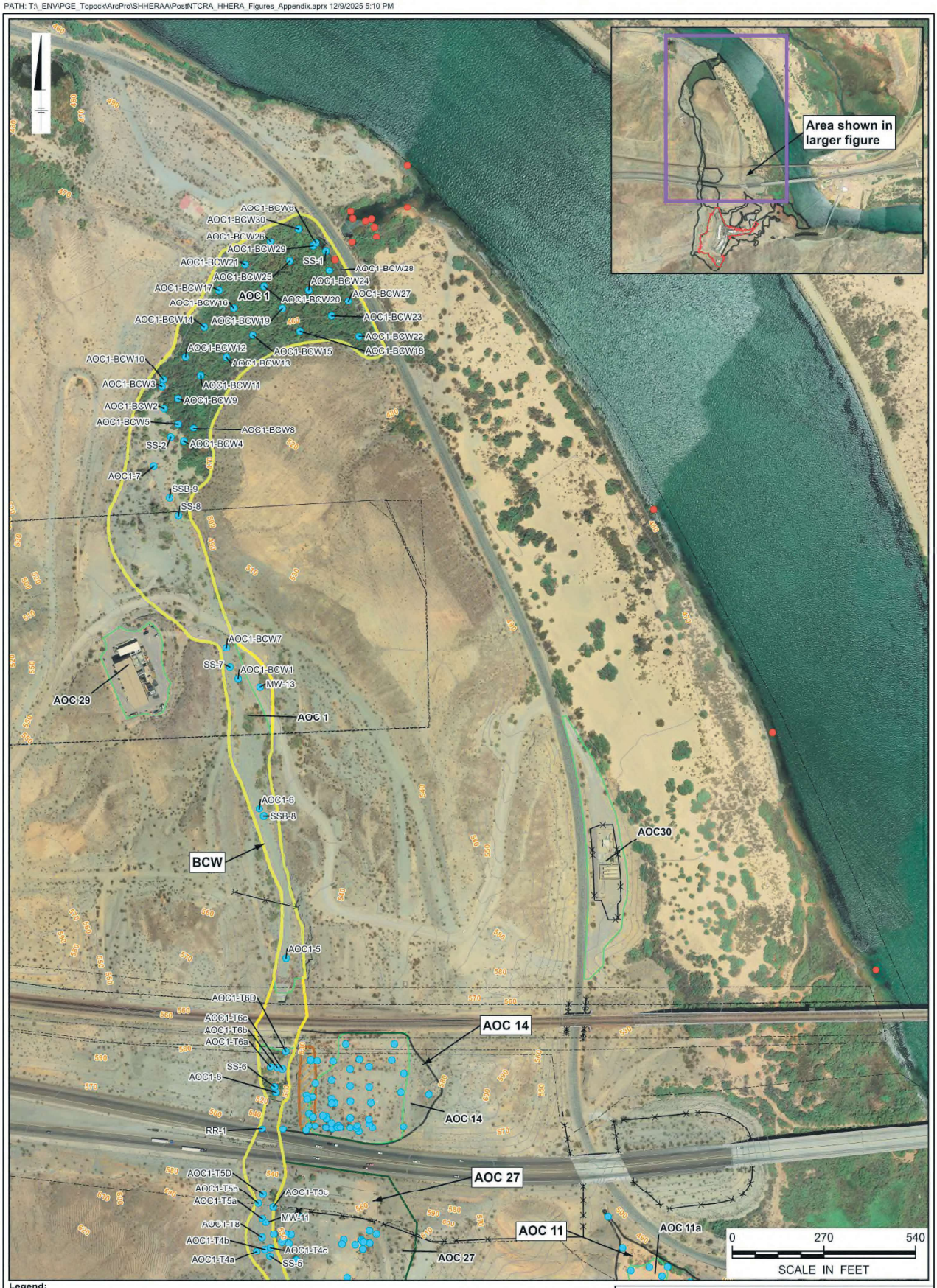
PG&E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA
POST-SOIL NTCRA HUMAN HEALTH AND ECOLOGICAL RISK ASSESSMENT REPORT

SOIL SAMPLING LOCATIONS BCW EXPOSURE AREA (PRE-NTCRA) - SOUTH

ARCADIS

FIGURE
BCW-1.1a

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Legend:

- Soil Sampling Location
- Sediment Sampling Location
- Area of Concern
- Bat Cave Wash (BCW) Exposure Area
- Exposure Area
- Solid Waste Management Unit
- Potential Burning Related Location
- Property Boundaries
- Contour Line (10 feet interval)
- Inside the Topock Compressor Station boundary, as defined by current fenceline
- Fencing

BCW — Label for Exposure Area

AOC 1 — Label for Area of Concern

Notes:

1. All sample locations with a labeled location ID are included in the BCW exposure area.
2. Samples represent data evaluated in the 2019 HHERA for the 0 to 10 foot below ground surface interval in the baseline, 2 foot scouring, and 5 foot scouring scenarios.
3. Source data for the figure is the 2019 Soil Human Health and Ecological Risk Assessment (Arcadis 2019).

PG&E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA

POST-SOIL NTCRA HUMAN HEALTH AND ECOLOGICAL RISK ASSESSMENT REPORT

SOIL SAMPLING LOCATIONS BCW EXPOSURE AREA (PRE-NTCRA) - NORTH

ARCADIS

FIGURE
BCW-1.1b

PATH: T:_ENV\PGE_Topock\ArcPro\SHHERAA\PostNTCRA_HHERA_Figures_Appendix.aprx 12/17/2025 4:26 PM



Notes:
1. All sample locations with a labeled location ID are included in the BCW exposure area.
2. Samples represent data evaluated in the Post-NTCRA HHERA for the 0 to 3 foot below ground surface interval in the baseline, 2 foot scouring, and 5 foot scouring scenarios.

Legend:

- Sediment Sampling Location
- Soil Sampling Location (Historical)
- NTCRA Confirmation Samples
- Area of Concern
- Solid Waste Management Unit
- SWMU1 Exposure Area
- NTCRA Removal Area
- Target Action Area
- Potential Burning Related Location
- Property Boundaries
- Contour Line (10 feet interval)
- Inside the Topock Compressor Station boundary, as defined by current fenceline
- Fencing
- BCW — Label for Exposure Area
- AOC 4 — Label for Area of Concern
- SWMU1 TAA3 — Target Action Area (TAA)

0 140 280
SCALE IN FEET

PG&E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA
POST-SOIL NTCRA HUMAN HEALTH AND ECOLOGICAL RISK ASSESSMENT REPORT

CURRENT SOIL SAMPLING LOCATIONS AND NTCRA AREAS FOR BCW EXPOSURE AREA - SOUTH

ARCADIS

FIGURE
BCW-1.2a

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Legend:

- Sediment Sampling Location
- Soil Sampling Location
- NTCRA Confirmation Samples
- Area of Concern
- Bat Cave Wash (BCW) Exposure Area
- Exposure Area
- Solid Waste Management Unit
- Potential Burning Related Location
- Target Action Area
- NTCRA Removal Area
- Property Boundaries
- Contour Line (10 feet interval)
- Inside the Topock Compressor Station boundary, as defined by current fenceline
- Fencing
- BCW — Label for Exposure Area
- AOC 1 — Label for Area of Concern
- AOC27 TAA1 — Target Action Area (TAA)

Notes:

1. All sample locations with a labeled location ID are included in the BCW exposure area.
2. Samples represent data evaluated in the Post-NTCRA HHERA for the 0 to 3 foot below ground surface interval in the baseline, 2 foot scouring, and 5 foot scouring scenarios.

PG&E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA

POST-SOIL NTCRA HUMAN HEALTH AND ECOLOGICAL RISK ASSESSMENT REPORT

CURRENT SOIL SAMPLING LOCATIONS AND NTCRA AREAS FOR BCW EXPOSURE AREA - NORTH

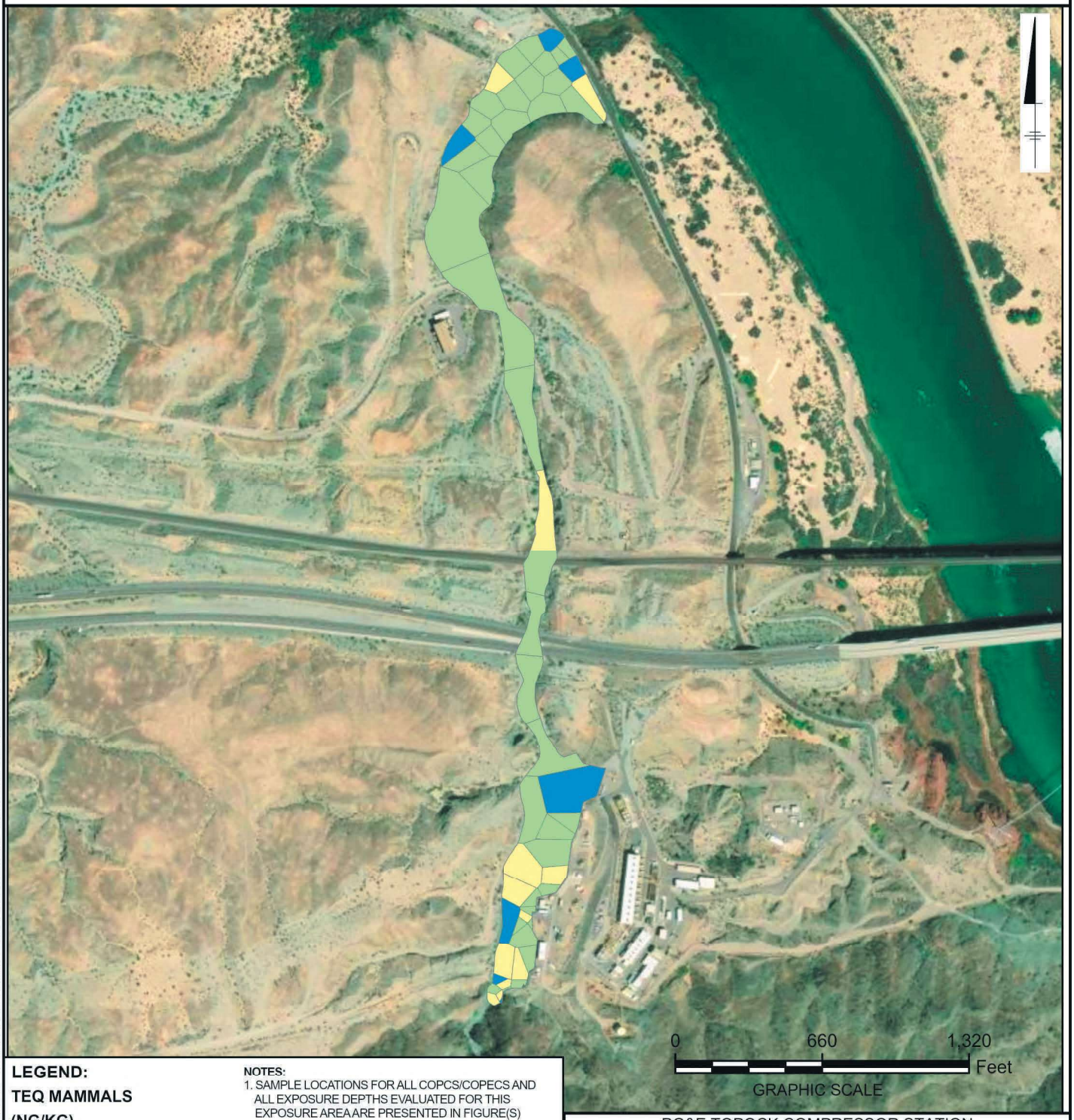
ARCADIS

FIGURE
BCW-1.2b

ATTACHMENT A

Dataset and Exposure Point Concentration Calculations for the BCW HHERA

BAT CAVE WASH (BCW)
0 - 0.5 FEET BELOW GROUND SURFACE
TEQ MAMMALS



LEGEND:

TEQ MAMMALS (NG/KG)

- 0 - 5.58
- >5.58 - 100
- >100 - 190
- >190

NOTES:

1. SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE(S) BCW-1.2A AND BCW-1.2B.
2. DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
3. SOIL REMOVAL ACTION GOALS AS SELECTED IN THE SOIL ENGINEERING EVALUATION/COST ANALYSIS (JACOBS 2021).
4. NG/KG = NANOGRAMS PER KILOGRAM
5. RBRG = RISK-BASED REMEDIAL GOAL

TEQ Mammals	Units	Value	Basis
Background	ng/kg	5.58	Site-specific Soil Background Value
Human Health RBRG	ng/kg	100	Soil Removal Action Goal (Hiker at 10-6 excess risk)
Ecological RBRG	ng/kg	190	Soil Removal Action Goal (Desert shrew)
Human Health RBRG	ng/kg	1000	Hiker at 10-5 excess risk

PG&E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA

POST-NTCRA HUMAN HEALTH AND ECOLOGICAL RISK ASSESSMENT

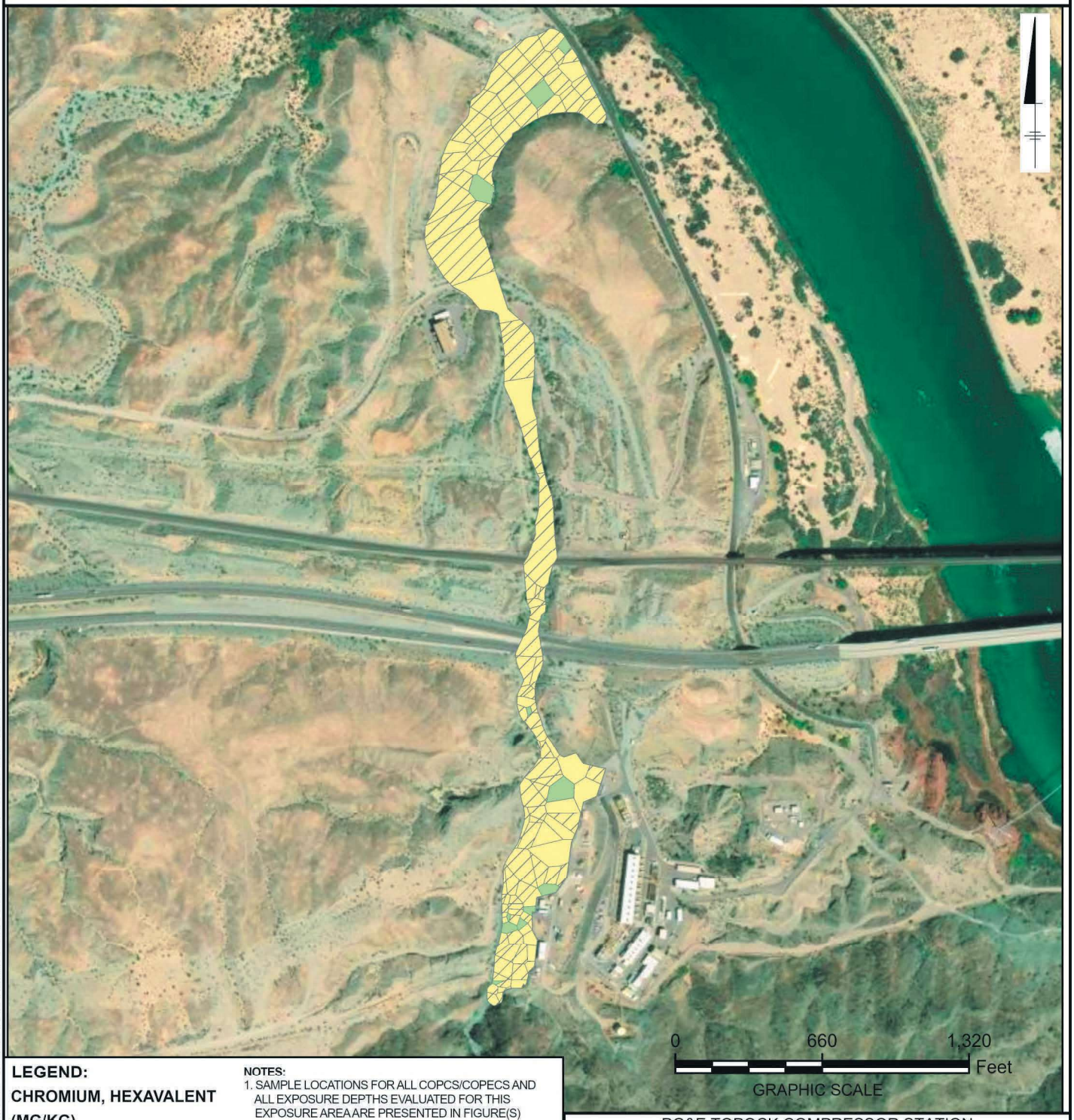
THIESSEN POLYGONS FOR AREA WEIGHTING

ARCADIS

FIGURE
BCW-A3.1

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BAT CAVE WASH (BCW)
0 - 0.5 FEET BELOW GROUND SURFACE
CHROMIUM, HEXAVALENT



LEGEND:

CHROMIUM, HEXAVALENT (MG/KG)

- 0 - 0.83
- >0.83 - 3.1
- >3.1 - 31
- >31
- NOT DETECTED

NOTES:

1. SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE(S) BCW-1.2A AND BCW-1.2B.
2. DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
3. SOIL REMOVAL ACTION GOALS AS SELECTED IN THE SOIL ENGINEERING EVALUATION/COST ANALYSIS (JACOBS 2021).
4. MG/KG = MILLIGRAMS PER KILOGRAM
5. RBRG = RISK-BASED REMEDIAL GOAL
6. THIESSEN POLYGONS WITH A NON-DETECT CONCENTRATION ARE REPRESENTED BY THE REPORTING LIMIT.

Chromium, hexavalent	Units	Value	Basis
Background	mg/kg	0.83	Site-specific Soil Background Value
Human Health RBRG	mg/kg	3.1	Soil Removal Action Goal (Off-highway vehicle rider at 10-6 excess risk)
Human Health RBRG	mg/kg	31	Soil Removal Action Goal (Off-highway vehicle rider at 10-5 excess risk)

PG&E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA

POST-NTCRA HUMAN HEALTH AND ECOLOGICAL RISK ASSESSMENT

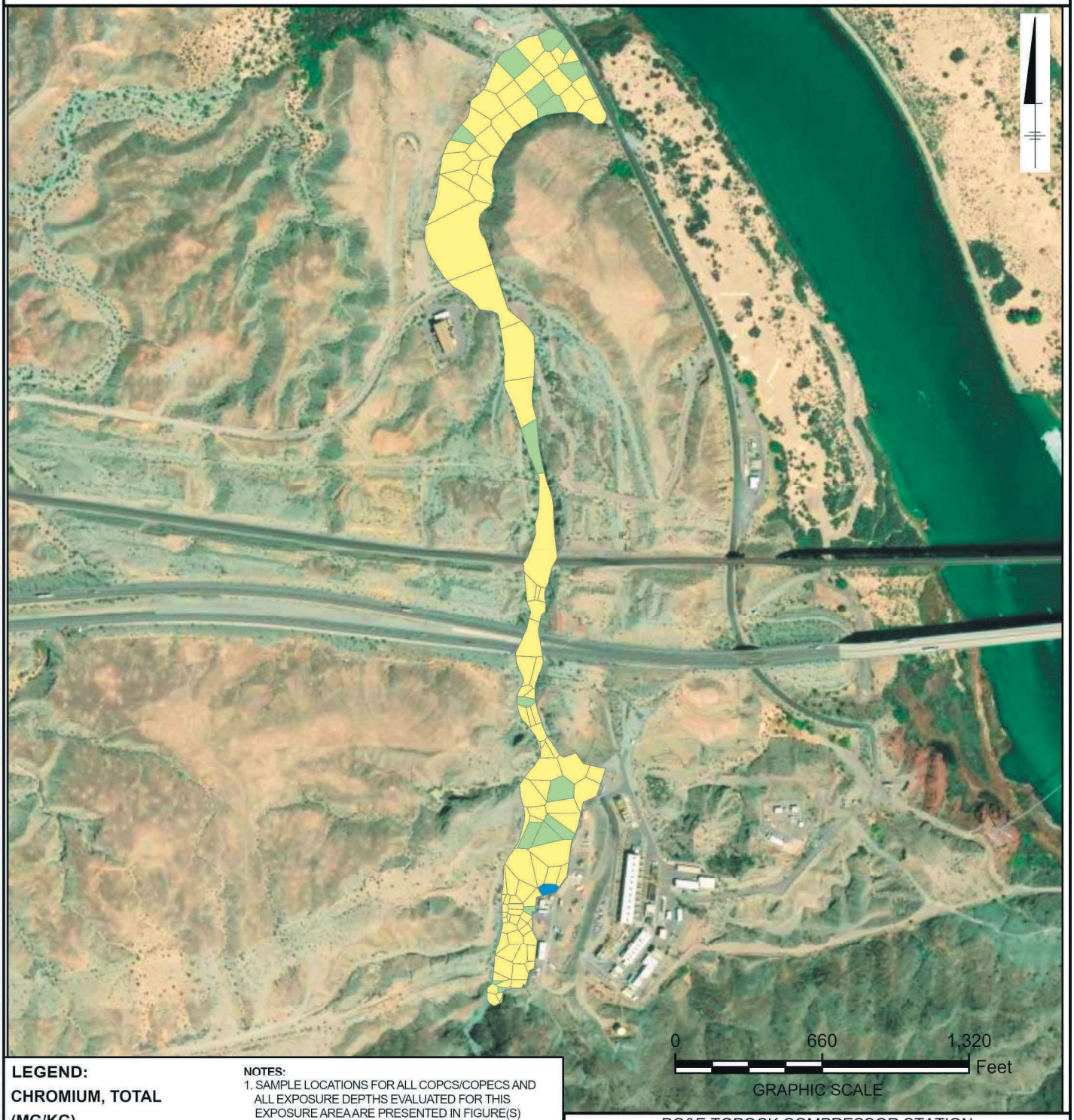
THIESSEN POLYGONS FOR AREA WEIGHTING

ARCADIS

FIGURE
BCW-A3.2

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BAT CAVE WASH (BCW)
0 - 0.5 FEET BELOW GROUND SURFACE
CHROMIUM, TOTAL



LEGEND:

CHROMIUM, TOTAL (MG/KG)

- 0 - 39.8
- >39.8 - 145
- >145

NOTES:

1. SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE(S) BCW-1.2A AND BCW-1.2B.
2. DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
3. SOIL REMOVAL ACTION GOALS AS SELECTED IN THE SOIL ENGINEERING EVALUATION/COST ANALYSIS (JACOBS 2021).
4. MG/KG = MILLIGRAMS PER KILOGRAM
5. RBRG = RISK-BASED REMEDIAL GOAL

Chromium, total	Units	Value	Basis
Background	mg/kg	39.8	Site-specific Soil Background Value
Ecological RBRG	mg/kg	145	Soil Removal Action Goal (Desert shrew)

PG&E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA

POST-NTCRA HUMAN HEALTH AND ECOLOGICAL RISK ASSESSMENT

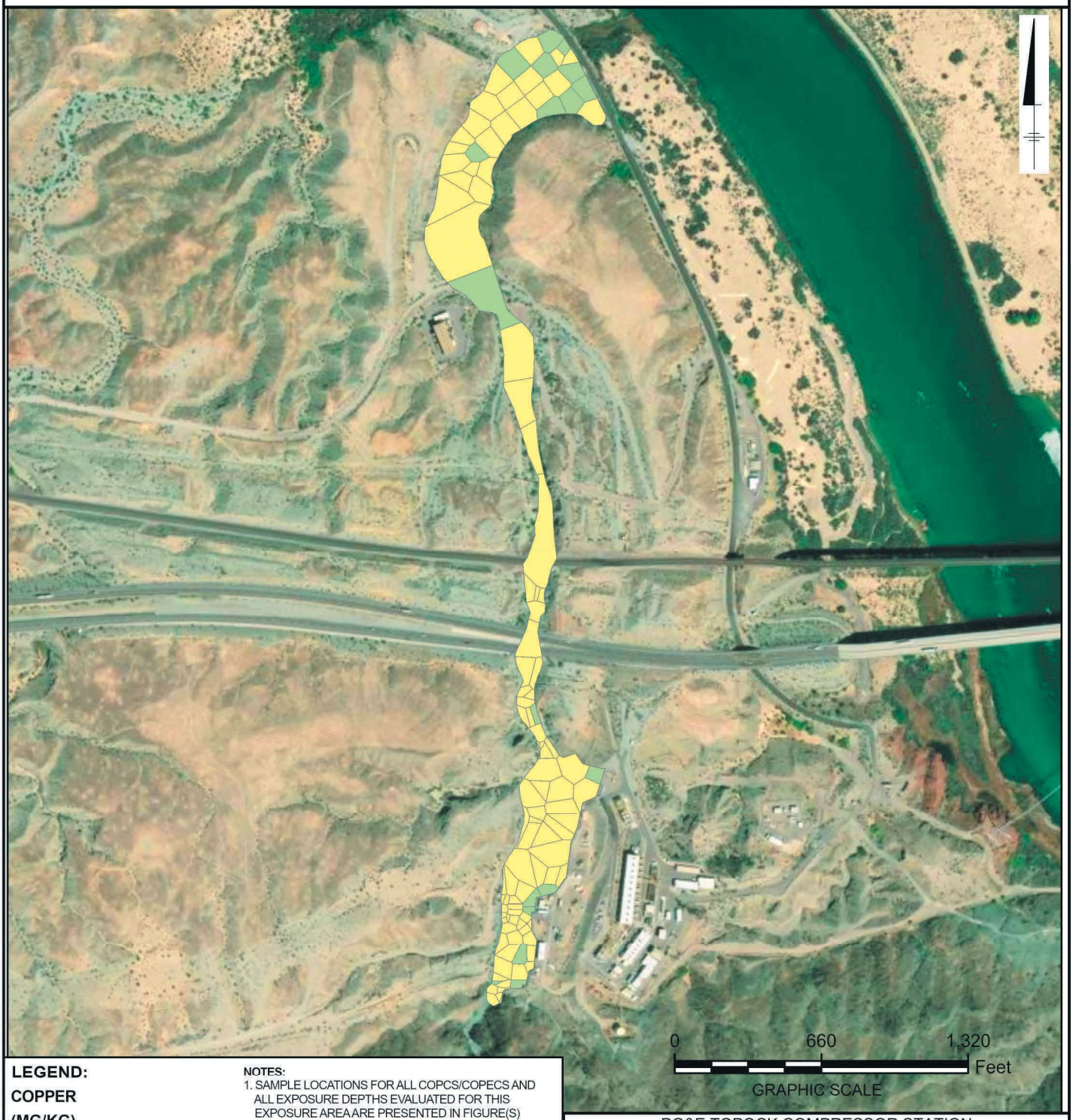
THIESSEN POLYGONS FOR AREA WEIGHTING

ARCADIS

FIGURE BCW-A3.3

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BAT CAVE WASH (BCW)
0 - 0.5 FEET BELOW GROUND SURFACE
COPPER



LEGEND:

COPPER (MG/KG)

- 0 - 16.8
- >16.8 - 145
- >145

NOTES:

1. SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE(S) BCW-1.2A AND BCW-1.2B.
2. DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
3. SOIL REMOVAL ACTION GOALS AS SELECTED IN THE SOIL ENGINEERING EVALUATION/COST ANALYSIS (JACOBS 2021).
4. MG/KG = MILLIGRAMS PER KILOGRAM
5. RBRG = RISK-BASED REMEDIAL GOAL

Copper	Units	Value	Basis
Background	mg/kg	16.8	Site-specific Soil Background Value
Ecological RBRG	mg/kg	145	Soil Removal Action Goal (Desert shrew)

PG&E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA

POST-NTCRA HUMAN HEALTH AND ECOLOGICAL RISK ASSESSMENT

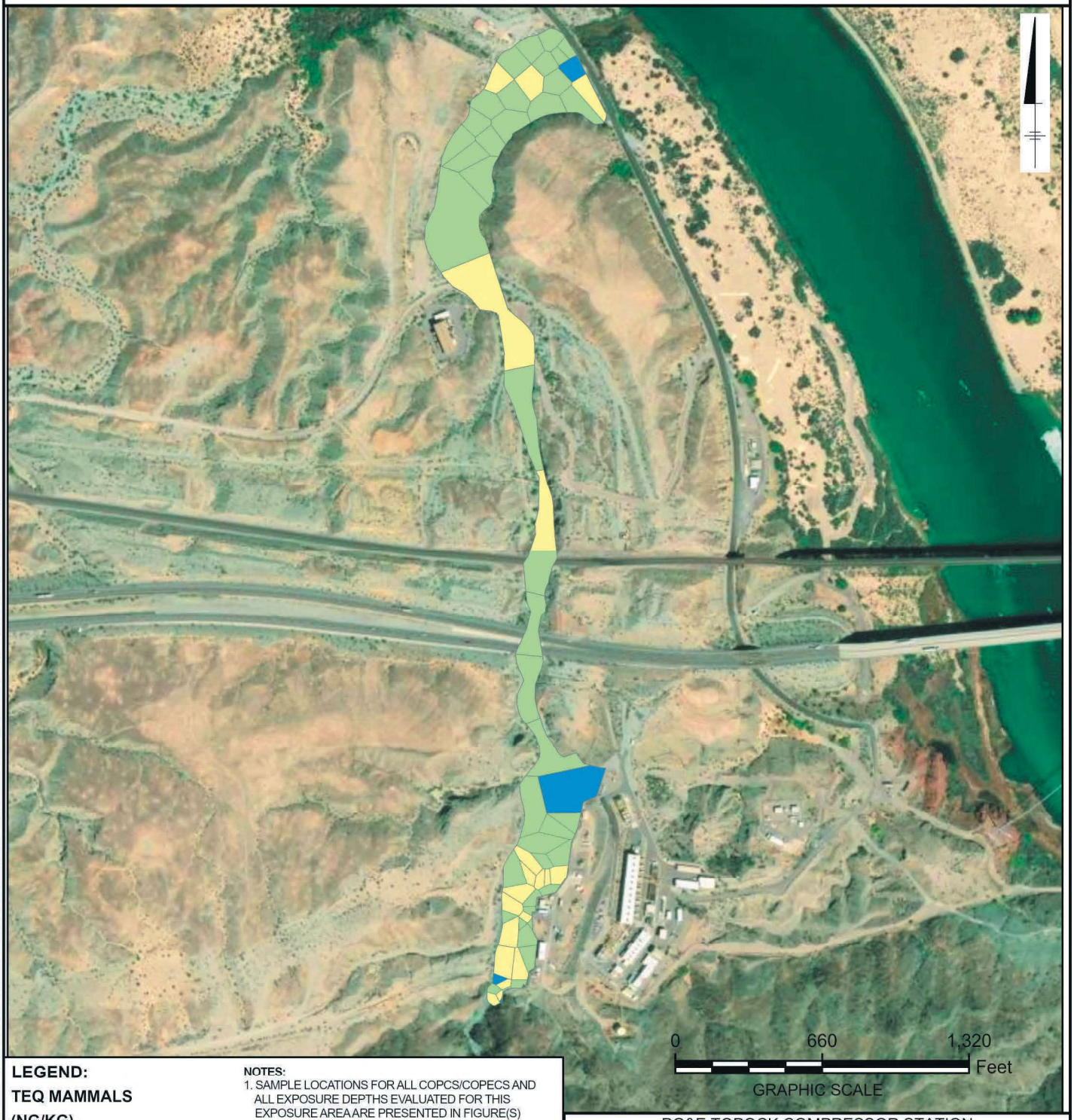
THIESSEN POLYGONS FOR AREA WEIGHTING

ARCADIS

FIGURE BCW-A3.4

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BAT CAVE WASH (BCW)
0 - 3 FEET BELOW GROUND SURFACE
TEQ MAMMALS



LEGEND:

TEQ MAMMALS (NG/KG)

- 0 - 5.58
- >5.58 - 100
- >100 - 190
- >190

NOTES:

1. SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE(S) BCW-1.2A AND BCW-1.2B.
2. DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
3. SOIL REMOVAL ACTION GOALS AS SELECTED IN THE SOIL ENGINEERING EVALUATION/COST ANALYSIS (JACOBS 2021).
4. NG/KG = NANOGRAMS PER KILOGRAM
5. RBRG = RISK-BASED REMEDIAL GOAL

TEQ Mammals	Units	Value	Basis
Background	ng/kg	5.58	Site-specific Soil Background Value
Human Health RBRG	ng/kg	100	Soil Removal Action Goal (Hiker at 10-6 excess risk)
Ecological RBRG	ng/kg	190	Soil Removal Action Goal (Desert shrew)
Human Health RBRG	ng/kg	1000	Hiker at 10-5 excess risk

PG&E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA

POST-NTCRA HUMAN HEALTH AND ECOLOGICAL RISK ASSESSMENT

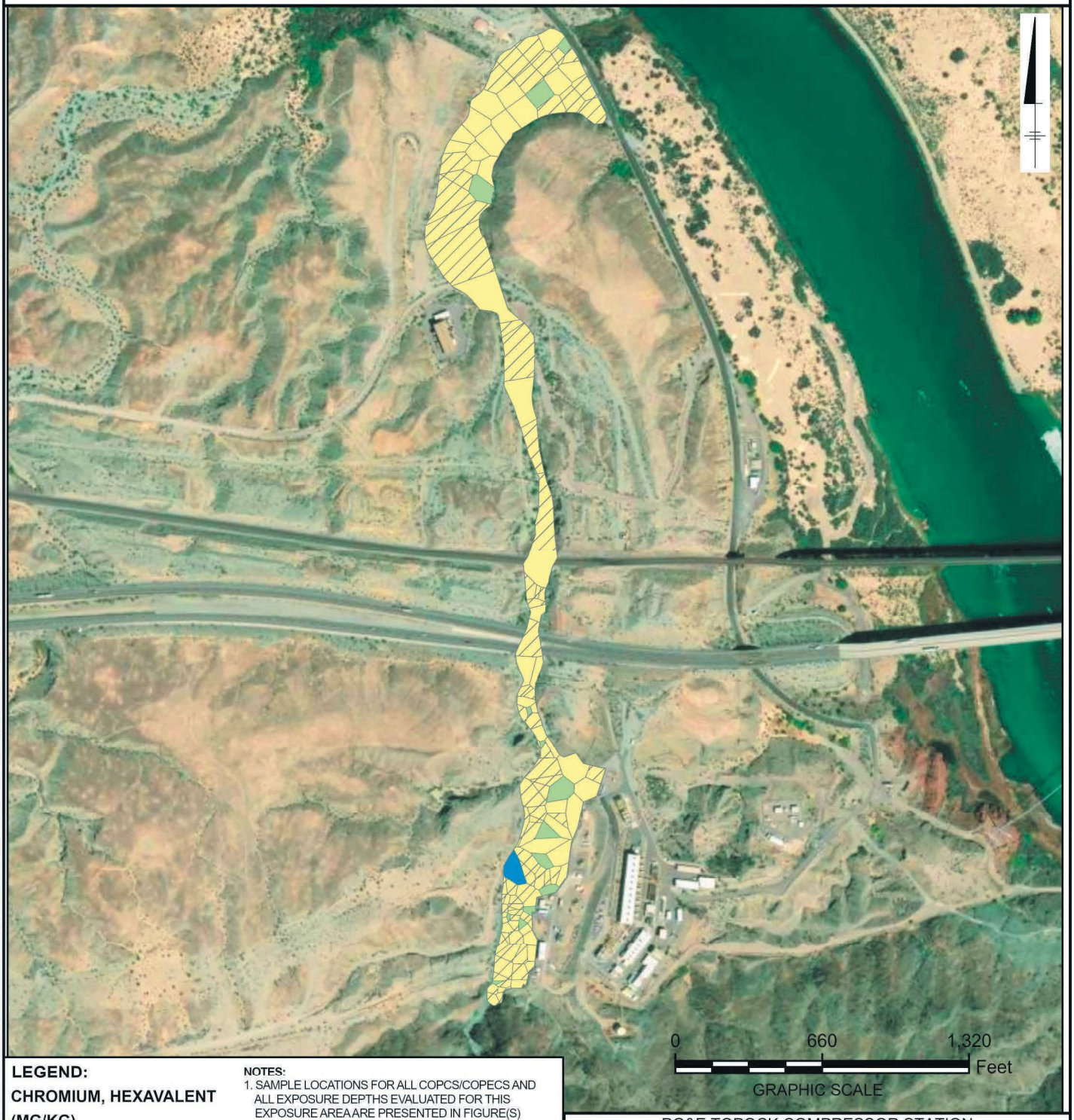
THIESSEN POLYGONS FOR AREA WEIGHTING

ARCADIS

FIGURE
BCW-A3.5

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BAT CAVE WASH (BCW)
0 - 3 FEET BELOW GROUND SURFACE
CHROMIUM, HEXAVALENT



LEGEND:

CHROMIUM, HEXAVALENT (MG/KG)

- 0 - 0.83
- >0.83 - 3.1
- >3.1 - 31
- >31
- NOT DETECTED

NOTES:

1. SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE(S) BCW-1.2A AND BCW-1.2B.
2. DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
3. SOIL REMOVAL ACTION GOALS AS SELECTED IN THE SOIL ENGINEERING EVALUATION/COST ANALYSIS (JACOBS 2021).
4. MG/KG = MILLIGRAMS PER KILOGRAM
5. RBRG = RISK-BASED REMEDIAL GOAL
6. THIESSEN POLYGONS WITH A NON-DETECT CONCENTRATION ARE REPRESENTED BY THE REPORTING LIMIT.

Chromium, hexavalent	Units	Value	Basis
Background	mg/kg	0.83	Site-specific Soil Background Value
Human Health RBRG	mg/kg	3.1	Soil Removal Action Goal (Off-highway vehicle rider at 10-6 excess risk)
Human Health RBRG	mg/kg	31	Soil Removal Action Goal (Off-highway vehicle rider at 10-5 excess risk)

PG&E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA

POST-NTCRA HUMAN HEALTH AND ECOLOGICAL RISK ASSESSMENT

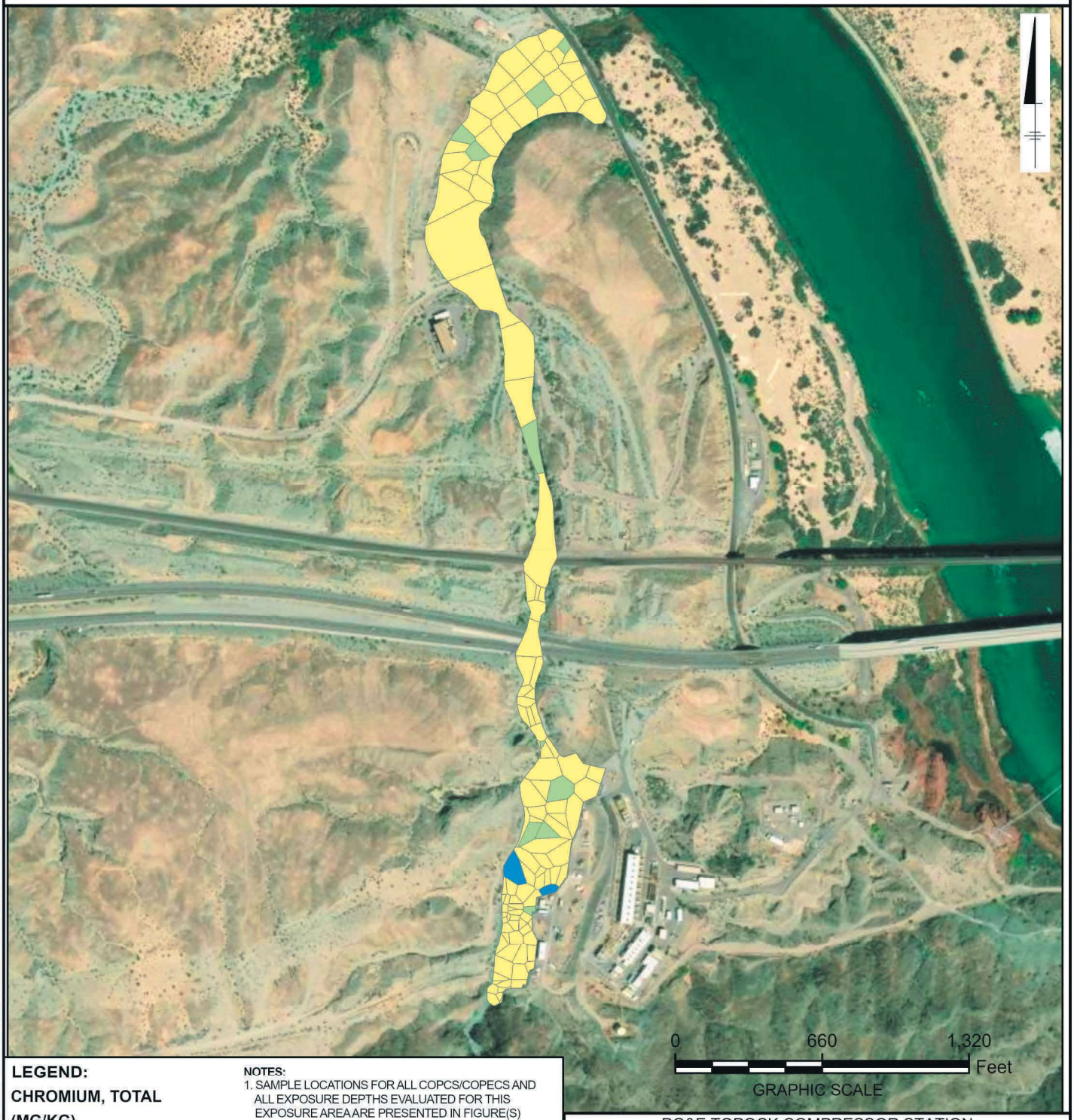
THIESSEN POLYGONS FOR AREA WEIGHTING

ARCADIS

FIGURE
BCW-A3.6

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BAT CAVE WASH (BCW)
0 - 3 FEET BELOW GROUND SURFACE
CHROMIUM, TOTAL



LEGEND:

CHROMIUM, TOTAL (MG/KG)

- 0 - 39.8
- >39.8 - 145
- >145

NOTES:

1. SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE(S) BCW-1.2A AND BCW-1.2B.
2. DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
3. SOIL REMOVAL ACTION GOALS AS SELECTED IN THE SOIL ENGINEERING EVALUATION/COST ANALYSIS (JACOBS 2021).
4. MG/KG = MILLIGRAMS PER KILOGRAM
5. RBRG = RISK-BASED REMEDIAL GOAL

Chromium, total	Units	Value	Basis
Background	mg/kg	39.8	Site-specific Soil Background Value
Ecological RBRG	mg/kg	145	Soil Removal Action Goal (Desert shrew)

PG&E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA

POST-NTCRA HUMAN HEALTH AND ECOLOGICAL RISK ASSESSMENT

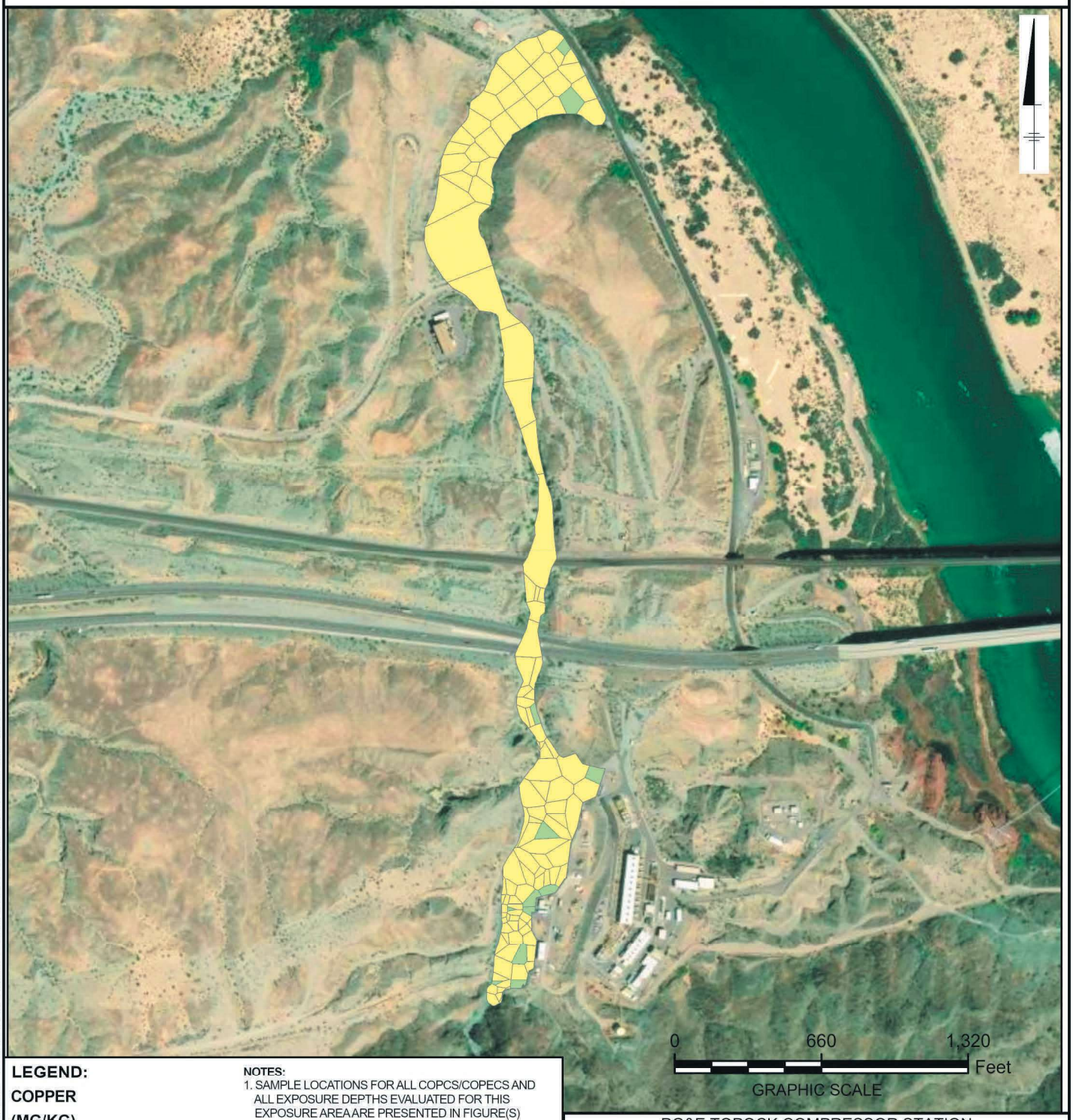
THIESSEN POLYGONS FOR AREA WEIGHTING

ARCADIS

FIGURE BCW-A3.7

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BAT CAVE WASH (BCW)
0 - 3 FEET BELOW GROUND SURFACE
COPPER



LEGEND:

COPPER (MG/KG)

- 0 - 16.8
- >16.8 - 145
- >145

NOTES:

1. SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE(S) BCW-1.2A AND BCW-1.2B.
2. DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
3. SOIL REMOVAL ACTION GOALS AS SELECTED IN THE SOIL ENGINEERING EVALUATION/COST ANALYSIS (JACOBS 2021).
4. MG/KG = MILLIGRAMS PER KILOGRAM
5. RBRG = RISK-BASED REMEDIAL GOAL

Copper	Units	Value	Basis
Background	mg/kg	16.8	Site-specific Soil Background Value
Ecological RBRG	mg/kg	145	Soil Removal Action Goal (Desert shrew)

PG&E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA

POST-NTCRA HUMAN HEALTH AND ECOLOGICAL RISK ASSESSMENT

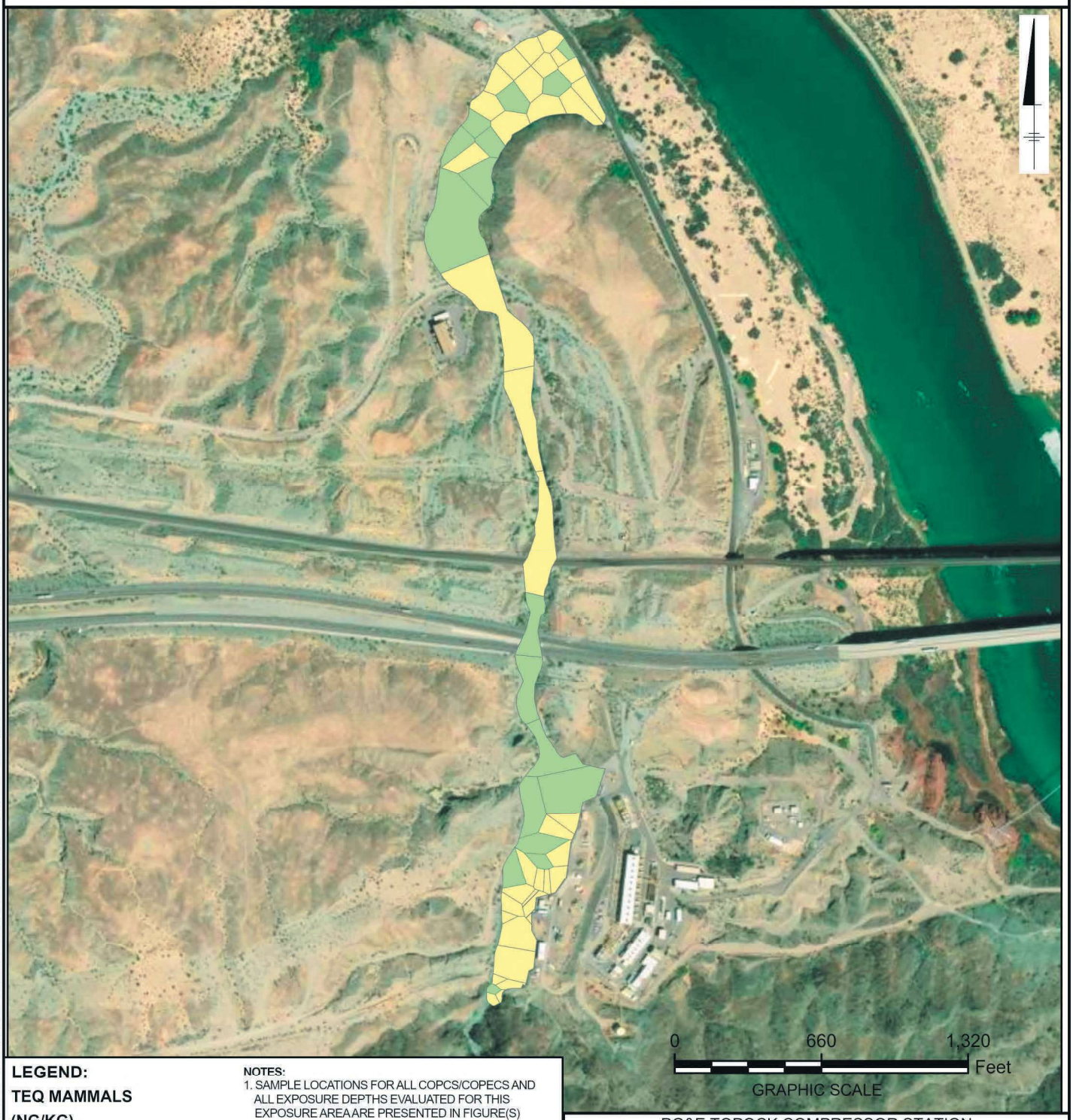
THIESSEN POLYGONS FOR AREA WEIGHTING

ARCADIS

FIGURE BCW-A3.8

T:_ENV\PGE_Topock\ArcPro\PostNTCRA_EcoRisk\PostNTCRA_ERA_ThiessMapbook_2025.aprx ThiessenWeighting_2025Nov Saved: 12/11/2025 ksinsabaugh

BAT CAVE WASH (BCW)
SCOURING 2 - 3 FEET BELOW GROUND SURFACE
TEQ MAMMALS



LEGEND:

TEQ MAMMALS (NG/KG)

- 0 - 5.58
- >5.58 - 100
- >100 - 190
- >190

NOTES:

1. SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE(S) BCW-1.2A AND BCW-1.2B.
2. DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
3. SOIL REMOVAL ACTION GOALS AS SELECTED IN THE SOIL ENGINEERING EVALUATION/COST ANALYSIS (JACOBS 2021).
4. NG/KG = NANOGRAMS PER KILOGRAM
5. RBRG = RISK-BASED REMEDIAL GOAL

TEQ Mammals	Units	Value	Basis
Background	ng/kg	5.58	Site-specific Soil Background Value
Human Health RBRG	ng/kg	100	Soil Removal Action Goal (Hiker at 10-6 excess risk)
Ecological RBRG	ng/kg	190	Soil Removal Action Goal (Desert shrew)
Human Health RBRG	ng/kg	1000	Hiker at 10-5 excess risk

PG&E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA

POST-NTCRA HUMAN HEALTH AND ECOLOGICAL RISK ASSESSMENT

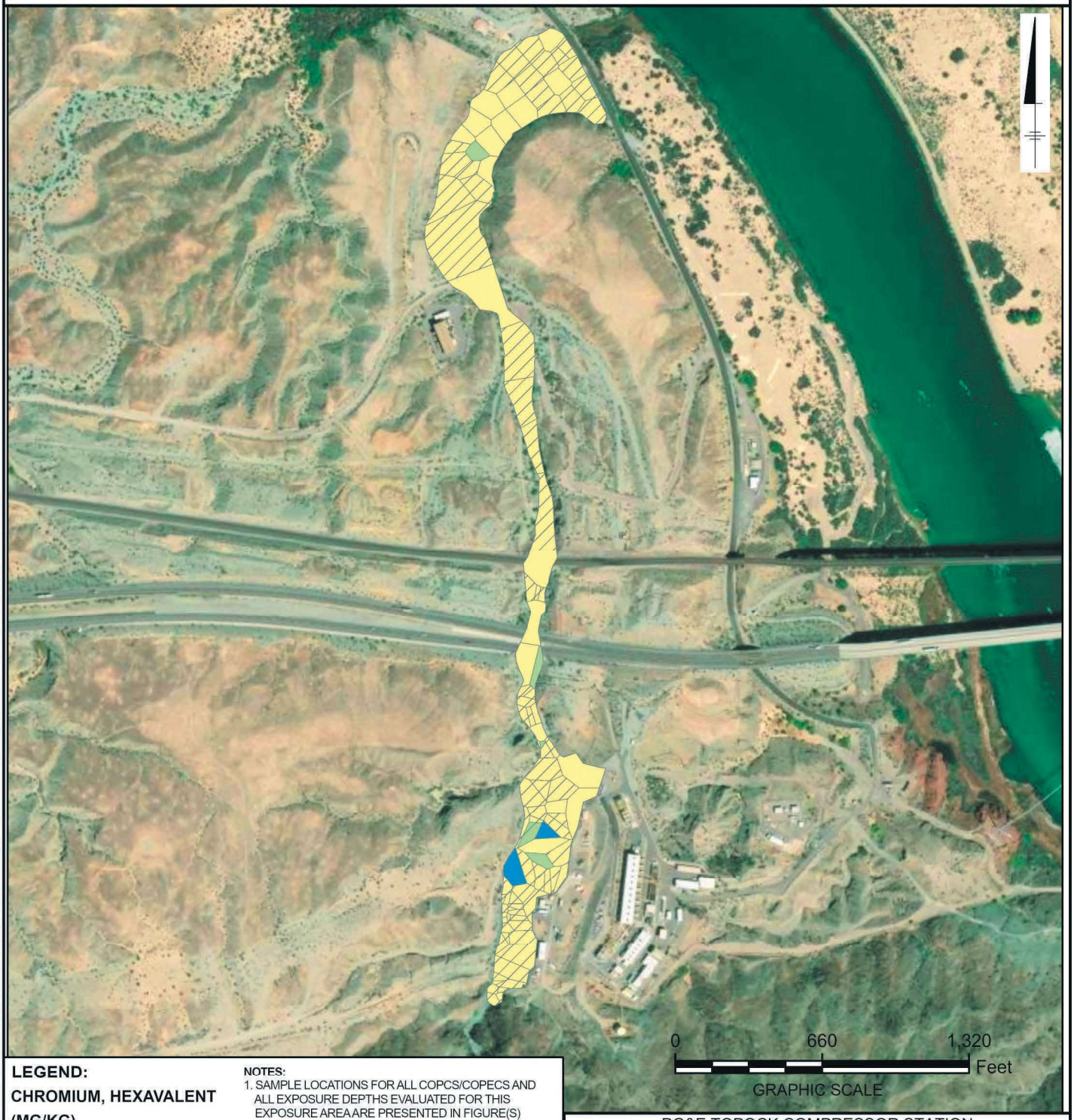
THIESSEN POLYGONS FOR AREA WEIGHTING

ARCADIS

FIGURE
BCW-A3.9

T:_ENV\PGE_Topock\ArcPro\PostNTCRA_EcoRisk\PostNTCRA_ERA_ThiessMapbook_2025.aprx ThiessenWeighting_2025Nov Saved: 12/11/2025 ksinsabaugh

BAT CAVE WASH (BCW)
SCOURING 2 - 3 FEET BELOW GROUND SURFACE
CHROMIUM, HEXAVALENT



LEGEND:

CHROMIUM, HEXAVALENT (MG/KG)

- 0 - 0.83
- >0.83 - 3.1
- >3.1 - 31
- >31
- NOT DETECTED

NOTES:

1. SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE(S) BCW-1.2A AND BCW-1.2B.
2. DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
3. SOIL REMOVAL ACTION GOALS AS SELECTED IN THE SOIL ENGINEERING EVALUATION/COST ANALYSIS (JACOBS 2021).
4. MG/KG = MILLIGRAMS PER KILOGRAM
5. RBRG = RISK-BASED REMEDIAL GOAL
6. THIESSEN POLYGONS WITH A NON-DETECT CONCENTRATION ARE REPRESENTED BY THE REPORTING LIMIT.

Chromium, hexavalent	Units	Value	Basis
Background	mg/kg	0.83	Site-specific Soil Background Value
Human Health RBRG	mg/kg	3.1	Soil Removal Action Goal (Off-highway vehicle rider at 10-6 excess risk)
Human Health RBRG	mg/kg	31	Soil Removal Action Goal (Off-highway vehicle rider at 10-5 excess risk)

PG&E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA

POST-NTCRA HUMAN HEALTH AND ECOLOGICAL RISK ASSESSMENT

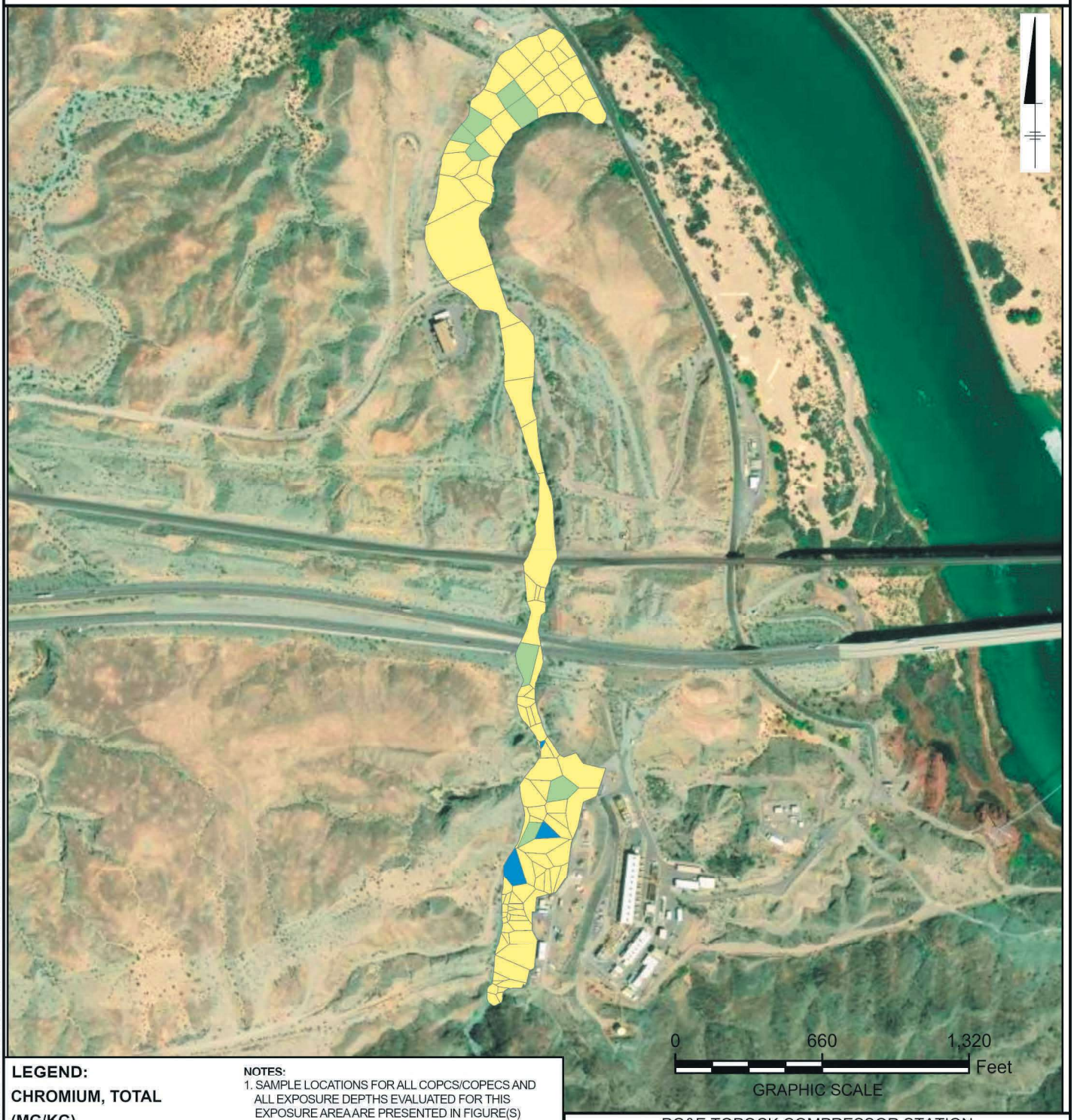
THIESSEN POLYGONS FOR AREA WEIGHTING

ARCADIS

FIGURE
BCW-A3.10

T:_ENV\PGE_Topock\ArcPro\PostNTCRA_EcoRisk\PostNTCRA_ERA_ThiessMapbook_2025.aprx ThiessenWeighting_2025Nov Saved: 12/11/2025 ksinsabaugh

BAT CAVE WASH (BCW)
SCOURING 2 - 3 FEET BELOW GROUND SURFACE
CHROMIUM, TOTAL



LEGEND:

CHROMIUM, TOTAL (MG/KG)

- 0 - 39.8
- >39.8 - 145
- >145

NOTES:

1. SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE(S) BCW-1.2A AND BCW-1.2B.
2. DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
3. SOIL REMOVAL ACTION GOALS AS SELECTED IN THE SOIL ENGINEERING EVALUATION/COST ANALYSIS (JACOBS 2021).
4. MG/KG = MILLIGRAMS PER KILOGRAM
5. RBRG = RISK-BASED REMEDIAL GOAL

Chromium, total	Units	Value	Basis
Background	mg/kg	39.8	Site-specific Soil Background Value
Ecological RBRG	mg/kg	145	Soil Removal Action Goal (Desert shrew)

PG&E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA

POST-NTCRA HUMAN HEALTH AND ECOLOGICAL RISK ASSESSMENT

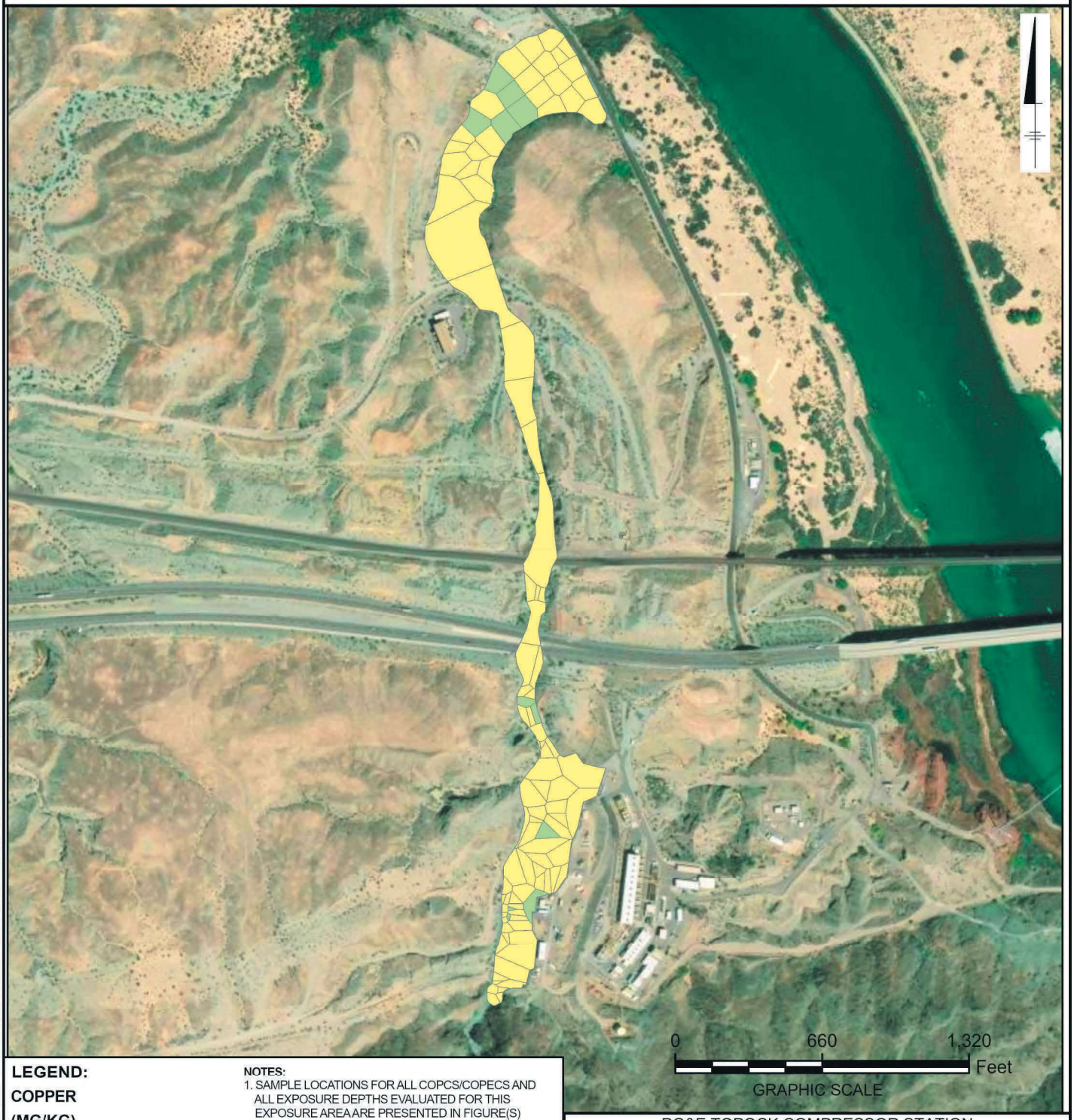
THIESSEN POLYGONS FOR AREA WEIGHTING

ARCADIS

FIGURE BCW-A3.11

T:_ENV\PGE_Topock\ArcPro\PostNTCRA_EcoRisk\PostNTCRA_ERA_ThiessMapbook_2025.aprx ThiessenWeighting_2025Nov Saved: 12/11/2025 ksinsabaugh

BAT CAVE WASH (BCW)
SCOURING 2 - 3 FEET BELOW GROUND SURFACE
COPPER



LEGEND:

COPPER

(MG/KG)

- 0 - 16.8
- >16.8 - 145
- >145

NOTES:

1. SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE(S) BCW-1.2A AND BCW-1.2B.
2. DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
3. SOIL REMOVAL ACTION GOALS AS SELECTED IN THE SOIL ENGINEERING EVALUATION/COST ANALYSIS (JACOBS 2021).
4. MG/KG = MILLIGRAMS PER KILOGRAM
5. RBRG = RISK-BASED REMEDIAL GOAL

Copper	Units	Value	Basis
Background	mg/kg	16.8	Site-specific Soil Background Value
Ecological RBRG	mg/kg	145	Soil Removal Action Goal (Desert shrew)

PG&E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA

POST-NTCRA HUMAN HEALTH AND ECOLOGICAL RISK ASSESSMENT

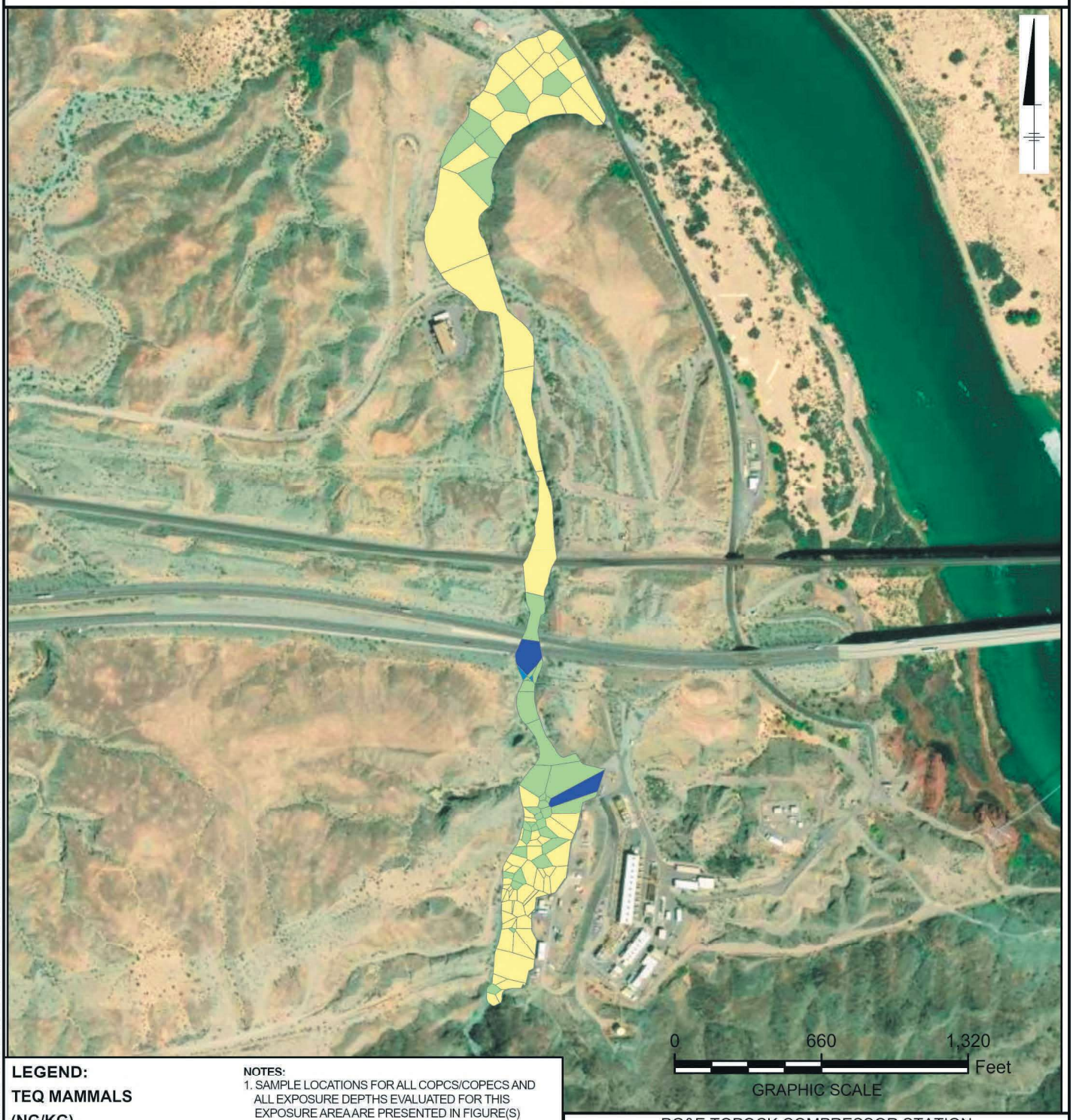
THIESSEN POLYGONS FOR AREA WEIGHTING

ARCADIS

FIGURE
BCW-A3.12

T:_ENV\PGE_Topock\ArcPro\PostNTCRA_EcoRisk\PostNTCRA_ERA_ThiessMapbook_2025.aprx ThiessenWeighting_2025Nov Saved: 12/11/2025 ksinsabaugh

BAT CAVE WASH (BCW)
SCOURING 2 - 6 FEET BELOW GROUND SURFACE
TEQ MAMMALS



LEGEND:

TEQ MAMMALS (NG/KG)

- 0 - 5.58
- >5.58 - 100
- >100 - 190
- >190

NOTES:

1. SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE(S) BCW-1.2A AND BCW-1.2B.
2. DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
3. SOIL REMOVAL ACTION GOALS AS SELECTED IN THE SOIL ENGINEERING EVALUATION/COST ANALYSIS (JACOBS 2021).
4. NG/KG = NANOGRAMS PER KILOGRAM
5. RBRG = RISK-BASED REMEDIAL GOAL

TEQ Mammals	Units	Value	Basis
Background	ng/kg	5.58	Site-specific Soil Background Value
Human Health RBRG	ng/kg	100	Soil Removal Action Goal (Hiker at 10-6 excess risk)
Ecological RBRG	ng/kg	190	Soil Removal Action Goal (Desert shrew)
Human Health RBRG	ng/kg	1000	Hiker at 10-5 excess risk

PG&E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA

POST-NTCRA HUMAN HEALTH AND ECOLOGICAL RISK ASSESSMENT

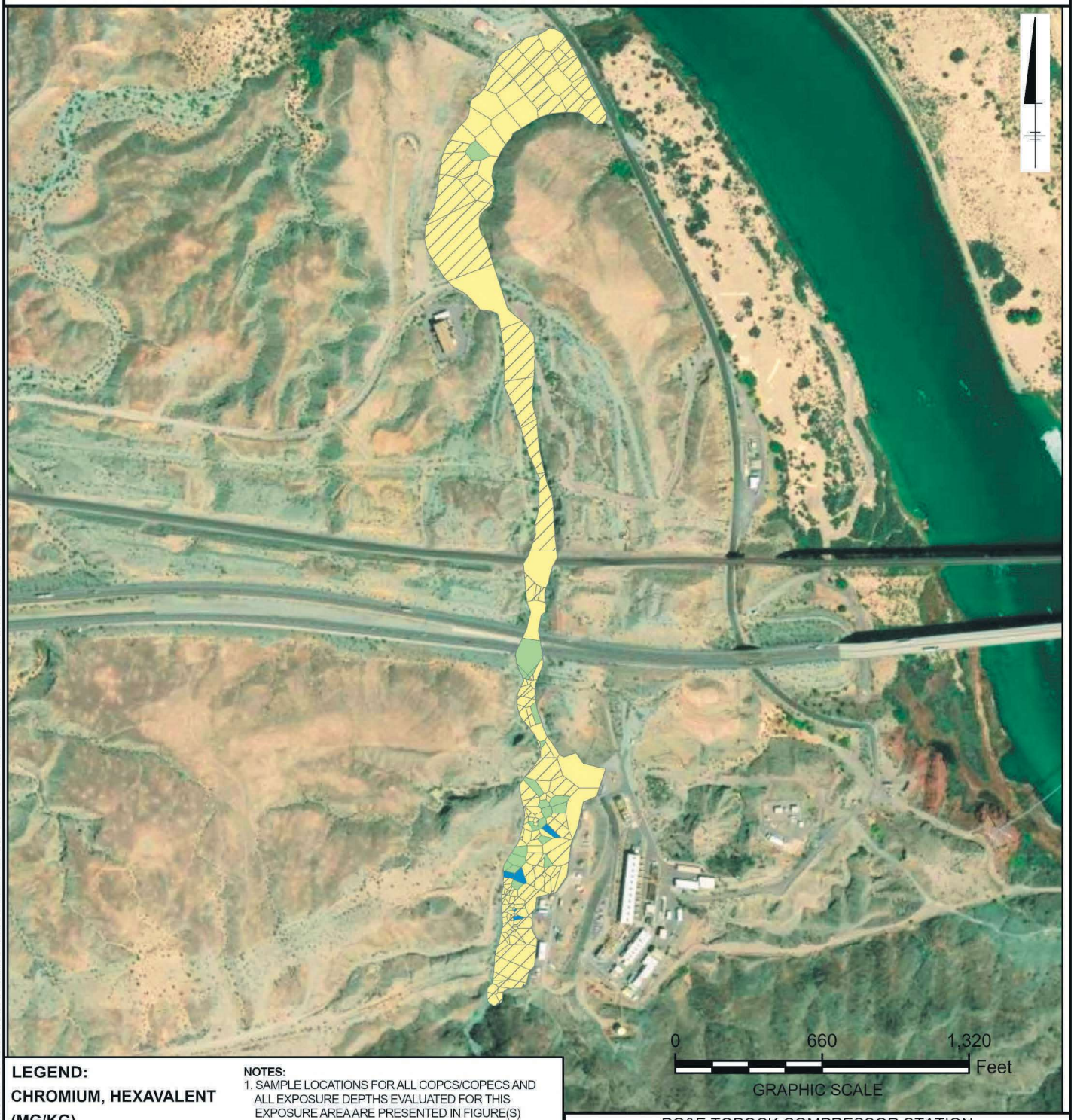
THIESSEN POLYGONS FOR AREA WEIGHTING

ARCADIS

FIGURE BCW-A3.13

T:_ENV\PGE_Topock\ArcPro\PostNTCRA_EcoRisk\PostNTCRA_ERA_ThiessMapbook_2025.aprx ThiessenWeighting_2025Nov Saved: 12/11/2025 ksinsabaugh

BAT CAVE WASH (BCW)
SCOURING 2 - 6 FEET BELOW GROUND SURFACE
CHROMIUM, HEXAVALENT



LEGEND:

CHROMIUM, HEXAVALENT (MG/KG)

- 0 - 0.83
- >0.83 - 3.1
- >3.1 - 31
- >31
- NOT DETECTED

NOTES:

1. SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE(S) BCW-1.2A AND BCW-1.2B.
2. DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
3. SOIL REMOVAL ACTION GOALS AS SELECTED IN THE SOIL ENGINEERING EVALUATION/COST ANALYSIS (JACOBS 2021).
4. MG/KG = MILLIGRAMS PER KILOGRAM
5. RBRG = RISK-BASED REMEDIAL GOAL
6. THIESSEN POLYGONS WITH A NON-DETECT CONCENTRATION ARE REPRESENTED BY THE REPORTING LIMIT.

Chromium, hexavalent	Units	Value	Basis
Background	mg/kg	0.83	Site-specific Soil Background Value
Human Health RBRG	mg/kg	3.1	Soil Removal Action Goal (Off-highway vehicle rider at 10-6 excess risk)
Human Health RBRG	mg/kg	31	Soil Removal Action Goal (Off-highway vehicle rider at 10-5 excess risk)

PG&E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA

POST-NTCRA HUMAN HEALTH AND ECOLOGICAL RISK ASSESSMENT

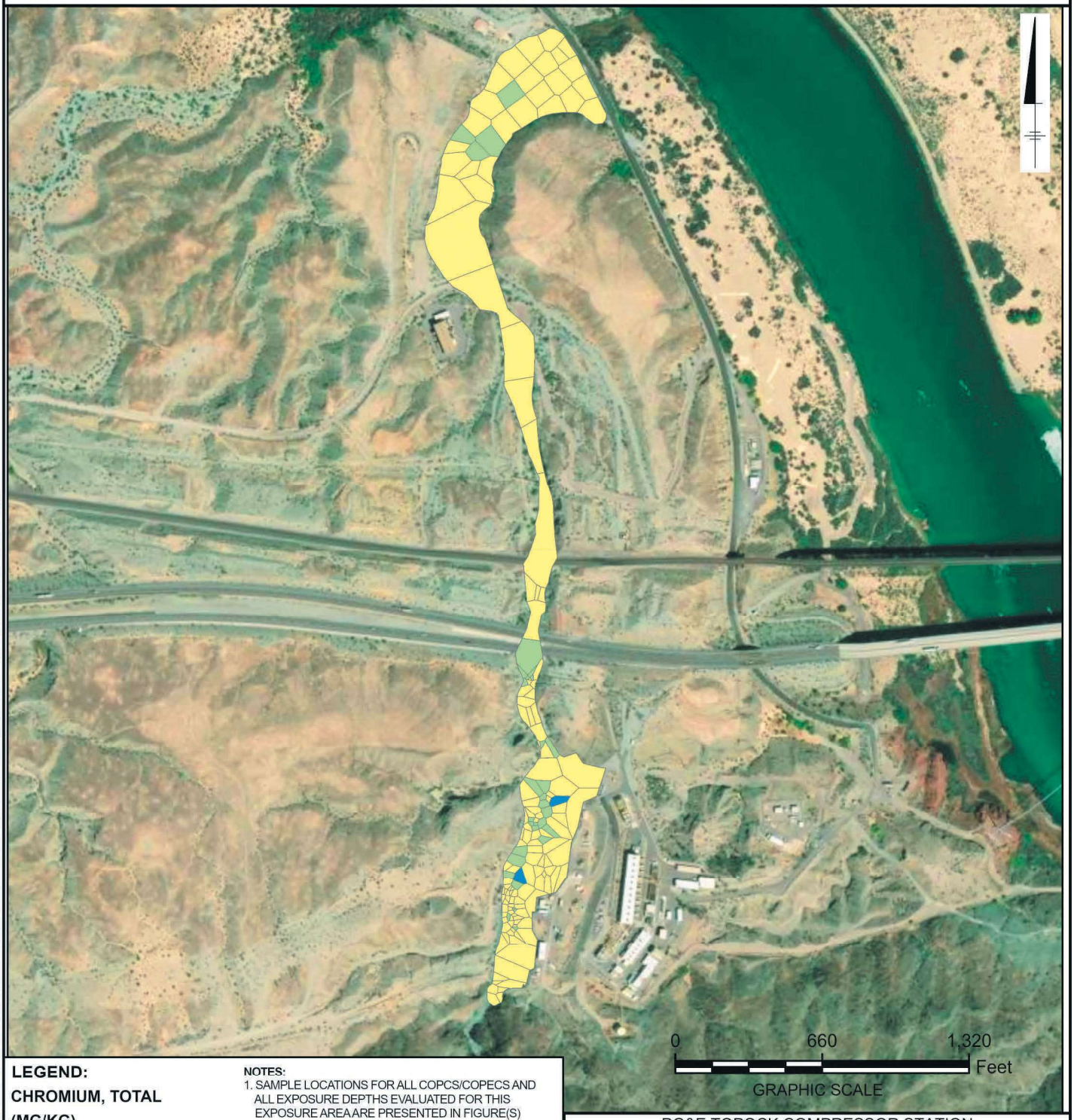
THIESSEN POLYGONS FOR AREA WEIGHTING

ARCADIS

FIGURE
BCW-A3.14

T:_ENV\PGE_Topock\ArcPro\PostNTCRA_EcoRisk\PostNTCRA_ERA_ThiessMapbook_2025.aprx ThiessenWeighting_2025Nov Saved: 12/11/2025 ksinsabaugh

BAT CAVE WASH (BCW)
SCOURING 2 - 6 FEET BELOW GROUND SURFACE
CHROMIUM, TOTAL



LEGEND:

CHROMIUM, TOTAL (MG/KG)

- 0 - 39.8
- >39.8 - 145
- >145

NOTES:

1. SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE(S) BCW-1.2A AND BCW-1.2B.
2. DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
3. SOIL REMOVAL ACTION GOALS AS SELECTED IN THE SOIL ENGINEERING EVALUATION/COST ANALYSIS (JACOBS 2021).
4. MG/KG = MILLIGRAMS PER KILOGRAM
5. RBRG = RISK-BASED REMEDIAL GOAL

Chromium, total	Units	Value	Basis
Background	mg/kg	39.8	Site-specific Soil Background Value
Ecological RBRG	mg/kg	145	Soil Removal Action Goal (Desert shrew)

PG&E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA

POST-NTCRA HUMAN HEALTH AND ECOLOGICAL RISK ASSESSMENT

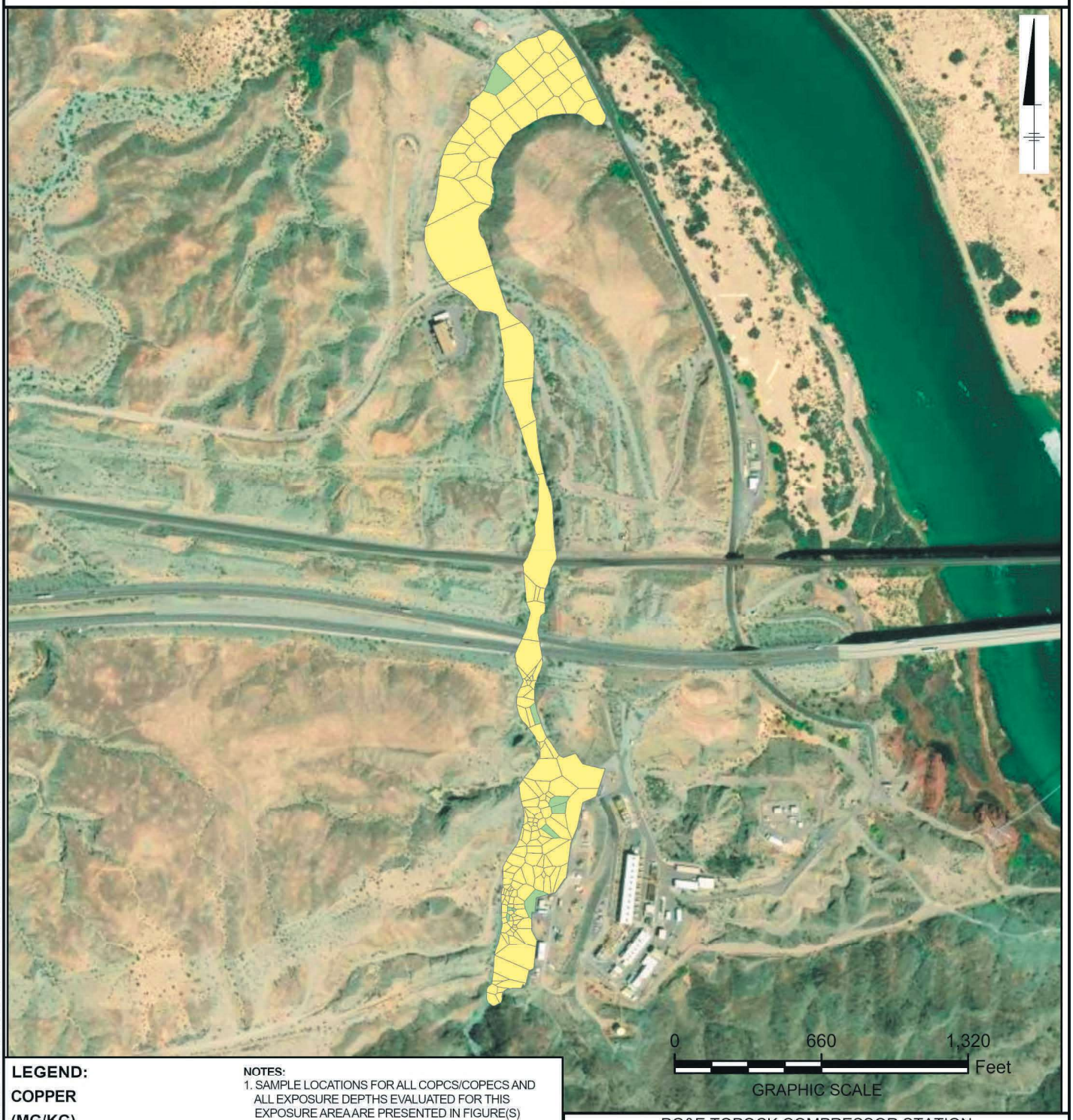
THIESSEN POLYGONS FOR AREA WEIGHTING

ARCADIS

FIGURE BCW-A3.15

T:_ENV\PGE_Topock\ArcPro\PostNTCRA_EcoRisk\PostNTCRA_ERA_ThiessMapbook_2025.aprx ThiessenWeighting_2025Nov Saved: 12/11/2025 ksinsabaugh

BAT CAVE WASH (BCW)
SCOURING 2 - 6 FEET BELOW GROUND SURFACE
COPPER



LEGEND:

COPPER

(MG/KG)

- 0 - 16.8
- >16.8 - 145
- >145

NOTES:

1. SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE(S) BCW-1.2A AND BCW-1.2B.
2. DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
3. SOIL REMOVAL ACTION GOALS AS SELECTED IN THE SOIL ENGINEERING EVALUATION/COST ANALYSIS (JACOBS 2021).
4. MG/KG = MILLIGRAMS PER KILOGRAM
5. RBRG = RISK-BASED REMEDIAL GOAL

Copper	Units	Value	Basis
Background	mg/kg	16.8	Site-specific Soil Background Value
Ecological RBRG	mg/kg	145	Soil Removal Action Goal (Desert shrew)

PG&E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA

POST-NTCRA HUMAN HEALTH AND ECOLOGICAL RISK ASSESSMENT

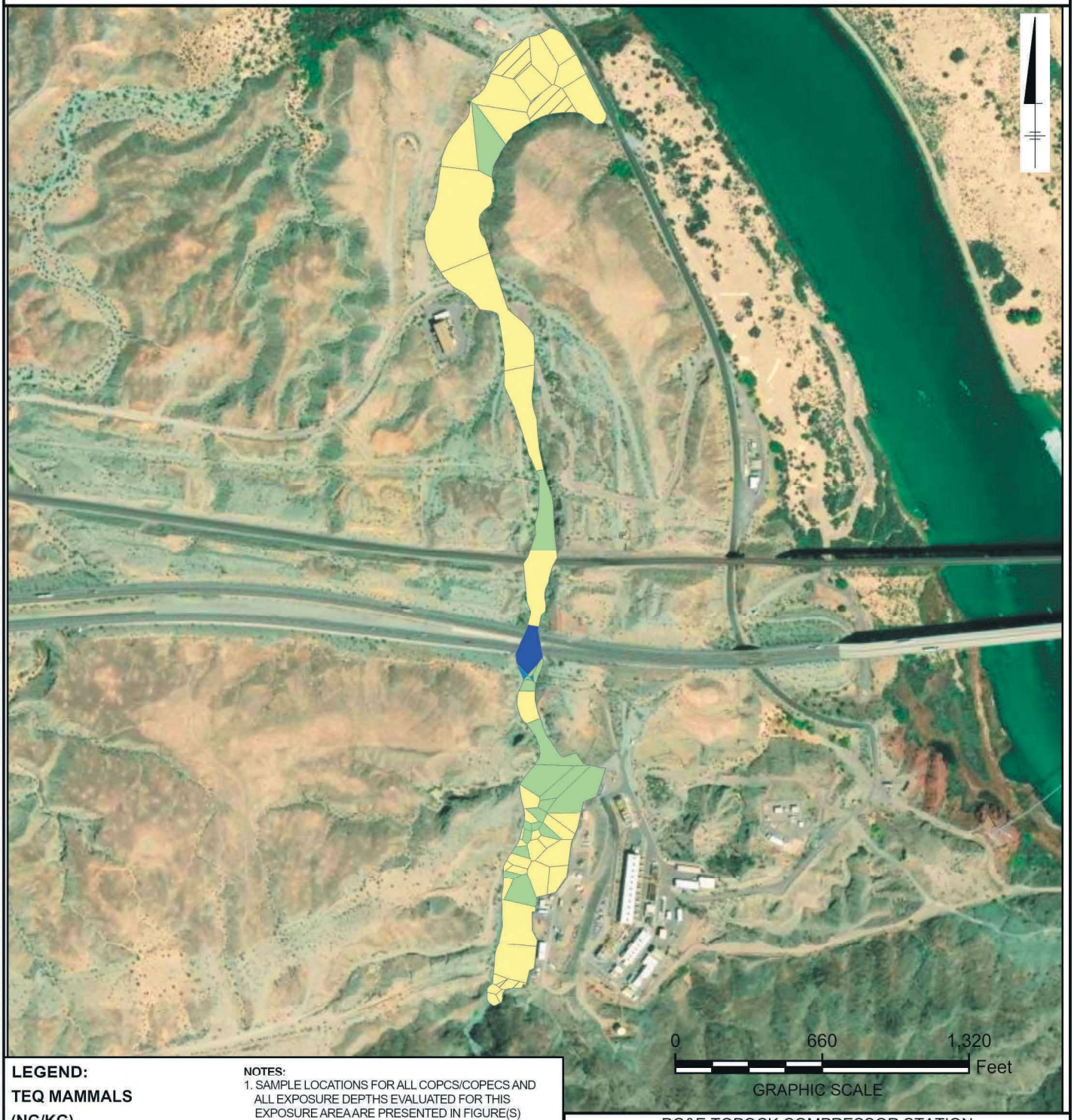
THIESSEN POLYGONS FOR AREA WEIGHTING

ARCADIS

FIGURE
BCW-A3.16

T:_ENV\PGE_Topock\ArcPro\PostNTCRA_EcoRisk\PostNTCRA_ERA_ThiessMapbook_2025.aprx ThiessenWeighting_2025Nov Saved: 12/11/2025 ksinsabaugh

BAT CAVE WASH (BCW)
SCOURING 5 - 6 FEET BELOW GROUND SURFACE
TEQ MAMMALS



LEGEND:

TEQ MAMMALS (NG/KG)

- 0 - 5.58
- >5.58 - 100
- >100 - 190
- >190
- NOT DETECTED

NOTES:

1. SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE(S) BCW-1.2A AND BCW-1.2B.
2. DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
3. SOIL REMOVAL ACTION GOALS AS SELECTED IN THE SOIL ENGINEERING EVALUATION/COST ANALYSIS (JACOBS 2021).
4. NG/KG = NANOGRAMS PER KILOGRAM
5. RBRG = RISK-BASED REMEDIAL GOAL
6. THIESSEN POLYGONS WITH A NON-DETECT CONCENTRATION ARE REPRESENTED BY THE REPORTING LIMIT.

TEQ Mammals	Units	Value	Basis
Background	ng/kg	5.58	Site-specific Soil Background Value
Human Health RBRG	ng/kg	100	Soil Removal Action Goal (Hiker at 10-6 excess risk)
Ecological RBRG	ng/kg	190	Soil Removal Action Goal (Desert shrew)
Human Health RBRG	ng/kg	1000	Hiker at 10-5 excess risk

PG&E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA

POST-NTCRA HUMAN HEALTH AND ECOLOGICAL RISK ASSESSMENT

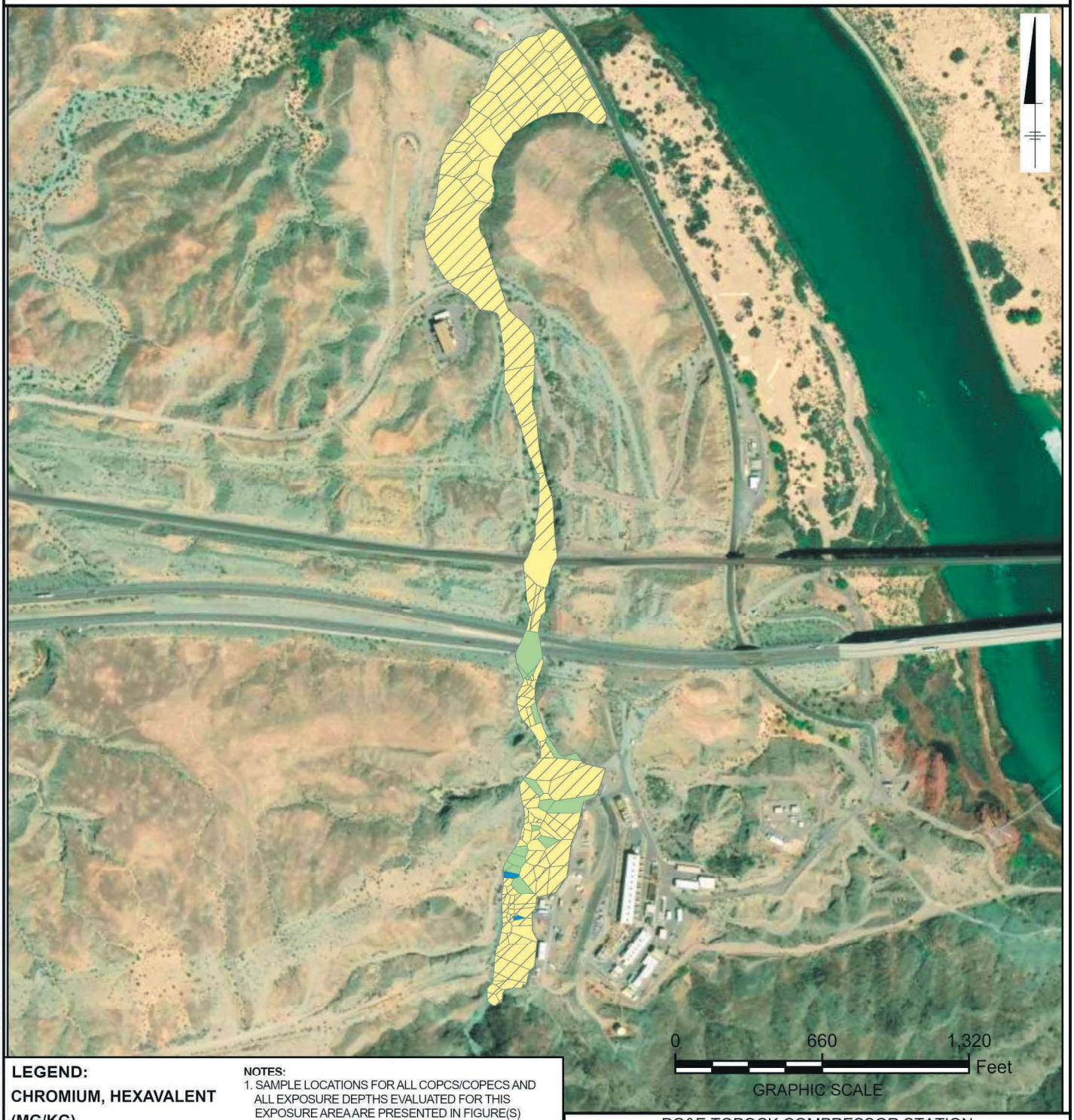
THIESSEN POLYGONS FOR AREA WEIGHTING

ARCADIS

FIGURE BCW-A3.17

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BAT CAVE WASH (BCW)
SCOURING 5 - 6 FEET BELOW GROUND SURFACE
CHROMIUM, HEXAVALENT



LEGEND:

CHROMIUM, HEXAVALENT (MG/KG)

- 0 - 0.83
- >0.83 - 3.1
- >3.1 - 31
- >31
- NOT DETECTED

NOTES:

1. SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE(S) BCW-1.2A AND BCW-1.2B.
2. DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
3. SOIL REMOVAL ACTION GOALS AS SELECTED IN THE SOIL ENGINEERING EVALUATION/COST ANALYSIS (JACOBS 2021).
4. MG/KG = MILLIGRAMS PER KILOGRAM
5. RBRG = RISK-BASED REMEDIAL GOAL
6. THIESSEN POLYGONS WITH A NON-DETECT CONCENTRATION ARE REPRESENTED BY THE REPORTING LIMIT.

Chromium, hexavalent	Units	Value	Basis
Background	mg/kg	0.83	Site-specific Soil Background Value
Human Health RBRG	mg/kg	3.1	Soil Removal Action Goal (Off-highway vehicle rider at 10-6 excess risk)
Human Health RBRG	mg/kg	31	Soil Removal Action Goal (Off-highway vehicle rider at 10-5 excess risk)

PG&E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA

POST-NTCRA HUMAN HEALTH AND ECOLOGICAL RISK ASSESSMENT

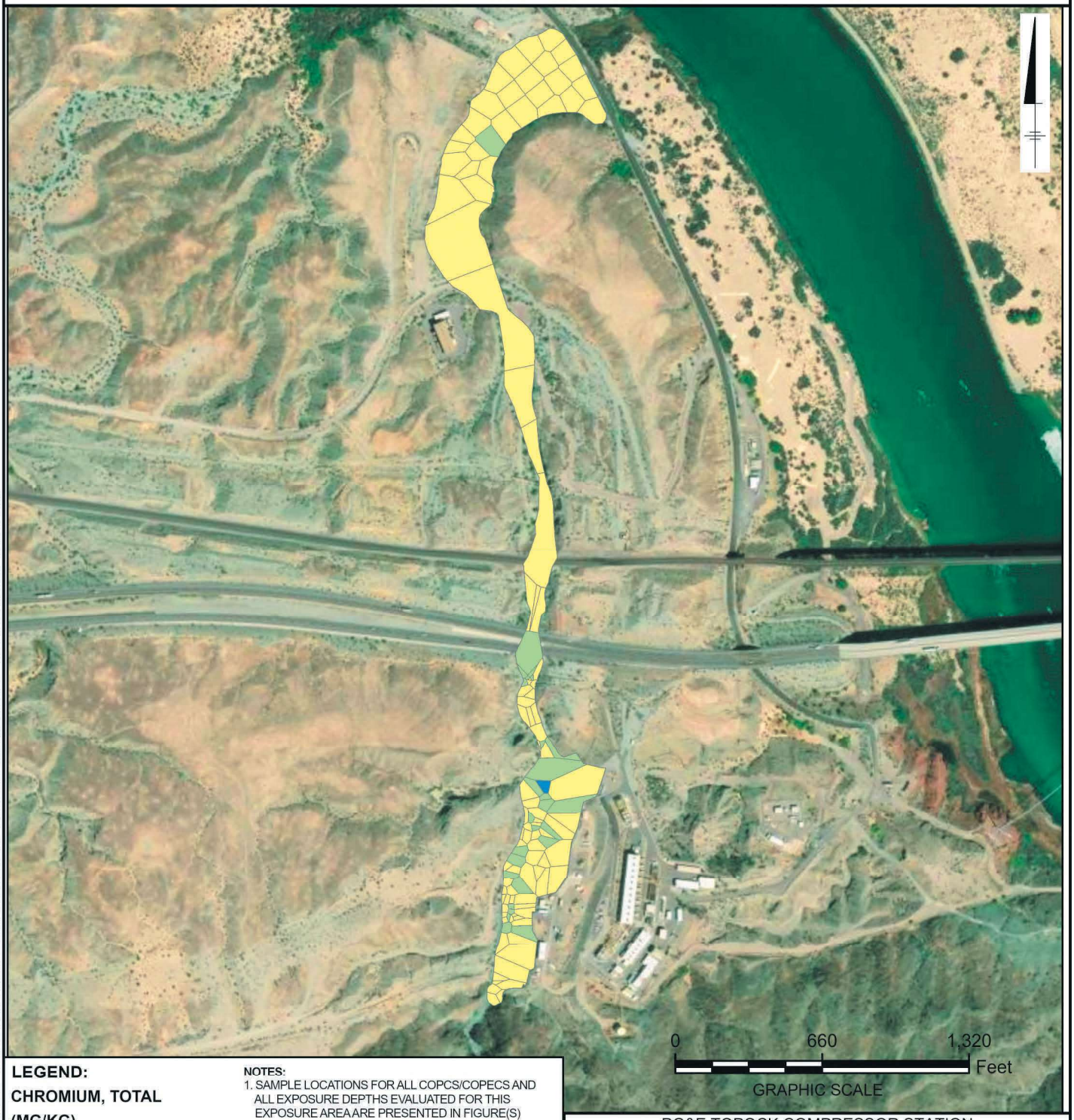
THIESSEN POLYGONS FOR AREA WEIGHTING

ARCADIS

FIGURE
BCW-A3.18

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BAT CAVE WASH (BCW)
SCOURING 5 - 6 FEET BELOW GROUND SURFACE
CHROMIUM, TOTAL



LEGEND:

CHROMIUM, TOTAL (MG/KG)

- 0 - 39.8
- >39.8 - 145
- >145

NOTES:

1. SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE(S) BCW-1.2A AND BCW-1.2B.
2. DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
3. SOIL REMOVAL ACTION GOALS AS SELECTED IN THE SOIL ENGINEERING EVALUATION/COST ANALYSIS (JACOBS 2021).
4. MG/KG = MILLIGRAMS PER KILOGRAM
5. RBRG = RISK-BASED REMEDIAL GOAL

Chromium, total	Units	Value	Basis
Background	mg/kg	39.8	Site-specific Soil Background Value
Ecological RBRG	mg/kg	145	Soil Removal Action Goal (Desert shrew)

PG&E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA

POST-NTCRA HUMAN HEALTH AND ECOLOGICAL RISK ASSESSMENT

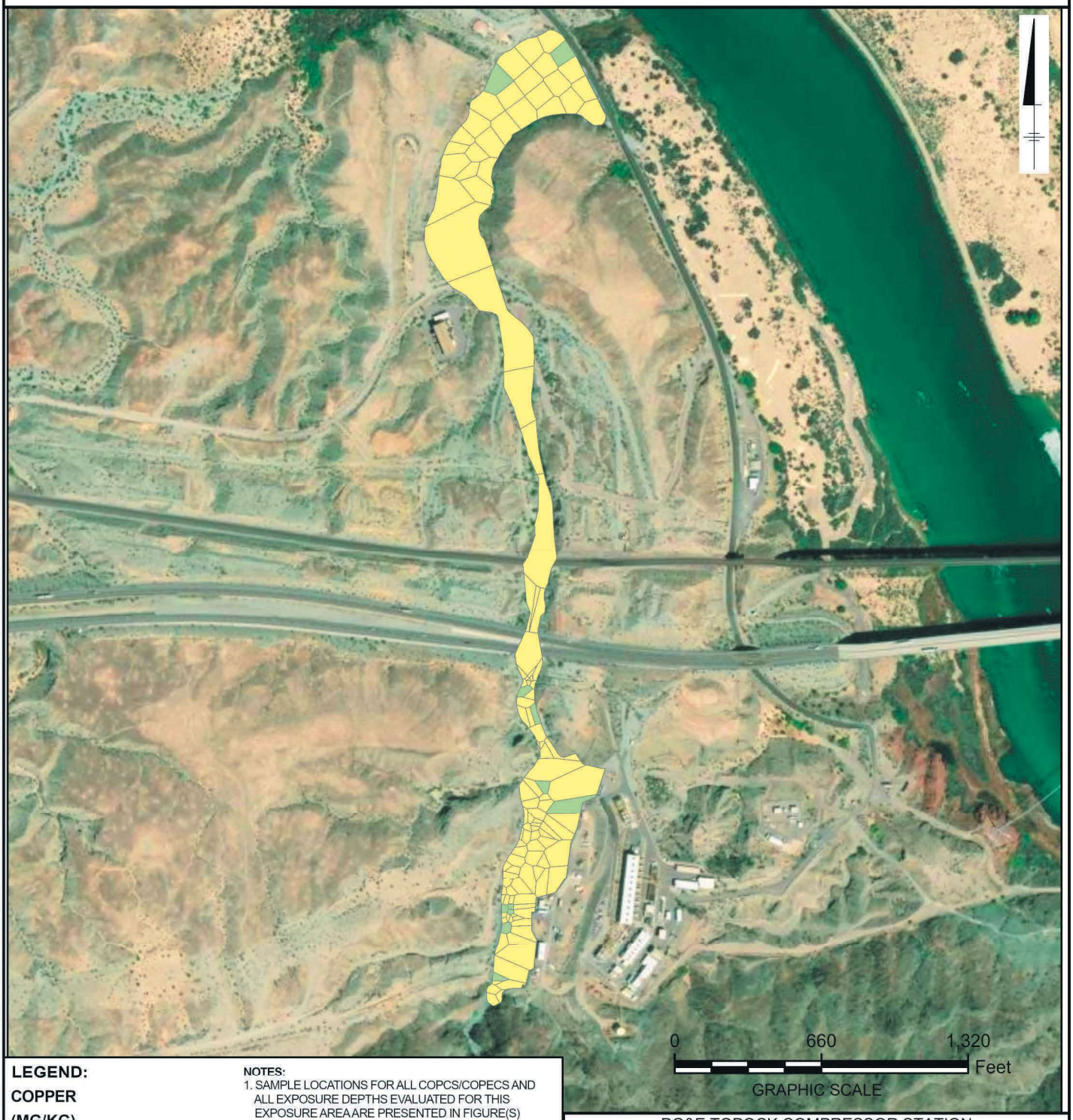
THIESSEN POLYGONS FOR AREA WEIGHTING

ARCADIS

FIGURE BCW-A3.19

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BAT CAVE WASH (BCW)
SCOURING 5 - 6 FEET BELOW GROUND SURFACE
COPPER



LEGEND:

COPPER

(MG/KG)

- 0 - 16.8
- >16.8 - 145
- >145

NOTES:

1. SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE(S) BCW-1.2A AND BCW-1.2B.
2. DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
3. SOIL REMOVAL ACTION GOALS AS SELECTED IN THE SOIL ENGINEERING EVALUATION/COST ANALYSIS (JACOBS 2021).
4. MG/KG = MILLIGRAMS PER KILOGRAM
5. RBRG = RISK-BASED REMEDIAL GOAL

Copper	Units	Value	Basis
Background	mg/kg	16.8	Site-specific Soil Background Value
Ecological RBRG	mg/kg	145	Soil Removal Action Goal (Desert shrew)

PG&E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA

POST-NTCRA HUMAN HEALTH AND ECOLOGICAL RISK ASSESSMENT

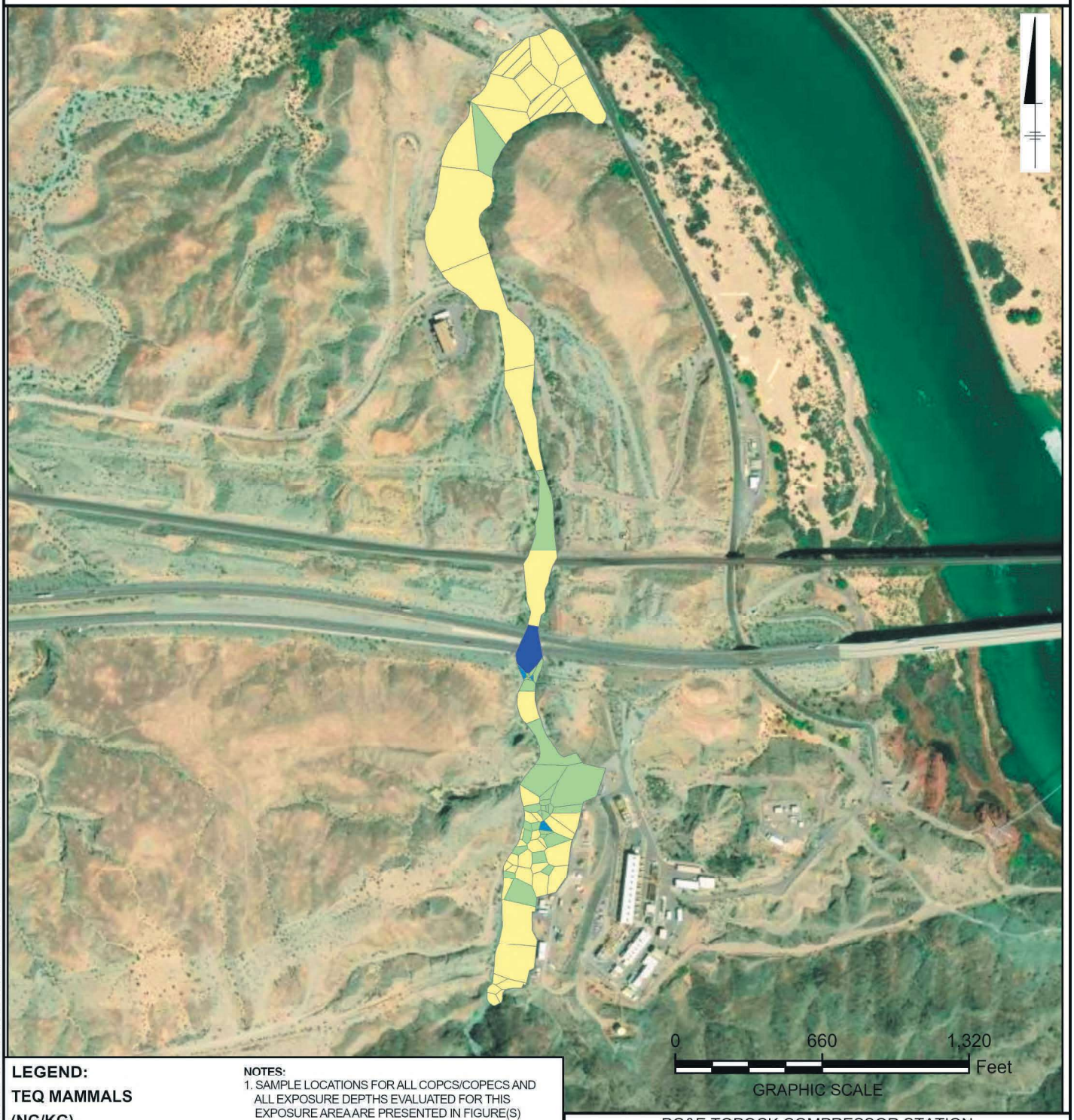
THIESSEN POLYGONS FOR AREA WEIGHTING

ARCADIS

FIGURE
BCW-A3.20

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BAT CAVE WASH (BCW)
SCOURING 5 - 10 FEET BELOW GROUND SURFACE
TEQ MAMMALS



LEGEND:

TEQ MAMMALS (NG/KG)

- 0 - 5.58
- >5.58 - 100
- >100 - 190
- >190
- NOT DETECTED

NOTES:

1. SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE(S) BCW-1.2A AND BCW-1.2B.
2. DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
3. SOIL REMOVAL ACTION GOALS AS SELECTED IN THE SOIL ENGINEERING EVALUATION/COST ANALYSIS (JACOBS 2021).
4. NG/KG = NANOGRAMS PER KILOGRAM
5. RBRG = RISK-BASED REMEDIAL GOAL
6. THIESSEN POLYGONS WITH A NON-DETECT CONCENTRATION ARE REPRESENTED BY THE REPORTING LIMIT.

TEQ Mammals	Units	Value	Basis
Background	ng/kg	5.58	Site-specific Soil Background Value
Human Health RBRG	ng/kg	100	Soil Removal Action Goal (Hiker at 10-6 excess risk)
Ecological RBRG	ng/kg	190	Soil Removal Action Goal (Desert shrew)
Human Health RBRG	ng/kg	1000	Hiker at 10-5 excess risk

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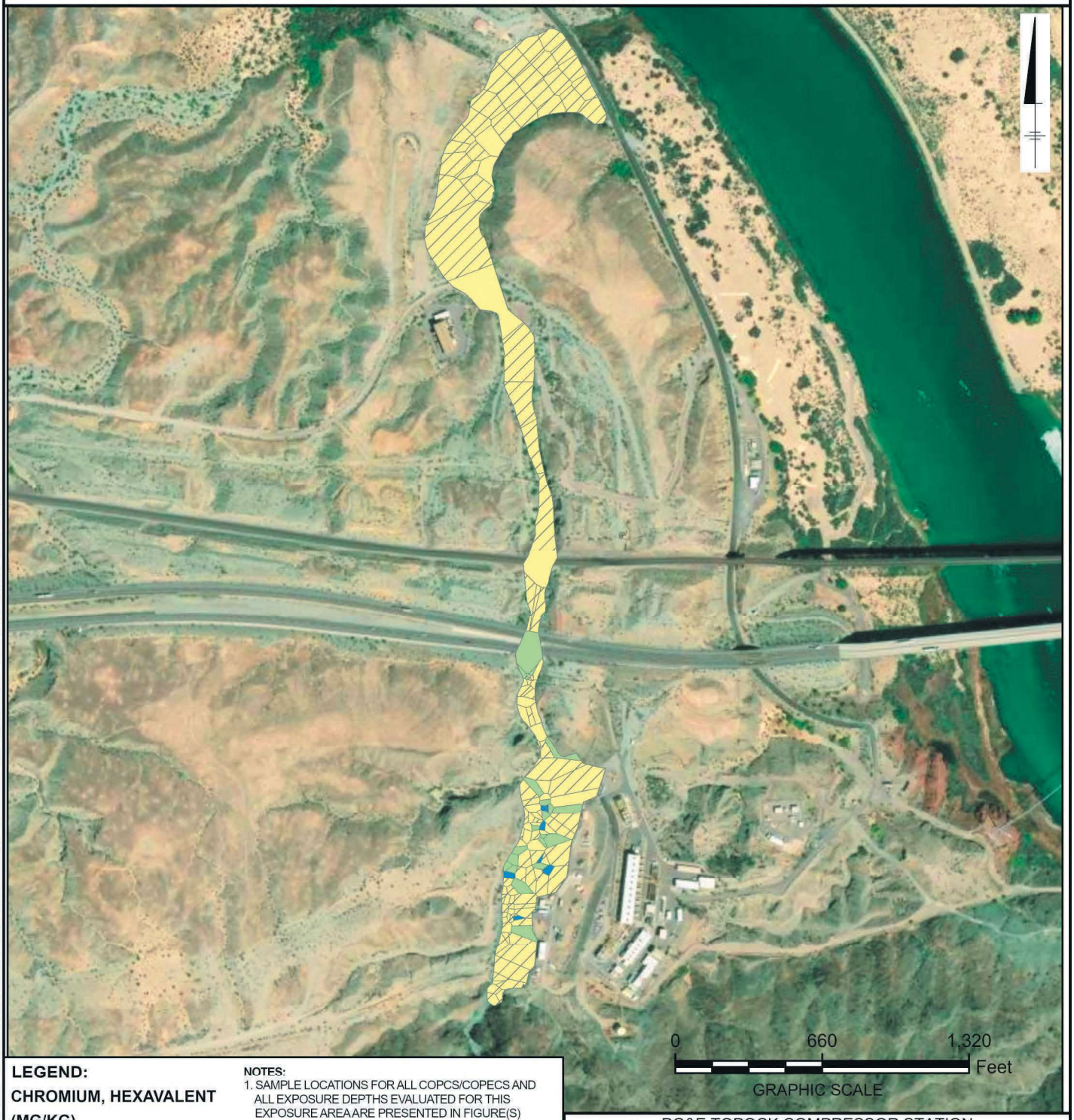
THIESSEN POLYGONS FOR AREA WEIGHTING

ARCADIS

FIGURE
BCW-A3.21

T:_ENV\PGE_Topock\ArcPro\PostNTCRA_EcoRisk\PostNTCRA_ERA_ThiessMapbook_2025.aprx ThiessenWeighting_2025Nov Saved: 12/11/2025 ksinsabaugh

BAT CAVE WASH (BCW)
SCOURING 5 - 10 FEET BELOW GROUND SURFACE
CHROMIUM, HEXAVALENT



LEGEND:

CHROMIUM, HEXAVALENT (MG/KG)

- 0 - 0.83
- >0.83 - 3.1
- >3.1 - 31
- >31
- NOT DETECTED

NOTES:

1. SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE(S) BCW-1.2A AND BCW-1.2B.
2. DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
3. SOIL REMOVAL ACTION GOALS AS SELECTED IN THE SOIL ENGINEERING EVALUATION/COST ANALYSIS (JACOBS 2021).
4. MG/KG = MILLIGRAMS PER KILOGRAM
5. RBRG = RISK-BASED REMEDIAL GOAL
6. THIESSEN POLYGONS WITH A NON-DETECT CONCENTRATION ARE REPRESENTED BY THE REPORTING LIMIT.

Chromium, hexavalent	Units	Value	Basis
Background	mg/kg	0.83	Site-specific Soil Background Value
Human Health RBRG	mg/kg	3.1	Soil Removal Action Goal (Off-highway vehicle rider at 10-6 excess risk)
Human Health RBRG	mg/kg	31	Soil Removal Action Goal (Off-highway vehicle rider at 10-5 excess risk)

PG&E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA

POST-NTCRA HUMAN HEALTH AND ECOLOGICAL RISK ASSESSMENT

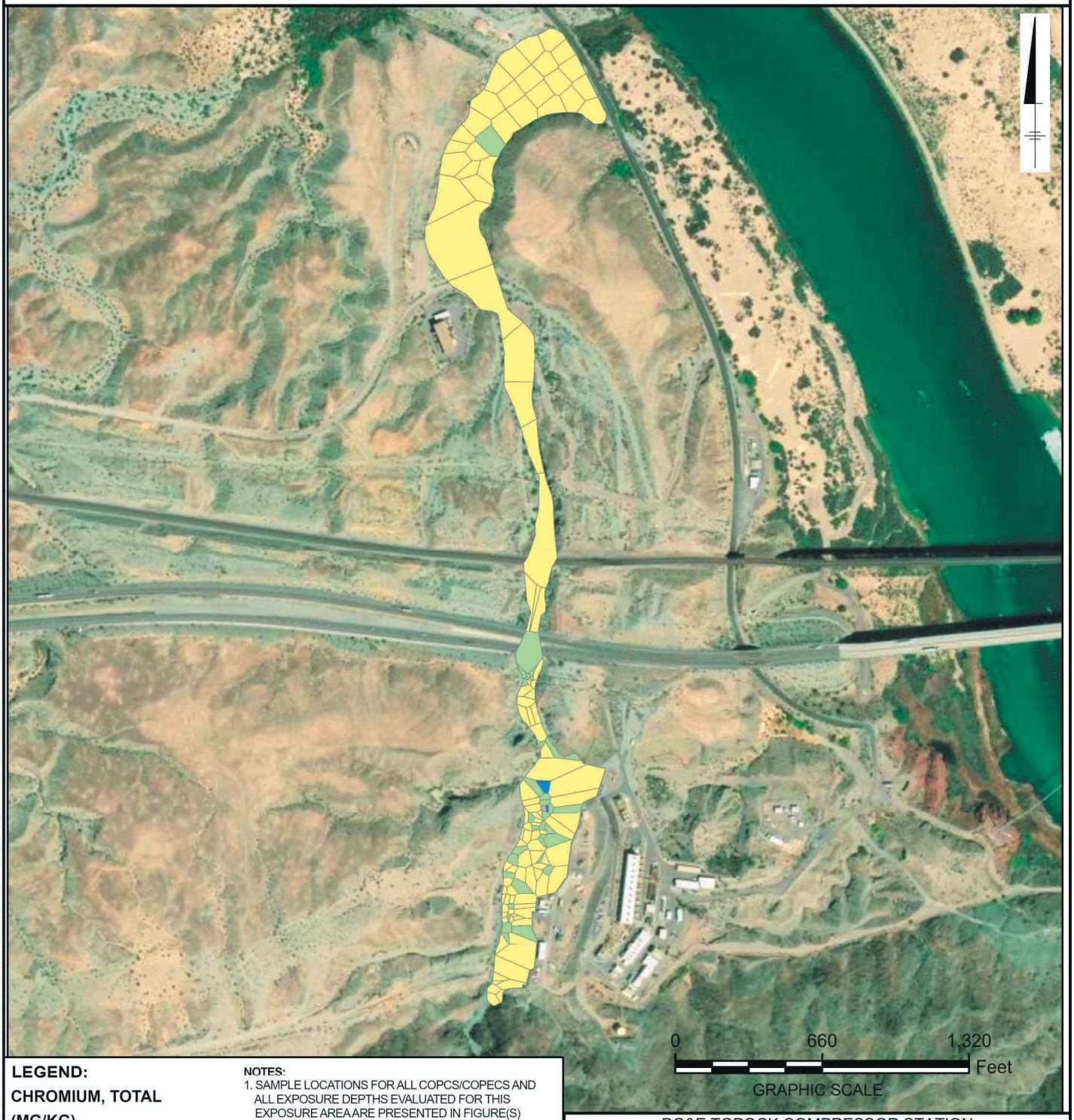
THIESSEN POLYGONS FOR AREA WEIGHTING

ARCADIS

FIGURE
BCW-A3.22

T:_ENV\PGE_Topock\ArcPro\PostNTCRA_EcoRisk\PostNTCRA_ERA_ThiessMapbook_2025.aprx ThiessenWeighting_2025Nov Saved: 12/11/2025 ksinsabaugh

BAT CAVE WASH (BCW)
SCOURING 5 - 10 FEET BELOW GROUND SURFACE
CHROMIUM, TOTAL



LEGEND:

CHROMIUM, TOTAL (MG/KG)

- 0 - 39.8
- >39.8 - 145
- >145

NOTES:

1. SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE(S) BCW-1.2A AND BCW-1.2B.
2. DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
3. SOIL REMOVAL ACTION GOALS AS SELECTED IN THE SOIL ENGINEERING EVALUATION/COST ANALYSIS (JACOBS 2021).
4. MG/KG = MILLIGRAMS PER KILOGRAM
5. RBRG = RISK-BASED REMEDIAL GOAL

Chromium, total	Units	Value	Basis
Background	mg/kg	39.8	Site-specific Soil Background Value
Ecological RBRG	mg/kg	145	Soil Removal Action Goal (Desert shrew)

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NEEDLES, CALIFORNIA

POST-NTCRA HUMAN HEALTH AND ECOLOGICAL RISK ASSESSMENT

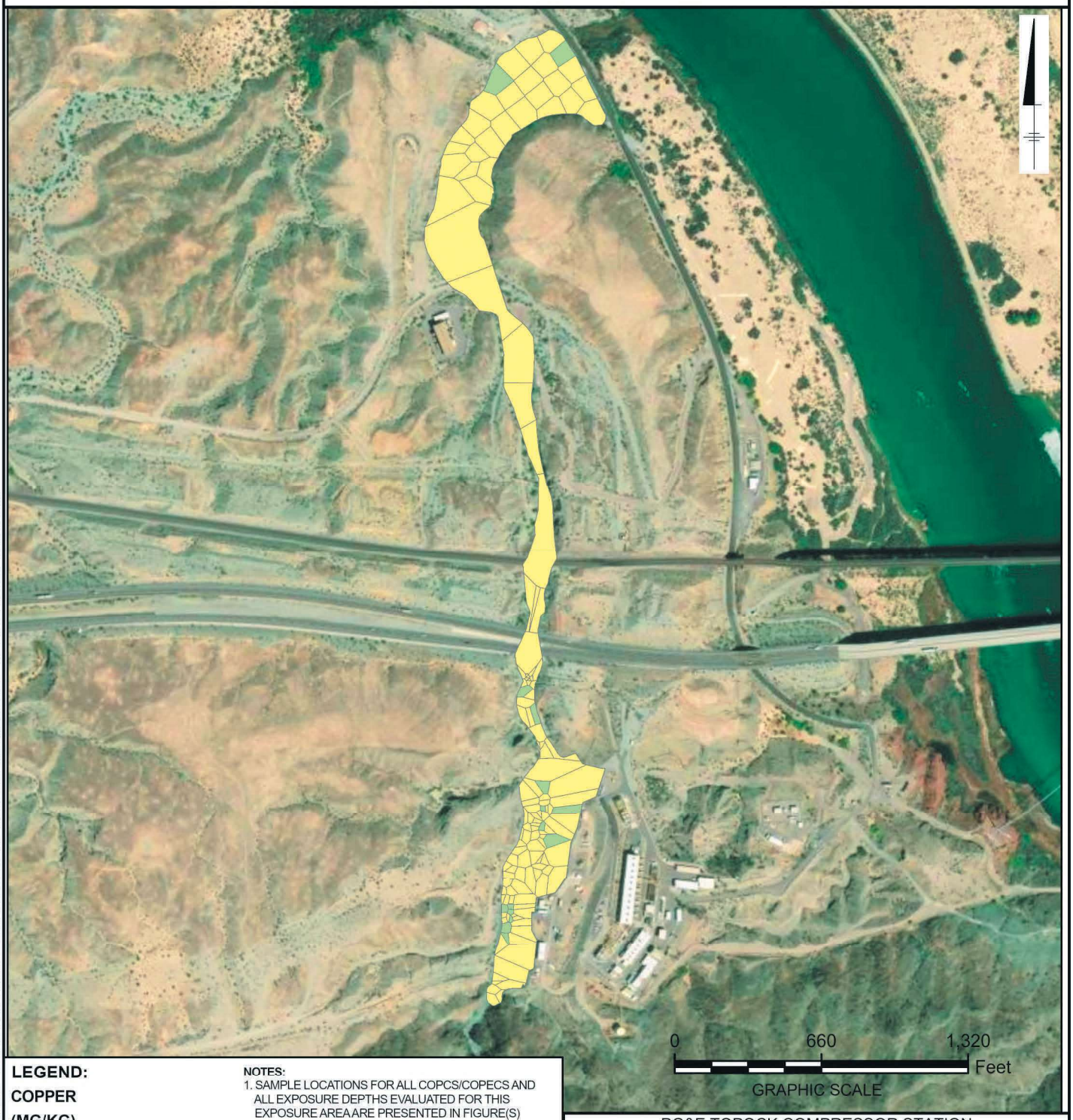
THIESSEN POLYGONS FOR AREA WEIGHTING

ARCADIS

FIGURE BCW-A3.23

T:_ENV\PGE_Topock\ArcPro\PostNTCRA_EcoRisk\PostNTCRA_ERA_ThiessMapbook_2025.aprx ThiessenWeighting_2025Nov Saved: 12/11/2025 ksinsabaugh

BAT CAVE WASH (BCW)
SCOURING 5 - 10 FEET BELOW GROUND SURFACE
COPPER



LEGEND:

COPPER

(MG/KG)

- 0 - 16.8
- >16.8 - 145
- >145

NOTES:

1. SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE(S) BCW-1.2A AND BCW-1.2B.
2. DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
3. SOIL REMOVAL ACTION GOALS AS SELECTED IN THE SOIL ENGINEERING EVALUATION/COST ANALYSIS (JACOBS 2021).
4. MG/KG = MILLIGRAMS PER KILOGRAM
5. RBRG = RISK-BASED REMEDIAL GOAL

Copper	Units	Value	Basis
Background	mg/kg	16.8	Site-specific Soil Background Value
Ecological RBRG	mg/kg	145	Soil Removal Action Goal (Desert shrew)

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NEEDLES, CALIFORNIA

POST-NTCRA HUMAN HEALTH AND ECOLOGICAL RISK ASSESSMENT

THIESSEN POLYGONS FOR AREA WEIGHTING

ARCADIS

FIGURE
BCW-A3.24

T:_ENV\PGE_Topock\ArcPro\PostNTCRA_EcoRisk\PostNTCRA_ERA_ThiessMapbook_2025.aprx ThiessenWeighting_2025Nov Saved: 12/11/2025 ksinsabaugh

ATTACHMENT B

Dose, Exposure Concentration, Risk, and Hazard Calculations for Human Health Receptors at BCW Using Depth-Weighted EPCs

For additional help with the information provided in Attachment B, please contact Susan Shiu, Haley and Aldrich Associate Risk Assessor, at 1-510-879-4549.

Table BCW-B1.1a
Baseline Scenario Exposure Concentration and Dose Calculations for Carcinogenic Effects for C O P Cs in BCW Soil Using Depth-Weighted EPCs: Recreational User - Camper

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C O P C	Age-Adjusted Adult Camper (0 to 0.5 foot bgs)[a] Soil Pathway EC: Particulate Inhalation (mg/m^3)	Age-Adjusted Adult Camper (0 to 0.5 foot bgs)[a] Soil Pathway EC: Outdoor Vapor Inhalation (mg/m^3)	Age-Adjusted Adult Camper (0 to 0.5 foot bgs)[a] Soil Pathway CDI: Dermal Contact (mg/kg-day)	Age-Adjusted Adult Camper (0 to 0.5 foot bgs)[a] Soil Pathway CDI: Ingestion (mg/kg-day)	Age-Adjusted Adult Camper (0 to 3 feet bgs)[a] Soil Pathway EC: Particulate Inhalation (mg/m^3)	Age-Adjusted Adult Camper (0 to 3 feet bgs)[a] Soil Pathway EC: Outdoor Vapor Inhalation (mg/m^3)	Age-Adjusted Adult Camper (0 to 3 feet bgs)[a] Soil Pathway CDI: Dermal Contact (mg/kg-day)	Age-Adjusted Adult Camper (0 to 3 feet bgs)[a] Soil Pathway CDI: Ingestion (mg/kg-day)
Inorganics								
Antimony	NC	NV	NC	NC	NC	NV	NC	NC
Chromium, Hexavalent	5.8E-12	NV	NA	5.2E-08	7.1E-12	NV	NA	6.4E-08
Chromium, total	NC	NV	NC	NC	NC	NV	NC	NC
Cobalt	4.7E-11	NV	NC	NC	4.8E-11	NV	NC	NC
Copper	NC	NV	NC	NC	NC	NV	NC	NC
Lead	na	na	na	na	na	na	na	na
Mercury (inorganic)	NC	NC	NC	NC	NC	NC	NC	NC
Nitrate	NC	NV	NC	NC	NC	NV	NC	NC
Orthophosphate	NS	NV	NS	NS	NS	NV	NS	NS
Phosphate	NC	NV	NC	NC	NC	NV	NC	NC
Thallium	NC	NV	NC	NC	NC	NV	NC	NC
Zinc	NC	NV	NC	NC	NC	NV	NC	NC
Volatile Organic Compounds								
Methyl acetate	ND	NV	ND	ND	NC	NV	NC	NC
Semi-Volatile Organic Compounds								
bis (2-ethylhexyl) phthalate	1.2E-11	NV	2.1E-08	6.6E-08	1.2E-11	NV	2.1E-08	6.6E-08
Polycyclic Aromatic Hydrocarbons								
2-Methyl naphthalene	ND	NV	ND	ND	ND	NV	ND	ND
Anthracene	NC	NV	NC	NC	NC	NV	NC	NC
Benzo (ghi) perylene	NC	NV	NC	NC	NC	NV	NC	NC
Fluoranthene	NC	NV	NC	NC	NC	NV	NC	NC
Fluorene	ND	NV	ND	ND	ND	NV	ND	ND
Naphthalene	3.3E-14	7.6E-10	8.7E-11	1.8E-10	3.3E-14	7.6E-10	8.7E-11	1.8E-10
Phenanthrene	NC	NV	NC	NC	NC	NV	NC	NC
Pyrene	NC	NV	NC	NC	NC	NV	NC	NC

Table BCW-B1.1a
Baseline Scenario Exposure Concentration and Dose Calculations for Carcinogenic Effects for C O P Cs in BCW Soil Using Depth-Weighted EPCs: Recreational User - Camper

Post-Soil N T C R A Human Health and Ecological Risk Assessment Report
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C O P C	Age-Adjusted Adult Camper (0 to 0.5 foot bgs)[a] Soil Pathway EC: Particulate Inhalation (mg/m^3)	Age-Adjusted Adult Camper (0 to 0.5 foot bgs)[a] Soil Pathway EC: Outdoor Vapor Inhalation (mg/m^3)	Age-Adjusted Adult Camper (0 to 0.5 foot bgs)[a] Soil Pathway CDI: Dermal Contact (mg/kg-day)	Age-Adjusted Adult Camper (0 to 0.5 foot bgs)[a] Soil Pathway CDI: Ingestion (mg/kg-day)	Age-Adjusted Adult Camper (0 to 3 feet bgs)[a] Soil Pathway EC: Particulate Inhalation (mg/m^3)	Age-Adjusted Adult Camper (0 to 3 feet bgs)[a] Soil Pathway EC: Outdoor Vapor Inhalation (mg/m^3)	Age-Adjusted Adult Camper (0 to 3 feet bgs)[a] Soil Pathway CDI: Dermal Contact (mg/kg-day)	Age-Adjusted Adult Camper (0 to 3 feet bgs)[a] Soil Pathway CDI: Ingestion (mg/kg-day)
Polychlorinated Biphenyls								
Total PCBs	7.4E-13	2.3E-09	2.0E-09	4.1E-09	6.6E-13	2.3E-09	1.7E-09	3.6E-09
Total Petroleum Hydrocarbons								
TPH as diesel	NC	NC	NC	NC	NC	NC	NC	NC
TPH as motor oil	NC	NC	NC	NC	NC	NC	NC	NC
Dioxins/Furans								
TEQ Human	3.1E-16	1.0E-12	1.7E-13	1.7E-12	2.2E-16	1.0E-12	1.2E-13	1.2E-12

Notes:
[a] EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.

Abbreviations:
bgs = below ground surface.
CDI = Chronic Daily Intake.
C O P C = Constituent of Potential Concern.
EC = Exposure Concentration.
mg/kg-day = milligrams per kilogram per day.
mg/m^3 = milligrams per cubic meter.
na = Not applicable. Potential exposure to lead is evaluated using California Environmental Protection Agency (Cal/E P A) Department of Toxic Substances Control's (DTSC) LeadSpread model. Please see text for discussion.
NA = Not applicable. Hexavalent chromium is not absorbed via dermal contact.
NC = Not considered a carcinogen.
ND = Not detected.
NS = Not sampled.
NV = Not volatile.
PCB = Polychlorinated biphenyls.
TPH = Total Petroleum Hydrocarbons.
TEQ = Toxic Equivalent.

Table BCW-B1.1b
Baseline Scenario Exposure Concentration and Dose Calculations for Carcinogenic Effects for C O P Cs in BCW Soil Using Depth-Weighted EPCs: Recreational User - Hiker

Post-Soil N T C R A Human Health and Ecological Risk Assessment Report
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C O P C	Age-Adjusted Adult Hiker (0 to 0.5 foot bgs)[a] Soil Pathway EC: Particulate Inhalation (mg/m^3)	Age-Adjusted Adult Hiker (0 to 0.5 foot bgs)[a] Soil Pathway EC: Outdoor Vapor Inhalation (mg/m^3)	Age-Adjusted Adult Hiker (0 to 0.5 foot bgs)[a] Soil Pathway CDI: Dermal Contact (mg/kg-day)	Age-Adjusted Adult Hiker (0 to 0.5 foot bgs)[a] Soil Pathway CDI: Ingestion (mg/kg-day)	Age-Adjusted Adult Hiker (0 to 3 feet bgs)[a] Soil Pathway EC: Particulate Inhalation (mg/m^3)	Age-Adjusted Adult Hiker (0 to 3 feet bgs)[a] Soil Pathway EC: Outdoor Vapor Inhalation (mg/m^3)	Age-Adjusted Adult Hiker (0 to 3 feet bgs)[a] Soil Pathway CDI: Dermal Contact (mg/kg-day)	Age-Adjusted Adult Hiker (0 to 3 feet bgs)[a] Soil Pathway CDI: Ingestion (mg/kg-day)
Inorganics								
Antimony	NC	NV	NC	NC	NC	NV	NC	NC
Chromium, Hexavalent	1.2E-11	NV	NA	1.0E-07	1.4E-11	NV	NA	1.3E-07
Chromium, total	NC	NV	NC	NC	NC	NV	NC	NC
Cobalt	9.5E-11	NV	NC	NC	9.5E-11	NV	NC	NC
Copper	NC	NV	NC	NC	NC	NV	NC	NC
Lead	na	na	na	na	na	na	na	na
Mercury (inorganic)	NC	NC	NC	NC	NC	NC	NC	NC
Nitrate	NC	NV	NC	NC	NC	NV	NC	NC
Orthophosphate	NS	NV	NS	NS	NS	NV	NS	NS
Phosphate	NC	NV	NC	NC	NC	NV	NC	NC
Thallium	NC	NV	NC	NC	NC	NV	NC	NC
Zinc	NC	NV	NC	NC	NC	NV	NC	NC
Volatile Organic Compounds								
Methyl acetate	ND	NV	ND	ND	NC	NV	NC	NC
Semi-Volatile Organic Compounds								
bis (2-ethylhexyl) phthalate	2.4E-11	NV	4.2E-08	1.3E-07	2.4E-11	NV	4.2E-08	1.3E-07
Polycyclic Aromatic Hydrocarbons								
2-Methyl naphthalene	ND	NV	ND	ND	ND	NV	ND	ND
Anthracene	NC	NV	NC	NC	NC	NV	NC	NC
Benzo (ghi) perylene	NC	NV	NC	NC	NC	NV	NC	NC
Fluoranthene	NC	NV	NC	NC	NC	NV	NC	NC
Fluorene	ND	NV	ND	ND	ND	NV	ND	ND
Naphthalene	6.6E-14	1.5E-09	1.7E-10	3.6E-10	6.6E-14	1.5E-09	1.7E-10	3.6E-10
Phenanthrene	NC	NV	NC	NC	NC	NV	NC	NC
Pyrene	NC	NV	NC	NC	NC	NV	NC	NC

Table BCW-B1.1b
Baseline Scenario Exposure Concentration and Dose Calculations for Carcinogenic Effects for C O P Cs in BCW Soil Using Depth-Weighted EPCs: Recreational User - Hiker

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C O P C	Age-Adjusted Adult Hiker (0 to 0.5 foot bgs)[a] Soil Pathway EC: Particulate Inhalation (mg/m^3)	Age-Adjusted Adult Hiker (0 to 0.5 foot bgs)[a] Soil Pathway EC: Outdoor Vapor Inhalation (mg/m^3)	Age-Adjusted Adult Hiker (0 to 0.5 foot bgs)[a] Soil Pathway CDI: Dermal Contact (mg/kg-day)	Age-Adjusted Adult Hiker (0 to 0.5 foot bgs)[a] Soil Pathway CDI: Ingestion (mg/kg-day)	Age-Adjusted Adult Hiker (0 to 3 feet bgs)[a] Soil Pathway EC: Particulate Inhalation (mg/m^3)	Age-Adjusted Adult Hiker (0 to 3 feet bgs)[a] Soil Pathway EC: Outdoor Vapor Inhalation (mg/m^3)	Age-Adjusted Adult Hiker (0 to 3 feet bgs)[a] Soil Pathway CDI: Dermal Contact (mg/kg-day)	Age-Adjusted Adult Hiker (0 to 3 feet bgs)[a] Soil Pathway CDI: Ingestion (mg/kg-day)
Polychlorinated Biphenyls								
Total PCBs	1.5E-12	4.7E-09	3.9E-09	8.2E-09	1.3E-12	4.7E-09	3.5E-09	7.2E-09
Total Petroleum Hydrocarbons								
TPH as diesel	NC	NC	NC	NC	NC	NC	NC	NC
TPH as motor oil	NC	NC	NC	NC	NC	NC	NC	NC
Dioxins/Furans								
TEQ Human	6.2E-16	2.1E-12	3.3E-13	3.4E-12	4.4E-16	2.1E-12	2.4E-13	2.4E-12

Notes:
[a] EPCs for exposure to subsurface ll soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.

Abbreviations:
bgs = below ground surface.
CDI = Chronic Daily Intake.
C O P C = Constituent of Potential Concern.
EC = Exposure Concentration.
mg/kg-day = milligrams per kilogram per day.
mg/m^3 = milligrams per cubic meter.
na = Not applicable. Potential exposure to lead is evaluated using California Environmental Protection Agency (Cal/E P A) Department of Toxic Substances Control's (DTSC) LeadSpread model. Please see text for discussion.
NA = Not applicable. Hexavalent chromium is not absorbed via dermal contact.
NC = Not considered a carcinogen.
ND = Not detected.
NS = Not sampled.
NV = Not volatile.
PCB = Polychlorinated biphenyls.
TPH = Total Petroleum Hydrocarbons.
TEQ = Toxic Equivalent.

Table BCW-B1.1c
Baseline Scenario Exposure Concentration and Dose Calculations for Carcinogenic Effects for C O P Cs in BCW Soil Using Depth-Weighted EPCs: Recreational User - Off-Highway Vehicle Rider

Post-Soil N T C R A Human Health and Ecological Risk Assessment Report
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C O P C	Age-Adjusted Adult OHV Rider (0 to 0.5 foot bgs)[a] Soil Pathway EC: Particulate Inhalation (mg/m^3)	Age-Adjusted Adult OHV Rider (0 to 0.5 foot bgs)[a] Soil Pathway EC: Outdoor Vapor Inhalation (mg/m^3)	Age-Adjusted Adult OHV Rider (0 to 0.5 foot bgs)[a] Soil Pathway CDI: Dermal Contact (mg/kg-day)	Age-Adjusted Adult OHV Rider (0 to 0.5 foot bgs)[a] Soil Pathway CDI: Ingestion (mg/kg-day)	Age-Adjusted Adult OHV Rider (0 to 3 feet bgs)[a] Soil Pathway EC: Particulate Inhalation (mg/m^3)	Age-Adjusted Adult OHV Rider (0 to 3 feet bgs)[a] Soil Pathway EC: Outdoor Vapor Inhalation (mg/m^3)	Age-Adjusted Adult OHV Rider (0 to 3 feet bgs)[a] Soil Pathway CDI: Dermal Contact (mg/kg-day)	Age-Adjusted Adult OHV Rider (0 to 3 feet bgs)[a] Soil Pathway CDI: Ingestion (mg/kg-day)
Inorganics								
Antimony	NC	NV	NC	NC	NC	NV	NC	NC
Chromium, Hexavalent	7.4E-10	NV	NA	6.0E-09	9.1E-10	NV	NA	7.4E-09
Chromium, total	NC	NV	NC	NC	NC	NV	NC	NC
Cobalt	9.5E-09	NV	NC	NC	9.6E-09	NV	NC	NC
Copper	NC	NV	NC	NC	NC	NV	NC	NC
Lead	na	na	na	na	na	na	na	na
Mercury (inorganic)	NC	NC	NC	NC	NC	NC	NC	NC
Nitrate	NC	NV	NC	NC	NC	NV	NC	NC
Orthophosphate	NS	NV	NS	NS	NS	NV	NS	NS
Phosphate	NC	NV	NC	NC	NC	NV	NC	NC
Thallium	NC	NV	NC	NC	NC	NV	NC	NC
Zinc	NC	NV	NC	NC	NC	NV	NC	NC
Volatile Organic Compounds								
Methyl acetate	ND	NV	ND	ND	NC	NV	NC	NC
Semi-Volatile Organic Compounds								
bis (2-ethylhexyl) phthalate	2.4E-09	NV	2.0E-07	1.7E-08	2.4E-09	NV	2.0E-07	1.7E-08
Polycyclic Aromatic Hydrocarbons								
2-Methyl naphthalene	ND	NV	ND	ND	ND	NV	ND	ND
Anthracene	NC	NV	NC	NC	NC	NV	NC	NC
Benzo (ghi) perylene	NC	NV	NC	NC	NC	NV	NC	NC
Fluoranthene	NC	NV	NC	NC	NC	NV	NC	NC
Fluorene	ND	NV	ND	ND	ND	NV	ND	ND
Naphthalene	6.6E-12	9.5E-11	8.4E-10	4.6E-11	6.6E-12	9.5E-11	8.4E-10	4.6E-11
Phenanthrene	NC	NV	NC	NC	NC	NV	NC	NC
Pyrene	NC	NV	NC	NC	NC	NV	NC	NC

Table BCW-B1.1c
Baseline Scenario Exposure Concentration and Dose Calculations for Carcinogenic Effects for C O P Cs in BCW Soil Using Depth-Weighted EPCs: Recreational User - Off-Highway Vehicle Rider

Post-Soil N T C R A Human Health and Ecological Risk Assessment Report
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C O P C	Age-Adjusted Adult OHV Rider (0 to 0.5 foot bgs)[a] Soil Pathway EC: Particulate Inhalation (mg/m^3)	Age-Adjusted Adult OHV Rider (0 to 0.5 foot bgs)[a] Soil Pathway EC: Outdoor Vapor Inhalation (mg/m^3)	Age-Adjusted Adult OHV Rider (0 to 0.5 foot bgs)[a] Soil Pathway CDI: Dermal Contact (mg/kg-day)	Age-Adjusted Adult OHV Rider (0 to 0.5 foot bgs)[a] Soil Pathway CDI: Ingestion (mg/kg-day)	Age-Adjusted Adult OHV Rider (0 to 3 feet bgs)[a] Soil Pathway EC: Particulate Inhalation (mg/m^3)	Age-Adjusted Adult OHV Rider (0 to 3 feet bgs)[a] Soil Pathway EC: Outdoor Vapor Inhalation (mg/m^3)	Age-Adjusted Adult OHV Rider (0 to 3 feet bgs)[a] Soil Pathway CDI: Dermal Contact (mg/kg-day)	Age-Adjusted Adult OHV Rider (0 to 3 feet bgs)[a] Soil Pathway CDI: Ingestion (mg/kg-day)
Polychlorinated Biphenyls								
Total PCBs	1.5E-10	2.9E-10	1.9E-08	1.0E-09	1.3E-10	2.9E-10	1.7E-08	9.2E-10
Total Petroleum Hydrocarbons								
TPH as diesel	NC	NC	NC	NC	NC	NC	NC	NC
TPH as motor oil	NC	NC	NC	NC	NC	NC	NC	NC
Dioxins/Furans								
TEQ Human	6.3E-14	1.3E-13	1.6E-12	4.4E-13	4.5E-14	1.3E-13	1.1E-12	3.1E-13

Notes:
[a] EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.

Abbreviations:
bgs = below ground surface.
CDI = Chronic Daily Intake.
C O P C = Constituent of Potential Concern.
EC = Exposure Concentration.
mg/kg-day = milligrams per kilogram per day.
mg/m^3 = milligrams per cubic meter.
na = Not applicable. Potential exposure to lead is evaluated using California Environmental Protection Agency (Cal/E P A) Department of Toxic Substances Control's (DTSC) LeadSpread model. Please see text for discussion.
NA = Not applicable. Hexavalent chromium is not absorbed via dermal contact.
NC = Not considered a carcinogen.
ND = Not detected.
NS = Not sampled.
NV = Not volatile.
PCB = Polychlorinated biphenyls.
TPH = Total Petroleum Hydrocarbons.
TEQ = Toxic Equivalent.

Table BCW-B1.2a
Baseline Scenario Exposure Concentration and Dose Calculations for Noncarcinogenic Effects for C O P Cs in BCW Soil Using Depth-Weighted EPCs: Recreational User - Camper

Post-Soil N T C R A Human Health and Ecological Risk Assessment Report
PG&E Topock Compressor Station
Needles, California

C O P C	Child Camper (0 to 0.5 foot bgs)[a] Soil Pathway EC: Particulate Inhalation (mg/m^3)	Child Camper (0 to 0.5 foot bgs)[a] Soil Pathway EC: Outdoor Vapor Inhalation (mg/m^3)	Child Camper (0 to 0.5 foot bgs)[a] Soil Pathway CDI: Dermal Contact (mg/kg-day)	Child Camper (0 to 0.5 foot bgs)[a] Soil Pathway CDI: Ingestion (mg/kg-day)	Adult Camper (0 to 0.5 foot bgs)[a] Soil Pathway EC: Particulate Inhalation (mg/m^3)	Adult Camper (0 to 0.5 foot bgs)[a] Soil Pathway EC: Outdoor Vapor Inhalation (mg/m^3)	Adult Camper (0 to 0.5 foot bgs)[a] Soil Pathway CDI: Dermal Contact (mg/kg-day)	Adult Camper (0 to 0.5 foot bgs)[a] Soil Pathway CDI: Ingestion (mg/kg-day)	Child Camper (0 to 3 feet bgs)[a] Soil Pathway EC: Particulate Inhalation (mg/m^3)	Child Camper (0 to 3 feet bgs)[a] Soil Pathway EC: Outdoor Vapor Inhalation (mg/m^3)	Child Camper (0 to 3 feet bgs)[a] Soil Pathway CDI: Dermal Contact (mg/kg-day)	Child Camper (0 to 3 feet bgs)[a] Soil Pathway CDI: Ingestion (mg/kg-day)	Adult Camper (0 to 3 feet bgs)[a] Soil Pathway EC: Particulate Inhalation (mg/m^3)	Adult Camper (0 to 3 feet bgs)[a] Soil Pathway EC: Outdoor Vapor Inhalation (mg/m^3)	Adult Camper (0 to 3 feet bgs)[a] Soil Pathway CDI: Dermal Contact (mg/kg-day)	Adult Camper (0 to 3 feet bgs)[a] Soil Pathway CDI: Ingestion (mg/kg-day)
Inorganics																
Antimony	2.9E-10	NV	1.5E-07	5.3E-06	2.9E-10	NV	2.1E-08	4.9E-07	2.1E-10	NV	1.1E-07	3.7E-06	2.1E-10	NV	1.5E-08	3.5E-07
Chromium, Hexavalent	5.6E-12	NV	NA	1.0E-07	5.6E-12	NV	NA	9.5E-09	6.9E-12	NV	NA	1.3E-07	6.9E-12	NV	NA	1.2E-08
Chromium, total	4.8E-10	NV	2.5E-07	8.7E-06	4.8E-10	NV	3.5E-08	8.2E-07	7.5E-10	NV	3.9E-07	1.4E-05	7.5E-10	NV	5.4E-08	1.3E-06
Cobalt	1.3E-10	NV	6.7E-08	2.3E-06	1.3E-10	NV	9.1E-09	2.2E-07	1.3E-10	NV	6.7E-08	2.3E-06	1.3E-10	NV	9.2E-09	2.2E-07
Copper	2.3E-10	NV	1.2E-07	4.2E-06	2.3E-10	NV	1.7E-08	4.0E-07	2.2E-10	NV	1.2E-07	4.0E-06	2.2E-10	NV	1.6E-08	3.8E-07
Lead	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
Mercury (inorganic)	9.1E-13	NV	4.8E-10	1.7E-08	9.1E-13	NV	6.5E-11	1.6E-09	9.1E-13	NV	4.8E-10	1.6E-08	9.1E-13	NV	6.5E-11	1.5E-09
Nitrate	8.7E-10	NV	4.6E-07	1.6E-05	8.7E-10	NV	6.2E-08	1.5E-06	8.7E-10	NV	4.6E-07	1.6E-05	8.7E-10	NV	6.2E-08	1.5E-06
Orthophosphate	NS	NV	NS	NS	NS	NV	NS	NS	NS	NV	NS	NS	NS	NV	NS	NS
Phosphate	5.8E-09	NV	3.0E-06	1.0E-04	5.8E-09	NV	4.1E-07	9.8E-06	5.8E-09	NV	3.0E-06	1.0E-04	5.8E-09	NV	4.1E-07	9.8E-06
Thallium	3.9E-11	NV	2.0E-08	7.0E-07	3.9E-11	NV	2.8E-09	6.6E-08	3.1E-11	NV	1.7E-08	5.7E-07	3.1E-11	NV	2.3E-09	5.3E-08
Zinc	1.2E-09	NV	6.5E-07	2.3E-05	1.2E-09	NV	8.9E-08	2.1E-06	1.0E-09	NV	5.5E-07	1.9E-05	1.0E-09	NV	7.5E-08	1.8E-06
Volatile Organic Compounds																
Methyl acetate	ND	2.6E-08	ND	ND	ND	2.6E-08	ND	ND	1.9E-13	2.6E-08	1.0E-09	3.5E-09	1.9E-13	2.6E-08	1.4E-10	3.3E-10
Semi-Volatile Organic Compounds																
bis (2-ethylhexyl) phthalate	3.2E-11	NV	1.7E-07	5.8E-07	3.2E-11	NV	2.3E-08	5.5E-08	3.2E-11	NV	1.7E-07	5.8E-07	3.2E-11	NV	2.3E-08	5.5E-08
Polycyclic Aromatic Hydrocarbons																
2-Methyl naphthalene	ND	8.2E-10	ND	ND	ND	8.2E-10	ND	ND	ND	8.2E-10	ND	ND	ND	8.2E-10	ND	ND
Anthracene	1.6E-13	1.0E-10	1.2E-09	2.8E-09	1.6E-13	1.0E-10	1.7E-10	2.7E-10	1.6E-13	1.0E-10	1.2E-09	2.8E-09	1.6E-13	1.0E-10	1.7E-10	2.7E-10
Benzo (ghi) perylene	2.6E-13	NV	2.0E-09	4.7E-09	2.6E-13	NV	2.8E-10	4.4E-10	2.5E-13	NV	2.0E-09	4.5E-09	2.5E-13	NV	2.7E-10	4.2E-10
Fluoranthene	3.4E-13	NV	2.7E-09	6.1E-09	3.4E-13	NV	3.6E-10	5.7E-10	6.3E-13	NV	5.0E-09	1.1E-08	6.3E-13	NV	6.8E-10	1.1E-09
Fluorene	ND	1.9E-10	ND	ND	ND	1.9E-10	ND	ND	ND	1.9E-10	ND	ND	ND	1.9E-10	ND	ND
Naphthalene	8.9E-14	2.0E-09	7.0E-10	1.6E-09	8.9E-14	2.0E-09	9.5E-11	1.5E-10	8.9E-14	2.0E-09	7.0E-10	1.6E-09	8.9E-14	2.0E-09	9.5E-11	1.5E-10
Phenanthrene	2.6E-13	NV	2.1E-09	4.7E-09	2.6E-13	NV	2.8E-10	4.4E-10	2.4E-13	NV	1.9E-09	4.4E-09	2.4E-13	NV	2.6E-10	4.2E-10
Pyrene	3.0E-13	9.6E-11	2.4E-09	5.4E-09	3.0E-13	9.6E-11	3.2E-10	5.1E-10	2.8E-13	9.6E-11	2.2E-09	5.0E-09	2.8E-13	9.6E-11	3.0E-10	4.7E-10

Table BCW-B1.2a
Baseline Scenario Exposure Concentration and Dose Calculations for Noncarcinogenic Effects for C O P Cs in BCW Soil Using Depth-Weighted EPCs: Recreational User - Camper

Post-Soil N T C R A Human Health and Ecological Risk Assessment Report
PG&E Topock Compressor Station
Needles, California

C O P C	Child Camper (0 to 0.5 foot bgs)[a] Soil Pathway EC: Particulate Inhalation (mg/m^3)	Child Camper (0 to 0.5 foot bgs)[a] Soil Pathway EC: Outdoor Vapor Inhalation (mg/m^3)	Child Camper (0 to 0.5 foot bgs)[a] Soil Pathway CDI: Dermal Contact (mg/kg-day)	Child Camper (0 to 0.5 foot bgs)[a] Soil Pathway CDI: Ingestion (mg/kg-day)	Adult Camper (0 to 0.5 foot bgs)[a] Soil Pathway EC: Particulate Inhalation (mg/m^3)	Adult Camper (0 to 0.5 foot bgs)[a] Soil Pathway EC: Outdoor Vapor Inhalation (mg/m^3)	Adult Camper (0 to 0.5 foot bgs)[a] Soil Pathway CDI: Dermal Contact (mg/kg-day)	Adult Camper (0 to 0.5 foot bgs)[a] Soil Pathway CDI: Ingestion (mg/kg-day)	Child Camper (0 to 3 feet bgs)[a] Soil Pathway EC: Particulate Inhalation (mg/m^3)	Child Camper (0 to 3 feet bgs)[a] Soil Pathway EC: Outdoor Vapor Inhalation (mg/m^3)	Child Camper (0 to 3 feet bgs)[a] Soil Pathway CDI: Dermal Contact (mg/kg-day)	Child Camper (0 to 3 feet bgs)[a] Soil Pathway CDI: Ingestion (mg/kg-day)	Adult Camper (0 to 3 feet bgs)[a] Soil Pathway EC: Particulate Inhalation (mg/m^3)	Adult Camper (0 to 3 feet bgs)[a] Soil Pathway EC: Outdoor Vapor Inhalation (mg/m^3)	Adult Camper (0 to 3 feet bgs)[a] Soil Pathway CDI: Dermal Contact (mg/kg-day)	Adult Camper (0 to 3 feet bgs)[a] Soil Pathway CDI: Ingestion (mg/kg-day)
Polychlorinated Biphenyls																
Total PCBs	2.0E-12	6.3E-09	1.6E-08	3.6E-08	2.0E-12	6.3E-09	2.2E-09	3.4E-09	1.8E-12	6.3E-09	1.4E-08	3.2E-08	1.8E-12	6.3E-09	1.9E-09	3.0E-09
Total Petroleum Hydrocarbons																
TPH as diesel	1.2E-10	1.3E-04	6.3E-07	2.2E-06	1.2E-10	1.3E-04	8.6E-08	2.0E-07	1.1E-10	1.3E-04	5.9E-07	2.0E-06	1.1E-10	1.3E-04	8.1E-08	1.9E-07
TPH as motor oil	4.8E-10	NV	2.5E-06	8.7E-06	4.8E-10	NV	3.5E-07	8.2E-07	4.7E-10	NV	2.5E-06	8.5E-06	4.7E-10	NV	3.4E-07	7.9E-07
Dioxins/Furans																
TEQ Human	8.4E-16	2.8E-12	1.3E-12	1.5E-11	8.4E-16	2.8E-12	1.8E-13	1.4E-12	6.0E-16	2.8E-12	9.4E-13	1.1E-11	6.0E-16	2.8E-12	1.3E-13	1.0E-12

Notes:
[a] EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.

Abbreviations:
bgs = below ground surface.
CDI = Chronic Daily Intake.
C O P C = Constituent of Potential Concern.
EC = Exposure Concentration.
mg/kg-day = milligrams per kilogram per day.
mg/m^3 = milligrams per cubic meter.
na = Not applicable. Potential exposure to lead is evaluated using California Environmental Protection Agency (Cal/E P A) Department of Toxic Substances Control's (DTSC) LeadSpread model. Please see text for discussion.
NA = Not applicable. Hexavalent chromium is not absorbed via dermal contact.
ND = Not detected.
NS = Not sampled.
NV = Not volatile.
PCB = Polychlorinated biphenyls.
TPH = Total Petroleum Hydrocarbons.
TEQ = Toxic Equivalent.

Table BCW-B1.2b
Baseline Scenario Exposure Concentration and Dose Calculations for Noncarcinogenic Effects for C O P Cs in BCW Soil Using Depth-Weighted EPCs: Recreational User - Hiker

Post-Soil N T C R A Human Health and Ecological Risk Assessment Report
PG&E Topock Compressor Station
Needles, California

COPC	Child Hiker (0 to 0.5 foot bgs)[a] Soil Pathway EC: Particulate Inhalation (mg/m^3)	Child Hiker (0 to 0.5 foot bgs)[a] Soil Pathway EC: Outdoor Vapor Inhalation (mg/m^3)	Child Hiker (0 to 0.5 foot bgs)[a] Soil Pathway CDI: Dermal Contact (mg/kg-day)	Child Hiker (0 to 0.5 foot bgs)[a] Soil Pathway CDI: Ingestion (mg/kg-day)	Adult Hiker (0 to 0.5 foot bgs)[a] Soil Pathway EC: Particulate Inhalation (mg/m^3)	Adult Hiker (0 to 0.5 foot bgs)[a] Soil Pathway EC: Outdoor Vapor Inhalation (mg/m^3)	Adult Hiker (0 to 0.5 foot bgs)[a] Soil Pathway CDI: Dermal Contact (mg/kg-day)	Adult Hiker (0 to 0.5 foot bgs)[a] Soil Pathway CDI: Ingestion (mg/kg-day)	Child Hiker (0 to 3 feet bgs)[a] Soil Pathway EC: Particulate Inhalation (mg/m^3)	Child Hiker (0 to 3 feet bgs)[a] Soil Pathway EC: Outdoor Vapor Inhalation (mg/m^3)	Child Hiker (0 to 3 feet bgs)[a] Soil Pathway CDI: Dermal Contact (mg/kg-day)	Child Hiker (0 to 3 feet bgs)[a] Soil Pathway CDI: Ingestion (mg/kg-day)	Adult Hiker (0 to 3 feet bgs)[a] Soil Pathway EC: Particulate Inhalation (mg/m^3)	Adult Hiker (0 to 3 feet bgs)[a] Soil Pathway EC: Outdoor Vapor Inhalation (mg/m^3)	Adult Hiker (0 to 3 feet bgs)[a] Soil Pathway CDI: Dermal Contact (mg/kg-day)	Adult Hiker (0 to 3 feet bgs)[a] Soil Pathway CDI: Ingestion (mg/kg-day)
Inorganics																
Antimony	5.8E-10	NV	3.1E-07	1.1E-05	5.8E-10	NV	4.2E-08	9.9E-07	4.1E-10	NV	2.2E-07	7.5E-06	4.1E-10	NV	3.0E-08	7.0E-07
Chromium, Hexavalent	1.1E-11	NV	NA	2.0E-07	1.1E-11	NV	NA	1.9E-08	1.4E-11	NV	NA	2.5E-07	1.4E-11	NV	NA	2.4E-08
Chromium, total	9.6E-10	NV	5.1E-07	1.7E-05	9.6E-10	NV	6.9E-08	1.6E-06	1.5E-09	NV	7.9E-07	2.7E-05	1.5E-09	NV	1.1E-07	2.5E-06
Cobalt	2.5E-10	NV	1.3E-07	4.6E-06	2.5E-10	NV	1.8E-08	4.3E-07	2.6E-10	NV	1.3E-07	4.6E-06	2.6E-10	NV	1.8E-08	4.4E-07
Copper	4.7E-10	NV	2.5E-07	8.5E-06	4.7E-10	NV	3.4E-08	8.0E-07	4.4E-10	NV	2.3E-07	8.0E-06	4.4E-10	NV	3.2E-08	7.5E-07
Lead	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
Mercury (inorganic)	1.8E-12	NV	9.6E-10	3.3E-08	1.8E-12	NV	1.3E-10	3.1E-09	1.8E-12	NV	9.6E-10	3.3E-08	1.8E-12	NV	1.3E-10	3.1E-09
Nitrate	1.7E-09	NV	9.2E-07	3.2E-05	1.7E-09	NV	1.2E-07	3.0E-06	1.7E-09	NV	9.2E-07	3.2E-05	1.7E-09	NV	1.2E-07	3.0E-06
Orthophosphate	NS	NV	NS	NS	NS	NV	NS	NS	NS	NV	NS	NS	NS	NV	NS	NS
Phosphate	1.2E-08	NV	6.1E-06	2.1E-04	1.2E-08	NV	8.3E-07	2.0E-05	1.2E-08	NV	6.1E-06	2.1E-04	1.2E-08	NV	8.3E-07	2.0E-05
Thallium	7.7E-11	NV	4.1E-08	1.4E-06	7.7E-11	NV	5.6E-09	1.3E-07	6.3E-11	NV	3.3E-08	1.1E-06	6.3E-11	NV	4.5E-09	1.1E-07
Zinc	2.5E-09	NV	1.3E-06	4.5E-05	2.5E-09	NV	1.8E-07	4.2E-06	2.1E-09	NV	1.1E-06	3.8E-05	2.1E-09	NV	1.5E-07	3.5E-06
Volatile Organic Compounds																
Methyl acetate	ND	5.1E-08	ND	ND	ND	5.1E-08	ND	ND	3.9E-13	5.1E-08	2.0E-09	7.0E-09	3.9E-13	5.1E-08	2.8E-10	6.6E-10
Semi-Volatile Organic Compounds																
bis (2-ethylhexyl) phthalate	6.4E-11	NV	3.4E-07	1.2E-06	6.4E-11	NV	4.6E-08	1.1E-07	6.4E-11	NV	3.4E-07	1.2E-06	6.4E-11	NV	4.6E-08	1.1E-07
Polycyclic Aromatic Hydrocarbons																
2-Methyl naphthalene	ND	1.6E-09	ND	ND	ND	1.6E-09	ND	ND	ND	1.6E-09	ND	ND	ND	1.6E-09	ND	ND
Anthracene	3.1E-13	2.1E-10	2.5E-09	5.7E-09	3.1E-13	2.1E-10	3.4E-10	5.3E-10	3.1E-13	2.1E-10	2.5E-09	5.7E-09	3.1E-13	2.1E-10	3.4E-10	5.3E-10
Benzo (ghi) perylene	5.2E-13	NV	4.1E-09	9.4E-09	5.2E-13	NV	5.6E-10	8.8E-10	5.0E-13	NV	3.9E-09	9.0E-09	5.0E-13	NV	5.3E-10	8.4E-10
Fluoranthene	6.7E-13	NV	5.3E-09	1.2E-08	6.7E-13	NV	7.3E-10	1.1E-09	1.3E-12	NV	1.0E-08	2.3E-08	1.3E-12	NV	1.4E-09	2.2E-09
Fluorene	ND	3.7E-10	ND	ND	ND	3.7E-10	ND	ND	ND	3.7E-10	ND	ND	ND	3.7E-10	ND	ND
Naphthalene	1.8E-13	4.1E-09	1.4E-09	3.2E-09	1.8E-13	4.1E-09	1.9E-10	3.0E-10	1.8E-13	4.1E-09	1.4E-09	3.2E-09	1.8E-13	4.1E-09	1.9E-10	3.0E-10
Phenanthrene	5.2E-13	NV	4.1E-09	9.5E-09	5.2E-13	NV	5.6E-10	8.9E-10	4.9E-13	NV	3.9E-09	8.9E-09	4.9E-13	NV	5.3E-10	8.3E-10
Pyrene	6.0E-13	1.9E-10	4.7E-09	1.1E-08	6.0E-13	1.9E-10	6.4E-10	1.0E-09	5.5E-13	1.9E-10	4.3E-09	1.0E-08	5.5E-13	1.9E-10	5.9E-10	9.4E-10

Table BCW-B1.2b
Baseline Scenario Exposure Concentration and Dose Calculations for Noncarcinogenic Effects for C O P Cs in BCW Soil Using Depth-Weighted EPCs: Recreational User - Hiker

Post-Soil N T C R A Human Health and Ecological Risk Assessment Report
PG&E Topock Compressor Station
Needles, California

C O P C	Child Hiker (0 to 0.5 foot bgs)[a] Soil Pathway EC: Particulate Inhalation (mg/m^3)	Child Hiker (0 to 0.5 foot bgs)[a] Soil Pathway EC: Outdoor Vapor Inhalation (mg/m^3)	Child Hiker (0 to 0.5 foot bgs)[a] Soil Pathway CDI: Dermal Contact (mg/kg-day)	Child Hiker (0 to 0.5 foot bgs)[a] Soil Pathway CDI: Ingestion (mg/kg-day)	Adult Hiker (0 to 0.5 foot bgs)[a] Soil Pathway EC: Particulate Inhalation (mg/m^3)	Adult Hiker (0 to 0.5 foot bgs)[a] Soil Pathway EC: Outdoor Vapor Inhalation (mg/m^3)	Adult Hiker (0 to 0.5 foot bgs)[a] Soil Pathway CDI: Dermal Contact (mg/kg-day)	Adult Hiker (0 to 0.5 foot bgs)[a] Soil Pathway CDI: Ingestion (mg/kg-day)	Child Hiker (0 to 3 feet bgs)[a] Soil Pathway EC: Particulate Inhalation (mg/m^3)	Child Hiker (0 to 3 feet bgs)[a] Soil Pathway EC: Outdoor Vapor Inhalation (mg/m^3)	Child Hiker (0 to 3 feet bgs)[a] Soil Pathway CDI: Dermal Contact (mg/kg-day)	Child Hiker (0 to 3 feet bgs)[a] Soil Pathway CDI: Ingestion (mg/kg-day)	Adult Hiker (0 to 3 feet bgs)[a] Soil Pathway EC: Particulate Inhalation (mg/m^3)	Adult Hiker (0 to 3 feet bgs)[a] Soil Pathway EC: Outdoor Vapor Inhalation (mg/m^3)	Adult Hiker (0 to 3 feet bgs)[a] Soil Pathway CDI: Dermal Contact (mg/kg-day)	Adult Hiker (0 to 3 feet bgs)[a] Soil Pathway CDI: Ingestion (mg/kg-day)
Polychlorinated Biphenyls																
Total PCBs	4.0E-12	1.3E-08	3.2E-08	7.2E-08	4.0E-12	1.3E-08	4.3E-09	6.8E-09	3.5E-12	1.3E-08	2.8E-08	6.4E-08	3.5E-12	1.3E-08	3.8E-09	6.0E-09
Total Petroleum Hydrocarbons																
TPH as diesel	2.4E-10	2.6E-04	1.3E-06	4.3E-06	2.4E-10	2.6E-04	1.7E-07	4.1E-07	2.2E-10	2.6E-04	1.2E-06	4.1E-06	2.2E-10	2.6E-04	1.6E-07	3.8E-07
TPH as motor oil	9.6E-10	NV	5.1E-06	1.7E-05	9.6E-10	NV	6.9E-07	1.6E-06	9.3E-10	NV	4.9E-06	1.7E-05	9.3E-10	NV	6.7E-07	1.6E-06
Dioxins/Furans																
TEQ Human	1.7E-15	5.5E-12	2.7E-12	3.0E-11	1.7E-15	5.5E-12	3.6E-13	2.9E-12	1.2E-15	5.5E-12	1.9E-12	2.2E-11	1.2E-15	5.5E-12	2.6E-13	2.0E-12

Notes:
[a] EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.

Abbreviations:
bgs = below ground surface.
CDI = Chronic Daily Intake.
C O P C = Constituent of Potential Concern.
EC = Exposure Concentration.
mg/kg-day = milligrams per kilogram per day.
mg/m^3 = milligrams per cubic meter.
na = Not applicable. Potential exposure to lead is evaluated using California Environmental Protection Agency (Cal/E P A) Department of Toxic Substances Control's (DTSC) LeadSpread model. Please see text for discussion.
NA = Not applicable. Hexavalent chromium is not absorbed via dermal contact.
ND = Not detected.
NS = Not sampled.
NV = Not volatile.
PCB = Polychlorinated biphenyls.
TPH = Total Petroleum Hydrocarbons.
TEQ = Toxic Equivalent.

Table BCW-B1.2c
Baseline Scenario Exposure Concentration and Dose Calculations for Noncarcinogenic Effects for C O P Cs in BCW Soil Using Depth-Weighted EPCs: Recreational User - Off-Highway Vehicle Rider

Post-Soil N T C R A Human Health and Ecological Risk Assessment Report
PG&E Topock Compressor Station
Needles, California

COPC	Child OHV Rider (0 to 0.5 foot bgs)[a] Soil Pathway EC: Particulate Inhalation (mg/m^3)	Child OHV Rider (0 to 0.5 foot bgs)[a] Soil Pathway EC: Outdoor Vapor Inhalation (mg/m^3)	Child OHV Rider (0 to 0.5 foot bgs)[a] Soil Pathway CDI: Dermal Contact (mg/kg-day)	Child OHV Rider (0 to 0.5 foot bgs)[a] Soil Pathway CDI: Ingestion (mg/kg-day)	Adult OHV Rider (0 to 0.5 foot bgs)[a] Soil Pathway EC: Particulate Inhalation (mg/m^3)	Adult OHV Rider (0 to 0.5 foot bgs)[a] Soil Pathway EC: Outdoor Vapor Inhalation (mg/m^3)	Adult OHV Rider (0 to 0.5 foot bgs)[a] Soil Pathway CDI: Dermal Contact (mg/kg-day)	Adult OHV Rider (0 to 0.5 foot bgs)[a] Soil Pathway CDI: Ingestion (mg/kg-day)	Child OHV Rider (0 to 3 feet bgs)[a] Soil Pathway EC: Particulate Inhalation (mg/m^3)	Child OHV Rider (0 to 3 feet bgs)[a] Soil Pathway EC: Outdoor Vapor Inhalation (mg/m^3)	Child OHV Rider (0 to 3 feet bgs)[a] Soil Pathway CDI: Dermal Contact (mg/kg-day)	Child OHV Rider (0 to 3 feet bgs)[a] Soil Pathway CDI: Ingestion (mg/kg-day)	Adult OHV Rider (0 to 3 feet bgs)[a] Soil Pathway EC: Particulate Inhalation (mg/m^3)	Adult OHV Rider (0 to 3 feet bgs)[a] Soil Pathway EC: Outdoor Vapor Inhalation (mg/m^3)	Adult OHV Rider (0 to 3 feet bgs)[a] Soil Pathway CDI: Dermal Contact (mg/kg-day)	Adult OHV Rider (0 to 3 feet bgs)[a] Soil Pathway CDI: Ingestion (mg/kg-day)
Inorganics																
Antimony	5.8E-08	NV	5.5E-07	7.4E-07	5.8E-08	NV	4.8E-07	3.1E-07	4.1E-08	NV	3.9E-07	5.3E-07	4.1E-08	NV	3.4E-07	2.2E-07
Chromium, Hexavalent	1.1E-09	NV	NA	1.4E-08	1.1E-09	NV	NA	5.9E-09	1.4E-09	NV	NA	1.8E-08	1.4E-09	NV	NA	7.3E-09
Chromium, total	9.7E-08	NV	9.2E-07	1.2E-06	9.7E-08	NV	7.9E-07	5.1E-07	1.5E-07	NV	1.4E-06	1.9E-06	1.5E-07	NV	1.2E-06	7.9E-07
Cobalt	2.6E-08	NV	2.4E-07	3.2E-07	2.6E-08	NV	2.1E-07	1.3E-07	2.6E-08	NV	2.5E-07	3.3E-07	2.6E-08	NV	2.1E-07	1.3E-07
Copper	4.7E-08	NV	4.5E-07	6.0E-07	4.7E-08	NV	3.8E-07	2.5E-07	4.4E-08	NV	4.2E-07	5.6E-07	4.4E-08	NV	3.6E-07	2.3E-07
Lead	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
Mercury (inorganic)	1.8E-10	NV	1.7E-09	2.3E-09	1.8E-10	NV	1.5E-09	9.6E-10	1.8E-10	NV	1.7E-09	2.3E-09	1.8E-10	NV	1.5E-09	9.6E-10
Nitrate	1.7E-07	NV	1.7E-06	2.2E-06	1.7E-07	NV	1.4E-06	9.2E-07	1.7E-07	NV	1.7E-06	2.2E-06	1.7E-07	NV	1.4E-06	9.2E-07
Orthophosphate	NS	NV	NS	NS	NS	NV	NS	NS	NS	NV	NS	NS	NS	NV	NS	NS
Phosphate	1.2E-06	NV	1.1E-05	1.5E-05	1.2E-06	NV	9.5E-06	6.1E-06	1.2E-06	NV	1.1E-05	1.5E-05	1.2E-06	NV	9.5E-06	6.1E-06
Thallium	7.8E-09	NV	7.4E-08	9.9E-08	7.8E-09	NV	6.3E-08	4.1E-08	6.3E-09	NV	6.0E-08	8.0E-08	6.3E-09	NV	5.2E-08	3.3E-08
Zinc	2.5E-07	NV	2.4E-06	3.2E-06	2.5E-07	NV	2.0E-06	1.3E-06	2.1E-07	NV	2.0E-06	2.7E-06	2.1E-07	NV	1.7E-06	1.1E-06
Volatile Organic Compounds																
Methyl acetate	ND	3.2E-09	ND	ND	ND	3.2E-09	ND	ND	3.9E-11	3.2E-09	3.7E-09	4.9E-10	3.9E-11	3.2E-09	3.2E-09	2.0E-10
Semi-Volatile Organic Compounds																
bis (2-ethylhexyl) phthalate	6.5E-09	NV	6.2E-07	8.2E-08	6.5E-09	NV	5.3E-07	3.4E-08	6.5E-09	NV	6.2E-07	8.2E-08	6.5E-09	NV	5.3E-07	3.4E-08
Polycyclic Aromatic Hydrocarbons																
2-Methyl naphthalene	ND	1.0E-10	ND	ND	ND	1.0E-10	ND	ND	ND	1.0E-10	ND	ND	ND	1.0E-10	ND	ND
Anthracene	3.1E-11	1.3E-11	4.5E-09	4.0E-10	3.1E-11	1.3E-11	3.8E-09	1.6E-10	3.1E-11	1.3E-11	4.5E-09	4.0E-10	3.1E-11	1.3E-11	3.8E-09	1.6E-10
Benzo (ghi) perylene	5.2E-11	NV	7.4E-09	6.6E-10	5.2E-11	NV	6.4E-09	2.7E-10	5.0E-11	NV	7.1E-09	6.3E-10	5.0E-11	NV	6.1E-09	2.6E-10
Fluoranthene	6.8E-11	NV	9.7E-09	8.6E-10	6.8E-11	NV	8.3E-09	3.5E-10	1.3E-10	NV	1.8E-08	1.6E-09	1.3E-10	NV	1.6E-08	6.7E-10
Fluorene	ND	2.3E-11	ND	ND	ND	2.3E-11	ND	ND	ND	2.3E-11	ND	ND	ND	2.3E-11	ND	ND
Naphthalene	1.8E-11	2.5E-10	2.5E-09	2.3E-10	1.8E-11	2.5E-10	2.2E-09	9.3E-11	1.8E-11	2.5E-10	2.5E-09	2.3E-10	1.8E-11	2.5E-10	2.2E-09	9.3E-11
Phenanthrene	5.2E-11	NV	7.5E-09	6.7E-10	5.2E-11	NV	6.4E-09	2.7E-10	4.9E-11	NV	7.0E-09	6.2E-10	4.9E-11	NV	6.0E-09	2.6E-10
Pyrene	6.0E-11	1.2E-11	8.6E-09	7.6E-10	6.0E-11	1.2E-11	7.3E-09	3.1E-10	5.5E-11	1.2E-11	7.9E-09	7.0E-10	5.5E-11	1.2E-11	6.8E-09	2.9E-10

Table BCW-B1.2c
Baseline Scenario Exposure Concentration and Dose Calculations for Noncarcinogenic Effects for C O P Cs in BCW Soil Using Depth-Weighted EPCs: Recreational User - Off-Highway Vehicle Rider

Post-Soil N T C R A Human Health and Ecological Risk Assessment Report
PG&E Topock Compressor Station
Needles, California

C O P C	Child OHV Rider (0 to 0.5 foot bgs)[a] Soil Pathway EC: Particulate Inhalation (mg/m^3)	Child OHV Rider (0 to 0.5 foot bgs)[a] Soil Pathway EC: Outdoor Vapor Inhalation (mg/m^3)	Child OHV Rider (0 to 0.5 foot bgs)[a] Soil Pathway CDI: Dermal Contact (mg/kg-day)	Child OHV Rider (0 to 0.5 foot bgs)[a] Soil Pathway CDI: Ingestion (mg/kg-day)	Adult OHV Rider (0 to 0.5 foot bgs)[a] Soil Pathway EC: Particulate Inhalation (mg/m^3)	Adult OHV Rider (0 to 0.5 foot bgs)[a] Soil Pathway EC: Outdoor Vapor Inhalation (mg/m^3)	Adult OHV Rider (0 to 0.5 foot bgs)[a] Soil Pathway CDI: Dermal Contact (mg/kg-day)	Adult OHV Rider (0 to 0.5 foot bgs)[a] Soil Pathway CDI: Ingestion (mg/kg-day)	Child OHV Rider (0 to 3 feet bgs)[a] Soil Pathway EC: Particulate Inhalation (mg/m^3)	Child OHV Rider (0 to 3 feet bgs)[a] Soil Pathway EC: Outdoor Vapor Inhalation (mg/m^3)	Child OHV Rider (0 to 3 feet bgs)[a] Soil Pathway CDI: Dermal Contact (mg/kg-day)	Child OHV Rider (0 to 3 feet bgs)[a] Soil Pathway CDI: Ingestion (mg/kg-day)	Adult OHV Rider (0 to 3 feet bgs)[a] Soil Pathway EC: Particulate Inhalation (mg/m^3)	Adult OHV Rider (0 to 3 feet bgs)[a] Soil Pathway EC: Outdoor Vapor Inhalation (mg/m^3)	Adult OHV Rider (0 to 3 feet bgs)[a] Soil Pathway CDI: Dermal Contact (mg/kg-day)	Adult OHV Rider (0 to 3 feet bgs)[a] Soil Pathway CDI: Ingestion (mg/kg-day)
Polychlorinated Biphenyls																
Total PCBs	4.0E-10	7.9E-10	5.7E-08	5.1E-09	4.0E-10	7.9E-10	4.9E-08	2.1E-09	3.6E-10	7.9E-10	5.1E-08	4.5E-09	3.6E-10	7.9E-10	4.4E-08	1.9E-09
Total Petroleum Hydrocarbons																
TPH as diesel	2.4E-08	1.6E-05	2.3E-06	3.1E-07	2.4E-08	1.6E-05	2.0E-06	1.3E-07	2.3E-08	1.6E-05	2.1E-06	2.9E-07	2.3E-08	1.6E-05	1.8E-06	1.2E-07
TPH as motor oil	9.7E-08	NV	9.2E-06	1.2E-06	9.7E-08	NV	7.9E-06	5.1E-07	9.4E-08	NV	8.9E-06	1.2E-06	9.4E-08	NV	7.7E-06	4.9E-07
Dioxins/Furans																
TEQ Human	1.7E-13	3.5E-13	4.8E-12	2.1E-12	1.7E-13	3.5E-13	4.1E-12	8.8E-13	1.2E-13	3.5E-13	3.4E-12	1.5E-12	1.2E-13	3.5E-13	2.9E-12	6.3E-13

Notes:
[a] EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.

Abbreviations:
bgs = below ground surface.
CDI = Chronic Daily Intake.
C O P C = Constituent of Potential Concern.
EC = Exposure Concentration.
mg/kg-day = milligrams per kilogram per day.
mg/m^3 = milligrams per cubic meter.
na = Not applicable. Potential exposure to lead is evaluated using California Environmental Protection Agency (Cal/E P A) Department of Toxic Substances Control's (DTSC) LeadSpread model. Please see text for discussion.
NA = Not applicable. Hexavalent chromium is not absorbed via dermal contact.
ND = Not detected.
NS = Not sampled.
NV = Not volatile.
PCB = Polychlorinated biphenyls.
TPH = Total Petroleum Hydrocarbons.
TEQ = Toxic Equivalent.

Table BCW-B1.3a
Baseline Scenario ILCRs for C O P Cs in BCW Soil Using Depth-Weighted EPCs: Recreational User- Camper

Post-Soil N T C R A Human Health and Ecological Risk Assessment Report
PG&E Topock Compressor Station
Needles, California

C O P C	Age-Adjusted Adult Camper (0 to 0.5 foot bgs)[a] Soil Pathway Particulate Inhalation	Age-Adjusted Adult Camper (0 to 0.5 foot bgs)[a] Soil Pathway Vapor Inhalation	Age-Adjusted Adult Camper (0 to 0.5 foot bgs)[a] Soil Pathway Dermal Contact	Age-Adjusted Adult Camper (0 to 0.5 foot bgs)[a] Soil Pathway Ingestion	Age-Adjusted Adult Camper (0 to 0.5 foot bgs)[a] Soil Pathway Total Cancer Risk	Age-Adjusted Adult Camper (0 to 0.5 foot bgs)[a] Soil Pathway Particulate Inhalation	Age-Adjusted Adult Camper (0 to 0.5 foot bgs)[a] Soil Pathway Vapor Inhalation	Age-Adjusted Adult Camper (0 to 0.5 foot bgs)[a] Soil Pathway Dermal Contact	Age-Adjusted Adult Camper (0 to 0.5 foot bgs)[a] Soil Pathway Ingestion	Age-Adjusted Adult Camper (0 to 0.5 foot bgs)[a] Soil Pathway Total Cancer Risk
Inorganics										
Antimony	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Chromium, Hexavalent	8.7E-10	NV	NA	2.6E-08	2.7E-08	1.1E-09	NV	NA	3.2E-08	3.3E-08
Chromium, total	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Cobalt	4.3E-10	NV	NC	NC	4.3E-10	4.3E-10	NV	NC	NC	4.3E-10
Copper	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Lead	na	na	na	na	na	na	na	na	na	na
Mercury (inorganic)	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Nitrate	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Orthophosphate	NS	NC	NS	NS	--	NS	NC	NS	NS	--
Phosphate	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Thallium	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Zinc	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Volatile Organic Compounds										
Methyl acetate	ND	NC	ND	ND	--	NC	NC	NC	NC	--
Semi-Volatile Organic Compounds										
bis (2-ethylhexyl) phthalate	2.9E-14	NV	3.0E-10	9.2E-10	1.2E-09	2.9E-14	NV	3.0E-10	9.2E-10	1.2E-09
Polycyclic Aromatic Hydrocarbons										
2-Methyl naphthalene	ND	NC	ND	ND	--	ND	NC	ND	ND	--
Anthracene	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Benzo (ghi) perylene	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Fluoranthene	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Fluorene	ND	NC	ND	ND	--	ND	NC	ND	ND	--
Naphthalene	1.1E-15	2.6E-11	1.0E-11	2.2E-11	5.8E-11	1.1E-15	2.6E-11	1.0E-11	2.2E-11	5.8E-11
Phenanthrene	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Pyrene	NC	NC	NC	NC	--	NC	NC	NC	NC	--

Table BCW-B1.3a
Baseline Scenario ILCRs for C O P Cs in BCW Soil Using Depth-Weighted EPCs: Recreational User- Camper

Post-Soil N T C R A Human Health and Ecological Risk Assessment Report
PG&E Topock Compressor Station
Needles, California

C O P C	Age-Adjusted Adult Camper (0 to 0.5 foot bgs)[a] Soil Pathway Particulate Inhalation	Age-Adjusted Adult Camper (0 to 0.5 foot bgs)[a] Soil Pathway Vapor Inhalation	Age-Adjusted Adult Camper (0 to 0.5 foot bgs)[a] Soil Pathway Dermal Contact	Age-Adjusted Adult Camper (0 to 0.5 foot bgs)[a] Soil Pathway Ingestion	Age-Adjusted Adult Camper (0 to 0.5 foot bgs)[a] Soil Pathway Total Cancer Risk	Age-Adjusted Adult Camper (0 to 0.5 foot bgs)[a] Soil Pathway Particulate Inhalation	Age-Adjusted Adult Camper (0 to 0.5 foot bgs)[a] Soil Pathway Vapor Inhalation	Age-Adjusted Adult Camper (0 to 0.5 foot bgs)[a] Soil Pathway Dermal Contact	Age-Adjusted Adult Camper (0 to 0.5 foot bgs)[a] Soil Pathway Ingestion	Age-Adjusted Adult Camper (0 to 0.5 foot bgs)[a] Soil Pathway Total Cancer Risk
Polychlorinated Biphenyls										
Total PCBs	7.4E-14	2.3E-10	3.9E-09	8.2E-09	1.2E-08	6.6E-14	2.3E-10	3.5E-09	7.2E-09	1.1E-08
Total Petroleum Hydrocarbons										
TPH as diesel	NC	NC	NC	NC	--	NC	NC	NC	NC	--
TPH as motor oil	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Dioxins/Furans										
TEQ Human	1.2E-11	3.9E-08	2.2E-08	2.2E-07	2.8E-07	8.4E-12	3.9E-08	1.5E-08	1.6E-07	2.1E-07
Cumulative ILCR	**1E-09**	**4E-08**	**3E-08**	**3E-07**	**3E-07**	**2E-09**	**4E-08**	**2E-08**	**2E-07**	**3E-07**

Notes:
[a] EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.

Abbreviations:
-- = not calculated.
bgs = below ground surface.
C O P C = Constituent of Potential Concern.
ILCR = Incremental Lifetime Cancer Risk.
na = Not applicable. Potential exposure to lead is evaluated using California Environmental Protection Agency (Cal/E P A) Department of Toxic Substances Control's (DTSC) LeadSpread model. Please see text for discussion.
NA = Not applicable. Hexavalent chromium is not absorbed via dermal contact.
NC = Not considered a carcinogen.
ND = Not detected.
NS = Not sampled.
NV = Not volatile.
PCB = Polychlorinated biphenyls.
TPH = Total Petroleum Hydrocarbons.
TEQ = Toxic Equivalent.

Table BCW-B1.3b
Baseline Scenario ILCRs for C O P Cs in BCW Soil Using Depth-Weighted EPCs: Recreational User - Hiker

Post-Soil N T C R A Human Health and Ecological Risk Assessment Report
PG&E Topock Compressor Station
Needles, California

C O P C	Age-Adjusted Adult Hiker (0 to 0.5 foot bgs)[a] Soil Pathway Particulate Inhalation	Age-Adjusted Adult Hiker (0 to 0.5 foot bgs)[a] Soil Pathway Vapor Inhalation	Age-Adjusted Adult Hiker (0 to 0.5 foot bgs)[a] Soil Pathway Dermal Contact	Age-Adjusted Adult Hiker (0 to 0.5 foot bgs)[a] Soil Pathway Ingestion	Age-Adjusted Adult Hiker (0 to 0.5 foot bgs)[a] Soil Pathway Total Cancer Risk	Age-Adjusted Adult Hiker (0 to 3 feet bgs)[a] Soil Pathway Particulate Inhalation	Age-Adjusted Adult Hiker (0 to 3 feet bgs)[a] Soil Pathway Vapor Inhalation	Age-Adjusted Adult Hiker (0 to 3 feet bgs)[a] Soil Pathway Dermal Contact	Age-Adjusted Adult Hiker (0 to 3 feet bgs)[a] Soil Pathway Ingestion	Age-Adjusted Adult Hiker (0 to 3 feet bgs)[a] Soil Pathway Total Cancer Risk
Inorganics										
Antimony	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Chromium, Hexavalent	1.7E-09	NV	NA	5.2E-08	5.4E-08	2.1E-09	NV	NA	6.4E-08	6.6E-08
Chromium, total	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Cobalt	8.5E-10	NV	NC	NC	8.5E-10	8.6E-10	NV	NC	NC	8.6E-10
Copper	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Lead	na	na	na	na	na	na	na	na	na	na
Mercury (inorganic)	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Nitrate	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Orthophosphate	NS	NC	NS	NS	--	NS	NC	NS	NS	--
Phosphate	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Thallium	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Zinc	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Volatile Organic Compounds										
Methyl acetate	ND	NC	ND	ND	--	NC	NC	NC	NC	--
Semi-Volatile Organic Compounds										
bis (2-ethylhexyl) phthalate	5.7E-14	NV	5.9E-10	1.8E-09	2.4E-09	5.7E-14	NV	5.9E-10	1.8E-09	2.4E-09
Polycyclic Aromatic Hydrocarbons										
2-Methyl naphthalene	ND	NC	ND	ND	--	ND	NC	ND	ND	--
Anthracene	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Benzo (ghi) perylene	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Fluoranthene	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Fluorene	ND	NC	ND	ND	--	ND	NC	ND	ND	--
Naphthalene	2.2E-15	5.1E-11	2.1E-11	4.3E-11	1.2E-10	2.2E-15	5.1E-11	2.1E-11	4.3E-11	1.2E-10
Phenanthrene	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Pyrene	NC	NC	NC	NC	--	NC	NC	NC	NC	--

Table BCW-B1.3b
Baseline Scenario ILCRs for C O P Cs in BCW Soil Using Depth-Weighted EPCs: Recreational User - Hiker

Post-Soil N T C R A Human Health and Ecological Risk Assessment Report
PG&E Topock Compressor Station
Needles, California

C O P C	Age-Adjusted Adult Hiker (0 to 0.5 foot bgs)[a] Soil Pathway Particulate Inhalation	Age-Adjusted Adult Hiker (0 to 0.5 foot bgs)[a] Soil Pathway Vapor Inhalation	Age-Adjusted Adult Hiker (0 to 0.5 foot bgs)[a] Soil Pathway Dermal Contact	Age-Adjusted Adult Hiker (0 to 0.5 foot bgs)[a] Soil Pathway Ingestion	Age-Adjusted Adult Hiker (0 to 0.5 foot bgs)[a] Soil Pathway Total Cancer Risk	Age-Adjusted Adult Hiker (0 to 3 feet bgs)[a] Soil Pathway Particulate Inhalation	Age-Adjusted Adult Hiker (0 to 3 feet bgs)[a] Soil Pathway Vapor Inhalation	Age-Adjusted Adult Hiker (0 to 3 feet bgs)[a] Soil Pathway Dermal Contact	Age-Adjusted Adult Hiker (0 to 3 feet bgs)[a] Soil Pathway Ingestion	Age-Adjusted Adult Hiker (0 to 3 feet bgs)[a] Soil Pathway Total Cancer Risk
Polychlorinated Biphenyls										
Total PCBs	1.5E-13	4.7E-10	7.9E-09	1.6E-08	2.5E-08	1.3E-13	4.7E-10	7.0E-09	1.4E-08	2.2E-08
Total Petroleum Hydrocarbons										
TPH as diesel	NC	NC	NC	NC	--	NC	NC	NC	NC	--
TPH as motor oil	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Dioxins/Furans										
TEQ Human	2.4E-11	7.8E-08	4.3E-08	4.5E-07	5.7E-07	1.7E-11	7.8E-08	3.1E-08	3.2E-07	4.3E-07
Cumulative ILCR	**3E-09**	**8E-08**	**5E-08**	**5E-07**	**6E-07**	**3E-09**	**8E-08**	**4E-08**	**4E-07**	**5E-07**

Notes:
[a] EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.

Abbreviations:
-- = not calculated.
bgs = below ground surface.
C O P C = Constituent of Potential Concern.
ILCR = Incremental Lifetime Cancer Risk.
na = Not applicable. Potential exposure to lead is evaluated using California Environmental Protection Agency (Cal/E P A) Department of Toxic Substances Control's (DTSC) LeadSpread model. Please see text for discussion.
NA = Not applicable. Hexavalent chromium is not absorbed via dermal contact.
NC = Not considered a carcinogen.
ND = Not detected.
NS = Not sampled.
NV = Not volatile.
PCB = Polychlorinated biphenyls.
TPH = Total Petroleum Hydrocarbons.
TEQ = Toxic Equivalent.

Table BCW-B1.3c
Baseline Scenario ILCRs for C O P Cs in BCW Soil Using Depth-Weighted EPCs: Recreational User - Off-Highway Vehicle Rider

Post-Soil N T C R A Human Health and Ecological Risk Assessment Report
PG&E Topock Compressor Station
Needles, California

C O P C	Age-Adjusted Adult OHV Rider (0 to 0.5 foot bgs)[a] Soil Pathway Particulate Inhalation	Age-Adjusted Adult OHV Rider (0 to 0.5 foot bgs)[a] Soil Pathway Vapor Inhalation	Age-Adjusted Adult OHV Rider (0 to 0.5 foot bgs)[a] Soil Pathway Dermal Contact	Age-Adjusted Adult OHV Rider (0 to 0.5 foot bgs)[a] Soil Pathway Ingestion	Age-Adjusted Adult OHV Rider (0 to 0.5 foot bgs)[a] Soil Pathway Total Cancer Risk	Age-Adjusted Adult Hiker (0 to 3 feet bgs)[a] Soil Pathway Particulate Inhalation	Age-Adjusted Adult Hiker (0 to 3 feet bgs)[a] Soil Pathway Vapor Inhalation	Age-Adjusted Adult Hiker (0 to 3 feet bgs)[a] Soil Pathway Dermal Contact	Age-Adjusted Adult Hiker (0 to 3 feet bgs)[a] Soil Pathway Ingestion	Age-Adjusted Adult Hiker (0 to 3 feet bgs)[a] Soil Pathway Total Cancer Risk
Inorganics										
Antimony	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Chromium, Hexavalent	1.1E-07	NV	NA	3.0E-09	1.1E-07	1.4E-07	NV	NA	3.7E-09	1.4E-07
Chromium, total	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Cobalt	8.5E-08	NV	NC	NC	8.5E-08	8.6E-08	NV	NC	NC	8.6E-08
Copper	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Lead	na	na	na	na	na	na	na	na	na	na
Mercury (inorganic)	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Nitrate	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Orthophosphate	NS	NC	NS	NS	--	NS	NC	NS	NS	--
Phosphate	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Thallium	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Zinc	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Volatile Organic Compounds										
Methyl acetate	ND	NC	ND	ND	--	NC	NC	NC	NC	--
Semi-Volatile Organic Compounds										
bis (2-ethylhexyl) phthalate	5.8E-12	NV	2.9E-09	2.3E-10	3.1E-09	5.8E-12	NV	2.9E-09	2.3E-10	3.1E-09
Polycyclic Aromatic Hydrocarbons										
2-Methyl naphthalene	ND	NC	ND	ND	--	ND	NC	ND	ND	--
Anthracene	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Benzo (ghi) perylene	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Fluoranthene	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Fluorene	ND	NC	ND	ND	--	ND	NC	ND	ND	--
Naphthalene	2.2E-13	3.2E-12	1.0E-10	5.5E-12	1.1E-10	2.2E-13	3.2E-12	1.0E-10	5.5E-12	1.1E-10
Phenanthrene	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Pyrene	NC	NC	NC	NC	--	NC	NC	NC	NC	--

Table BCW-B1.3c
Baseline Scenario ILCRs for C O P Cs in BCW Soil Using Depth-Weighted EPCs: Recreational User - Off-Highway Vehicle Rider

Post-Soil N T C R A Human Health and Ecological Risk Assessment Report
PG&E Topock Compressor Station
Needles, California

C O P C	Age-Adjusted Adult OHV Rider (0 to 0.5 foot bgs)[a] Soil Pathway Particulate Inhalation	Age-Adjusted Adult OHV Rider (0 to 0.5 foot bgs)[a] Soil Pathway Vapor Inhalation	Age-Adjusted Adult OHV Rider (0 to 0.5 foot bgs)[a] Soil Pathway Dermal Contact	Age-Adjusted Adult OHV Rider (0 to 0.5 foot bgs)[a] Soil Pathway Ingestion	Age-Adjusted Adult OHV Rider (0 to 0.5 foot bgs)[a] Soil Pathway Total Cancer Risk	Age-Adjusted Adult Hiker (0 to 3 feet bgs)[a] Soil Pathway Particulate Inhalation	Age-Adjusted Adult Hiker (0 to 3 feet bgs)[a] Soil Pathway Vapor Inhalation	Age-Adjusted Adult Hiker (0 to 3 feet bgs)[a] Soil Pathway Dermal Contact	Age-Adjusted Adult Hiker (0 to 3 feet bgs)[a] Soil Pathway Ingestion	Age-Adjusted Adult Hiker (0 to 3 feet bgs)[a] Soil Pathway Total Cancer Risk
Polychlorinated Biphenyls										
Total PCBs	1.5E-11	2.9E-11	3.8E-08	2.1E-09	4.0E-08	1.3E-11	2.9E-11	3.4E-08	1.8E-09	3.6E-08
Total Petroleum Hydrocarbons										
TPH as diesel	NC	NC	NC	NC	--	NC	NC	NC	NC	--
TPH as motor oil	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Dioxins/Furans										
TEQ Human	2.4E-09	4.9E-09	2.1E-07	5.7E-08	2.7E-07	1.7E-09	4.9E-09	1.5E-07	4.0E-08	1.9E-07
Cumulative ILCR	**2E-07**	**5E-09**	**2E-07**	**6E-08**	**5E-07**	**2E-07**	**5E-09**	**2E-07**	**5E-08**	**5E-07**

Notes:
[a] EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.

Abbreviations:
-- = not calculated.
bgs = below ground surface.
C O P C = Constituent of Potential Concern.
ILCR = Incremental Lifetime Cancer Risk.
na = Not applicable. Potential exposure to lead is evaluated using California Environmental Protection Agency (Cal/E P A) Department of Toxic Substances Control's (DTSC) LeadSpread model. Please see text for discussion.
NA = Not applicable. Hexavalent chromium is not absorbed via dermal contact.
NC = Not considered a carcinogen.
ND = Not detected.
NS = Not sampled.
NV = Not volatile.
PCB = Polychlorinated biphenyls.
TPH = Total Petroleum Hydrocarbons.
TEQ = Toxic Equivalent.

Table BCW-B1.4a
Baseline Scenario HIs for C O P Cs in BCW Soil Using Depth-Weighted EPCs: Recreational User - Camper

Post-Soil N T C R A Human Health and Ecological Risk Assessment Report
PG&E Topock Compressor Station
Needles, California

C O P C	Child Camper (0 to 0.5 foot bgs)[a] Soil Pathway Particulate Inhalation	Child Camper (0 to 0.5 foot bgs)[a] Soil Pathway Vapor Inhalation	Child Camper (0 to 0.5 foot bgs)[a] Soil Pathway Dermal Contact	Child Camper (0 to 0.5 foot bgs)[a] Soil Pathway Ingestion	Child Camper (0 to 0.5 foot bgs)[a] Soil Pathway Total Hazard Index	Adult Camper (0 to 0.5 foot bgs)[a] Soil Pathway Particulate Inhalation	Adult Camper (0 to 0.5 foot bgs)[a] Soil Pathway Vapor Inhalation	Adult Camper (0 to 0.5 foot bgs)[a] Soil Pathway Dermal Contact	Adult Camper (0 to 0.5 foot bgs)[a] Soil Pathway Ingestion	Adult Camper (0 to 0.5 foot bgs)[a] Soil Pathway Total Hazard Index	Child Camper (0 to 3 feet bgs)[a] Soil Pathway Particulate Inhalation	Child Camper (0 to 3 feet bgs)[a] Soil Pathway Vapor Inhalation	Child Camper (0 to 3 feet bgs)[a] Soil Pathway Dermal Contact	Child Camper (0 to 3 feet bgs)[a] Soil Pathway Ingestion	Child Camper (0 to 3 feet bgs)[a] Soil Pathway Total Hazard Index	Adult Camper (0 to 3 feet bgs)[a] Soil Pathway Particulate Inhalation	Adult Camper (0 to 3 feet bgs)[a] Soil Pathway Vapor Inhalation	Adult Camper (0 to 3 feet bgs)[a] Soil Pathway Dermal Contact	Adult Camper (0 to 3 feet bgs)[a] Soil Pathway Ingestion	Adult Camper (0 to 3 feet bgs)[a] Soil Pathway Total Hazard Index
Inorganics																					
Antimony	9.7E-07	NV	3.8E-04	1.3E-02	1.4E-02	9.7E-07	NV	5.2E-05	1.2E-03	1.3E-03	6.9E-07	NV	2.7E-04	9.4E-03	9.6E-03	6.9E-07	NV	3.7E-05	8.8E-04	9.1E-04
Chromium, Hexavalent	5.6E-08	NV	NA	3.4E-05	3.4E-05	5.6E-08	NV	NA	3.2E-06	3.2E-06	6.9E-08	NV	NA	4.2E-05	4.2E-05	6.9E-08	NV	NA	3.9E-06	4.0E-06
Chromium, total	8.0E-06	NV	1.7E-07	5.8E-06	1.4E-05	8.0E-06	NV	2.3E-08	5.5E-07	8.6E-06	1.2E-05	NV	2.6E-07	9.1E-06	2.2E-05	1.2E-05	NV	3.6E-08	8.5E-07	1.3E-05
Cobalt	2.1E-05	NV	2.2E-04	7.7E-03	7.9E-03	2.1E-05	NV	3.0E-05	7.2E-04	7.7E-04	2.1E-05	NV	2.2E-04	7.7E-03	8.0E-03	2.1E-05	NV	3.1E-05	7.3E-04	7.8E-04
Copper	1.5E-09	NV	3.1E-06	1.1E-04	1.1E-04	1.5E-09	NV	4.2E-07	1.0E-05	1.0E-05	1.4E-09	NV	2.9E-06	1.0E-04	1.0E-04	1.4E-09	NV	4.0E-07	9.4E-06	9.8E-06
Lead	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
Mercury (inorganic)	3.0E-08	NV	3.0E-06	1.0E-04	1.1E-04	3.0E-08	NV	4.1E-07	9.7E-06	1.0E-05	3.0E-08	NV	3.0E-06	1.0E-04	1.1E-04	3.0E-08	NV	4.1E-07	9.7E-06	1.0E-05
Nitrate	1.4E-10	NV	2.9E-07	9.9E-06	1.0E-05	1.4E-10	NV	3.9E-08	9.2E-07	9.6E-07	1.4E-10	NV	2.9E-07	9.9E-06	1.0E-05	1.4E-10	NV	3.9E-08	9.2E-07	9.6E-07
Orthophosphate	NS	NV	NS	NS	--	NS	NV	NS	NS	--	NS	NV	NS	NS	--	NS	NV	NS	NS	--
Phosphate	4.9E-10	NV	1.0E-06	3.6E-05	3.7E-05	4.9E-10	NV	1.4E-07	3.3E-06	3.5E-06	4.9E-10	NV	1.0E-06	3.6E-05	3.7E-05	4.9E-10	NV	1.4E-07	3.3E-06	3.5E-06
Thallium	9.7E-07	NV	2.0E-03	7.0E-02	7.2E-02	9.7E-07	NV	2.8E-04	6.6E-03	6.9E-03	7.9E-07	NV	1.7E-03	5.7E-02	5.9E-02	7.9E-07	NV	2.3E-04	5.3E-03	5.6E-03
Zinc	1.0E-09	NV	2.2E-06	7.5E-05	7.7E-05	1.0E-09	NV	3.0E-07	7.0E-06	7.3E-06	8.7E-10	NV	1.8E-06	6.3E-05	6.5E-05	8.7E-10	NV	2.5E-07	5.9E-06	6.1E-06
Volatile Organic Compounds																				
Methyl acetate	ND	6.4E-09	ND	ND	6.4E-09	ND	6.4E-09	ND	ND	6.4E-09	4.8E-14	6.4E-09	1.0E-09	3.5E-09	1.1E-08	4.8E-14	6.4E-09	1.4E-10	3.3E-10	6.9E-09
Semi-Volatile Organic Compounds																				
bis (2-ethylhexyl) phthalate	4.0E-10	NV	8.5E-06	2.9E-05	3.8E-05	4.0E-10	NV	1.2E-06	2.7E-06	3.9E-06	4.0E-10	NV	8.5E-06	2.9E-05	3.8E-05	4.0E-10	NV	1.2E-06	2.7E-06	3.9E-06
Polycyclic Aromatic Hydrocarbons																				
2-Methyl naphthalene	ND	5.1E-08	ND	ND	5.1E-08	ND	5.1E-08	ND	ND	5.1E-08	ND	5.1E-08	ND	ND	5.1E-08	ND	5.1E-08	ND	ND	5.1E-08
Anthracene	1.3E-13	8.7E-11	4.1E-09	9.4E-09	1.4E-08	1.3E-13	8.7E-11	5.6E-10	8.9E-10	1.5E-09	1.3E-13	8.7E-11	4.1E-09	9.4E-09	1.4E-08	1.3E-13	8.7E-11	5.6E-10	8.9E-10	1.5E-09
Benzo (ghi) perylene	2.2E-12	NV	6.8E-08	1.6E-07	2.3E-07	2.2E-12	NV	9.3E-09	1.5E-08	2.4E-08	2.1E-12	NV	6.5E-08	1.5E-07	2.2E-07	2.1E-12	NV	8.9E-09	1.4E-08	2.3E-08
Fluoranthene	2.1E-12	NV	6.6E-08	1.5E-07	2.2E-07	2.1E-12	NV	9.1E-09	1.4E-08	2.3E-08	4.0E-12	NV	1.2E-07	2.9E-07	4.1E-07	4.0E-12	NV	1.7E-08	2.7E-08	4.4E-08
Fluorene	ND	1.2E-09	ND	ND	1.2E-09	ND	1.2E-09	ND	ND	1.2E-09	ND	1.2E-09	ND	ND	1.2E-09	ND	1.2E-09	ND	ND	1.2E-09
Naphthalene	3.0E-11	6.8E-07	3.5E-08	8.0E-08	7.9E-07	3.0E-11	6.8E-07	4.8E-09	7.5E-09	6.9E-07	3.0E-11	6.8E-07	3.5E-08	8.0E-08	7.9E-07	3.0E-11	6.8E-07	4.8E-09	7.5E-09	6.9E-07
Phenanthrene	2.2E-13	NV	6.9E-09	1.6E-08	2.3E-08	2.2E-13	NV	9.4E-10	1.5E-09	2.4E-09	2.0E-13	NV	6.4E-09	1.5E-08	2.1E-08	2.0E-13	NV	8.8E-10	1.4E-09	2.3E-09
Pyrene	2.5E-12	8.0E-10	7.8E-08	1.8E-07	2.6E-07	2.5E-12	8.0E-10	1.1E-08	1.7E-08	2.8E-08	2.3E-12	8.0E-10	7.2E-08	1.7E-07	2.4E-07	2.3E-12	8.0E-10	9.9E-09	1.6E-08	2.6E-08

Table BCW-B1.4a
Baseline Scenario HIs for C O P Cs in BCW Soil Using Depth-Weighted EPCs: Recreational User - Camper

Post-Soil N T C R A Human Health and Ecological Risk Assessment Report
PG&E Topock Compressor Station
Needles, California

C O P C	Child Camper (0 to 0.5 foot bgs)[a] Soil Pathway Particulate Inhalation	Child Camper (0 to 0.5 foot bgs)[a] Soil Pathway Vapor Inhalation	Child Camper (0 to 0.5 foot bgs)[a] Soil Pathway Dermal Contact	Child Camper (0 to 0.5 foot bgs)[a] Soil Pathway Ingestion	Child Camper (0 to 0.5 foot bgs)[a] Soil Pathway Total Hazard Index	Adult Camper (0 to 0.5 foot bgs)[a] Soil Pathway Particulate Inhalation	Adult Camper (0 to 0.5 foot bgs)[a] Soil Pathway Vapor Inhalation	Adult Camper (0 to 0.5 foot bgs)[a] Soil Pathway Dermal Contact	Adult Camper (0 to 0.5 foot bgs)[a] Soil Pathway Ingestion	Adult Camper (0 to 0.5 foot bgs)[a] Soil Pathway Total Hazard Index	Child Camper (0 to 3 feet bgs)[a] Soil Pathway Particulate Inhalation	Child Camper (0 to 3 feet bgs)[a] Soil Pathway Vapor Inhalation	Child Camper (0 to 3 feet bgs)[a] Soil Pathway Dermal Contact	Child Camper (0 to 3 feet bgs)[a] Soil Pathway Ingestion	Child Camper (0 to 3 feet bgs)[a] Soil Pathway Total Hazard Index	Adult Camper (0 to 3 feet bgs)[a] Soil Pathway Particulate Inhalation	Adult Camper (0 to 3 feet bgs)[a] Soil Pathway Vapor Inhalation	Adult Camper (0 to 3 feet bgs)[a] Soil Pathway Dermal Contact	Adult Camper (0 to 3 feet bgs)[a] Soil Pathway Ingestion	Adult Camper (0 to 3 feet bgs)[a] Soil Pathway Total Hazard Index
Polychlorinated Biphenyls																				
Total PCBs	2.5E-08	7.9E-05	7.9E-04	1.8E-03	2.7E-03	2.5E-08	7.9E-05	1.1E-04	1.7E-04	3.6E-04	2.2E-08	7.9E-05	7.0E-04	1.6E-03	2.4E-03	2.2E-08	7.9E-05	9.5E-05	1.5E-04	3.2E-04
Total Petroleum Hydrocarbons																				
TPH as diesel	4.6E-10	4.9E-04	3.3E-05	1.1E-04	6.4E-04	4.6E-10	4.9E-04	4.5E-06	1.1E-05	5.1E-04	4.3E-10	4.9E-04	3.1E-05	1.1E-04	6.3E-04	4.3E-10	4.9E-04	4.2E-06	1.0E-05	5.0E-04
TPH as motor oil	8.0E-10	NV	1.7E-05	5.8E-05	7.5E-05	8.0E-10	NV	2.3E-06	5.5E-06	7.8E-06	7.8E-10	NV	1.6E-05	5.6E-05	7.3E-05	7.8E-10	NV	2.2E-06	5.3E-06	7.5E-06
Dioxins/Furans																				
TEQ Human	2.1E-08	6.9E-05	1.9E-03	2.2E-02	2.4E-02	2.1E-08	6.9E-05	2.6E-04	2.0E-03	2.4E-03	1.5E-08	6.9E-05	1.3E-03	1.5E-02	1.7E-02	1.5E-08	6.9E-05	1.8E-04	1.5E-03	1.7E-03
Total Hazard Index	**3E-05**	**6E-04**	**5E-03**	**1E-01**	**1E-01**	**3E-05**	**6E-04**	**7E-04**	**1E-02**	**1E-02**	**4E-05**	**6E-04**	**4E-03**	**9E-02**	**1E-01**	**4E-05**	**6E-04**	**6E-04**	**9E-03**	**1E-02**

Notes:
[a] EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.

Abbreviations:
– = not calculated.
bgs = below ground surface.
C O P C = Constituent of Potential Concern.
H I = Hazard Index
na = Not applicable. Potential exposure to lead is evaluated using California Environmental Protection Agency (Cal/E P A) Department of Toxic Substances Control's (DTSC) LeadSpread model. Please see text for discussion.
NA = Not applicable. Hexavalent chromium is not absorbed via dermal contact.
ND = Not detected.
NS = Not sampled.
NV = Not volatile.
PCB = Polychlorinated biphenyls.
TPH = Total Petroleum Hydrocarbons.
TEQ = Toxic Equivalent.

Table BCW-B1.4b
Baseline Scenario HIs for C O P Cs in BCW Soil Using Depth-Weighted EPCs: Recreational User - Hiker

Post-Soil N T C R A Human Health and Ecological Risk Assessment Report
PG&E Topock Compressor Station
Needles, California

C O P C	Child Hiker (0 to 0.5 foot bgs)[a] Soil Pathway Particulate Inhalation	Child Hiker (0 to 0.5 foot bgs)[a] Soil Pathway Vapor Inhalation	Child Hiker (0 to 0.5 foot bgs)[a] Soil Pathway Dermal Contact	Child Hiker (0 to 0.5 foot bgs)[a] Soil Pathway Ingestion	Child Hiker (0 to 0.5 foot bgs)[a] Soil Pathway Total Hazard Index	Adult Hiker (0 to 0.5 foot bgs)[a] Soil Pathway Particulate Inhalation	Adult Hiker (0 to 0.5 foot bgs)[a] Soil Pathway Vapor Inhalation	Adult Hiker (0 to 0.5 foot bgs)[a] Soil Pathway Dermal Contact	Adult Hiker (0 to 0.5 foot bgs)[a] Soil Pathway Ingestion	Adult Hiker (0 to 0.5 foot bgs)[a] Soil Pathway Total Hazard Index	Child Hiker (0 to 3 feet bgs)[a] Soil Pathway Particulate Inhalation	Child Hiker (0 to 3 feet bgs)[a] Soil Pathway Vapor Inhalation	Child Hiker (0 to 3 feet bgs)[a] Soil Pathway Dermal Contact	Child Hiker (0 to 3 feet bgs)[a] Soil Pathway Ingestion	Child Hiker (0 to 3 feet bgs)[a] Soil Pathway Total Hazard Index	Adult Hiker (0 to 3 feet bgs)[a] Soil Pathway Particulate Inhalation	Adult Hiker (0 to 3 feet bgs)[a] Soil Pathway Vapor Inhalation	Adult Hiker (0 to 3 feet bgs)[a] Soil Pathway Dermal Contact	Adult Hiker (0 to 3 feet bgs)[a] Soil Pathway Ingestion	Adult Hiker (0 to 3 feet bgs)[a] Soil Pathway Total Hazard Index
Inorganics																					
Antimony	1.9E-06	NV	7.6E-04	2.6E-02	2.7E-02	1.9E-06	NV	1.0E-04	2.5E-03	2.6E-03	1.4E-06	NV	5.4E-04	1.9E-02	1.9E-02	1.4E-06	NV	7.4E-05	1.8E-03	1.8E-03
Chromium, Hexavalent	1.1E-07	NV	NA	6.8E-05	6.8E-05	1.1E-07	NV	NA	6.4E-06	6.5E-06	1.4E-07	NV	NA	8.4E-05	8.4E-05	1.4E-07	NV	NA	7.8E-06	8.0E-06
Chromium, total	1.6E-05	NV	3.4E-07	1.2E-05	2.8E-05	1.6E-05	NV	4.6E-08	1.1E-06	1.7E-05	2.5E-05	NV	5.3E-07	1.8E-05	4.4E-05	2.5E-05	NV	7.2E-08	1.7E-06	2.7E-05
Cobalt	4.2E-05	NV	4.5E-04	1.5E-02	1.6E-02	4.2E-05	NV	6.1E-05	1.4E-03	1.5E-03	4.3E-05	NV	4.5E-04	1.5E-02	1.6E-02	4.3E-05	NV	6.1E-05	1.5E-03	1.6E-03
Copper	2.9E-09	NV	6.2E-06	2.1E-04	2.2E-04	2.9E-09	NV	8.4E-07	2.0E-05	2.1E-05	2.8E-09	NV	5.8E-06	2.0E-04	2.1E-04	2.8E-09	NV	7.9E-07	1.9E-05	2.0E-05
Lead	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
Mercury (inorganic)	6.1E-08	NV	6.0E-06	2.1E-04	2.1E-04	6.1E-08	NV	8.2E-07	1.9E-05	2.0E-05	6.1E-08	NV	6.0E-06	2.1E-04	2.1E-04	6.1E-08	NV	8.2E-07	1.9E-05	2.0E-05
Nitrate	2.7E-10	NV	5.7E-07	2.0E-05	2.0E-05	2.7E-10	NV	7.8E-08	1.8E-06	1.9E-06	2.7E-10	NV	5.7E-07	2.0E-05	2.0E-05	2.7E-10	NV	7.8E-08	1.8E-06	1.9E-06
Orthophosphate	NS	NV	NS	NS	--	NS	NV	NS	NS	--	NS	NV	NS	NS	--	NS	NV	NS	NS	--
Phosphate	9.8E-10	NV	2.1E-06	7.1E-05	7.3E-05	9.8E-10	NV	2.8E-07	6.7E-06	7.0E-06	9.8E-10	NV	2.1E-06	7.1E-05	7.3E-05	9.8E-10	NV	2.8E-07	6.7E-06	7.0E-06
Thallium	1.9E-06	NV	4.1E-03	1.4E-01	1.4E-01	1.9E-06	NV	5.6E-04	1.3E-02	1.4E-02	1.6E-06	NV	3.3E-03	1.1E-01	1.2E-01	1.6E-06	NV	4.5E-04	1.1E-02	1.1E-02
Zinc	2.1E-09	NV	4.4E-06	1.5E-04	1.5E-04	2.1E-09	NV	5.9E-07	1.4E-05	1.5E-05	1.7E-09	NV	3.6E-06	1.3E-04	1.3E-04	1.7E-09	NV	5.0E-07	1.2E-05	1.2E-05
Volatile Organic Compounds																				
Methyl acetate	ND	1.3E-08	ND	ND	1.3E-08	ND	1.3E-08	ND	ND	1.3E-08	9.7E-14	1.3E-08	2.0E-09	7.0E-09	2.2E-08	9.7E-14	1.3E-08	2.8E-10	6.6E-10	1.4E-08
Semi-Volatile Organic Compounds																				
bis (2-ethylhexyl) phthalate	8.1E-10	NV	1.7E-05	5.8E-05	7.5E-05	8.1E-10	NV	2.3E-06	5.5E-06	7.8E-06	8.1E-10	NV	1.7E-05	5.8E-05	7.5E-05	8.1E-10	NV	2.3E-06	5.5E-06	7.8E-06
Polycyclic Aromatic Hydrocarbons																				
2-Methyl naphthalene	ND	1.0E-07	ND	ND	1.0E-07	ND	1.0E-07	ND	ND	1.0E-07	ND	1.0E-07	ND	ND	1.0E-07	ND	1.0E-07	ND	ND	1.0E-07
Anthracene	2.6E-13	1.7E-10	8.2E-09	1.9E-08	2.7E-08	2.6E-13	1.7E-10	1.1E-09	1.8E-09	3.1E-09	2.6E-13	1.7E-10	8.2E-09	1.9E-08	2.7E-08	2.6E-13	1.7E-10	1.1E-09	1.8E-09	3.1E-09
Benzo (ghi) perylene	4.3E-12	NV	1.4E-07	3.1E-07	4.5E-07	4.3E-12	NV	1.9E-08	2.9E-08	4.8E-08	4.1E-12	NV	1.3E-07	3.0E-07	4.3E-07	4.1E-12	NV	1.8E-08	2.8E-08	4.6E-08
Fluoranthene	4.2E-12	NV	1.3E-07	3.1E-07	4.4E-07	4.2E-12	NV	1.8E-08	2.9E-08	4.7E-08	7.9E-12	NV	2.5E-07	5.7E-07	8.2E-07	7.9E-12	NV	3.4E-08	5.4E-08	8.8E-08
Fluorene	ND	2.3E-09	ND	ND	2.3E-09	ND	2.3E-09	ND	ND	2.3E-09	ND	2.3E-09	ND	ND	2.3E-09	ND	2.3E-09	ND	ND	2.3E-09
Naphthalene	5.9E-11	1.4E-06	7.0E-08	1.6E-07	1.6E-06	5.9E-11	1.4E-06	9.5E-09	1.5E-08	1.4E-06	5.9E-11	1.4E-06	7.0E-08	1.6E-07	1.6E-06	5.9E-11	1.4E-06	9.5E-09	1.5E-08	1.4E-06
Phenanthrene	4.4E-13	NV	1.4E-08	3.2E-08	4.5E-08	4.4E-13	NV	1.9E-09	3.0E-09	4.8E-09	4.1E-13	NV	1.3E-08	3.0E-08	4.2E-08	4.1E-13	NV	1.8E-09	2.8E-09	4.5E-09
Pyrene	5.0E-12	1.6E-09	1.6E-07	3.6E-07	5.2E-07	5.0E-12	1.6E-09	2.1E-08	3.4E-08	5.7E-08	4.6E-12	1.6E-09	1.4E-07	3.3E-07	4.8E-07	4.6E-12	1.6E-09	2.0E-08	3.1E-08	5.3E-08

Table BCW-B1.4b
Baseline Scenario HIs for C O P Cs in BCW Soil Using Depth-Weighted EPCs: Recreational User - Hiker

Post-Soil N T C R A Human Health and Ecological Risk Assessment Report
PG&E Topock Compressor Station
Needles, California

C O P C	Child Hiker (0 to 0.5 foot bgs)[a] Soil Pathway Particulate Inhalation	Child Hiker (0 to 0.5 foot bgs)[a] Soil Pathway Vapor Inhalation	Child Hiker (0 to 0.5 foot bgs)[a] Soil Pathway Dermal Contact	Child Hiker (0 to 0.5 foot bgs)[a] Soil Pathway Ingestion	Child Hiker (0 to 0.5 foot bgs)[a] Soil Pathway Total Hazard Index	Adult Hiker (0 to 0.5 foot bgs)[a] Soil Pathway Particulate Inhalation	Adult Hiker (0 to 0.5 foot bgs)[a] Soil Pathway Vapor Inhalation	Adult Hiker (0 to 0.5 foot bgs)[a] Soil Pathway Dermal Contact	Adult Hiker (0 to 0.5 foot bgs)[a] Soil Pathway Ingestion	Adult Hiker (0 to 0.5 foot bgs)[a] Soil Pathway Total Hazard Index	Child Hiker (0 to 3 feet bgs)[a] Soil Pathway Particulate Inhalation	Child Hiker (0 to 3 feet bgs)[a] Soil Pathway Vapor Inhalation	Child Hiker (0 to 3 feet bgs)[a] Soil Pathway Dermal Contact	Child Hiker (0 to 3 feet bgs)[a] Soil Pathway Ingestion	Child Hiker (0 to 3 feet bgs)[a] Soil Pathway Total Hazard Index	Adult Hiker (0 to 3 feet bgs)[a] Soil Pathway Particulate Inhalation	Adult Hiker (0 to 3 feet bgs)[a] Soil Pathway Vapor Inhalation	Adult Hiker (0 to 3 feet bgs)[a] Soil Pathway Dermal Contact	Adult Hiker (0 to 3 feet bgs)[a] Soil Pathway Ingestion	Adult Hiker (0 to 3 feet bgs)[a] Soil Pathway Total Hazard Index
Polychlorinated Biphenyls																					
Total PCBs	5.0E-08	1.6E-04	1.6E-03	3.6E-03	5.4E-03	5.0E-08	1.6E-04	2.2E-04	3.4E-04	7.1E-04	4.4E-08	1.6E-04	1.4E-03	3.2E-03	4.8E-03	4.4E-08	1.6E-04	1.9E-04	3.0E-04	6.5E-04
Total Petroleum Hydrocarbons																				
TPH as diesel	9.2E-10	9.8E-04	6.6E-05	2.3E-04	1.3E-03	9.2E-10	9.8E-04	9.1E-06	2.1E-05	1.0E-03	8.6E-10	9.8E-04	6.2E-05	2.1E-04	1.3E-03	8.6E-10	9.8E-04	8.5E-06	2.0E-05	1.0E-03
TPH as motor oil	1.6E-09	NV	3.4E-05	1.2E-04	1.5E-04	1.6E-09	NV	4.6E-06	1.1E-05	1.6E-05	1.6E-09	NV	3.3E-05	1.1E-04	1.5E-04	1.6E-09	NV	4.5E-06	1.1E-05	1.5E-05
Dioxins/Furans																				
TEQ Human	4.2E-08	1.4E-04	3.8E-03	4.4E-02	4.7E-02	4.2E-08	1.4E-04	5.2E-04	4.1E-03	4.7E-03	3.0E-08	1.4E-04	2.7E-03	3.1E-02	3.4E-02	3.0E-08	1.4E-04	3.7E-04	2.9E-03	3.4E-03
Total Hazard Index	**6E-05**	**1E-03**	**1E-02**	**2E-01**	**2E-01**	**6E-05**	**1E-03**	**1E-03**	**2E-02**	**2E-02**	**7E-05**	**1E-03**	**9E-03**	**2E-01**	**2E-01**	**7E-05**	**1E-03**	**1E-03**	**2E-02**	**2E-02**

Notes:
[a] EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.

Abbreviations:
– = not calculated.
bgs = below ground surface.
C O P C = Constituent of Potential Concern.
H I = Hazard Index
na = Not applicable. Potential exposure to lead is evaluated using California Environmental Protection Agency (Cal/E P A) Department of Toxic Substances Control's (DTSC) LeadSpread model. Please see text for discussion.
NA = Not applicable. Hexavalent chromium is not absorbed via dermal contact.
ND = Not detected.
NS = Not sampled.
NV = Not volatile.
PCB = Polychlorinated biphenyls.
TPH = Total Petroleum Hydrocarbons.
TEQ = Toxic Equivalent.

Table BCW-B1.4c
Baseline Scenario HIs for C O P Cs in BCW Soil Using Depth-Weighted EPCs: Recreational User - Off-Highway Vehicle Rider

Post-Soil N T C R A Human Health and Ecological Risk Assessment Report
PG&E Topock Compressor Station
Needles, California

C O P C	Child OHV Rider (0 to 0.5 foot bgs)[a] Soil Pathway Particulate Inhalation	Child OHV Rider (0 to 0.5 foot bgs)[a] Soil Pathway Vapor Inhalation	Child OHV Rider (0 to 0.5 foot bgs)[a] Soil Pathway Dermal Contact	Child OHV Rider (0 to 0.5 foot bgs)[a] Soil Pathway Ingestion	Child OHV Rider (0 to 0.5 foot bgs)[a] Soil Pathway Total Hazard Index	Adult OHV Rider (0 to 0.5 foot bgs)[a] Soil Pathway Particulate Inhalation	Adult OHV Rider (0 to 0.5 foot bgs)[a] Soil Pathway Vapor Inhalation	Adult OHV Rider (0 to 0.5 foot bgs)[a] Soil Pathway Dermal Contact	Adult OHV Rider (0 to 0.5 foot bgs)[a] Soil Pathway Ingestion	Adult OHV Rider (0 to 0.5 foot bgs)[a] Soil Pathway Total Hazard Index	Child OHV Rider (0 to 3 feet bgs)[a] Soil Pathway Particulate Inhalation	Child OHV Rider (0 to 3 feet bgs)[a] Soil Pathway Vapor Inhalation	Child OHV Rider (0 to 3 feet bgs)[a] Soil Pathway Dermal Contact	Child OHV Rider (0 to 3 feet bgs)[a] Soil Pathway Ingestion	Child OHV Rider (0 to 3 feet bgs)[a] Soil Pathway Total Hazard Index	Adult OHV Rider (0 to 3 feet bgs)[a] Soil Pathway Particulate Inhalation	Adult OHV Rider (0 to 3 feet bgs)[a] Soil Pathway Vapor Inhalation	Adult OHV Rider (0 to 3 feet bgs)[a] Soil Pathway Dermal Contact	Adult OHV Rider (0 to 3 feet bgs)[a] Soil Pathway Ingestion	Adult OHV Rider (0 to 3 feet bgs)[a] Soil Pathway Total Hazard Index
Inorganics																					
Antimony	1.9E-04	NV	1.4E-03	1.8E-03	3.4E-03	1.9E-04	NV	1.2E-03	7.6E-04	2.1E-03	1.4E-04	NV	9.9E-04	1.3E-03	2.4E-03	1.4E-04	NV	8.5E-04	5.4E-04	1.5E-03
Chromium, Hexavalent	1.1E-05	NV	NA	4.8E-06	1.6E-05	1.1E-05	NV	NA	2.0E-06	1.3E-05	1.4E-05	NV	NA	5.9E-06	2.0E-05	1.4E-05	NV	NA	2.4E-06	1.6E-05
Chromium, total	1.6E-03	NV	6.1E-07	8.2E-07	1.6E-03	1.6E-03	NV	5.3E-07	3.4E-07	1.6E-03	2.5E-03	NV	9.6E-07	1.3E-06	2.5E-03	2.5E-03	NV	8.2E-07	5.3E-07	2.5E-03
Cobalt	4.3E-03	NV	8.1E-04	1.1E-03	6.2E-03	4.3E-03	NV	7.0E-04	4.5E-04	5.4E-03	4.3E-03	NV	8.2E-04	1.1E-03	6.2E-03	4.3E-03	NV	7.0E-04	4.5E-04	5.4E-03
Copper	2.9E-07	NV	1.1E-05	1.5E-05	2.6E-05	2.9E-07	NV	9.6E-06	6.2E-06	1.6E-05	2.8E-07	NV	1.1E-05	1.4E-05	2.5E-05	2.8E-07	NV	9.1E-06	5.8E-06	1.5E-05
Lead	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
Mercury (inorganic)	6.1E-06	NV	1.1E-05	1.5E-05	3.2E-05	6.1E-06	NV	9.4E-06	6.0E-06	2.1E-05	6.1E-06	NV	1.1E-05	1.4E-05	3.1E-05	6.1E-06	NV	9.3E-06	6.0E-06	2.1E-05
Nitrate	2.7E-08	NV	1.0E-06	1.4E-06	2.5E-06	2.7E-08	NV	8.9E-07	5.7E-07	1.5E-06	2.7E-08	NV	1.0E-06	1.4E-06	2.5E-06	2.7E-08	NV	8.9E-07	5.7E-07	1.5E-06
Orthophosphate	NS	NV	NS	NS	--	NS	NV	NS	NS	--	NS	NV	NS	NS	--	NS	NV	NS	NS	--
Phosphate	9.9E-08	NV	3.8E-06	5.0E-06	8.9E-06	9.9E-08	NV	3.2E-06	2.1E-06	5.4E-06	9.9E-08	NV	3.8E-06	5.0E-06	8.9E-06	9.9E-08	NV	3.2E-06	2.1E-06	5.4E-06
Thallium	1.9E-04	NV	7.4E-03	9.9E-03	1.7E-02	1.9E-04	NV	6.3E-03	4.1E-03	1.1E-02	1.6E-04	NV	6.0E-03	8.0E-03	1.4E-02	1.6E-04	NV	5.2E-03	3.3E-03	8.6E-03
Zinc	2.1E-07	NV	7.9E-06	1.1E-05	1.9E-05	2.1E-07	NV	6.8E-06	4.4E-06	1.1E-05	1.7E-07	NV	6.6E-06	8.8E-06	1.6E-05	1.7E-07	NV	5.7E-06	3.7E-06	9.5E-06
Volatile Organic Compounds																				
Methyl acetate	ND	8.0E-10	ND	ND	8.0E-10	ND	8.0E-10	ND	ND	8.0E-10	9.7E-12	8.0E-10	3.7E-09	4.9E-10	5.0E-09	9.7E-12	8.0E-10	3.2E-09	2.0E-10	4.2E-09
Semi-Volatile Organic Compounds																				
bis (2-ethylhexyl) phthalate	8.1E-08	NV	3.1E-05	4.1E-06	3.5E-05	8.1E-08	NV	2.6E-05	1.7E-06	2.8E-05	8.1E-08	NV	3.1E-05	4.1E-06	3.5E-05	8.1E-08	NV	2.6E-05	1.7E-06	2.8E-05
Polycyclic Aromatic Hydrocarbons																				
2-Methyl naphthalene	ND	6.4E-09	ND	ND	6.4E-09	ND	6.4E-09	ND	ND	6.4E-09	ND	6.4E-09	ND	ND	6.4E-09	ND	6.4E-09	ND	ND	6.4E-09
Anthracene	2.9E-11	1.1E-11	1.5E-08	1.3E-09	1.6E-08	2.9E-11	1.1E-11	1.3E-08	5.5E-10	1.3E-08	2.9E-11	1.1E-11	1.5E-08	1.3E-09	1.6E-08	2.9E-11	1.1E-11	1.3E-08	5.5E-10	1.3E-08
Benzo (ghi) perylene	4.3E-10	NV	2.5E-07	2.2E-08	2.7E-07	4.3E-10	NV	2.1E-07	9.1E-09	2.2E-07	4.2E-10	NV	2.4E-07	2.1E-08	2.6E-07	4.2E-10	NV	2.0E-07	8.7E-09	2.1E-07
Fluoranthene	4.2E-10	NV	2.4E-07	2.1E-08	2.6E-07	4.2E-10	NV	2.1E-07	8.9E-09	2.2E-07	7.9E-10	NV	4.5E-07	4.0E-08	5.0E-07	7.9E-10	NV	3.9E-07	1.7E-08	4.1E-07
Fluorene	ND	1.5E-10	ND	ND	1.5E-10	ND	1.5E-10	ND	ND	1.5E-10	ND	1.5E-10	ND	ND	1.5E-10	ND	1.5E-10	ND	ND	1.5E-10
Naphthalene	5.9E-09	8.5E-08	1.3E-07	1.1E-08	2.3E-07	5.9E-09	8.5E-08	1.1E-07	4.7E-09	2.0E-07	5.9E-09	8.5E-08	1.3E-07	1.1E-08	2.3E-07	5.9E-09	8.5E-08	1.1E-07	4.7E-09	2.0E-07
Phenanthrene	4.4E-11	NV	2.5E-08	2.2E-09	2.7E-08	4.4E-11	NV	2.1E-08	9.2E-10	2.2E-08	4.1E-11	NV	2.3E-08	2.1E-09	2.6E-08	4.1E-11	NV	2.0E-08	8.6E-10	2.1E-08
Pyrene	5.0E-10	1.0E-10	2.9E-07	2.5E-08	3.1E-07	5.0E-10	1.0E-10	2.4E-07	1.0E-08	2.6E-07	4.6E-10	1.0E-10	2.6E-07	2.3E-08	2.9E-07	4.6E-10	1.0E-10	2.3E-07	9.7E-09	2.4E-07

Table BCW-B1.4c
Baseline Scenario HIs for C O P Cs in BCW Soil Using Depth-Weighted EPCs: Recreational User - Off-Highway Vehicle Rider

Post-Soil N T C R A Human Health and Ecological Risk Assessment Report
PG&E Topock Compressor Station
Needles, California

C O P C	Child OHV Rider (0 to 0.5 foot bgs)[a] Soil Pathway Particulate Inhalation	Child OHV Rider (0 to 0.5 foot bgs)[a] Soil Pathway Vapor Inhalation	Child OHV Rider (0 to 0.5 foot bgs)[a] Soil Pathway Dermal Contact	Child OHV Rider (0 to 0.5 foot bgs)[a] Soil Pathway Ingestion	Child OHV Rider (0 to 0.5 foot bgs)[a] Soil Pathway Total Hazard Index	Adult OHV Rider (0 to 0.5 foot bgs)[a] Soil Pathway Particulate Inhalation	Adult OHV Rider (0 to 0.5 foot bgs)[a] Soil Pathway Vapor Inhalation	Adult OHV Rider (0 to 0.5 foot bgs)[a] Soil Pathway Dermal Contact	Adult OHV Rider (0 to 0.5 foot bgs)[a] Soil Pathway Ingestion	Adult OHV Rider (0 to 0.5 foot bgs)[a] Soil Pathway Total Hazard Index	Child OHV Rider (0 to 3 feet bgs)[a] Soil Pathway Particulate Inhalation	Child OHV Rider (0 to 3 feet bgs)[a] Soil Pathway Vapor Inhalation	Child OHV Rider (0 to 3 feet bgs)[a] Soil Pathway Dermal Contact	Child OHV Rider (0 to 3 feet bgs)[a] Soil Pathway Ingestion	Child OHV Rider (0 to 3 feet bgs)[a] Soil Pathway Total Hazard Index	Adult OHV Rider (0 to 3 feet bgs)[a] Soil Pathway Particulate Inhalation	Adult OHV Rider (0 to 3 feet bgs)[a] Soil Pathway Vapor Inhalation	Adult OHV Rider (0 to 3 feet bgs)[a] Soil Pathway Dermal Contact	Adult OHV Rider (0 to 3 feet bgs)[a] Soil Pathway Ingestion	Adult OHV Rider (0 to 3 feet bgs)[a] Soil Pathway Total Hazard Index
Polychlorinated Biphenyls																					
Total PCBs	5.0E-06	9.8E-06	2.9E-03	2.5E-04	3.1E-03	5.0E-06	9.8E-06	2.5E-03	1.1E-04	2.6E-03	4.4E-06	9.8E-06	2.5E-03	2.3E-04	2.8E-03	4.4E-06	9.8E-06	2.2E-03	9.3E-05	2.3E-03
Total Petroleum Hydrocarbons																				
TPH as diesel	9.3E-08	6.1E-05	1.2E-04	1.6E-05	2.0E-04	9.3E-08	6.1E-05	1.0E-04	6.6E-06	1.7E-04	8.7E-08	6.1E-05	1.1E-04	1.5E-05	1.9E-04	8.7E-08	6.1E-05	9.7E-05	6.2E-06	1.6E-04
TPH as motor oil	1.6E-07	NV	6.1E-05	8.2E-06	7.0E-05	1.6E-07	NV	5.3E-05	3.4E-06	5.6E-05	1.6E-07	NV	6.0E-05	7.9E-06	6.8E-05	1.6E-07	NV	5.1E-05	3.3E-06	5.5E-05
Dioxins/Furans																				
TEQ Human	4.2E-06	8.6E-06	6.9E-03	3.1E-03	1.0E-02	4.2E-06	8.6E-06	5.9E-03	1.3E-03	7.2E-03	3.0E-06	8.6E-06	4.9E-03	2.2E-03	7.1E-03	3.0E-06	8.6E-06	4.2E-03	9.0E-04	5.1E-03
Total Hazard Index	**6E-03**	**8E-05**	**2E-02**	**2E-02**	**4E-02**	**6E-03**	**8E-05**	**2E-02**	**7E-03**	**3E-02**	**7E-03**	**8E-05**	**2E-02**	**1E-02**	**4E-02**	**7E-03**	**8E-05**	**1E-02**	**5E-03**	**3E-02**

Notes:
[a] EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.

Abbreviations:
– = not calculated.
bgs = below ground surface.
C O P C = Constituent of Potential Concern.
H I = Hazard Index
na = Not applicable. Potential exposure to lead is evaluated using California Environmental Protection Agency (Cal/E P A) Department of Toxic Substances Control's (DTSC) LeadSpread model. Please see text for discussion.
NA = Not applicable. Hexavalent chromium is not absorbed via dermal contact.
ND = Not detected.
NS = Not sampled.
NV = Not volatile.
PCB = Polychlorinated biphenyls.
TPH = Total Petroleum Hydrocarbons.
TEQ = Toxic Equivalent.

Table BCW-B1.5a

Baseline Scenario Risk Evaluation for Lead in BCW Surface Soil (0 to 0.5 foot bgs) Using Depth-Weighted EPCs: Recreational User (Camper)

Post-Soil N T C R A Human Health and Ecological Risk Assessment Report
PG&E Topock Compressor Station
Needles, California

LEAD RISK ASSESSMENT SPREADSHEET 8
CALIFORNIA DEPARTMENT OF TOXIC SUBSTANCES CONTROL

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INPUT MEDIUM	**INPUT** LEVEL
Lead in Soil/Dust (ug/g)	7.0
Respirable Dust (ug/m^3)	1.5

OUTPUT	Percentile Estimate of Blood Pb (ug/dl) 50th	Percentile Estimate of Blood Pb (ug/dl) 90th	Percentile Estimate of Blood Pb (ug/dl) 95th	Percentile Estimate of Blood Pb (ug/dl) 98th	Percentile Estimate of Blood Pb (ug/dl) 99th	PRG-90 (ug/g)
BLOOD Pb, CHILD	0.002	0.003	0.00	0.00	0.01	2159
BLOOD Pb, PICA CHILD	0.004	0.01	0.01	0.01	0.01	1084

EXPOSURE PARAMETERS	units	children
Days per week	days/wk	0.25 [a]
Geometric Standard Deviation	ug/dl	1.6
Blood lead level of concern	ug/dl	1
Skin area, residential	cm^2	2900
Soil adherence	ug/cm^2	200
Dermal uptake constant	(ug/dl)/(ug/day	0.0001
Soil ingestion	mg/day	100
Soil ingestion, pica	mg/day	200
Ingestion constant	(ug/dl)/(ug/day	0.16
Bioavailability	unitless	0.44
Breathing rate	m^3/day	6.8
Inhalation constant	(ug/dl)/(ug/day	0.192

CHILDREN Pathway	typical Pathway contribution PEF	typical Pathway contribution ug/dl	typical Pathway contribution percent	with pica Pathway contribution PEF	with pica Pathway contribution ug/dl	with pica Pathway contribution percent
Soil Contact	2.1E-6	1.4E-05	1%	--	1.4E-05	0.4%
Soil Ingestion	2.5E-4	1.7E-03	99%	5.0E-4	3.5E-03	100%
Inhalation	7.0E-8	4.9E-07	0.03%	--	4.9E-07	0.01%

Notes:
[a] Highlighted values are Site-specific: days per week based on the assumption of 1 day per month (1 day/4 weeks = 0.25 days/week), 8 months per year. See Table 5.1 of the main report for details.

Table BCW-B1.5b

Baseline Scenario Risk Evaluation for Lead in BCW Shallow Soil (0 to 3 feet bgs) Using Depth-Weighted EPCs: Recreational User (Camper)

Post-Soil N T C R A Human Health and Ecological Risk Assessment Report
PG&E Topock Compressor Station
Needles, California

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CALIFORNIA DEPARTMENT OF TOXIC SUBSTANCES CONTROL

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INPUT MEDIUM	INPUT LEVEL
Lead in Soil/Dust (ug/g)	6.8
Respirable Dust (ug/m^3)	1.5

OUTPUT	Percentile Estimate of Blood Pb (ug/dl) 50th	Percentile Estimate of Blood Pb (ug/dl) 90th	Percentile Estimate of Blood Pb (ug/dl) 95th	Percentile Estimate of Blood Pb (ug/dl) 98th	Percentile Estimate of Blood Pb (ug/dl) 99th	PRG-90 (ug/g)
BLOOD Pb, CHILD	0.002	0.003	0.00	0.00	0.01	2159
BLOOD Pb, PICA CHILD	0.003	0.01	0.01	0.01	0.01	1084

EXPOSURE PARAMETERS	units	children
Days per week	days/wk	0.25[a]
Geometric Standard Deviation	ug/dl	1.6
Blood lead level of concern	ug/dl	1
Skin area, residential	cm^2	2900
Soil adherence	ug/cm^2	200
Dermal uptake constant	(ug/dl)/(ug/day)	0.0001
Soil ingestion	mg/day	100
Soil ingestion, pica	mg/day	200
Ingestion constant	(ug/dl)/(ug/day)	0.16
Bioavailability	unitless	0.44
Breathing rate	m^3/day	6.8
Inhalation constant	(ug/dl)/(ug/day)	0.192

CHILDREN Pathway	typical Pathway contribution PEF	typical Pathway contribution ug/dl	typical Pathway contribution percent	with pica Pathway contribution PEF	with pica Pathway contribution ug/dl	with pica Pathway contribution percent
Soil Contact	2.1E-6	1.4E-05	1%	--	1.4E-05	0.4%
Soil Ingestion	2.5E-4	1.7E-03	99%	5.0E-4	3.4E-03	100%
Inhalation	7.0E-8	4.7E-07	0.03%	--	4.7E-07	0.01%

Notes:

[a] Highlighted values are Site-specific: days per week based on the assumption of 1 day per month (1 day/4 weeks = 0.25 days/week), 8 months per year. See Table 5.1 of the main report for details.

Table BCW-B1.5c

Baseline Scenario Risk Evaluation for Lead in BCW Surface Soil (0 to 0.5 foot bgs) Using Depth-Weighted EPCs: Recreational User (Hiker)

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INPUT MEDIUM	INPUT LEVEL
Lead in Soil/Dust (ug/g)	7.0
Respirable Dust (ug/m^3)	1.5

OUTPUT	Percentile Estimate of Blood Pb (ug/dl) 50th	Percentile Estimate of Blood Pb (ug/dl) 90th	Percentile Estimate of Blood Pb (ug/dl) 95th	Percentile Estimate of Blood Pb (ug/dl) 98th	Percentile Estimate of Blood Pb (ug/dl) 99th	PRG-90 (ug/g)
BLOOD Pb, CHILD	0.004	0.006	0.01	0.01	0.01	1079
BLOOD Pb, PICA CHILD	0.007	0.01	0.02	0.02	0.02	542

EXPOSURE PARAMETERS	units	children
Days per week	days/wk	0.5 [a]
Geometric Standard Deviation	ug/dl	1.6
Blood lead level of concern	ug/dl	1
Skin area, residential	cm^2	2900
Soil adherence	ug/cm^2	200
Dermal uptake constant	(ug/dl)/(ug/day)	0.0001
Soil ingestion	mg/day	100
Soil ingestion, pica	mg/day	200
Ingestion constant	(ug/dl)/(ug/day)	0.16
Bioavailability	unitless	0.44
Breathing rate	m^3/day	6.8
Inhalation constant	(ug/dl)/(ug/day)	0.192

CHILDREN Pathway	typical Pathway contribution PEF	typical Pathway contribution ug/dl	typical Pathway contribution percent	with pica Pathway contribution PEF	with pica Pathway contribution ug/dl	with pica Pathway contribution percent
Soil Contact	4.1E-6	2.9E-05	1%	--	2.9E-05	0.4%
Soil Ingestion	5.0E-4	3.5E-03	99%	1.0E-3	7.0E-03	100%
Inhalation	1.4E-7	9.7E-07	0.03%	--	9.7E-07	0.01%

Notes:

[a] Highlighted values are Site-specific: days per week based on the assumption of 2 days per month (2 days/4 weeks = 0.5 days/week), 8 months per year. See Table 5.1 of the main report for details.

Table BCW-B1.5d

Baseline Scenario Risk Evaluation for Lead in BCW Shallow Soil (0 to 3 feet bgs) Using Depth-Weighted EPCs: Recreational User (Hiker)

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LEAD RISK ASSESSMENT SPREADSHEET 8
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INPUT MEDIUM	INPUT LEVEL
Lead in Soil/Dust (ug/g)	6.8
Respirable Dust (ug/m^3)	1.5

OUTPUT	Percentile Estimate of Blood Pb (ug/dl) 50th	Percentile Estimate of Blood Pb (ug/dl) 90th	Percentile Estimate of Blood Pb (ug/dl) 95th	Percentile Estimate of Blood Pb (ug/dl) 98th	Percentile Estimate of Blood Pb (ug/dl) 99th	PRG-90 (ug/g)
BLOOD Pb, CHILD	0.003	0.006	0.01	0.01	0.01	1079
BLOOD Pb, PICA CHILD	0.007	0.01	0.01	0.02	0.02	542

EXPOSURE PARAMETERS	units	children
Days per week	days/wk	0.5 [a]
Geometric Standard Deviation	ug/dl	1.6
Blood lead level of concern	ug/dl	1
Skin area, residential	cm^2	2900
Soil adherence	ug/cm^2	200
Dermal uptake constant	(ug/dl)/(ug/day)	0.0001
Soil ingestion	mg/day	100
Soil ingestion, pica	mg/day	200
Ingestion constant	(ug/dl)/(ug/day)	0.16
Bioavailability	unitless	0.44
Breathing rate	m^3/day	6.8
Inhalation constant	(ug/dl)/(ug/day)	0.192

CHILDREN Pathway	typical Pathway contribution PEF	typical Pathway contribution ug/dl	typical Pathway contribution percent	with pica Pathway contribution PEF	with pica Pathway contribution ug/dl	with pica Pathway contribution percent
Soil Contact	4.1E-6	2.8E-05	1%	--	2.8E-05	0.4%
Soil Ingestion	5.0E-4	3.4E-03	99%	1.0E-3	6.8E-03	100%
Inhalation	1.4E-7	9.5E-07	0.03%	--	9.5E-07	0.01%

Notes:

[a] Highlighted values are Site-specific: days per week based on the assumption of 2 days per month (2 days/4 weeks = 0.5 days/week), 8 months per year. See Table 5.1 of the main report for details.

Table BCW-B1.5e

Baseline Scenario Risk Evaluation for Lead in BCW Surface Soil (0 to 0.5 foot bgs) Using Depth-Weighted EPCs: Recreational User (Off-Highway Vehicle Rider)

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LEAD RISK ASSESSMENT SPREADSHEET 8
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INPUT MEDIUM	**INPUT** LEVEL
Lead in Soil/Dust (ug/g)	7.0
Respirable Dust (ug/m^3)	1.5

OUTPUT	Percentile Estimate of Blood Pb (ug/dl) 50th	Percentile Estimate of Blood Pb (ug/dl) 90th	Percentile Estimate of Blood Pb (ug/dl) 95th	Percentile Estimate of Blood Pb (ug/dl) 98th	Percentile Estimate of Blood Pb (ug/dl) 99th	PRG-90 (ug/g)
BLOOD Pb, CHILD	0.001	0.002	0.00	0.00	0.00	3180
BLOOD Pb, PICA CHILD	0.007	0.01	0.02	0.02	0.02	535

EXPOSURE PARAMETERS	units	children
Days per week	days/wk	0.5[a]
Geometric Standard Deviation	ug/dl	1.6
Blood lead level of concern	ug/dl	1
Skin area, residential	cm^2	2900
Soil adherence	ug/cm^2	800[a]
Dermal uptake constant	(ug/dl)/(ug/day)	0.0001
Soil ingestion	mg/day	31[a]
Soil ingestion, pica	mg/day	200
Ingestion constant	(ug/dl)/(ug/day)	0.16
Bioavailability	unitless	0.44
Breathing rate	m^3/day	0.425[a]
Inhalation constant	(ug/dl)/(ug/day)	0.192

CHILDREN Pathway	typical Pathway contribution PEF	typical Pathway contribution ug/dl	typical Pathway contribution percent	with pica Pathway contribution PEF	with pica Pathway contribution ug/dl	with pica Pathway contribution percent
Soil Contact	1.7E-5	1.2E-04	10%	--	1.2E-04	1.6%
Soil Ingestion	1.6E-4	1.1E-03	90%	1.0E-3	7.0E-03	98%
Inhalation	8.7E-9	6.1E-08	0.01%	--	6.1E-08	0.00%

Notes:
[a] Highlighted values are Site-specific: days per week based on the assumption of 2 days per month, 8 months per year. Soil ingestion rate of 330 mg/day is modified by exposure time (1.5 hours riding at site per 16 awake hours, or 0.09). Default inhalation breathing rate of 6.8 m^3/day is modified to account for exposure time (i.e., 1.5 hours riding at site per 24 hours, or 0.06) . See Table 5.1 of the main report for details.

Table BCW-B1.5f

Baseline Scenario Risk Evaluation for Lead in BCW Shallow Soil (0 to 3 feet bgs) Using Depth-Weighted EPCs: Recreational User (Off-Highway Vehicle Rider)

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Needles, California

LEAD RISK ASSESSMENT SPREADSHEET 8
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INPUT MEDIUM	**INPUT** LEVEL
Lead in Soil/Dust (ug/g)	6.8
Respirable Dust (ug/m^3)	1.5

OUTPUT	Percentile Estimate of Blood Pb (ug/dl) 50th	Percentile Estimate of Blood Pb (ug/dl) 90th	Percentile Estimate of Blood Pb (ug/dl) 95th	Percentile Estimate of Blood Pb (ug/dl) 98th	Percentile Estimate of Blood Pb (ug/dl) 99th	PRG-90 (ug/g)
BLOOD Pb, CHILD	0.001	0.002	0.00	0.00	0.00	3180
BLOOD Pb, PICA CHILD	0.007	0.01	0.01	0.02	0.02	535

EXPOSURE PARAMETERS	units	children
Days per week	days/wk	0.5[a]
Geometric Standard Deviation	ug/dl	1.6
Blood lead level of concern (ug/dl)	ug/dl	1
Skin area, residential	cm^2	2900
Soil adherence	ug/cm^2	800[a]
Dermal uptake constant	(ug/dl)/(ug/day)	0.0001
Soil ingestion	mg/day	31[a]
Soil ingestion, pica	mg/day	200
Ingestion constant	(ug/dl)/(ug/day)	0.16
Bioavailability	unitless	0.44
Breathing rate	m^3/day	0.425[a]
Inhalation constant	(ug/dl)/(ug/day)	0.192

CHILDREN Pathway	typical Pathway contribution PEF	typical Pathway contribution ug/dl	typical Pathway contribution percent	with pica Pathway contribution PEF	with pica Pathway contribution ug/dl	with pica Pathway contribution percent
Soil Contact	1.7E-5	1.1E-04	10%	--	1.1E-04	1.6%
Soil Ingestion	1.6E-4	1.1E-03	90%	1.0E-3	6.8E-03	98%
Inhalation	8.7E-9	5.9E-08	0.01%	--	5.9E-08	0.00%

Notes:
[a] Highlighted values are Site-specific: days per week based on the assumption of 2 days per month, 8 months per year. Soil ingestion rate of 330 mg/day is modified by exposure time (1.5 hours riding at site per 16 awake hours, or 0.09). Default inhalation breathing rate of 6.8 m^3/day is modified to account for exposure time (i.e., 1.5 hours riding at site per 24 hours, or 0.06) . See Table 5.1 of the main report for details.

Table BCW-B1.6a
2-Foot Scouring Scenario Exposure Concentration and Dose Calculations for Carcinogenic Effects for C O P Cs in BCW Soil Using Depth-Weighted EPCs: Recreational User - Camper

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C O P C	Age-Adjusted Adult Camper (2 to 3 feet bgs)[a] Soil Pathway EC: Particulate Inhalation (mg/m^3)	Age-Adjusted Adult Camper (2 to 3 feet bgs)[a] Soil Pathway EC: Outdoor Vapor Inhalation (mg/m^3)	Age-Adjusted Adult Camper (2 to 3 feet bgs)[a] Soil Pathway CDI: Dermal Contact (mg/kg-day)	Age-Adjusted Adult Camper (2 to 3 feet bgs)[a] Soil Pathway CDI: Ingestion (mg/kg-day)	Age-Adjusted Adult Camper (2 to 6 feet bgs)[a] Soil Pathway EC: Particulate Inhalation (mg/m^3)	Age-Adjusted Adult Camper (2 to 6 feet bgs)[a] Soil Pathway EC: Outdoor Vapor Inhalation (mg/m^3)	Age-Adjusted Adult Camper (2 to 6 feet bgs)[a] Soil Pathway CDI: Dermal Contact (mg/kg-day)	Age-Adjusted Adult Camper (2 to 6 feet bgs)[a] Soil Pathway CDI: Ingestion (mg/kg-day)
Inorganics								
Antimony	NC	NV	NC	NC	NC	NV	NC	NC
Chromium, Hexavalent	7.1E-12	NV	NA	6.4E-08	1.0E-11	NV	NA	9.1E-08
Chromium, total	NC	NV	NC	NC	NC	NV	NC	NC
Cobalt	4.9E-11	NV	NC	NC	4.9E-11	NV	NC	NC
Copper	NC	NV	NC	NC	NC	NV	NC	NC
Lead	na	na	na	na	na	na	na	na
Mercury (inorganic)	NC	NC	NC	NC	NC	NC	NC	NC
Nitrate	NS	NV	NS	NS	NC	NV	NC	NC
Orthophosphate	NS	NV	NS	NS	NS	NV	NS	NS
Phosphate	NS	NV	NS	NS	NC	NV	NC	NC
Thallium	ND	NV	ND	ND	NC	NV	NC	NC
Zinc	NC	NV	NC	NC	NC	NV	NC	NC
Volatile Organic Compounds								
Methyl acetate	NC	NV	NC	NC	NC	NV	NC	NC
Semi-Volatile Organic Compounds								
bis (2-ethylhexyl) phthalate	4.8E-12	NV	8.6E-09	2.7E-08	4.8E-12	NV	8.6E-09	2.7E-08
Polycyclic Aromatic Hydrocarbons								
2-Methyl naphthalene	ND	NV	ND	ND	ND	NV	ND	ND
Anthracene	NC	NV	NC	NC	NC	NV	NC	NC
Benzo (ghi) perylene	NC	NV	NC	NC	NC	NV	NC	NC
Fluoranthene	NC	NV	NC	NC	NC	NV	NC	NC
Fluorene	ND	NV	ND	ND	ND	NV	ND	ND
Naphthalene	5.8E-14	9.2E-10	1.5E-10	3.2E-10	4.7E-14	9.2E-10	1.2E-10	2.6E-10
Phenanthrene	NC	NV	NC	NC	NC	NV	NC	NC
Pyrene	NC	NV	NC	NC	NC	NV	NC	NC

Table BCW-B1.6a
2-Foot Scouring Scenario Exposure Concentration and Dose Calculations for Carcinogenic Effects for C O P Cs in BCW Soil Using Depth-Weighted EPCs: Recreational User - Camper

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Needles, California

C O P C	Age-Adjusted Adult Camper (2 to 3 feet bgs)[a] Soil Pathway EC: Particulate Inhalation (mg/m^3)	Age-Adjusted Adult Camper (2 to 3 feet bgs)[a] Soil Pathway EC: Outdoor Vapor Inhalation (mg/m^3)	Age-Adjusted Adult Camper (2 to 3 feet bgs)[a] Soil Pathway CDI: Dermal Contact (mg/kg-day)	Age-Adjusted Adult Camper (2 to 3 feet bgs)[a] Soil Pathway CDI: Ingestion (mg/kg-day)	Age-Adjusted Adult Camper (2 to 6 feet bgs)[a] Soil Pathway EC: Particulate Inhalation (mg/m^3)	Age-Adjusted Adult Camper (2 to 6 feet bgs)[a] Soil Pathway EC: Outdoor Vapor Inhalation (mg/m^3)	Age-Adjusted Adult Camper (2 to 6 feet bgs)[a] Soil Pathway CDI: Dermal Contact (mg/kg-day)	Age-Adjusted Adult Camper (2 to 6 feet bgs)[a] Soil Pathway CDI: Ingestion (mg/kg-day)
Polychlorinated Biphenyls								
Total PCBs	2.9E-13	2.7E-10	7.6E-10	1.6E-09	2.2E-13	2.7E-10	5.8E-10	1.2E-09
Total Petroleum Hydrocarbons								
TPH as diesel	NC	NC	NC	NC	NC	NC	NC	NC
TPH as motor oil	NC	NC	NC	NC	NC	NC	NC	NC
Dioxins/Furans								
TEQ Human	1.6E-16	4.5E-13	8.4E-14	8.7E-13	1.7E-16	4.5E-13	9.2E-14	9.5E-13

Notes:
[a] EPCs for exposure to subsurface II soil (2 to 12 feet bgs) are used to evaluate the vapor inhalation pathway.

Abbreviations:
bgs = below ground surface.
CDI = Chronic Daily Intake.
C O P C = Constituent of Potential Concern.
EC = Exposure Concentration.
mg/kg-day = milligrams per kilogram per day.
mg/m^3 = milligrams per cubic meter.
na = Not applicable. Potential exposure to lead is evaluated using California Environmental Protection Agency (Cal/E P A) Department of Toxic Substances Control's (DTSC) LeadSpread model. Please see text for discussion.
NA = Not applicable. Hexavalent chromium is not absorbed via dermal contact.
NC = Not considered a carcinogen.
ND = Not detected.
NS = Not sampled.
NV = Not volatile.
PCB = Polychlorinated biphenyls.
TPH = Total Petroleum Hydrocarbons.
TEQ = Toxic Equivalent.

Table BCW-B1.6b
2-Foot Scouring Scenario Exposure Concentration and Dose Calculations for Carcinogenic Effects for C O P Cs in BCW Soil Using Depth-Weighted EPCs: Recreational User - Hiker

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C O P C	Age-Adjusted Adult Hiker (2 to 3 feet bgs)[a] Soil Pathway EC: Particulate Inhalation (mg/m^3)	Age-Adjusted Adult Hiker (2 to 3 feet bgs)[a] Soil Pathway EC: Outdoor Vapor Inhalation (mg/m^3)	Age-Adjusted Adult Hiker (2 to 3 feet bgs)[a] Soil Pathway CDI: Dermal Contact (mg/kg-day)	Age-Adjusted Adult Hiker (2 to 3 feet bgs)[a] Soil Pathway CDI: Ingestion (mg/kg-day)	Age-Adjusted Adult Hiker (2 to 6 feet bgs)[a] Soil Pathway EC: Particulate Inhalation (mg/m^3)	Age-Adjusted Adult Hiker (2 to 6 feet bgs)[a] Soil Pathway EC: Outdoor Vapor Inhalation (mg/m^3)	Age-Adjusted Adult Hiker (2 to 6 feet bgs)[a] Soil Pathway CDI: Dermal Contact (mg/kg-day)	Age-Adjusted Adult Hiker (2 to 6 feet bgs)[a] Soil Pathway CDI: Ingestion (mg/kg-day)
Inorganics								
Antimony	NC	NV	NC	NC	NC	NV	NC	NC
Chromium, Hexavalent	1.4E-11	NV	NA	1.3E-07	2.0E-11	NV	NA	1.8E-07
Chromium, total	NC	NV	NC	NC	NC	NV	NC	NC
Cobalt	9.8E-11	NV	NC	NC	9.8E-11	NV	NC	NC
Copper	NC	NV	NC	NC	NC	NV	NC	NC
Lead	na	na	na	na	na	na	na	na
Mercury (inorganic)	NC	NC	NC	NC	NC	NC	NC	NC
Nitrate	NS	NV	NS	NS	NC	NV	NC	NC
Orthophosphate	NS	NV	NS	NS	NS	NV	NS	NS
Phosphate	NS	NV	NS	NS	NC	NV	NC	NC
Thallium	ND	NV	ND	ND	NC	NV	NC	NC
Zinc	NC	NV	NC	NC	NC	NV	NC	NC
Volatile Organic Compounds								
Methyl acetate	NC	NV	NC	NC	NC	NV	NC	NC
Semi-Volatile Organic Compounds								
bis (2-ethylhexyl) phthalate	9.7E-12	NV	1.7E-08	5.3E-08	9.7E-12	NV	1.7E-08	5.3E-08
Polycyclic Aromatic Hydrocarbons								
2-Methyl naphthalene	ND	NV	ND	ND	ND	NV	ND	ND
Anthracene	NC	NV	NC	NC	NC	NV	NC	NC
Benzo (ghi) perylene	NC	NV	NC	NC	NC	NV	NC	NC
Fluoranthene	NC	NV	NC	NC	NC	NV	NC	NC
Fluorene	ND	NV	ND	ND	ND	NV	ND	ND
Naphthalene	1.2E-13	1.8E-09	3.1E-10	6.4E-10	9.4E-14	1.8E-09	2.5E-10	5.2E-10
Phenanthrene	NC	NV	NC	NC	NC	NV	NC	NC
Pyrene	NC	NV	NC	NC	NC	NV	NC	NC

Table BCW-B1.6b
2-Foot Scouring Scenario Exposure Concentration and Dose Calculations for Carcinogenic Effects for C O P Cs in BCW Soil Using Depth-Weighted EPCs: Recreational User - Hiker

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C O P C	Age-Adjusted Adult Hiker (2 to 3 feet bgs)[a] Soil Pathway EC: Particulate Inhalation (mg/m^3)	Age-Adjusted Adult Hiker (2 to 3 feet bgs)[a] Soil Pathway EC: Outdoor Vapor Inhalation (mg/m^3)	Age-Adjusted Adult Hiker (2 to 3 feet bgs)[a] Soil Pathway CDI: Dermal Contact (mg/kg-day)	Age-Adjusted Adult Hiker (2 to 3 feet bgs)[a] Soil Pathway CDI: Ingestion (mg/kg-day)	Age-Adjusted Adult Hiker (2 to 6 feet bgs)[a] Soil Pathway EC: Particulate Inhalation (mg/m^3)	Age-Adjusted Adult Hiker (2 to 6 feet bgs)[a] Soil Pathway EC: Outdoor Vapor Inhalation (mg/m^3)	Age-Adjusted Adult Hiker (2 to 6 feet bgs)[a] Soil Pathway CDI: Dermal Contact (mg/kg-day)	Age-Adjusted Adult Hiker (2 to 6 feet bgs)[a] Soil Pathway CDI: Ingestion (mg/kg-day)
Polychlorinated Biphenyls								
Total PCBs	5.8E-13	5.4E-10	1.5E-09	3.2E-09	4.4E-13	5.4E-10	1.2E-09	2.4E-09
Total Petroleum Hydrocarbons								
TPH as diesel	NC	NC	NC	NC	NC	NC	NC	NC
TPH as motor oil	NC	NC	NC	NC	NC	NC	NC	NC
Dioxins/Furans								
TEQ Human	3.2E-16	9.1E-13	1.7E-13	1.7E-12	3.5E-16	9.1E-13	1.8E-13	1.9E-12

Notes:
[a] EPCs for exposure to subsurface II soil (2 to 12 feet bgs) are used to evaluate the vapor inhalation pathway.

Abbreviations:
bgs = below ground surface.
CDI = Chronic Daily Intake.
C O P C = Constituent of Potential Concern.
EC = Exposure Concentration.
mg/kg-day = milligrams per kilogram per day.
mg/m^3 = milligrams per cubic meter.
na = Not applicable. Potential exposure to lead is evaluated using California Environmental Protection Agency (Cal/E P A) Department of Toxic Substances Control's (DTSC) LeadSpread model. Please see text for discussion.
NA = Not applicable. Hexavalent chromium is not absorbed via dermal contact.
NC = Not considered a carcinogen.
ND = Not detected.
NS = Not sampled.
NV = Not volatile.
PCB = Polychlorinated biphenyls.
TPH = Total Petroleum Hydrocarbons.
TEQ = Toxic Equivalent.

Table BCW-B1.6c
2-Foot Scouring Scenario Exposure Concentration and Dose Calculations for Carcinogenic Effects for C O P Cs in BCW Soil Using Depth-Weighted EPCs: Recreational User - Off-Highway Vehicle Rider

Post-Soil N T C R A Human Health and Ecological Risk Assessment Report
PG&E Topock Compressor Station
Needles, California

COPC	Age-Adjusted Adult OHV Rider (2 to 3 feet bgs)[a] Soil Pathway EC: Particulate Inhalation (mg/m^3)	Age-Adjusted Adult OHV Rider (2 to 3 feet bgs)[a] Soil Pathway EC: Outdoor Vapor Inhalation (mg/m^3)	Age-Adjusted Adult OHV Rider (2 to 3 feet bgs)[a] Soil Pathway CDI: Dermal Contact (mg/kg-day)	Age-Adjusted Adult OHV Rider (2 to 3 feet bgs)[a] Soil Pathway CDI: Ingestion (mg/kg-day)	Age-Adjusted Adult OHV Rider (2 to 6 feet bgs)[a] Soil Pathway EC: Particulate Inhalation (mg/m^3)	Age-Adjusted Adult OHV Rider (2 to 6 feet bgs)[a] Soil Pathway EC: Outdoor Vapor Inhalation (mg/m^3)	Age-Adjusted Adult OHV Rider (2 to 6 feet bgs)[a] Soil Pathway CDI: Dermal Contact (mg/kg-day)	Age-Adjusted Adult OHV Rider (2 to 6 feet bgs)[a] Soil Pathway CDI: Ingestion (mg/kg-day)
Inorganics								
Antimony	NC	NV	NC	NC	NC	NV	NC	NC
Chromium, Hexavalent	9.1E-10	NV	NA	7.4E-09	1.3E-09	NV	NA	1.1E-08
Chromium, total	NC	NV	NC	NC	NC	NV	NC	NC
Cobalt	9.8E-09	NV	NC	NC	9.9E-09	NV	NC	NC
Copper	NC	NV	NC	NC	NC	NV	NC	NC
Lead	na	na	na	na	na	na	na	na
Mercury (inorganic)	NC	NC	NC	NC	NC	NC	NC	NC
Nitrate	NS	NV	NS	NS	NC	NV	NC	NC
Orthophosphate	NS	NV	NS	NS	NS	NV	NS	NS
Phosphate	NS	NV	NS	NS	NC	NV	NC	NC
Thallium	ND	NV	ND	ND	NC	NV	NC	NC
Zinc	NC	NV	NC	NC	NC	NV	NC	NC
Volatile Organic Compounds								
Methyl acetate	NC	NV	NC	NC	NC	NV	NC	NC
Semi-Volatile Organic Compounds								
bis (2-ethylhexyl) phthalate	9.7E-10	NV	8.3E-08	6.8E-09	9.7E-10	NV	8.3E-08	6.8E-09
Polycyclic Aromatic Hydrocarbons								
2-Methyl naphthalene	ND	NV	ND	ND	ND	NV	ND	ND
Anthracene	NC	NV	NC	NC	NC	NV	NC	NC
Benzo (ghi) perylene	NC	NV	NC	NC	NC	NV	NC	NC
Fluoranthene	NC	NV	NC	NC	NC	NV	NC	NC
Fluorene	ND	NV	ND	ND	ND	NV	ND	ND
Naphthalene	1.2E-11	1.1E-10	1.5E-09	8.1E-11	9.4E-12	1.1E-10	1.2E-09	6.6E-11
Phenanthrene	NC	NV	NC	NC	NC	NV	NC	NC
Pyrene	NC	NV	NC	NC	NC	NV	NC	NC

Table BCW-B1.6c
2-Foot Scouring Scenario Exposure Concentration and Dose Calculations for Carcinogenic Effects for C O P Cs in BCW Soil Using Depth-Weighted EPCs: Recreational User - Off-Highway Vehicle Rider

Post-Soil N T C R A Human Health and Ecological Risk Assessment Report
PG&E Topock Compressor Station
Needles, California

C O P C	Age-Adjusted Adult OHV Rider (2 to 3 feet bgs)[a] Soil Pathway EC: Particulate Inhalation (mg/m^3)	Age-Adjusted Adult OHV Rider (2 to 3 feet bgs)[a] Soil Pathway EC: Outdoor Vapor Inhalation (mg/m^3)	Age-Adjusted Adult OHV Rider (2 to 3 feet bgs)[a] Soil Pathway CDI: Dermal Contact (mg/kg-day)	Age-Adjusted Adult OHV Rider (2 to 3 feet bgs)[a] Soil Pathway CDI: Ingestion (mg/kg-day)	Age-Adjusted Adult OHV Rider (2 to 6 feet bgs)[a] Soil Pathway EC: Particulate Inhalation (mg/m^3)	Age-Adjusted Adult OHV Rider (2 to 6 feet bgs)[a] Soil Pathway EC: Outdoor Vapor Inhalation (mg/m^3)	Age-Adjusted Adult OHV Rider (2 to 6 feet bgs)[a] Soil Pathway CDI: Dermal Contact (mg/kg-day)	Age-Adjusted Adult OHV Rider (2 to 6 feet bgs)[a] Soil Pathway CDI: Ingestion (mg/kg-day)
Polychlorinated Biphenyls								
Total PCBs	5.8E-11	3.4E-11	7.4E-09	4.0E-10	4.4E-11	3.4E-11	5.6E-09	3.1E-10
Total Petroleum Hydrocarbons								
TPH as diesel	NC	NC	NC	NC	NC	NC	NC	NC
TPH as motor oil	NC	NC	NC	NC	NC	NC	NC	NC
Dioxins/Furans								
TEQ Human	3.2E-14	5.7E-14	8.1E-13	2.2E-13	3.5E-14	5.7E-14	8.9E-13	2.4E-13

Notes:
[a] EPCs for exposure to subsurface II soil (2 to 12 feet bgs) are used to evaluate the vapor inhalation pathway.

Abbreviations:
bgs = below ground surface.
CDI = Chronic Daily Intake.
C O P C = Constituent of Potential Concern.
EC = Exposure Concentration.
mg/kg-day = milligrams per kilogram per day.
mg/m^3 = milligrams per cubic meter.
na = Not applicable. Potential exposure to lead is evaluated using California Environmental Protection Agency (Cal/E P A) Department of Toxic Substances Control's (DTSC) LeadSpread model. Please see text for discussion.
NA = Not applicable. Hexavalent chromium is not absorbed via dermal contact.
NC = Not considered a carcinogen.
ND = Not detected.
NS = Not sampled.
NV = Not volatile.
PCB = Polychlorinated biphenyls.
TPH = Total Petroleum Hydrocarbons.
TEQ = Toxic Equivalent.

Table BCW-B1.7a
2-Foot Scouring Scenario Exposure Concentration and Dose Calculations for Noncarcinogenic Effects for C O P Cs in BCW Soil Using Depth-Weighted EPCs: Recreational User - Camper

Post-Soil N T C R A Human Health and Ecological Risk Assessment Report
PG&E Topock Compressor Station
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C O P C	Child Camper (2 to 3 feet bgs)[a] Soil Pathway EC: Particulate Inhalation (mg/m^3)	Child Camper (2 to 3 feet bgs)[a] Soil Pathway EC: Outdoor Vapor Inhalation (mg/m^3)	Child Camper (2 to 3 feet bgs)[a] Soil Pathway CDI: Dermal Contact (mg/kg-day)	Child Camper (2 to 3 feet bgs)[a] Soil Pathway CDI: Ingestion (mg/kg-day)	Adult Camper (2 to 3 feet bgs)[a] Soil Pathway EC: Particulate Inhalation (mg/m^3)	Adult Camper (2 to 3 feet bgs)[a] Soil Pathway EC: Outdoor Vapor Inhalation (mg/m^3)	Adult Camper (2 to 3 feet bgs)[a] Soil Pathway CDI: Dermal Contact (mg/kg-day)	Adult Camper (2 to 3 feet bgs)[a] Soil Pathway CDI: Ingestion (mg/kg-day)	Child Camper (2 to 6 feet bgs)[a] Soil Pathway EC: Particulate Inhalation (mg/m^3)	Child Camper (2 to 6 feet bgs)[a] Soil Pathway EC: Outdoor Vapor Inhalation (mg/m^3)	Child Camper (2 to 6 feet bgs)[a] Soil Pathway CDI: Dermal Contact (mg/kg-day)	Child Camper (2 to 6 feet bgs)[a] Soil Pathway CDI: Ingestion (mg/kg-day)	Adult Camper (2 to 6 feet bgs)[a] Soil Pathway EC: Particulate Inhalation (mg/m^3)	Adult Camper (2 to 6 feet bgs)[a] Soil Pathway EC: Outdoor Vapor Inhalation (mg/m^3)	Adult Camper (2 to 6 feet bgs)[a] Soil Pathway CDI: Dermal Contact (mg/kg-day)	Adult Camper (2 to 6 feet bgs)[a] Soil Pathway CDI: Ingestion (mg/kg-day)
Inorganics																
Antimony	2.1E-10	NV	1.1E-07	3.8E-06	2.1E-10	NV	1.5E-08	3.6E-07	2.3E-11	NV	1.2E-08	4.1E-07	2.3E-11	NV	1.6E-09	3.8E-08
Chromium, Hexavalent	6.9E-12	NV	NA	1.3E-07	6.9E-12	NV	NA	1.2E-08	9.8E-12	NV	NA	1.8E-07	9.8E-12	NV	NA	1.7E-08
Chromium, total	8.1E-10	NV	4.2E-07	1.5E-05	8.1E-10	NV	5.8E-08	1.4E-06	7.5E-10	NV	3.9E-07	1.4E-05	7.5E-10	NV	5.4E-08	1.3E-06
Cobalt	1.3E-10	NV	6.9E-08	2.4E-06	1.3E-10	NV	9.5E-09	2.2E-07	1.3E-10	NV	6.9E-08	2.4E-06	1.3E-10	NV	9.5E-09	2.2E-07
Copper	1.9E-10	NV	1.0E-07	3.5E-06	1.9E-10	NV	1.4E-08	3.3E-07	1.9E-10	NV	1.0E-07	3.4E-06	1.9E-10	NV	1.4E-08	3.2E-07
Lead	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
Mercury (inorganic)	4.4E-12	NV	2.3E-09	7.9E-08	4.4E-12	NV	3.1E-10	7.4E-09	9.1E-13	NV	4.8E-10	1.6E-08	9.1E-13	NV	6.5E-11	1.5E-09
Nitrate	NS	NV	NS	NS	NS	NV	NS	NS	9.7E-11	NV	5.1E-08	1.8E-06	9.7E-11	NV	6.9E-09	1.6E-07
Orthophosphate	NS	NV	NS	NS	NS	NV	NS	NS	NS	NV	NS	NS	NS	NV	NS	NS
Phosphate	NS	NV	NS	NS	NS	NV	NS	NS	1.4E-10	NV	7.5E-08	2.6E-06	1.4E-10	NV	1.0E-08	2.4E-07
Thallium	ND	NV	ND	ND	ND	NV	ND	ND	2.2E-11	NV	1.2E-08	4.0E-07	2.2E-11	NV	1.6E-09	3.7E-08
Zinc	8.9E-10	NV	4.7E-07	1.6E-05	8.9E-10	NV	6.4E-08	1.5E-06	1.1E-09	NV	5.7E-07	1.9E-05	1.1E-09	NV	7.7E-08	1.8E-06
Volatile Organic Compounds																
Methyl acetate	1.9E-13	2.6E-08	1.0E-09	3.5E-09	1.9E-13	2.6E-08	1.4E-10	3.3E-10	1.9E-13	2.6E-08	1.0E-09	3.5E-09	1.9E-13	2.6E-08	1.4E-10	3.3E-10
Semi-Volatile Organic Compounds																
bis (2-ethylhexyl) phthalate	1.3E-11	NV	6.9E-08	2.4E-07	1.3E-11	NV	9.4E-09	2.2E-08	1.3E-11	NV	6.9E-08	2.4E-07	1.3E-11	NV	9.4E-09	2.2E-08
Polycyclic Aromatic Hydrocarbons																
2-Methyl naphthalene	ND	9.8E-10	ND	ND	ND	9.8E-10	ND	ND	ND	9.8E-10	ND	ND	ND	9.8E-10	ND	ND
Anthracene	1.1E-13	1.0E-10	8.8E-10	2.0E-09	1.1E-13	1.0E-10	1.2E-10	1.9E-10	1.6E-13	1.0E-10	1.3E-09	2.9E-09	1.6E-13	1.0E-10	1.7E-10	2.7E-10
Benzo (ghi) perylene	1.0E-13	NV	8.3E-10	1.9E-09	1.0E-13	NV	1.1E-10	1.8E-10	1.1E-13	NV	8.7E-10	2.0E-09	1.1E-13	NV	1.2E-10	1.9E-10
Fluoranthene	3.7E-13	NV	2.9E-09	6.7E-09	3.7E-13	NV	4.0E-10	6.3E-10	1.3E-13	NV	1.1E-09	2.4E-09	1.3E-13	NV	1.4E-10	2.3E-10
Fluorene	ND	2.5E-10	ND	ND	ND	2.5E-10	ND	ND	ND	2.5E-10	ND	ND	ND	2.5E-10	ND	ND
Naphthalene	1.6E-13	2.5E-09	1.2E-09	2.8E-09	1.6E-13	2.5E-09	1.7E-10	2.7E-10	1.3E-13	2.5E-09	1.0E-09	2.3E-09	1.3E-13	2.5E-09	1.4E-10	2.2E-10
Phenanthrene	1.3E-13	NV	1.0E-09	2.4E-09	1.3E-13	NV	1.4E-10	2.2E-10	1.3E-13	NV	1.1E-09	2.4E-09	1.3E-13	NV	1.4E-10	2.3E-10
Pyrene	3.4E-13	1.6E-10	2.7E-09	6.1E-09	3.4E-13	1.6E-10	3.6E-10	5.7E-10	1.2E-13	1.6E-10	9.6E-10	2.2E-09	1.2E-13	1.6E-10	1.3E-10	2.1E-10

Table BCW-B1.7a
2-Foot Scouring Scenario Exposure Concentration and Dose Calculations for Noncarcinogenic Effects for C O P Cs in BCW Soil Using Depth-Weighted EPCs: Recreational User - Camper

Post-Soil N T C R A Human Health and Ecological Risk Assessment Report
PG&E Topock Compressor Station
Needles, California

C O P C	Child Camper (2 to 3 feet bgs)[a] Soil Pathway EC: Particulate Inhalation (mg/m^3)	Child Camper (2 to 3 feet bgs)[a] Soil Pathway EC: Outdoor Vapor Inhalation (mg/m^3)	Child Camper (2 to 3 feet bgs)[a] Soil Pathway CDI: Dermal Contact (mg/kg-day)	Child Camper (2 to 3 feet bgs)[a] Soil Pathway CDI: Ingestion (mg/kg-day)	Adult Camper (2 to 3 feet bgs)[a] Soil Pathway EC: Particulate Inhalation (mg/m^3)	Adult Camper (2 to 3 feet bgs)[a] Soil Pathway EC: Outdoor Vapor Inhalation (mg/m^3)	Adult Camper (2 to 3 feet bgs)[a] Soil Pathway CDI: Dermal Contact (mg/kg-day)	Adult Camper (2 to 3 feet bgs)[a] Soil Pathway CDI: Ingestion (mg/kg-day)	Child Camper (2 to 6 feet bgs)[a] Soil Pathway EC: Particulate Inhalation (mg/m^3)	Child Camper (2 to 6 feet bgs)[a] Soil Pathway EC: Outdoor Vapor Inhalation (mg/m^3)	Child Camper (2 to 6 feet bgs)[a] Soil Pathway CDI: Dermal Contact (mg/kg-day)	Child Camper (2 to 6 feet bgs)[a] Soil Pathway CDI: Ingestion (mg/kg-day)	Adult Camper (2 to 6 feet bgs)[a] Soil Pathway EC: Particulate Inhalation (mg/m^3)	Adult Camper (2 to 6 feet bgs)[a] Soil Pathway EC: Outdoor Vapor Inhalation (mg/m^3)	Adult Camper (2 to 6 feet bgs)[a] Soil Pathway CDI: Dermal Contact (mg/kg-day)	Adult Camper (2 to 6 feet bgs)[a] Soil Pathway CDI: Ingestion (mg/kg-day)
Polychlorinated Biphenyls																
Total PCBs	7.8E-13	7.2E-10	6.1E-09	1.4E-08	7.8E-13	7.2E-10	8.3E-10	1.3E-09	5.9E-13	7.2E-10	4.7E-09	1.1E-08	5.9E-13	7.2E-10	6.4E-10	1.0E-09
Total Petroleum Hydrocarbons																
TPH as diesel	1.0E-10	1.4E-04	5.3E-07	1.8E-06	1.0E-10	1.4E-04	7.3E-08	1.7E-07	1.1E-10	1.4E-04	5.7E-07	2.0E-06	1.1E-10	1.4E-04	7.8E-08	1.8E-07
TPH as motor oil	6.4E-10	NV	3.4E-06	1.2E-05	6.4E-10	NV	4.6E-07	1.1E-06	1.6E-09	NV	8.4E-06	2.9E-05	1.6E-09	NV	1.2E-06	2.7E-06
Dioxins/Furans																
TEQ Human	4.3E-16	1.2E-12	6.7E-13	7.7E-12	4.3E-16	1.2E-12	9.2E-14	7.2E-13	4.7E-16	1.2E-12	7.4E-13	8.5E-12	4.7E-16	1.2E-12	1.0E-13	7.9E-13

Notes:
[a] Exposure point concentrations (EPCs) for exposure to subsurface II soil (2 to 12 feet bgs) are used to evaluate the vapor inhalation pathway.

Abbreviations:
bgs = below ground surface.
CDI = Chronic Daily Intake.
C O P C = Constituent of Potential Concern.
mg/kg-day = milligrams per kilogram per day.
mg/m^3 = milligrams per cubic meter.
na = Not applicable. Potential exposure to lead is evaluated using California Environmental Protection Agency (Cal/E P A) Department of Toxic Substances Control's (DTSC) LeadSpread model. Please see text for discussion.
NA = Not applicable. Hexavalent chromium is not absorbed via dermal contact.
ND = Not detected.
NS = Not sampled.
NV = Not volatile.
PCB = Polychlorinated biphenyls.
TPH = Total Petroleum Hydrocarbons.
TEQ = Toxic Equivalent.

Table BCW-B1.7b
2-Foot Scouring Scenario Exposure Concentration and Dose Calculations for Noncarcinogenic Effects for C O P Cs in BCW Soil Using Depth-Weighted EPCs: Recreational User - Hiker

Post-Soil N T C R A Human Health and Ecological Risk Assessment Report
PG&E Topock Compressor Station
Needles, California

C O P C	Child Hiker (2 to 3 feet bgs)[a] Soil Pathway EC: Particulate Inhalation (mg/m^3)	Child Hiker (2 to 3 feet bgs)[a] Soil Pathway EC: Outdoor Vapor Inhalation (mg/m^3)	Child Hiker (2 to 3 feet bgs)[a] Soil Pathway CDI: Dermal Contact (mg/kg-day)	Child Hiker (2 to 3 feet bgs)[a] Soil Pathway CDI: Ingestion (mg/kg-day)	Adult Hiker (2 to 3 feet bgs)[a] Soil Pathway EC: Particulate Inhalation (mg/m^3)	Adult Hiker (2 to 3 feet bgs)[a] Soil Pathway EC: Outdoor Vapor Inhalation (mg/m^3)	Adult Hiker (2 to 3 feet bgs)[a] Soil Pathway CDI: Dermal Contact (mg/kg-day)	Adult Hiker (2 to 3 feet bgs)[a] Soil Pathway CDI: Ingestion (mg/kg-day)	Child Hiker (2 to 6 feet bgs)[a] Soil Pathway EC: Particulate Inhalation (mg/m^3)	Child Hiker (2 to 6 feet bgs)[a] Soil Pathway EC: Outdoor Vapor Inhalation (mg/m^3)	Child Hiker (2 to 6 feet bgs)[a] Soil Pathway CDI: Dermal Contact (mg/kg-day)	Child Hiker (2 to 6 feet bgs)[a] Soil Pathway CDI: Ingestion (mg/kg-day)	Adult Hiker (2 to 6 feet bgs)[a] Soil Pathway EC: Particulate Inhalation (mg/m^3)	Adult Hiker (2 to 6 feet bgs)[a] Soil Pathway EC: Outdoor Vapor Inhalation (mg/m^3)	Adult Hiker (2 to 6 feet bgs)[a] Soil Pathway CDI: Dermal Contact (mg/kg-day)	Adult Hiker (2 to 6 feet bgs)[a] Soil Pathway CDI: Ingestion (mg/kg-day)
Inorganics																
Antimony	4.2E-10	NV	2.2E-07	7.6E-06	4.2E-10	NV	3.0E-08	7.1E-07	4.5E-11	NV	2.4E-08	8.2E-07	4.5E-11	NV	3.2E-09	7.7E-08
Chromium, Hexavalent	1.4E-11	NV	NA	2.5E-07	1.4E-11	NV	NA	2.3E-08	2.0E-11	NV	NA	3.6E-07	2.0E-11	NV	NA	3.3E-08
Chromium, total	1.6E-09	NV	8.5E-07	2.9E-05	1.6E-09	NV	1.2E-07	2.7E-06	1.5E-09	NV	7.9E-07	2.7E-05	1.5E-09	NV	1.1E-07	2.5E-06
Cobalt	2.6E-10	NV	1.4E-07	4.8E-06	2.6E-10	NV	1.9E-08	4.5E-07	2.6E-10	NV	1.4E-07	4.8E-06	2.6E-10	NV	1.9E-08	4.5E-07
Copper	3.9E-10	NV	2.0E-07	7.0E-06	3.9E-10	NV	2.8E-08	6.6E-07	3.8E-10	NV	2.0E-07	6.9E-06	3.8E-10	NV	2.7E-08	6.4E-07
Lead	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
Mercury (inorganic)	8.7E-12	NV	4.6E-09	1.6E-07	8.7E-12	NV	6.2E-10	1.5E-08	1.8E-12	NV	9.5E-10	3.3E-08	1.8E-12	NV	1.3E-10	3.1E-09
Nitrate	NS	NV	NS	NS	NS	NV	NS	NS	1.9E-10	NV	1.0E-07	3.5E-06	1.9E-10	NV	1.4E-08	3.3E-07
Orthophosphate	NS	NV	NS	NS	NS	NV	NS	NS	NS	NV	NS	NS	NS	NV	NS	NS
Phosphate	NS	NV	NS	NS	NS	NV	NS	NS	2.8E-10	NV	1.5E-07	5.1E-06	2.8E-10	NV	2.0E-08	4.8E-07
Thallium	ND	NV	ND	ND	ND	NV	ND	ND	4.4E-11	NV	2.3E-08	7.9E-07	4.4E-11	NV	3.1E-09	7.5E-08
Zinc	1.8E-09	NV	9.4E-07	3.2E-05	1.8E-09	NV	1.3E-07	3.0E-06	2.1E-09	NV	1.1E-06	3.9E-05	2.1E-09	NV	1.5E-07	3.7E-06
Volatile Organic Compounds																
Methyl acetate	3.9E-13	5.1E-08	2.0E-09	7.0E-09	3.9E-13	5.1E-08	2.8E-10	6.6E-10	3.9E-13	5.1E-08	2.0E-09	7.0E-09	3.9E-13	5.1E-08	2.8E-10	6.6E-10
Semi-Volatile Organic Compounds																
bis (2-ethylhexyl) phthalate	2.6E-11	NV	1.4E-07	4.7E-07	2.6E-11	NV	1.9E-08	4.4E-08	2.6E-11	NV	1.4E-07	4.7E-07	2.6E-11	NV	1.9E-08	4.4E-08
Polycyclic Aromatic Hydrocarbons																
2-Methyl naphthalene	ND	2.0E-09	ND	ND	ND	2.0E-09	ND	ND	ND	2.0E-09	ND	ND	ND	2.0E-09	ND	ND
Anthracene	2.2E-13	2.1E-10	1.8E-09	4.0E-09	2.2E-13	2.1E-10	2.4E-10	3.8E-10	3.2E-13	2.1E-10	2.5E-09	5.8E-09	3.2E-13	2.1E-10	3.4E-10	5.4E-10
Benzo (ghi) perylene	2.1E-13	NV	1.7E-09	3.8E-09	2.1E-13	NV	2.3E-10	3.6E-10	2.2E-13	NV	1.7E-09	4.0E-09	2.2E-13	NV	2.4E-10	3.7E-10
Fluoranthene	7.4E-13	NV	5.8E-09	1.3E-08	7.4E-13	NV	7.9E-10	1.3E-09	2.7E-13	NV	2.1E-09	4.8E-09	2.7E-13	NV	2.9E-10	4.5E-10
Fluorene	ND	5.0E-10	ND	ND	ND	5.0E-10	ND	ND	ND	5.0E-10	ND	ND	ND	5.0E-10	ND	ND
Naphthalene	3.1E-13	4.9E-09	2.5E-09	5.7E-09	3.1E-13	4.9E-09	3.4E-10	5.3E-10	2.5E-13	4.9E-09	2.0E-09	4.6E-09	2.5E-13	4.9E-09	2.7E-10	4.3E-10
Phenanthrene	2.6E-13	NV	2.1E-09	4.7E-09	2.6E-13	NV	2.8E-10	4.4E-10	2.7E-13	NV	2.1E-09	4.8E-09	2.7E-13	NV	2.9E-10	4.5E-10
Pyrene	6.7E-13	3.3E-10	5.3E-09	1.2E-08	6.7E-13	3.3E-10	7.3E-10	1.1E-09	2.4E-13	3.3E-10	1.9E-09	4.4E-09	2.4E-13	3.3E-10	2.6E-10	4.1E-10

Table BCW-B1.7b
2-Foot Scouring Scenario Exposure Concentration and Dose Calculations for Noncarcinogenic Effects for C O P Cs in BCW Soil Using Depth-Weighted EPCs: Recreational User - Hiker

Post-Soil N T C R A Human Health and Ecological Risk Assessment Report
PG&E Topock Compressor Station
Needles, California

C O P C	Child Hiker (2 to 3 feet bgs)[a] Soil Pathway EC: Particulate Inhalation (mg/m^3)	Child Hiker (2 to 3 feet bgs)[a] Soil Pathway EC: Outdoor Vapor Inhalation (mg/m^3)	Child Hiker (2 to 3 feet bgs)[a] Soil Pathway CDI: Dermal Contact (mg/kg-day)	Child Hiker (2 to 3 feet bgs)[a] Soil Pathway CDI: Ingestion (mg/kg-day)	Adult Hiker (2 to 3 feet bgs)[a] Soil Pathway EC: Particulate Inhalation (mg/m^3)	Adult Hiker (2 to 3 feet bgs)[a] Soil Pathway EC: Outdoor Vapor Inhalation (mg/m^3)	Adult Hiker (2 to 3 feet bgs)[a] Soil Pathway CDI: Dermal Contact (mg/kg-day)	Adult Hiker (2 to 3 feet bgs)[a] Soil Pathway CDI: Ingestion (mg/kg-day)	Child Hiker (2 to 6 feet bgs)[a] Soil Pathway EC: Particulate Inhalation (mg/m^3)	Child Hiker (2 to 6 feet bgs)[a] Soil Pathway EC: Outdoor Vapor Inhalation (mg/m^3)	Child Hiker (2 to 6 feet bgs)[a] Soil Pathway CDI: Dermal Contact (mg/kg-day)	Child Hiker (2 to 6 feet bgs)[a] Soil Pathway CDI: Ingestion (mg/kg-day)	Adult Hiker (2 to 6 feet bgs)[a] Soil Pathway EC: Particulate Inhalation (mg/m^3)	Adult Hiker (2 to 6 feet bgs)[a] Soil Pathway EC: Outdoor Vapor Inhalation (mg/m^3)	Adult Hiker (2 to 6 feet bgs)[a] Soil Pathway CDI: Dermal Contact (mg/kg-day)	Adult Hiker (2 to 6 feet bgs)[a] Soil Pathway CDI: Ingestion (mg/kg-day)
Polychlorinated Biphenyls																
Total PCBs	1.6E-12	1.4E-09	1.2E-08	2.8E-08	1.6E-12	1.4E-09	1.7E-09	2.6E-09	1.2E-12	1.4E-09	9.3E-09	2.1E-08	1.2E-12	1.4E-09	1.3E-09	2.0E-09
Total Petroleum Hydrocarbons																
TPH as diesel	2.0E-10	2.8E-04	1.1E-06	3.7E-06	2.0E-10	2.8E-04	1.5E-07	3.5E-07	2.2E-10	2.8E-04	1.1E-06	3.9E-06	2.2E-10	2.8E-04	1.6E-07	3.7E-07
TPH as motor oil	1.3E-09	NV	6.7E-06	2.3E-05	1.3E-09	NV	9.2E-07	2.2E-06	3.2E-09	NV	1.7E-05	5.8E-05	3.2E-09	NV	2.3E-06	5.5E-06
Dioxins/Furans																
TEQ Human	8.5E-16	2.4E-12	1.3E-12	1.5E-11	8.5E-16	2.4E-12	1.8E-13	1.4E-12	9.3E-16	2.4E-12	1.5E-12	1.7E-11	9.3E-16	2.4E-12	2.0E-13	1.6E-12

Notes:
[a] Exposure point concentrations (EPCs) for exposure to subsurface II soil (2 to 12 feet bgs) are used to evaluate the vapor inhalation pathway.

Abbreviations:
bgs = below ground surface.
CDI = Chronic Daily Intake.
C O P C = Constituent of Potential Concern.
mg/kg-day = milligrams per kilogram per day.
mg/m^3 = milligrams per cubic meter.
na = Not applicable. Potential exposure to lead is evaluated using California Environmental Protection Agency (Cal/E P A) Department of Toxic Substances Control's (DTSC) LeadSpread model. Please see text for discussion.
NA = Not applicable. Hexavalent chromium is not absorbed via dermal contact.
ND = Not detected.
NS = Not sampled.
NV = Not volatile.
PCB = Polychlorinated biphenyls.
TPH = Total Petroleum Hydrocarbons.
TEQ = Toxic Equivalent.

Table BCW-B1.7c
2-Foot Scouring Scenario Exposure Concentration and Dose Calculations for Noncarcinogenic Effects for C O P Cs in BCW Soil Using Depth-Weighted EPCs: Recreational User - Off-Highway Vehicle Rider

Post-Soil N T C R A Human Health and Ecological Risk Assessment Report
PG&E Topock Compressor Station
Needles, California

COPC	Child OHV Rider (2 to 3 feet bgs)[a] Soil Pathway EC: Particulate Inhalation (mg/m^3)	Child OHV Rider (2 to 3 feet bgs)[a] Soil Pathway EC: Outdoor Vapor Inhalation (mg/m^3)	Child OHV Rider (2 to 3 feet bgs)[a] Soil Pathway CDI: Dermal Contact (mg/kg-day)	Child OHV Rider (2 to 3 feet bgs)[a] Soil Pathway CDI: Ingestion (mg/kg-day)	Adult OHV Rider (2 to 3 feet bgs)[a] Soil Pathway EC: Particulate Inhalation (mg/m^3)	Adult OHV Rider (2 to 3 feet bgs)[a] Soil Pathway EC: Outdoor Vapor Inhalation (mg/m^3)	Adult OHV Rider (2 to 3 feet bgs)[a] Soil Pathway CDI: Dermal Contact (mg/kg-day)	Adult OHV Rider (2 to 3 feet bgs)[a] Soil Pathway CDI: Ingestion (mg/kg-day)	Child OHV Rider (2 to 6 feet bgs)[a] Soil Pathway EC: Particulate Inhalation (mg/m^3)	Child OHV Rider (2 to 6 feet bgs)[a] Soil Pathway EC: Outdoor Vapor Inhalation (mg/m^3)	Child OHV Rider (2 to 6 feet bgs)[a] Soil Pathway CDI: Dermal Contact (mg/kg-day)	Child OHV Rider (2 to 6 feet bgs)[a] Soil Pathway CDI: Ingestion (mg/kg-day)	Adult OHV Rider (2 to 6 feet bgs)[a] Soil Pathway EC: Particulate Inhalation (mg/m^3)	Adult OHV Rider (2 to 6 feet bgs)[a] Soil Pathway EC: Outdoor Vapor Inhalation (mg/m^3)	Adult OHV Rider (2 to 6 feet bgs)[a] Soil Pathway CDI: Dermal Contact (mg/kg-day)	Adult OHV Rider (2 to 6 feet bgs)[a] Soil Pathway CDI: Ingestion (mg/kg-day)
Inorganics																
Antimony	4.2E-08	NV	4.0E-07	5.3E-07	4.2E-08	NV	3.4E-07	2.2E-07	4.5E-09	NV	4.3E-08	5.8E-08	4.5E-09	NV	3.7E-08	2.4E-08
Chromium, Hexavalent	1.4E-09	NV	NA	1.8E-08	1.4E-09	NV	NA	7.3E-09	2.0E-09	NV	NA	2.5E-08	2.0E-09	NV	NA	1.0E-08
Chromium, total	1.6E-07	NV	1.5E-06	2.1E-06	1.6E-07	NV	1.3E-06	8.5E-07	1.5E-07	NV	1.4E-06	1.9E-06	1.5E-07	NV	1.2E-06	7.9E-07
Cobalt	2.6E-08	NV	2.5E-07	3.4E-07	2.6E-08	NV	2.2E-07	1.4E-07	2.7E-08	NV	2.5E-07	3.4E-07	2.7E-08	NV	2.2E-07	1.4E-07
Copper	3.9E-08	NV	3.7E-07	5.0E-07	3.9E-08	NV	3.2E-07	2.0E-07	3.8E-08	NV	3.6E-07	4.8E-07	3.8E-08	NV	3.1E-07	2.0E-07
Lead	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
Mercury (inorganic)	8.7E-10	NV	8.3E-09	1.1E-08	8.7E-10	NV	7.1E-09	4.6E-09	1.8E-10	NV	1.7E-09	2.3E-09	1.8E-10	NV	1.5E-09	9.5E-10
Nitrate	NS	NV	NS	NS	NS	NV	NS	NS	1.9E-08	NV	1.8E-07	2.5E-07	1.9E-08	NV	1.6E-07	1.0E-07
Orthophosphate	NS	NV	NS	NS	NS	NV	NS	NS	NS	NV	NS	NS	NS	NV	NS	NS
Phosphate	NS	NV	NS	NS	NS	NV	NS	NS	2.8E-08	NV	2.7E-07	3.6E-07	2.8E-08	NV	2.3E-07	1.5E-07
Thallium	ND	NV	ND	ND	ND	NV	ND	ND	4.4E-09	NV	4.2E-08	5.6E-08	4.4E-09	NV	3.6E-08	2.3E-08
Zinc	1.8E-07	NV	1.7E-06	2.3E-06	1.8E-07	NV	1.5E-06	9.4E-07	2.2E-07	NV	2.1E-06	2.7E-06	2.2E-07	NV	1.8E-06	1.1E-06
Volatile Organic Compounds																
Methyl acetate	3.9E-11	3.2E-09	3.7E-09	4.9E-10	3.9E-11	3.2E-09	3.2E-09	2.0E-10	3.9E-11	3.2E-09	3.7E-09	4.9E-10	3.9E-11	3.2E-09	3.2E-09	2.0E-10
Semi-Volatile Organic Compounds																
bis (2-ethylhexyl) phthalate	2.6E-09	NV	2.5E-07	3.3E-08	2.6E-09	NV	2.1E-07	1.4E-08	2.6E-09	NV	2.5E-07	3.3E-08	2.6E-09	NV	2.1E-07	1.4E-08
Polycyclic Aromatic Hydrocarbons																
2-Methyl naphthalene	ND	1.2E-10	ND	ND	ND	1.2E-10	ND	ND	ND	1.2E-10	ND	ND	ND	1.2E-10	ND	ND
Anthracene	2.2E-11	1.3E-11	3.2E-09	2.8E-10	2.2E-11	1.3E-11	2.7E-09	1.2E-10	3.2E-11	1.3E-11	4.6E-09	4.1E-10	3.2E-11	1.3E-11	3.9E-09	1.7E-10
Benzo (ghi) perylene	2.1E-11	NV	3.0E-09	2.7E-10	2.1E-11	NV	2.6E-09	1.1E-10	2.2E-11	NV	3.2E-09	2.8E-10	2.2E-11	NV	2.7E-09	1.2E-10
Fluoranthene	7.4E-11	NV	1.1E-08	9.4E-10	7.4E-11	NV	9.1E-09	3.9E-10	2.7E-11	NV	3.8E-09	3.4E-10	2.7E-11	NV	3.3E-09	1.4E-10
Fluorene	ND	3.1E-11	ND	ND	ND	3.1E-11	ND	ND	ND	3.1E-11	ND	ND	ND	3.1E-11	ND	ND
Naphthalene	3.1E-11	3.1E-10	4.5E-09	4.0E-10	3.1E-11	3.1E-10	3.8E-09	1.6E-10	2.5E-11	3.1E-10	3.6E-09	3.2E-10	2.5E-11	3.1E-10	3.1E-09	1.3E-10
Phenanthrene	2.6E-11	NV	3.7E-09	3.3E-10	2.6E-11	NV	3.2E-09	1.4E-10	2.7E-11	NV	3.8E-09	3.4E-10	2.7E-11	NV	3.3E-09	1.4E-10
Pyrene	6.8E-11	2.1E-11	9.7E-09	8.6E-10	6.8E-11	2.1E-11	8.3E-09	3.5E-10	2.4E-11	2.1E-11	3.5E-09	3.1E-10	2.4E-11	2.1E-11	3.0E-09	1.3E-10

Table BCW-B1.7c
2-Foot Scouring Scenario Exposure Concentration and Dose Calculations for Noncarcinogenic Effects for C O P Cs in BCW Soil Using Depth-Weighted EPCs: Recreational User - Off-Highway Vehicle Rider

Post-Soil N T C R A Human Health and Ecological Risk Assessment Report
PG&E Topock Compressor Station
Needles, California

C O P C	Child OHV Rider (2 to 3 feet bgs)[a] Soil Pathway EC: Particulate Inhalation (mg/m^3)	Child OHV Rider (2 to 3 feet bgs)[a] Soil Pathway EC: Outdoor Vapor Inhalation (mg/m^3)	Child OHV Rider (2 to 3 feet bgs)[a] Soil Pathway CDI: Dermal Contact (mg/kg-day)	Child OHV Rider (2 to 3 feet bgs)[a] Soil Pathway CDI: Ingestion (mg/kg-day)	Adult OHV Rider (2 to 3 feet bgs)[a] Soil Pathway EC: Particulate Inhalation (mg/m^3)	Adult OHV Rider (2 to 3 feet bgs)[a] Soil Pathway EC: Outdoor Vapor Inhalation (mg/m^3)	Adult OHV Rider (2 to 3 feet bgs)[a] Soil Pathway CDI: Dermal Contact (mg/kg-day)	Adult OHV Rider (2 to 3 feet bgs)[a] Soil Pathway CDI: Ingestion (mg/kg-day)	Child OHV Rider (2 to 6 feet bgs)[a] Soil Pathway EC: Particulate Inhalation (mg/m^3)	Child OHV Rider (2 to 6 feet bgs)[a] Soil Pathway EC: Outdoor Vapor Inhalation (mg/m^3)	Child OHV Rider (2 to 6 feet bgs)[a] Soil Pathway CDI: Dermal Contact (mg/kg-day)	Child OHV Rider (2 to 6 feet bgs)[a] Soil Pathway CDI: Ingestion (mg/kg-day)	Adult OHV Rider (2 to 6 feet bgs)[a] Soil Pathway EC: Particulate Inhalation (mg/m^3)	Adult OHV Rider (2 to 6 feet bgs)[a] Soil Pathway EC: Outdoor Vapor Inhalation (mg/m^3)	Adult OHV Rider (2 to 6 feet bgs)[a] Soil Pathway CDI: Dermal Contact (mg/kg-day)	Adult OHV Rider (2 to 6 feet bgs)[a] Soil Pathway CDI: Ingestion (mg/kg-day)
Polychlorinated Biphenyls																
Total PCBs	1.6E-10	9.0E-11	2.2E-08	2.0E-09	1.6E-10	9.0E-11	1.9E-08	8.2E-10	1.2E-10	9.0E-11	1.7E-08	1.5E-09	1.2E-10	9.0E-11	1.5E-08	6.2E-10
Total Petroleum Hydrocarbons																
TPH as diesel	2.0E-08	1.8E-05	1.9E-06	2.6E-07	2.0E-08	1.8E-05	1.7E-06	1.1E-07	2.2E-08	1.8E-05	2.1E-06	2.8E-07	2.2E-08	1.8E-05	1.8E-06	1.1E-07
TPH as motor oil	1.3E-07	NV	1.2E-05	1.6E-06	1.3E-07	NV	1.0E-05	6.7E-07	3.2E-07	NV	3.1E-05	4.1E-06	3.2E-07	NV	2.6E-05	1.7E-06
Dioxins/Furans																
TEQ Human	8.5E-14	1.5E-13	2.4E-12	1.1E-12	8.5E-14	1.5E-13	2.1E-12	4.5E-13	9.4E-14	1.5E-13	2.7E-12	1.2E-12	9.4E-14	1.5E-13	2.3E-12	4.9E-13

Notes:
[a] Exposure point concentrations (EPCs) for exposure to subsurface II soil (2 to 12 feet bgs) are used to evaluate the vapor inhalation pathway.

Abbreviations:
bgs = below ground surface.
CDI = Chronic Daily Intake.
C O P C = Constituent of Potential Concern.
mg/kg-day = milligrams per kilogram per day.
mg/m^3 = milligrams per cubic meter.
na = Not applicable. Potential exposure to lead is evaluated using California Environmental Protection Agency (Cal/E P A) Department of Toxic Substances Control's (DTSC) LeadSpread model. Please see text for discussion.
NA = Not applicable. Hexavalent chromium is not absorbed via dermal contact.
ND = Not detected.
NS = Not sampled.
NV = Not volatile.
PCB = Polychlorinated biphenyls.
TPH = Total Petroleum Hydrocarbons.
TEQ = Toxic Equivalent.

Table BCW-B1.8a
2-Foot Scouring Scenario ILCRs for C O P Cs in BCW Soil Using Depth-Weighted EPCs: Recreational User- Camper

Post-Soil N T C R A Human Health and Ecological Risk Assessment Report
PG&E Topock Compressor Station
Needles, California

C O P C	Age-Adjusted Adult Camper (2 to 3 feet bgs)[a] Soil Pathway Particulate Inhalation	Age-Adjusted Adult Camper (2 to 3 feet bgs)[a] Soil Pathway Vapor Inhalation	Age-Adjusted Adult Camper (2 to 3 feet bgs)[a] Soil Pathway Dermal Contact	Age-Adjusted Adult Camper (2 to 3 feet bgs)[a] Soil Pathway Ingestion	Age-Adjusted Adult Camper (2 to 3 feet bgs)[a] Soil Pathway Total Cancer Risk	Age-Adjusted Adult Camper (2 to 3 feet bgs)[a] Soil Pathway Particulate Inhalation	Age-Adjusted Adult Camper (2 to 3 feet bgs)[a] Soil Pathway Vapor Inhalation	Age-Adjusted Adult Camper (2 to 3 feet bgs)[a] Soil Pathway Dermal Contact	Age-Adjusted Adult Camper (2 to 3 feet bgs)[a] Soil Pathway Ingestion	Age-Adjusted Adult Camper (2 to 3 feet bgs)[a] Soil Pathway Total Cancer Risk
Inorganics										
Antimony	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Chromium, Hexavalent	1.1E-09	NV	NA	3.2E-08	3.3E-08	1.5E-09	NV	NA	4.5E-08	4.7E-08
Chromium, total	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Cobalt	4.4E-10	NV	NC	NC	4.4E-10	4.4E-10	NV	NC	NC	4.4E-10
Copper	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Lead	na	na	na	na	na	na	na	na	na	na
Mercury (inorganic)	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Nitrate	NS	NC	NS	NS	--	NC	NC	NC	NC	--
Orthophosphate	NS	NC	NS	NS	--	NS	NC	NS	NS	--
Phosphate	NS	NC	NS	NS	--	NC	NC	NC	NC	--
Thallium	ND	NC	ND	ND	--	NC	NC	NC	NC	--
Zinc	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Volatile Organic Compounds										
Methyl acetate	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Semi-Volatile Organic Compounds										
bis (2-ethylhexyl) phthalate	1.2E-14	NV	1.2E-10	3.7E-10	4.9E-10	1.2E-14	NV	1.2E-10	3.7E-10	4.9E-10
Polycyclic Aromatic Hydrocarbons										
2-Methyl naphthalene	ND	NC	ND	ND	--	ND	NC	ND	ND	--
Anthracene	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Benzo (ghi) perylene	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Fluoranthene	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Fluorene	ND	NC	ND	ND	--	ND	NC	ND	ND	--
Naphthalene	2.0E-15	3.1E-11	1.8E-11	3.8E-11	8.8E-11	1.6E-15	3.1E-11	1.5E-11	3.1E-11	7.7E-11
Phenanthrene	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Pyrene	NC	NC	NC	NC	--	NC	NC	NC	NC	--

Table BCW-B1.8a
2-Foot Scouring Scenario ILCRs for C O P Cs in BCW Soil Using Depth-Weighted EPCs: Recreational User- Camper

Post-Soil N T C R A Human Health and Ecological Risk Assessment Report
PG&E Topock Compressor Station
Needles, California

C O P C	Age-Adjusted Adult Camper (2 to 3 feet bgs)[a] Soil Pathway Particulate Inhalation	Age-Adjusted Adult Camper (2 to 3 feet bgs)[a] Soil Pathway Vapor Inhalation	Age-Adjusted Adult Camper (2 to 3 feet bgs)[a] Soil Pathway Dermal Contact	Age-Adjusted Adult Camper (2 to 3 feet bgs)[a] Soil Pathway Ingestion	Age-Adjusted Adult Camper (2 to 3 feet bgs)[a] Soil Pathway Total Cancer Risk	Age-Adjusted Adult Camper (2 to 3 feet bgs)[a] Soil Pathway Particulate Inhalation	Age-Adjusted Adult Camper (2 to 3 feet bgs)[a] Soil Pathway Vapor Inhalation	Age-Adjusted Adult Camper (2 to 3 feet bgs)[a] Soil Pathway Dermal Contact	Age-Adjusted Adult Camper (2 to 3 feet bgs)[a] Soil Pathway Ingestion	Age-Adjusted Adult Camper (2 to 3 feet bgs)[a] Soil Pathway Total Cancer Risk
Polychlorinated Biphenyls										
Total PCBs	2.9E-14	2.7E-11	1.5E-09	3.2E-09	4.7E-09	2.2E-14	2.7E-11	1.2E-09	2.4E-09	3.6E-09
Total Petroleum Hydrocarbons										
TPH as diesel	NC	NC	NC	NC	--	NC	NC	NC	NC	--
TPH as motor oil	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Dioxins/Furans										
TEQ Human	6.0E-12	1.7E-08	1.1E-08	1.1E-07	1.4E-07	6.6E-12	1.7E-08	1.2E-08	1.2E-07	1.5E-07
Cumulative ILCR	**2E-09**	**2E-08**	**1E-08**	**1E-07**	**2E-07**	**2E-09**	**2E-08**	**1E-08**	**2E-07**	**2E-07**

Notes:
[a] Exposure point concentrations (EPCs) for exposure to subsurface II soil (2 to 12 feet bgs) are used to evaluate the vapor inhalation pathway.

Abbreviations:
-- = not calculated.
bgs = below ground surface.
C O P C = Constituent of Potential Concern.
ILCR = Incremental Lifetime Cancer Risk.
mg/kg-day = milligrams per kilogram per day.
na = Not applicable. Potential exposure to lead is evaluated using California Environmental Protection Agency (Cal/E P A) Department of Toxic Substances Control's (DTSC) LeadSpread model. Please see text for discussion.

NA = Not applicable. Hexavalent chromium is not absorbed via dermal contact.
NC = Not considered a carcinogen.
ND = Not detected.
NS = Not sampled.
NV = Not volatile.
PCB = Polychlorinated biphenyls.
TPH = Total Petroleum Hydrocarbons.
TEQ = Toxic Equivalent.

Table BCW-B1.8b
2-Foot Scouring Scenario ILCRs for C O P Cs in BCW Soil Using Depth-Weighted EPCs: Recreational User - Hiker

Post-Soil N T C R A Human Health and Ecological Risk Assessment Report
PG&E Topock Compressor Station
Needles, California

C O P C	Age-Adjusted Adult Hiker (2 to 3 feet bgs)[a] Soil Pathway Particulate Inhalation	Age-Adjusted Adult Hiker (2 to 3 feet bgs)[a] Soil Pathway Vapor Inhalation	Age-Adjusted Adult Hiker (2 to 3 feet bgs)[a] Soil Pathway Dermal Contact	Age-Adjusted Adult Hiker (2 to 3 feet bgs)[a] Soil Pathway Ingestion	Age-Adjusted Adult Hiker (2 to 3 feet bgs)[a] Soil Pathway Total Cancer Risk	Age-Adjusted Adult Hiker (2 to 6 feet bgs)[a] Soil Pathway Particulate Inhalation	Age-Adjusted Adult Hiker (2 to 6 feet bgs)[a] Soil Pathway Vapor Inhalation	Age-Adjusted Adult Hiker (2 to 6 feet bgs)[a] Soil Pathway Dermal Contact	Age-Adjusted Adult Hiker (2 to 6 feet bgs)[a] Soil Pathway Ingestion	Age-Adjusted Adult Hiker (2 to 6 feet bgs)[a] Soil Pathway Total Cancer Risk
Inorganics										
Antimony	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Chromium, Hexavalent	2.1E-09	NV	NA	6.4E-08	6.6E-08	3.0E-09	NV	NA	9.1E-08	9.4E-08
Chromium, total	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Cobalt	8.8E-10	NV	NC	NC	8.8E-10	8.8E-10	NV	NC	NC	8.8E-10
Copper	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Lead	na	na	na	na	na	na	na	na	na	na
Mercury (inorganic)	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Nitrate	NS	NC	NS	NS	--	NC	NC	NC	NC	--
Orthophosphate	NS	NC	NS	NS	--	NS	NC	NS	NS	--
Phosphate	NS	NC	NS	NS	--	NC	NC	NC	NC	--
Thallium	ND	NC	ND	ND	--	NC	NC	NC	NC	--
Zinc	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Volatile Organic Compounds										
Methyl acetate	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Semi-Volatile Organic Compounds										
bis (2-ethylhexyl) phthalate	2.3E-14	NV	2.4E-10	7.5E-10	9.9E-10	2.3E-14	NV	2.4E-10	7.5E-10	9.9E-10
Polycyclic Aromatic Hydrocarbons										
2-Methyl naphthalene	ND	NC	ND	ND	--	ND	NC	ND	ND	--
Anthracene	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Benzo (ghi) perylene	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Fluoranthene	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Fluorene	ND	NC	ND	ND	--	ND	NC	ND	ND	--
Naphthalene	3.9E-15	6.2E-11	3.7E-11	7.7E-11	1.8E-10	3.2E-15	6.2E-11	3.0E-11	6.2E-11	1.5E-10
Phenanthrene	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Pyrene	NC	NC	NC	NC	--	NC	NC	NC	NC	--

Table BCW-B1.8b
2-Foot Scouring Scenario ILCRs for C O P Cs in BCW Soil Using Depth-Weighted EPCs: Recreational User - Hiker

Post-Soil N T C R A Human Health and Ecological Risk Assessment Report
PG&E Topock Compressor Station
Needles, California

C O P C	Age-Adjusted Adult Hiker (2 to 3 feet bgs)[a] Soil Pathway Particulate Inhalation	Age-Adjusted Adult Hiker (2 to 3 feet bgs)[a] Soil Pathway Vapor Inhalation	Age-Adjusted Adult Hiker (2 to 3 feet bgs)[a] Soil Pathway Dermal Contact	Age-Adjusted Adult Hiker (2 to 3 feet bgs)[a] Soil Pathway Ingestion	Age-Adjusted Adult Hiker (2 to 3 feet bgs)[a] Soil Pathway Total Cancer Risk	Age-Adjusted Adult Hiker (2 to 6 feet bgs)[a] Soil Pathway Particulate Inhalation	Age-Adjusted Adult Hiker (2 to 6 feet bgs)[a] Soil Pathway Vapor Inhalation	Age-Adjusted Adult Hiker (2 to 6 feet bgs)[a] Soil Pathway Dermal Contact	Age-Adjusted Adult Hiker (2 to 6 feet bgs)[a] Soil Pathway Ingestion	Age-Adjusted Adult Hiker (2 to 6 feet bgs)[a] Soil Pathway Total Cancer Risk
Polychlorinated Biphenyls										
Total PCBs	5.8E-14	5.4E-11	3.1E-09	6.3E-09	9.4E-09	4.4E-14	5.4E-11	2.3E-09	4.8E-09	7.2E-09
Total Petroleum Hydrocarbons										
TPH as diesel	NC	NC	NC	NC	--	NC	NC	NC	NC	--
TPH as motor oil	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Dioxins/Furans										
TEQ Human	1.2E-11	3.5E-08	2.2E-08	2.3E-07	2.8E-07	1.3E-11	3.5E-08	2.4E-08	2.5E-07	3.1E-07
Cumulative ILCR	**3E-09**	**3E-08**	**3E-08**	**3E-07**	**4E-07**	**4E-09**	**3E-08**	**3E-08**	**3E-07**	**4E-07**

Notes:
[a] Exposure point concentrations (EPCs) for exposure to subsurface II soil (2 to 12 feet bgs) are used to evaluate the vapor inhalation pathway.

Abbreviations:
-- = not calculated.
bgs = below ground surface.
C O P C = Constituent of Potential Concern.
ILCR = Incremental Lifetime Cancer Risk.
mg/kg-day = milligrams per kilogram per day.
na = Not applicable. Potential exposure to lead is evaluated using California Environmental Protection Agency (Cal/E P A) Department of Toxic Substances Control's (DTSC) LeadSpread model. Please see text for discussion.

NA = Not applicable. Hexavalent chromium is not absorbed via dermal contact.
NC = Not considered a carcinogen.
ND = Not detected.
NS = Not sampled.
NV = Not volatile.
PCB = Polychlorinated biphenyls.
TPH = Total Petroleum Hydrocarbons.
TEQ = Toxic Equivalent.

Table BCW-B1.8c
2-Foot Scouring Scenario ILCRs for C O P Cs in BCW Soil Using Depth-Weighted EPCs: Recreational User - Off-Highway Vehicle Rider

Post-Soil N T C R A Human Health and Ecological Risk Assessment Report
PG&E Topock Compressor Station
Needles, California

C O P C	Age-Adjusted Adult OHV Rider (2 to 3 feet bgs)[a] Soil Pathway Particulate Inhalation	Age-Adjusted Adult OHV Rider (2 to 3 feet bgs)[a] Soil Pathway Vapor Inhalation	Age-Adjusted Adult OHV Rider (2 to 3 feet bgs)[a] Soil Pathway Dermal Contact	Age-Adjusted Adult OHV Rider (2 to 3 feet bgs)[a] Soil Pathway Ingestion	Age-Adjusted Adult OHV Rider (2 to 3 feet bgs)[a] Soil Pathway Total Cancer Risk	Age-Adjusted Adult OHV Rider (2 to 3 feet bgs)[a] Soil Pathway Particulate Inhalation	Age-Adjusted Adult OHV Rider (2 to 3 feet bgs)[a] Soil Pathway Vapor Inhalation	Age-Adjusted Adult OHV Rider (2 to 3 feet bgs)[a] Soil Pathway Dermal Contact	Age-Adjusted Adult OHV Rider (2 to 3 feet bgs)[a] Soil Pathway Ingestion	Age-Adjusted Adult OHV Rider (2 to 3 feet bgs)[a] Soil Pathway Total Cancer Risk
Inorganics										
Antimony	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Chromium, Hexavalent	1.4E-07	NV	NA	3.7E-09	1.4E-07	1.9E-07	NV	NA	5.3E-09	2.0E-07
Chromium, total	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Cobalt	8.8E-08	NV	NC	NC	8.8E-08	8.9E-08	NV	NC	NC	8.9E-08
Copper	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Lead	na	na	na	na	na	na	na	na	na	na
Mercury (inorganic)	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Nitrate	NS	NC	NS	NS	--	NC	NC	NC	NC	--
Orthophosphate	NS	NC	NS	NS	--	NS	NC	NS	NS	--
Phosphate	NS	NC	NS	NS	--	NC	NC	NC	NC	--
Thallium	ND	NC	ND	ND	--	NC	NC	NC	NC	--
Zinc	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Volatile Organic Compounds										
Methyl acetate	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Semi-Volatile Organic Compounds										
bis (2-ethylhexyl) phthalate	2.3E-12	NV	1.2E-09	9.5E-11	1.3E-09	2.3E-12	NV	1.2E-09	9.5E-11	1.3E-09
Polycyclic Aromatic Hydrocarbons										
2-Methyl naphthalene	ND	NC	ND	ND	--	ND	NC	ND	ND	--
Anthracene	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Benzo (ghi) perylene	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Fluoranthene	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Fluorene	ND	NC	ND	ND	--	ND	NC	ND	ND	--
Naphthalene	4.0E-13	3.9E-12	1.8E-10	9.7E-12	1.9E-10	3.2E-13	3.9E-12	1.4E-10	7.9E-12	1.6E-10
Phenanthrene	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Pyrene	NC	NC	NC	NC	--	NC	NC	NC	NC	--

Table BCW-B1.8c
2-Foot Scouring Scenario ILCRs for C O P Cs in BCW Soil Using Depth-Weighted EPCs: Recreational User - Off-Highway Vehicle Rider

Post-Soil N T C R A Human Health and Ecological Risk Assessment Report
PG&E Topock Compressor Station
Needles, California

C O P C	Age-Adjusted Adult OHV Rider (2 to 3 feet bgs)[a] Soil Pathway Particulate Inhalation	Age-Adjusted Adult OHV Rider (2 to 3 feet bgs)[a] Soil Pathway Vapor Inhalation	Age-Adjusted Adult OHV Rider (2 to 3 feet bgs)[a] Soil Pathway Dermal Contact	Age-Adjusted Adult OHV Rider (2 to 3 feet bgs)[a] Soil Pathway Ingestion	Age-Adjusted Adult OHV Rider (2 to 3 feet bgs)[a] Soil Pathway Total Cancer Risk	Age-Adjusted Adult OHV Rider (2 to 3 feet bgs)[a] Soil Pathway Particulate Inhalation	Age-Adjusted Adult OHV Rider (2 to 3 feet bgs)[a] Soil Pathway Vapor Inhalation	Age-Adjusted Adult OHV Rider (2 to 3 feet bgs)[a] Soil Pathway Dermal Contact	Age-Adjusted Adult OHV Rider (2 to 3 feet bgs)[a] Soil Pathway Ingestion	Age-Adjusted Adult OHV Rider (2 to 3 feet bgs)[a] Soil Pathway Total Cancer Risk
Polychlorinated Biphenyls										
Total PCBs	5.8E-12	3.4E-12	1.5E-08	8.0E-10	1.6E-08	4.4E-12	3.4E-12	1.1E-08	6.1E-10	1.2E-08
Total Petroleum Hydrocarbons										
TPH as diesel	NC	NC	NC	NC	--	NC	NC	NC	NC	--
TPH as motor oil	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Dioxins/Furans										
TEQ Human	1.2E-09	2.2E-09	1.0E-07	2.9E-08	1.4E-07	1.3E-09	2.2E-09	1.2E-07	3.1E-08	1.5E-07
Cumulative ILCR	**2E-07**	**2E-09**	**1E-07**	**3E-08**	**4E-07**	**3E-07**	**2E-09**	**1E-07**	**4E-08**	**5E-07**

Notes:
[a] Exposure point concentrations (EPCs) for exposure to subsurface II soil (2 to 12 feet bgs) are used to evaluate the vapor inhalation pathway.

Abbreviations:
-- = not calculated.
bgs = below ground surface.
C O P C = Constituent of Potential Concern.
ILCR = Incremental Lifetime Cancer Risk.
mg/kg-day = milligrams per kilogram per day.
na = Not applicable. Potential exposure to lead is evaluated using California Environmental Protection Agency (Cal/E P A) Department of Toxic Substances Control's (DTSC) LeadSpread model. Please see text for discussion.

NA = Not applicable. Hexavalent chromium is not absorbed via dermal contact.
NC = Not considered a carcinogen.
ND = Not detected.
NS = Not sampled.
NV = Not volatile.
PCB = Polychlorinated biphenyls.
TPH = Total Petroleum Hydrocarbons.
TEQ = Toxic Equivalent.

Table BCW-B1.9a
2-Foot Scouring Scenario H Is for C O P Cs in BCW Soil Using Depth-Weighted EPCs: Recreational User - Camper

Post-Soil N T C R A Human Health and Ecological Risk Assessment Report
PG&E Topock Compressor Station
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C O P C	Child Camper (2 to 3 feet bgs)[a]	Child Camper (2 to 3 feet bgs)[a]	Child Camper (2 to 3 feet bgs)[a]	Child Camper (2 to 3 feet bgs)[a]	Child Camper (2 to 3 feet bgs)[a]	Adult Camper (2 to 3 feet bgs)[a]	Adult Camper (2 to 3 feet bgs)[a]	Adult Camper (2 to 3 feet bgs)[a]	Adult Camper (2 to 3 feet bgs)[a]	Adult Camper (2 to 3 feet bgs)[a]	Child Camper (2 to 6 feet bgs)[a]	Child Camper (2 to 6 feet bgs)[a]	Child Camper (2 to 6 feet bgs)[a]	Child Camper (2 to 6 feet bgs)[a]	Child Camper (2 to 6 feet bgs)[a]	Adult Camper (2 to 6 feet bgs)[a]	Adult Camper (2 to 6 feet bgs)[a]	Adult Camper (2 to 6 feet bgs)[a]	Adult Camper (2 to 6 feet bgs)[a]	Adult Camper (2 to 6 feet bgs)[a]
	Soil Pathway	Soil Pathway	Soil Pathway	Soil Pathway	Soil Pathway	Soil Pathway	Soil Pathway	Soil Pathway	Soil Pathway	Soil Pathway	Soil Pathway	Soil Pathway	Soil Pathway	Soil Pathway	Soil Pathway	Soil Pathway	Soil Pathway	Soil Pathway	Soil Pathway	Soil Pathway
	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index
Inorganics																				
Antimony	7.0E-07	NV	2.8E-04	9.5E-03	9.8E-03	7.0E-07	NV	3.8E-05	8.9E-04	9.3E-04	7.5E-08	NV	3.0E-05	1.0E-03	1.1E-03	7.5E-08	NV	4.0E-06	9.6E-05	1.0E-04
Chromium, Hexavalent	6.9E-08	NV	NA	4.2E-05	4.2E-05	6.9E-08	NV	NA	3.9E-06	4.0E-06	9.8E-08	NV	NA	5.9E-05	5.9E-05	9.8E-08	NV	NA	5.6E-06	5.7E-06
Chromium, total	1.3E-05	NV	2.8E-07	9.8E-06	2.4E-05	1.3E-05	NV	3.9E-08	9.2E-07	1.4E-05	1.2E-05	NV	2.6E-07	9.0E-06	2.2E-05	1.2E-05	NV	3.6E-08	8.5E-07	1.3E-05
Cobalt	2.2E-05	NV	2.3E-04	8.0E-03	8.2E-03	2.2E-05	NV	3.2E-05	7.5E-04	8.0E-04	2.2E-05	NV	2.3E-04	8.0E-03	8.2E-03	2.2E-05	NV	3.2E-05	7.5E-04	8.0E-04
Copper	1.2E-09	NV	2.6E-06	8.8E-05	9.1E-05	1.2E-09	NV	3.5E-07	8.3E-06	8.6E-06	1.2E-09	NV	2.5E-06	8.6E-05	8.8E-05	1.2E-09	NV	3.4E-07	8.0E-06	8.4E-06
Lead	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
Mercury (inorganic)	1.5E-07	NV	1.4E-05	4.9E-04	5.1E-04	1.5E-07	NV	2.0E-06	4.6E-05	4.8E-05	3.0E-08	NV	3.0E-06	1.0E-04	1.1E-04	3.0E-08	NV	4.1E-07	9.6E-06	1.0E-05
Nitrate	NS	NV	NS	NS	--	NS	NV	NS	NS	--	1.5E-11	NV	3.2E-08	1.1E-06	1.1E-06	1.5E-11	NV	4.3E-09	1.0E-07	1.1E-07
Orthophosphate	NS	NV	NS	NS	--	NS	NV	NS	NS	--	NS	NV	NS	NS	--	NS	NV	NS	NS	--
Phosphate	NS	NV	NS	NS	--	NS	NV	NS	NS	--	1.2E-11	NV	2.5E-08	8.8E-07	9.0E-07	1.2E-11	NV	3.5E-09	8.2E-08	8.6E-08
Thallium	ND	NV	ND	ND	--	ND	NV	ND	ND	--	5.5E-07	NV	1.2E-03	4.0E-02	4.1E-02	5.5E-07	NV	1.6E-04	3.7E-03	3.9E-03
Zinc	7.4E-10	NV	1.6E-06	5.4E-05	5.5E-05	7.4E-10	NV	2.1E-07	5.1E-06	5.3E-06	9.0E-10	NV	1.9E-06	6.5E-05	6.7E-05	9.0E-10	NV	2.6E-07	6.1E-06	6.3E-06
Volatile Organic Compounds																				
Methyl acetate	4.8E-14	6.4E-09	1.0E-09	3.5E-09	1.1E-08	4.8E-14	6.4E-09	1.4E-10	3.3E-10	6.9E-09	4.8E-14	6.4E-09	1.0E-09	3.5E-09	1.1E-08	4.8E-14	6.4E-09	1.4E-10	3.3E-10	6.9E-09
Semi-Volatile Organic Compounds																				
bis (2-ethylhexyl) phthalate	1.6E-10	NV	3.4E-06	1.2E-05	1.5E-05	1.6E-10	NV	4.7E-07	1.1E-06	1.6E-06	1.6E-10	NV	3.4E-06	1.2E-05	1.5E-05	1.6E-10	NV	4.7E-07	1.1E-06	1.6E-06
Polycyclic Aromatic Hydrocarbons																				
2-Methyl naphthalene	ND	6.1E-08	ND	ND	6.1E-08	ND	6.1E-08	ND	ND	6.1E-08	ND	6.1E-08	ND	ND	6.1E-08	ND	6.1E-08	ND	ND	6.1E-08
Anthracene	9.3E-14	8.7E-11	2.9E-09	6.7E-09	9.7E-09	9.3E-14	8.7E-11	4.0E-10	6.3E-10	1.1E-09	1.3E-13	8.7E-11	4.2E-09	9.7E-09	1.4E-08	1.3E-13	8.7E-11	5.7E-10	9.1E-10	1.6E-09
Benzo (ghi) perylene	8.7E-13	NV	2.8E-08	6.3E-08	9.1E-08	8.7E-13	NV	3.8E-09	5.9E-09	9.7E-09	9.2E-13	NV	2.9E-08	6.7E-08	9.5E-08	9.2E-13	NV	4.0E-09	6.2E-09	1.0E-08
Fluoranthene	2.3E-12	NV	7.3E-08	1.7E-07	2.4E-07	2.3E-12	NV	9.9E-09	1.6E-08	2.6E-08	8.4E-13	NV	2.6E-08	6.1E-08	8.7E-08	8.4E-13	NV	3.6E-09	5.7E-09	9.3E-09
Fluorene	ND	1.6E-09	ND	ND	1.6E-09	ND	1.6E-09	ND	ND	1.6E-09	ND	1.6E-09	ND	ND	1.6E-09	ND	1.6E-09	ND	ND	1.6E-09
Naphthalene	5.2E-11	8.2E-07	6.2E-08	1.4E-07	1.0E-06	5.2E-11	8.2E-07	8.4E-09	1.3E-08	8.4E-07	4.2E-11	8.2E-07	5.0E-08	1.1E-07	9.9E-07	4.2E-11	8.2E-07	6.8E-09	1.1E-08	8.4E-07
Phenanthrene	1.1E-13	NV	3.4E-09	7.9E-09	1.1E-08	1.1E-13	NV	4.7E-10	7.4E-10	1.2E-09	1.1E-13	NV	3.5E-09	8.0E-09	1.2E-08	1.1E-13	NV	4.8E-10	7.5E-10	1.2E-09
Pyrene	2.8E-12	1.4E-09	8.9E-08	2.0E-07	2.9E-07	2.8E-12	1.4E-09	1.2E-08	1.9E-08	3.3E-08	1.0E-12	1.4E-09	3.2E-08	7.4E-08	1.1E-07	1.0E-12	1.4E-09	4.4E-09	6.9E-09	1.3E-08

Table BCW-B1.9a
2-Foot Scouring Scenario H Is for C O P Cs in BCW Soil Using Depth-Weighted EPCs: Recreational User - Camper

Post-Soil N T C R A Human Health and Ecological Risk Assessment Report
PG&E Topock Compressor Station
Needles, California

C O P C	Child Camper (2 to 3 feet bgs)[a]	Child Camper (2 to 3 feet bgs)[a]	Child Camper (2 to 3 feet bgs)[a]	Child Camper (2 to 3 feet bgs)[a]	Child Camper (2 to 3 feet bgs)[a]	Adult Camper (2 to 3 feet bgs)[a]	Adult Camper (2 to 3 feet bgs)[a]	Adult Camper (2 to 3 feet bgs)[a]	Adult Camper (2 to 3 feet bgs)[a]	Adult Camper (2 to 3 feet bgs)[a]	Child Camper (2 to 6 feet bgs)[a]	Child Camper (2 to 6 feet bgs)[a]	Child Camper (2 to 6 feet bgs)[a]	Child Camper (2 to 6 feet bgs)[a]	Child Camper (2 to 6 feet bgs)[a]	Adult Camper (2 to 6 feet bgs)[a]	Adult Camper (2 to 6 feet bgs)[a]	Adult Camper (2 to 6 feet bgs)[a]	Adult Camper (2 to 6 feet bgs)[a]	Adult Camper (2 to 6 feet bgs)[a]
	Soil Pathway	Soil Pathway	Soil Pathway	Soil Pathway	Soil Pathway	Soil Pathway	Soil Pathway	Soil Pathway	Soil Pathway	Soil Pathway	Soil Pathway	Soil Pathway	Soil Pathway	Soil Pathway	Soil Pathway	Soil Pathway	Soil Pathway	Soil Pathway	Soil Pathway	Soil Pathway
	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index
Polychlorinated Biphenyls																				
Total PCBs	9.7E-09	9.0E-06	3.1E-04	7.0E-04	1.0E-03	9.7E-09	9.0E-06	4.2E-05	6.6E-05	1.2E-04	7.4E-09	9.0E-06	2.3E-04	5.4E-04	7.8E-04	7.4E-09	9.0E-06	3.2E-05	5.0E-05	9.1E-05
Total Petroleum Hydrocarbons																				
TPH as diesel	3.9E-10	5.4E-04	2.8E-05	9.7E-05	6.7E-04	3.9E-10	5.4E-04	3.8E-06	9.1E-06	5.5E-04	4.2E-10	5.4E-04	3.0E-05	1.0E-04	6.7E-04	4.2E-10	5.4E-04	4.1E-06	9.7E-06	5.6E-04
TPH as motor oil	1.1E-09	NV	2.2E-05	7.7E-05	1.0E-04	1.1E-09	NV	3.1E-06	7.3E-06	1.0E-05	2.7E-09	NV	5.6E-05	1.9E-04	2.5E-04	2.7E-09	NV	7.7E-06	1.8E-05	2.6E-05
Dioxins/Furans																				
TEQ Human	1.1E-08	3.1E-05	9.6E-04	1.1E-02	1.2E-02	1.1E-08	3.1E-05	1.3E-04	1.0E-03	1.2E-03	1.2E-08	3.1E-05	1.1E-03	1.2E-02	1.3E-02	1.2E-08	3.1E-05	1.4E-04	1.1E-03	1.3E-03
Total Hazard Index	**4E-05**	**6E-04**	**2E-03**	**3E-02**	**3E-02**	**4E-05**	**6E-04**	**3E-04**	**3E-03**	**4E-03**	**4E-05**	**6E-04**	**3E-03**	**6E-02**	**7E-02**	**4E-05**	**6E-04**	**4E-04**	**6E-03**	**7E-03**

Notes:
[a] Exposure point concentrations (EPCs) for exposure to subsurface II soil (2 to 12 feet bgs) are used to evaluate the vapor inhalation pathway.

Abbreviations:
– = not calculated.
bgs = below ground surface.
C O P C = Constituent of Potential Concern.
H I = Hazard Index
na = Not applicable. Potential exposure to lead is evaluated using California Environmental Protection Agency (Cal/E P A) Department of Toxic Substances Control's (DTSC) LeadSpread model. Please see text for discussion.
NA = Not applicable. Hexavalent chromium is not absorbed via dermal contact.
ND = Not detected.
NS = Not sampled.
NV = Not volatile.
PCB = Polychlorinated biphenyls.
TPH = Total Petroleum Hydrocarbons.
TEQ = Toxic Equivalent.

Table BCW-B1.9b
2-Foot Scouring Scenario H Is for C O P Cs in BCW Soil Using Depth-Weighted EPCs: Recreational User - Hiker

Post-Soil N T C R A Human Health and Ecological Risk Assessment Report
PG&E Topock Compressor Station
Needles, California

C O P C	Child Hiker (2 to 3 feet bgs)[a]	Child Hiker (2 to 3 feet bgs)[a]	Child Hiker (2 to 3 feet bgs)[a]	Child Hiker (2 to 3 feet bgs)[a]	Child Hiker (2 to 3 feet bgs)[a]	Adult Hiker (2 to 3 feet bgs)[a]	Adult Hiker (2 to 3 feet bgs)[a]	Adult Hiker (2 to 3 feet bgs)[a]	Adult Hiker (2 to 3 feet bgs)[a]	Adult Hiker (2 to 3 feet bgs)[a]	Child Hiker (2 to 6 feet bgs)[a]	Child Hiker (2 to 6 feet bgs)[a]	Child Hiker (2 to 6 feet bgs)[a]	Child Hiker (2 to 6 feet bgs)[a]	Child Hiker (2 to 6 feet bgs)[a]	Adult Hiker (2 to 6 feet bgs)[a]	Adult Hiker (2 to 6 feet bgs)[a]	Adult Hiker (2 to 6 feet bgs)[a]	Adult Hiker (2 to 6 feet bgs)[a]	Adult Hiker (2 to 6 feet bgs)[a]
	Soil Pathway	Soil Pathway	Soil Pathway	Soil Pathway	Soil Pathway	Soil Pathway	Soil Pathway	Soil Pathway	Soil Pathway	Soil Pathway	Soil Pathway	Soil Pathway	Soil Pathway	Soil Pathway	Soil Pathway	Soil Pathway	Soil Pathway	Soil Pathway	Soil Pathway	Soil Pathway
	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index
Inorganics																				
Antimony	1.4E-06	NV	5.5E-04	1.9E-02	2.0E-02	1.4E-06	NV	7.5E-05	1.8E-03	1.9E-03	1.5E-07	NV	5.9E-05	2.0E-03	2.1E-03	1.5E-07	NV	8.1E-06	1.9E-04	2.0E-04
Chromium, Hexavalent	1.4E-07	NV	NA	8.3E-05	8.4E-05	1.4E-07	NV	NA	7.8E-06	8.0E-06	2.0E-07	NV	NA	1.2E-04	1.2E-04	2.0E-07	NV	NA	1.1E-05	1.1E-05
Chromium, total	2.7E-05	NV	5.7E-07	2.0E-05	4.7E-05	2.7E-05	NV	7.7E-08	1.8E-06	2.9E-05	2.5E-05	NV	5.2E-07	1.8E-05	4.3E-05	2.5E-05	NV	7.1E-08	1.7E-06	2.7E-05
Cobalt	4.4E-05	NV	4.6E-04	1.6E-02	1.6E-02	4.4E-05	NV	6.3E-05	1.5E-03	1.6E-03	4.4E-05	NV	4.6E-04	1.6E-02	1.6E-02	4.4E-05	NV	6.3E-05	1.5E-03	1.6E-03
Copper	2.4E-09	NV	5.1E-06	1.8E-04	1.8E-04	2.4E-09	NV	7.0E-07	1.7E-05	1.7E-05	2.4E-09	NV	5.0E-06	1.7E-04	1.8E-04	2.4E-09	NV	6.8E-07	1.6E-05	1.7E-05
Lead	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
Mercury (inorganic)	2.9E-07	NV	2.9E-05	9.9E-04	1.0E-03	2.9E-07	NV	3.9E-06	9.2E-05	9.7E-05	6.0E-08	NV	6.0E-06	2.1E-04	2.1E-04	6.0E-08	NV	8.1E-07	1.9E-05	2.0E-05
Nitrate	NS	NV	NS	NS	--	NS	NV	NS	NS	--	3.0E-11	NV	6.4E-08	2.2E-06	2.3E-06	3.0E-11	NV	8.7E-09	2.1E-07	2.1E-07
Orthophosphate	NS	NV	NS	NS	--	NS	NV	NS	NS	--	NS	NV	NS	NS	--	NS	NV	NS	NS	--
Phosphate	NS	NV	NS	NS	--	NS	NV	NS	NS	--	2.4E-11	NV	5.1E-08	1.8E-06	1.8E-06	2.4E-11	NV	6.9E-09	1.6E-07	1.7E-07
Thallium	ND	NV	ND	ND	--	ND	NV	ND	ND	--	1.1E-06	NV	2.3E-03	7.9E-02	8.2E-02	1.1E-06	NV	3.1E-04	7.5E-03	7.8E-03
Zinc	1.5E-09	NV	3.1E-06	1.1E-04	1.1E-04	1.5E-09	NV	4.3E-07	1.0E-05	1.1E-05	1.8E-09	NV	3.8E-06	1.3E-04	1.3E-04	1.8E-09	NV	5.1E-07	1.2E-05	1.3E-05
Volatile Organic Compounds																				
Methyl acetate	9.7E-14	1.3E-08	2.0E-09	7.0E-09	2.2E-08	9.7E-14	1.3E-08	2.8E-10	6.6E-10	1.4E-08	9.7E-14	1.3E-08	2.0E-09	7.0E-09	2.2E-08	9.7E-14	1.3E-08	2.8E-10	6.6E-10	1.4E-08
Semi-Volatile Organic Compounds																				
bis (2-ethylhexyl) phthalate	3.3E-10	NV	6.9E-06	2.4E-05	3.1E-05	3.3E-10	NV	9.4E-07	2.2E-06	3.2E-06	3.3E-10	NV	6.9E-06	2.4E-05	3.1E-05	3.3E-10	NV	9.4E-07	2.2E-06	3.2E-06
Polycyclic Aromatic Hydrocarbons																				
2-Methyl naphthalene	ND	1.2E-07	ND	ND	1.2E-07	ND	1.2E-07	ND	ND	1.2E-07	ND	1.2E-07	ND	ND	1.2E-07	ND	1.2E-07	ND	ND	1.2E-07
Anthracene	1.9E-13	1.7E-10	5.8E-09	1.3E-08	1.9E-08	1.9E-13	1.7E-10	8.0E-10	1.3E-09	2.2E-09	2.7E-13	1.7E-10	8.4E-09	1.9E-08	2.8E-08	2.7E-13	1.7E-10	1.1E-09	1.8E-09	3.1E-09
Benzo (ghi) perylene	1.7E-12	NV	5.5E-08	1.3E-07	1.8E-07	1.7E-12	NV	7.5E-09	1.2E-08	1.9E-08	1.8E-12	NV	5.8E-08	1.3E-07	1.9E-07	1.8E-12	NV	7.9E-09	1.2E-08	2.0E-08
Fluoranthene	4.6E-12	NV	1.5E-07	3.3E-07	4.8E-07	4.6E-12	NV	2.0E-08	3.1E-08	5.1E-08	1.7E-12	NV	5.3E-08	1.2E-07	1.7E-07	1.7E-12	NV	7.2E-09	1.1E-08	1.9E-08
Fluorene	ND	3.1E-09	ND	ND	3.1E-09	ND	3.1E-09	ND	ND	3.1E-09	ND	3.1E-09	ND	ND	3.1E-09	ND	3.1E-09	ND	ND	3.1E-09
Naphthalene	1.0E-10	1.6E-06	1.2E-07	2.8E-07	2.1E-06	1.0E-10	1.6E-06	1.7E-08	2.7E-08	1.7E-06	8.4E-11	1.6E-06	1.0E-07	2.3E-07	2.0E-06	8.4E-11	1.6E-06	1.4E-08	2.2E-08	1.7E-06
Phenanthrene	2.2E-13	NV	6.8E-09	1.6E-08	2.3E-08	2.2E-13	NV	9.3E-10	1.5E-09	2.4E-09	2.2E-13	NV	7.0E-09	1.6E-08	2.3E-08	2.2E-13	NV	9.6E-10	1.5E-09	2.5E-09
Pyrene	5.6E-12	2.7E-09	1.8E-07	4.1E-07	5.9E-07	5.6E-12	2.7E-09	2.4E-08	3.8E-08	6.5E-08	2.0E-12	2.7E-09	6.4E-08	1.5E-07	2.1E-07	2.0E-12	2.7E-09	8.7E-09	1.4E-08	2.5E-08

Table BCW-B1.9b
2-Foot Scouring Scenario H Is for C O P Cs in BCW Soil Using Depth-Weighted EPCs: Recreational User - Hiker

Post-Soil N T C R A Human Health and Ecological Risk Assessment Report
PG&E Topock Compressor Station
Needles, California

C O P C	Child Hiker (2 to 3 feet bgs)[a]	Child Hiker (2 to 3 feet bgs)[a]	Child Hiker (2 to 3 feet bgs)[a]	Child Hiker (2 to 3 feet bgs)[a]	Child Hiker (2 to 3 feet bgs)[a]	Adult Hiker (2 to 3 feet bgs)[a]	Adult Hiker (2 to 3 feet bgs)[a]	Adult Hiker (2 to 3 feet bgs)[a]	Adult Hiker (2 to 3 feet bgs)[a]	Adult Hiker (2 to 3 feet bgs)[a]	Child Hiker (2 to 6 feet bgs)[a]	Child Hiker (2 to 6 feet bgs)[a]	Child Hiker (2 to 6 feet bgs)[a]	Child Hiker (2 to 6 feet bgs)[a]	Child Hiker (2 to 6 feet bgs)[a]	Adult Hiker (2 to 6 feet bgs)[a]	Adult Hiker (2 to 6 feet bgs)[a]	Adult Hiker (2 to 6 feet bgs)[a]	Adult Hiker (2 to 6 feet bgs)[a]	Adult Hiker (2 to 6 feet bgs)[a]
	Soil Pathway	Soil Pathway	Soil Pathway	Soil Pathway	Soil Pathway	Soil Pathway	Soil Pathway	Soil Pathway	Soil Pathway	Soil Pathway	Soil Pathway	Soil Pathway	Soil Pathway	Soil Pathway	Soil Pathway	Soil Pathway	Soil Pathway	Soil Pathway	Soil Pathway	Soil Pathway
	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index
Polychlorinated Biphenyls																				
Total PCBs	1.9E-08	1.8E-05	6.1E-04	1.4E-03	2.0E-03	1.9E-08	1.8E-05	8.3E-05	1.3E-04	2.3E-04	1.5E-08	1.8E-05	4.7E-04	1.1E-03	1.6E-03	1.5E-08	1.8E-05	6.4E-05	1.0E-04	1.8E-04
Total Petroleum Hydrocarbons																				
TPH as diesel	7.8E-10	1.1E-03	5.6E-05	1.9E-04	1.3E-03	7.8E-10	1.1E-03	7.7E-06	1.8E-05	1.1E-03	8.3E-10	1.1E-03	6.0E-05	2.1E-04	1.3E-03	8.3E-10	1.1E-03	8.2E-06	1.9E-05	1.1E-03
TPH as motor oil	2.1E-09	NV	4.5E-05	1.5E-04	2.0E-04	2.1E-09	NV	6.1E-06	1.5E-05	2.1E-05	5.4E-09	NV	1.1E-04	3.9E-04	5.0E-04	5.4E-09	NV	1.5E-05	3.6E-05	5.2E-05
Dioxins/Furans																				
TEQ Human	2.1E-08	6.1E-05	1.9E-03	2.2E-02	2.4E-02	2.1E-08	6.1E-05	2.6E-04	2.1E-03	2.4E-03	2.3E-08	6.1E-05	2.1E-03	2.4E-02	2.6E-02	2.3E-08	6.1E-05	2.9E-04	2.3E-03	2.6E-03
Total Hazard Index	**7E-05**	**1E-03**	**4E-03**	**6E-02**	**7E-02**	**7E-05**	**1E-03**	**5E-04**	**6E-03**	**7E-03**	**7E-05**	**1E-03**	**6E-03**	**1E-01**	**1E-01**	**7E-05**	**1E-03**	**8E-04**	**1E-02**	**1E-02**

Notes:
[a] Exposure point concentrations (EPCs) for exposure to subsurface II soil (2 to 12 feet bgs) are used to evaluate the vapor inhalation pathway.

Abbreviations:
– = not calculated.
bgs = below ground surface.
C O P C = Constituent of Potential Concern.
H I = Hazard Index
na = Not applicable. Potential exposure to lead is evaluated using California Environmental Protection Agency (Cal/E P A) Department of Toxic Substances Control's (DTSC) LeadSpread model. Please see text for discussion.
NA = Not applicable. Hexavalent chromium is not absorbed via dermal contact.
ND = Not detected.
NS = Not sampled.
NV = Not volatile.
PCB = Polychlorinated biphenyls.
TPH = Total Petroleum Hydrocarbons.
TEQ = Toxic Equivalent.

Table BCW-B1.9c
2-Foot Scouring Scenario H Is for C O P Cs in BCW Soil Using Depth-Weighted EPCs: Recreational User - Off-Highway Vehicle Rider

Post-Soil N T C R A Human Health and Ecological Risk Assessment Report
PG&E Topock Compressor Station
Needles, California

C O P C	Child OHV Rider (2 to 3 feet bgs)[a] Soil Pathway Particulate Inhalation	Child OHV Rider (2 to 3 feet bgs)[a] Soil Pathway Vapor Inhalation	Child OHV Rider (2 to 3 feet bgs)[a] Soil Pathway Dermal Contact	Child OHV Rider (2 to 3 feet bgs)[a] Soil Pathway Ingestion	Child OHV Rider (2 to 3 feet bgs)[a] Soil Pathway Total Hazard Index	Adult OHV Rider (2 to 3 feet bgs)[a] Soil Pathway Particulate Inhalation	Adult OHV Rider (2 to 3 feet bgs)[a] Soil Pathway Vapor Inhalation	Adult OHV Rider (2 to 3 feet bgs)[a] Soil Pathway Dermal Contact	Adult OHV Rider (2 to 3 feet bgs)[a] Soil Pathway Ingestion	Adult OHV Rider (2 to 3 feet bgs)[a] Soil Pathway Total Hazard Index	Child OHV Rider (2 to 6 feet bgs)[a] Soil Pathway Particulate Inhalation	Child OHV Rider (2 to 6 feet bgs)[a] Soil Pathway Vapor Inhalation	Child OHV Rider (2 to 6 feet bgs)[a] Soil Pathway Dermal Contact	Child OHV Rider (2 to 6 feet bgs)[a] Soil Pathway Ingestion	Child OHV Rider (2 to 6 feet bgs)[a] Soil Pathway Total Hazard Index	Adult OHV Rider (2 to 6 feet bgs)[a] Soil Pathway Particulate Inhalation	Adult OHV Rider (2 to 6 feet bgs)[a] Soil Pathway Vapor Inhalation	Adult OHV Rider (2 to 6 feet bgs)[a] Soil Pathway Dermal Contact	Adult OHV Rider (2 to 6 feet bgs)[a] Soil Pathway Ingestion	Adult OHV Rider (2 to 6 feet bgs)[a] Soil Pathway Total Hazard Index
Inorganics																					
Antimony	1.4E-04	NV	1.0E-03	1.3E-03	2.5E-03	1.4E-04	NV	8.6E-04	5.5E-04	1.6E-03	1.5E-05	NV	1.1E-04	1.4E-04	2.7E-04	1.5E-05	NV	9.3E-05	5.9E-05	1.7E-04
Chromium, Hexavalent	1.4E-05	NV	NA	5.9E-06	2.0E-05	1.4E-05	NV	NA	2.4E-06	1.6E-05	2.0E-05	NV	NA	8.3E-06	2.8E-05	2.0E-05	NV	NA	3.4E-06	2.3E-05
Chromium, total	2.7E-03	NV	1.0E-06	1.4E-06	2.7E-03	2.7E-03	NV	8.8E-07	5.7E-07	2.7E-03	2.5E-03	NV	9.5E-07	1.3E-06	2.5E-03	2.5E-03	NV	8.2E-07	5.2E-07	2.5E-03
Cobalt	4.4E-03	NV	8.4E-04	1.1E-03	6.4E-03	4.4E-03	NV	7.2E-04	4.6E-04	5.6E-03	4.4E-03	NV	8.4E-04	1.1E-03	6.4E-03	4.4E-03	NV	7.2E-04	4.6E-04	5.6E-03
Copper	2.4E-07	NV	9.3E-06	1.2E-05	2.2E-05	2.4E-07	NV	8.0E-06	5.1E-06	1.3E-05	2.4E-07	NV	9.1E-06	1.2E-05	2.1E-05	2.4E-07	NV	7.8E-06	5.0E-06	1.3E-05
Lead	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
Mercury (inorganic)	2.9E-05	NV	5.2E-05	6.9E-05	1.5E-04	2.9E-05	NV	4.5E-05	2.9E-05	1.0E-04	6.1E-06	NV	1.1E-05	1.4E-05	3.1E-05	6.1E-06	NV	9.3E-06	6.0E-06	2.1E-05
Nitrate	NS	NV	NS	NS	--	NS	NV	NS	NS	--	3.0E-09	NV	1.2E-07	1.5E-07	2.7E-07	3.0E-09	NV	9.9E-08	6.4E-08	1.7E-07
Orthophosphate	NS	NV	NS	NS	--	NS	NV	NS	NS	--	NS	NV	NS	NS	--	NS	NV	NS	NS	--
Phosphate	NS	NV	NS	NS	--	NS	NV	NS	NS	--	2.4E-09	NV	9.3E-08	1.2E-07	2.2E-07	2.4E-09	NV	7.9E-08	5.1E-08	1.3E-07
Thallium	ND	NV	ND	ND	--	ND	NV	ND	ND	--	1.1E-04	NV	4.2E-03	5.6E-03	9.9E-03	1.1E-04	NV	3.6E-03	2.3E-03	6.0E-03
Zinc	1.5E-07	NV	5.7E-06	7.6E-06	1.3E-05	1.5E-07	NV	4.9E-06	3.1E-06	8.1E-06	1.8E-07	NV	6.9E-06	9.1E-06	1.6E-05	1.8E-07	NV	5.9E-06	3.8E-06	9.8E-06
Volatile Organic Compounds																				
Methyl acetate	9.7E-12	8.0E-10	3.7E-09	4.9E-10	5.0E-09	9.7E-12	8.0E-10	3.2E-09	2.0E-10	4.2E-09	9.7E-12	8.0E-10	3.7E-09	4.9E-10	5.0E-09	9.7E-12	8.0E-10	3.2E-09	2.0E-10	4.2E-09
Semi-Volatile Organic Compounds																				
bis (2-ethylhexyl) phthalate	3.3E-08	NV	1.2E-05	1.7E-06	1.4E-05	3.3E-08	NV	1.1E-05	6.9E-07	1.1E-05	3.3E-08	NV	1.2E-05	1.7E-06	1.4E-05	3.3E-08	NV	1.1E-05	6.9E-07	1.1E-05
Polycyclic Aromatic Hydrocarbons																				
2-Methyl naphthalene	ND	7.6E-09	ND	ND	7.6E-09	ND	7.6E-09	ND	ND	7.6E-09	ND	7.6E-09	ND	ND	7.6E-09	ND	7.6E-09	ND	ND	7.6E-09
Anthracene	1.9E-11	1.1E-11	1.1E-08	9.5E-10	1.2E-08	1.9E-11	1.1E-11	9.1E-09	3.9E-10	9.5E-09	2.7E-11	1.1E-11	1.5E-08	1.4E-09	1.7E-08	2.7E-11	1.1E-11	1.3E-08	5.6E-10	1.4E-08
Benzo (ghi) perylene	1.7E-10	NV	1.0E-07	8.9E-09	1.1E-07	1.7E-10	NV	8.6E-08	3.7E-09	9.0E-08	1.8E-10	NV	1.1E-07	9.4E-09	1.1E-07	1.8E-10	NV	9.0E-08	3.9E-09	9.4E-08
Fluoranthene	4.6E-10	NV	2.6E-07	2.4E-08	2.9E-07	4.6E-10	NV	2.3E-07	9.7E-09	2.4E-07	1.7E-10	NV	9.6E-08	8.5E-09	1.0E-07	1.7E-10	NV	8.2E-08	3.5E-09	8.6E-08
Fluorene	ND	2.0E-10	ND	ND	2.0E-10	ND	2.0E-10	ND	ND	2.0E-10	ND	2.0E-10	ND	ND	2.0E-10	ND	2.0E-10	ND	ND	2.0E-10
Naphthalene	1.0E-08	1.0E-07	2.2E-07	2.0E-08	3.6E-07	1.0E-08	1.0E-07	1.9E-07	8.2E-09	3.1E-07	8.5E-09	1.0E-07	1.8E-07	1.6E-08	3.1E-07	8.5E-09	1.0E-07	1.6E-07	6.7E-09	2.7E-07
Phenanthrene	2.2E-11	NV	1.2E-08	1.1E-09	1.4E-08	2.2E-11	NV	1.1E-08	4.6E-10	1.1E-08	2.2E-11	NV	1.3E-08	1.1E-09	1.4E-08	2.2E-11	NV	1.1E-08	4.7E-10	1.1E-08
Pyrene	5.6E-10	1.7E-10	3.2E-07	2.9E-08	3.5E-07	5.6E-10	1.7E-10	2.8E-07	1.2E-08	2.9E-07	2.0E-10	1.7E-10	1.2E-07	1.0E-08	1.3E-07	2.0E-10	1.7E-10	1.0E-07	4.3E-09	1.0E-07

Table BCW-B1.9c
2-Foot Scouring Scenario H Is for C O P Cs in BCW Soil Using Depth-Weighted EPCs: Recreational User - Off-Highway Vehicle Rider

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C O P C	Child OHV Rider (2 to 3 feet bgs)[a] Soil Pathway Particulate Inhalation	Child OHV Rider (2 to 3 feet bgs)[a] Soil Pathway Vapor Inhalation	Child OHV Rider (2 to 3 feet bgs)[a] Soil Pathway Dermal Contact	Child OHV Rider (2 to 3 feet bgs)[a] Soil Pathway Ingestion	Child OHV Rider (2 to 3 feet bgs)[a] Soil Pathway Total Hazard Index	Adult OHV Rider (2 to 3 feet bgs)[a] Soil Pathway Particulate Inhalation	Adult OHV Rider (2 to 3 feet bgs)[a] Soil Pathway Vapor Inhalation	Adult OHV Rider (2 to 3 feet bgs)[a] Soil Pathway Dermal Contact	Adult OHV Rider (2 to 3 feet bgs)[a] Soil Pathway Ingestion	Adult OHV Rider (2 to 3 feet bgs)[a] Soil Pathway Total Hazard Index	Child OHV Rider (2 to 6 feet bgs)[a] Soil Pathway Particulate Inhalation	Child OHV Rider (2 to 6 feet bgs)[a] Soil Pathway Vapor Inhalation	Child OHV Rider (2 to 6 feet bgs)[a] Soil Pathway Dermal Contact	Child OHV Rider (2 to 6 feet bgs)[a] Soil Pathway Ingestion	Child OHV Rider (2 to 6 feet bgs)[a] Soil Pathway Total Hazard Index	Adult OHV Rider (2 to 6 feet bgs)[a] Soil Pathway Particulate Inhalation	Adult OHV Rider (2 to 6 feet bgs)[a] Soil Pathway Vapor Inhalation	Adult OHV Rider (2 to 6 feet bgs)[a] Soil Pathway Dermal Contact	Adult OHV Rider (2 to 6 feet bgs)[a] Soil Pathway Ingestion	Adult OHV Rider (2 to 6 feet bgs)[a] Soil Pathway Total Hazard Index
Polychlorinated Biphenyls																				
Total PCBs	1.9E-06	1.1E-06	1.1E-03	9.9E-05	1.2E-03	1.9E-06	1.1E-06	9.5E-04	4.1E-05	1.0E-03	1.5E-06	1.1E-06	8.5E-04	7.5E-05	9.3E-04	1.5E-06	1.1E-06	7.3E-04	3.1E-05	7.6E-04
Total Petroleum Hydrocarbons																				
TPH as diesel	7.9E-08	6.8E-05	1.0E-04	1.4E-05	1.8E-04	7.9E-08	6.8E-05	8.8E-05	5.6E-06	1.6E-04	8.3E-08	6.8E-05	1.1E-04	1.4E-05	1.9E-04	8.3E-08	6.8E-05	9.3E-05	6.0E-06	1.7E-04
TPH as motor oil	2.1E-07	NV	8.2E-05	1.1E-05	9.3E-05	2.1E-07	NV	7.0E-05	4.5E-06	7.5E-05	5.4E-07	NV	2.0E-04	2.7E-05	2.3E-04	5.4E-07	NV	1.8E-04	1.1E-05	1.9E-04
Dioxins/Furans																				
TEQ Human	2.1E-06	3.8E-06	3.5E-03	1.5E-03	5.0E-03	2.1E-06	3.8E-06	3.0E-03	6.4E-04	3.6E-03	2.3E-06	3.8E-06	3.8E-03	1.7E-03	5.5E-03	2.3E-06	3.8E-06	3.3E-03	7.0E-04	4.0E-03
Total Hazard Index	**7E-03**	**7E-05**	**7E-03**	**4E-03**	**2E-02**	**7E-03**	**7E-05**	**6E-03**	**2E-03**	**1E-02**	**7E-03**	**7E-05**	**1E-02**	**9E-03**	**3E-02**	**7E-03**	**7E-05**	**9E-03**	**4E-03**	**2E-02**

Notes:
[a] Exposure point concentrations (EPCs) for exposure to subsurface II soil (2 to 12 feet bgs) are used to evaluate the vapor inhalation pathway.

Abbreviations:
– = not calculated.
bgs = below ground surface.
C O P C = Constituent of Potential Concern.
H I = Hazard Index
na = Not applicable. Potential exposure to lead is evaluated using California Environmental Protection Agency (Cal/E P A) Department of Toxic Substances Control's (DTSC) LeadSpread model. Please see text for discussion.
NA = Not applicable. Hexavalent chromium is not absorbed via dermal contact.
ND = Not detected.
NS = Not sampled.
NV = Not volatile.
PCB = Polychlorinated biphenyls.
TPH = Total Petroleum Hydrocarbons.
TEQ = Toxic Equivalent.

Table BCW-B1.10a

2-Foot Scouring Scenario Risk Evaluation for Lead in BCW Surface Soil (2 to 3 feet bgs) Using Depth-Weighted EPCs: Recreational User (Camper)

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INPUT MEDIUM	INPUT LEVEL
Lead in Soil/Dust (ug/g)	6.8
Respirable Dust (ug/m^3)	1.5

OUTPUT	Percentile Estimate of Blood Pb (ug/dl) 50th	Percentile Estimate of Blood Pb (ug/dl) 90th	Percentile Estimate of Blood Pb (ug/dl) 95th	Percentile Estimate of Blood Pb (ug/dl) 98th	Percentile Estimate of Blood Pb (ug/dl) 99th	PRG-90 (ug/g)
BLOOD Pb, CHILD	0.002	0.003	0.00	0.00	0.01	2159
BLOOD Pb, PICA CHILD	0.003	0.01	0.01	0.01	0.01	1084

EXPOSURE PARAMETERS	units	children
Days per week	days/wk	0.25 [a]
Geometric Standard Deviation	ug/dl	1.6
Blood lead level of concern	ug/dl	1
Skin area, residential	cm^2	2900
Soil adherence	ug/cm^2	200
Dermal uptake constant	(ug/dl)/(ug/day)	0.0001
Soil ingestion	mg/day	100
Soil ingestion, pica	mg/day	200
Ingestion constant	(ug/dl)/(ug/day)	0.16
Bioavailability	unitless	0.44
Breathing rate	m^3/day	6.8
Inhalation constant	(ug/dl)/(ug/day)	0.192

CHILDREN Pathway	typical Pathway contribution PEF	typical Pathway contribution ug/dl	typical Pathway contribution percent	with pica Pathway contribution PEF	with pica Pathway contribution ug/dl	with pica Pathway contribution percent
Soil Contact	2.1E-6	1.4E-05	1%	--	1.4E-05	0.4%
Soil Ingestion	2.5E-4	1.7E-03	99%	5.0E-4	3.4E-03	100%
Inhalation	7.0E-8	4.8E-07	0.03%	--	4.8E-07	0.01%

Notes:

[a] Highlighted values are Site-specific: days per week based on the assumption of 1 day per month (1 day/4 weeks = 0.25 days/week), 8 months per year. See Table 5.1 of the main report for details.

Table BCW-B1.10b

2-Foot Scouring Scenario Risk Evaluation for Lead in BCW Shallow Soil (2 to 6 feet bgs) Using Depth-Weighted EPCs: Recreational User (Camper)

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INPUT MEDIUM	INPUT LEVEL
Lead in Soil/Dust (ug/g)	5.3
Respirable Dust (ug/m^3)	1.5

OUTPUT	Percentile Estimate of Blood Pb (ug/dl) 50th	Percentile Estimate of Blood Pb (ug/dl) 90th	Percentile Estimate of Blood Pb (ug/dl) 95th	Percentile Estimate of Blood Pb (ug/dl) 98th	Percentile Estimate of Blood Pb (ug/dl) 99th	PRG-90 (ug/g)
BLOOD Pb, CHILD	0.001	0.002	0.00	0.00	0.00	2159
BLOOD Pb, PICA CHILD	0.003	0.00	0.01	0.01	0.01	1084

EXPOSURE PARAMETERS	units	children
Days per week	days/wk	0.25 [a]
Geometric Standard Deviation		1.6
Blood lead level of concern (ug/dl)		1
Skin area, residential	cm^2	2900
Soil adherence	ug/cm^2	200
Dermal uptake constant	(ug/dl)/(ug/day)	0.0001
Soil ingestion	mg/day	100
Soil ingestion, pica	mg/day	200
Ingestion constant	(ug/dl)/(ug/day)	0.16
Bioavailability	unitless	0.44
Breathing rate	m^3/day	6.8
Inhalation constant	(ug/dl)/(ug/day)	0.192

CHILDREN Pathway	typical Pathway contribution PEF	typical Pathway contribution ug/dl	typical Pathway contribution percent	with pica Pathway contribution PEF	with pica Pathway contribution ug/dl	with pica Pathway contribution percent
Soil Contact	2.1E-6	1.1E-05	1%	--	1.1E-05	0.4%
Soil Ingestion	2.5E-4	1.3E-03	99%	5.0E-4	2.7E-03	100%
Inhalation	7.0E-8	3.7E-07	0.03%	--	3.7E-07	0.01%

Notes:

[a] Highlighted values are Site-specific: days per week based on the assumption of 1 day per month (1 day/4 weeks = 0.25 days/week), 8 months per year. See Table 5.1 of the main report for details.

Table BCW-B1.10c

2-Foot Scouring Scenario Risk Evaluation for Lead in BCW Surface Soil (2 to 3 feet bgs) Using Depth-Weighted EPCs: Recreational User (Hiker)

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MEDIUM	LEVEL
Lead in Soil/Dust (ug/g)	6.8
Respirable Dust (ug/m^3)	1.5

OUTPUT	Percentile Estimate of Blood Pb (ug/dl) 50th	Percentile Estimate of Blood Pb (ug/dl) 90th	Percentile Estimate of Blood Pb (ug/dl) 95th	Percentile Estimate of Blood Pb (ug/dl) 98th	Percentile Estimate of Blood Pb (ug/dl) 99th	PRG-90 (ug/g)
BLOOD Pb, CHILD	0.003	0.006	0.01	0.01	0.01	1079
BLOOD Pb, PICA CHILD	0.007	0.01	0.01	0.02	0.02	542

EXPOSURE PARAMETERS	units	children
Days per week	days/wk	0.5 [a]
Geometric Standard Deviation	ug/dl	1.6
Blood lead level of concern	ug/dl	1
Skin area, residential	cm^2	2900
Soil adherence	ug/cm^2	200
Dermal uptake constant	(ug/dl)/(ug/day)	0.0001
Soil ingestion	mg/day	100
Soil ingestion, pica	mg/day	200
Ingestion constant	(ug/dl)/(ug/day)	0.16
Bioavailability	unitless	0.44
Breathing rate	m^3/day	6.8
Inhalation constant	(ug/dl)/(ug/day)	0.192

CHILDREN	typical Pathway contribution	typical Pathway contribution	typical Pathway contribution	with pica Pathway contribution	with pica Pathway contribution	with pica Pathway contribution
Pathway	PEF	ug/dl	percent	PEF	ug/dl	percent
Soil Contact	4.1E-6	2.8E-05	1%	--	2.8E-05	0.4%
Soil Ingestion	5.0E-4	3.4E-03	99%	1.0E-3	6.8E-03	100%
Inhalation	1.4E-7	9.5E-07	0.03%	--	9.5E-07	0.01%

Notes:
[a] Highlighted values are Site-specific: days per week based on the assumption of 2 days per month (2 days/4 weeks = 0.5 days/week), 8 months per year. See Table 5.1 of the main report for details.

Table BCW-B1.10d

2-Foot Scouring Scenario Risk Evaluation for Lead in BCW Shallow Soil (2 to 6 feet bgs) Using Depth-Weighted EPCs: Recreational User (Hiker)

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INPUT MEDIUM	INPUT LEVEL
Lead in Soil/Dust (ug/g)	5.3
Respirable Dust (ug/m^3)	1.5

OUTPUT	Percentile Estimate of Blood Pb (ug/dl) 50th	Percentile Estimate of Blood Pb (ug/dl) 90th	Percentile Estimate of Blood Pb (ug/dl) 95th	Percentile Estimate of Blood Pb (ug/dl) 98th	Percentile Estimate of Blood Pb (ug/dl) 99th	PRG-90 (ug/g)
BLOOD Pb, CHILD	0.003	0.005	0.01	0.01	0.01	1079
BLOOD Pb, PICA CHILD	0.005	0.01	0.01	0.01	0.02	542

EXPOSURE PARAMETERS	units	children
Days per week	days/wk	0.5[a]
Geometric Standard Deviation	ug/dl	1.6
Blood lead level of concern	ug/dl	1
Skin area, residential	cm^2	2900
Soil adherence	ug/cm^2	200
Dermal uptake constant	(ug/dl)/(ug/day)	0.0001
Soil ingestion	mg/day	100
Soil ingestion, pica	mg/day	200
Ingestion constant	(ug/dl)/(ug/day)	0.16
Bioavailability	unitless	0.44
Breathing rate	m^3/day	6.8
Inhalation constant	(ug/dl)/(ug/day)	0.192

CHILDREN Pathway	typical Pathway contribution PEF	typical Pathway contribution ug/dl	typical Pathway contribution percent	with pica Pathway contribution PEF	with pica Pathway contribution ug/dl	with pica Pathway contribution percent
Soil Contact	4.1E-6	2.2E-05	1%	--	2.2E-05	0.4%
Soil Ingestion	5.0E-4	2.7E-03	99%	1.0E-3	5.3E-03	100%
Inhalation	1.4E-7	7.4E-07	0.03%	--	7.4E-07	0.01%

Notes:
[a] Highlighted values are Site-specific: days per week based on the assumption of 2 days per month (2 days/4 weeks = 0.5 days/week), 8 months per year. See Table 5.1 of the main report for details.

Table BCW-B1.10e

2-Foot Scouring Scenario Risk Evaluation for Lead in BCW Surface Soil (2 to 3 feet bgs) Using Depth-Weighted EPCs: Recreational User (Off-highway Vehicle Rider)

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INPUT MEDIUM	INPUT LEVEL
Lead in Soil/Dust (ug/g)	6.8
Respirable Dust (ug/m^3)	1.5

OUTPUT	Percentile Estimate of Blood Pb (ug/dl) 50th	Percentile Estimate of Blood Pb (ug/dl) 90th	Percentile Estimate of Blood Pb (ug/dl) 95th	Percentile Estimate of Blood Pb (ug/dl) 98th	Percentile Estimate of Blood Pb (ug/dl) 99th	PRG-90 (ug/g)
BLOOD Pb, CHILD	0.001	0.002	0.00	0.00	0.00	3180
BLOOD Pb, PICA CHILD	0.007	0.01	0.02	0.02	0.02	535

EXPOSURE PARAMETERS	units	children
Days per week	days/wk	0.5 [a]
Geometric Standard Deviation	ug/dl	1.6
Blood lead level of concern	ug/dl	1
Skin area, residential	cm^2	2900
Soil adherence	ug/cm^2	800 [a]
Dermal uptake constant	(ug/dl)/(ug/day)	0.0001
Soil ingestion	mg/day	31 [a]
Soil ingestion, pica	mg/day	200
Ingestion constant	(ug/dl)/(ug/day)	0.16
Bioavailability	unitless	0.44
Breathing rate	m^3/day	0.425 [a]
Inhalation constant	(ug/dl)/(ug/day)	0.192

CHILDREN Pathway	typical Pathway contribution PEF	typical Pathway contribution ug/dl	typical Pathway contribution percent	with pica Pathway contribution PEF	with pica Pathway contribution ug/dl	with pica Pathway contribution percent
Soil Contact	1.7E-5	1.1E-04	10%	--	1.1E-04	1.6%
Soil Ingestion	1.6E-4	1.1E-03	90%	1.0E-3	6.8E-03	98%
Inhalation	8.7E-9	5.9E-08	0.01%	--	5.9E-08	0.00%

Notes:
[a] Highlighted values are Site-specific: days per week based on the assumption of 2 days per month, 8 months per year. Soil ingestion rate of 330 mg/day is modified by exposure time (1.5 hours riding at site per 16 awake hours, or 0.09). Default inhalation breathing rate of 6.8 m^3/day is modified to account for exposure time (i.e., 1.5 hours riding at site per 24 hours, or 0.06) . See Table 5.1 of the main report for details.

Table BCW-B1.10f

2-Foot Scouring Scenario Risk Evaluation for Lead in BCW Shallow Soil (2 to 6 feet bgs) Using Depth-Weighted EPCs: Recreational User (Off-highway Vehicle Rider)

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INPUT MEDIUM	**INPUT** LEVEL
Lead in Soil/Dust (ug/g)	5.3
Respirable Dust (ug/m^3)	1.5

OUTPUT	Percentile Estimate of Blood Pb (ug/dl) 50th	Percentile Estimate of Blood Pb (ug/dl) 90th	Percentile Estimate of Blood Pb (ug/dl) 95th	Percentile Estimate of Blood Pb (ug/dl) 98th	Percentile Estimate of Blood Pb (ug/dl) 99th	PRG-90 (ug/g)
BLOOD Pb, CHILD	0.001	0.002	0.00	0.00	0.00	3180
BLOOD Pb, PICA CHILD	0.005	0.01	0.01	0.01	0.02	535

EXPOSURE PARAMETERS	units	children
Days per week	days/wk	0.5[a]
Geometric Standard Deviation	ug/dl	1.6
Blood lead level of concern	ug/dl	1
Skin area, residential	cm^2	2900
Soil adherence	ug/cm^2	800[a]
Dermal uptake constant	(ug/dl)/(ug/day)	0.0001
Soil ingestion	mg/day	31[a]
Soil ingestion, pica	mg/day	200
Ingestion constant	(ug/dl)/(ug/day)	0.16
Bioavailability	unitless	0.44
Breathing rate	m^3/day	0.425[a]
Inhalation constant	(ug/dl)/(ug/day)	0.192

CHILDREN Pathway	typical Pathway contribution PEF	typical Pathway contribution ug/dl	typical Pathway contribution percent	with pica Pathway contribution PEF	with pica Pathway contribution ug/dl	with pica Pathway contribution percent
Soil Contact	1.7E-5	8.7E-05	10%	--	8.7E-05	1.6%
Soil Ingestion	1.6E-4	8.2E-04	90%	1.0E-3	5.3E-03	98%
Inhalation	8.7E-9	4.6E-08	0.01%	--	4.6E-08	0.00%

Notes:
[a] Highlighted values are Site-specific: days per week based on the assumption of 2 days per month, 8 months per year. Soil ingestion rate of 330 mg/day is modified by exposure time (1.5 hours riding at site per 16 awake hours, or 0.09). Default inhalation breathing rate of 6.8 m^3/day is modified to account for exposure time (i.e., 1.5 hours riding at site per 24 hours, or 0.06) . See Table 5.1 of the main report for details.

Table BCW-B1.11a
5-Foot Scouring Scenario Exposure Concentration and Dose Calculations for Carcinogenic Effects for C O P Cs in BCW Soil Using Depth-Weighted EPCs: Recreational User - Camper

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C O P C	Age-Adjusted Adult Camper (5 to 6 feet bgs)[a] Soil Pathway EC: Particulate Inhalation (mg/m^3)	Age-Adjusted Adult Camper (5 to 6 feet bgs)[a] Soil Pathway EC: Outdoor Vapor Inhalation (mg/m^3)	Age-Adjusted Adult Camper (5 to 6 feet bgs)[a] Soil Pathway CDI: Dermal Contact (mg/kg-day)	Age-Adjusted Adult Camper (5 to 6 feet bgs)[a] Soil Pathway CDI: Ingestion (mg/kg-day)	Age-Adjusted Adult Camper (5 to 10 feet bgs)[a] Soil Pathway EC: Particulate Inhalation (mg/m^3)	Age-Adjusted Adult Camper (5 to 10 feet bgs)[a] Soil Pathway EC: Outdoor Vapor Inhalation (mg/m^3)	Age-Adjusted Adult Camper (5 to 10 feet bgs)[a] Soil Pathway CDI: Dermal Contact (mg/kg-day)	Age-Adjusted Adult Camper (5 to 10 feet bgs)[a] Soil Pathway CDI: Ingestion (mg/kg-day)
Inorganics								
Antimony	NC	NV	NC	NC	NC	NV	NC	NC
Chromium, Hexavalent	8.2E-12	NV	NA	7.4E-08	1.4E-11	NV	NA	1.2E-07
Chromium, total	NC	NV	NC	NC	NC	NV	NC	NC
Cobalt	5.1E-11	NV	NC	NC	5.1E-11	NV	NC	NC
Copper	NC	NV	NC	NC	NC	NV	NC	NC
Lead	na	na	na	na	na	na	na	na
Mercury (inorganic)	NC	NC	NC	NC	NC	NC	NC	NC
Orthophosphate	NS	NV	NS	NS	NC	NV	NC	NC
Thallium	NC	NV	NC	NC	NC	NV	NC	NC
Zinc	NC	NV	NC	NC	NC	NV	NC	NC
Semi-Volatile Organic Compounds								
bis (2-ethylhexyl) phthalate	2.2E-12	NV	3.9E-09	1.2E-08	2.0E-12	NV	3.5E-09	1.1E-08
Polycyclic Aromatic Hydrocarbons								
2-Methyl naphthalene	ND	NV	ND	ND	NC	NV	NC	NC
Acenaphthylene	ND	NV	ND	ND	ND	NV	ND	ND
Anthracene	NC	NV	NC	NC	NC	NV	NC	NC
Benzo (ghi) perylene	NC	NV	NC	NC	NC	NV	NC	NC
Fluoranthene	NC	NV	NC	NC	NC	NV	NC	NC
Fluorene	ND	NV	ND	ND	NC	NV	NC	NC
Naphthalene	ND	1.5E-09	ND	ND	3.2E-14	1.5E-09	8.5E-11	1.8E-10
Phenanthrene	NC	NV	NC	NC	NC	NV	NC	NC
Pyrene	NC	NV	NC	NC	NC	NV	NC	NC

Table BCW-B1.11a
5-Foot Scouring Scenario Exposure Concentration and Dose Calculations for Carcinogenic Effects for C O P Cs in BCW Soil Using Depth-Weighted EPCs: Recreational User - Camper

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C O P C	Age-Adjusted Adult Camper (5 to 6 feet bgs)[a] Soil Pathway EC: Particulate Inhalation (mg/m^3)	Age-Adjusted Adult Camper (5 to 6 feet bgs)[a] Soil Pathway EC: Outdoor Vapor Inhalation (mg/m^3)	Age-Adjusted Adult Camper (5 to 6 feet bgs)[a] Soil Pathway CDI: Dermal Contact (mg/kg-day)	Age-Adjusted Adult Camper (5 to 6 feet bgs)[a] Soil Pathway CDI: Ingestion (mg/kg-day)	Age-Adjusted Adult Camper (5 to 10 feet bgs)[a] Soil Pathway EC: Particulate Inhalation (mg/m^3)	Age-Adjusted Adult Camper (5 to 10 feet bgs)[a] Soil Pathway EC: Outdoor Vapor Inhalation (mg/m^3)	Age-Adjusted Adult Camper (5 to 10 feet bgs)[a] Soil Pathway CDI: Dermal Contact (mg/kg-day)	Age-Adjusted Adult Camper (5 to 10 feet bgs)[a] Soil Pathway CDI: Ingestion (mg/kg-day)
Polychlorinated Biphenyls								
Total PCBs	ND	4.0E-10	ND	ND	1.4E-13	4.0E-10	3.7E-10	7.6E-10
Total Petroleum Hydrocarbons								
TPH as diesel	NC	NC	NC	NC	NC	NC	NC	NC
TPH as motor oil	NC	NC	NC	NC	NC	NC	NC	NC
Dioxins/Furans								
TEQ Human	1.8E-16	4.3E-13	9.7E-14	1.0E-12	1.9E-16	4.3E-13	9.9E-14	1.0E-12

Notes:
[a] Exposure point concentrations (EPCs) for exposure to subsurface I soil (5 to 15 feet bgs) are used to evaluate the vapor inhalation pathway.

Abbreviations:
bgs = below ground surface.
CDI = Chronic Daily Intake.
C O P C = Constituent of Potential Concern.
EC = Exposure Concentration.
mg/kg-day = milligrams per kilogram per day.
mg/m^3 = milligrams per cubic meter.
na = Not applicable. Potential exposure to lead is evaluated using California Environmental Protection Agency (Cal/E P A) Department of Toxic Substances Control's (DTSC) LeadSpread model. Please see text for discussion.
NA = Not applicable. Hexavalent chromium is not absorbed via dermal contact.
NC = Not considered a carcinogen.
ND = Not detected.
NS = Not sampled.
NV = Not volatile.
PCB = Polychlorinated biphenyls.
TPH = Total Petroleum Hydrocarbons.
TEQ = Toxic Equivalent.

Table BCW-B1.11b
5-Foot Scouring Scenario Exposure Concentration and Dose Calculations for Carcinogenic Effects for C O P Cs in BCW Soil Using Depth-Weighted EPCs: Recreational User - Hiker

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C O P C	Age-Adjusted Adult Hiker (5 to 6 feet bgs)[a] Soil Pathway EC: Particulate Inhalation (mg/m^3)	Age-Adjusted Adult Hiker (5 to 6 feet bgs)[a] Soil Pathway EC: Outdoor Vapor Inhalation (mg/m^3)	Age-Adjusted Adult Hiker (5 to 6 feet bgs)[a] Soil Pathway CDI: Dermal Contact (mg/kg-day)	Age-Adjusted Adult Hiker (5 to 6 feet bgs)[a] Soil Pathway CDI: Ingestion (mg/kg-day)	Age-Adjusted Adult Hiker (5 to 10 feet bgs)[a] Soil Pathway EC: Particulate Inhalation (mg/m^3)	Age-Adjusted Adult Hiker (5 to 10 feet bgs)[a] Soil Pathway EC: Outdoor Vapor Inhalation (mg/m^3)	Age-Adjusted Adult Hiker (5 to 10 feet bgs)[a] Soil Pathway CDI: Dermal Contact (mg/kg-day)	Age-Adjusted Adult Hiker (5 to 10 feet bgs)[a] Soil Pathway CDI: Ingestion (mg/kg-day)
Inorganics								
Antimony	NC	NV	NC	NC	NC	NV	NC	NC
Chromium, Hexavalent	1.6E-11	NV	NA	1.5E-07	2.7E-11	NV	NA	2.5E-07
Chromium, total	NC	NV	NC	NC	NC	NV	NC	NC
Cobalt	1.0E-10	NV	NC	NC	1.0E-10	NV	NC	NC
Copper	NC	NV	NC	NC	NC	NV	NC	NC
Lead	na	na	na	na	na	na	na	na
Mercury (inorganic)	NC	NC	NC	NC	NC	NC	NC	NC
Orthophosphate	NS	NV	NS	NS	NC	NV	NC	NC
Thallium	NC	NV	NC	NC	NC	NV	NC	NC
Zinc	NC	NV	NC	NC	NC	NV	NC	NC
Semi-Volatile Organic Compounds								
bis (2-ethylhexyl) phthalate	4.4E-12	NV	7.8E-09	2.4E-08	3.9E-12	NV	7.0E-09	2.2E-08
Polycyclic Aromatic Hydrocarbons								
2-Methyl naphthalene	ND	NV	ND	ND	NC	NV	NC	NC
Acenaphthylene	ND	NV	ND	ND	ND	NV	ND	ND
Anthracene	NC	NV	NC	NC	NC	NV	NC	NC
Benzo (ghi) perylene	NC	NV	NC	NC	NC	NV	NC	NC
Fluoranthene	NC	NV	NC	NC	NC	NV	NC	NC
Fluorene	ND	NV	ND	ND	NC	NV	NC	NC
Naphthalene	ND	2.9E-09	ND	ND	6.4E-14	2.9E-09	1.7E-10	3.5E-10
Phenanthrene	NC	NV	NC	NC	NC	NV	NC	NC
Pyrene	NC	NV	NC	NC	NC	NV	NC	NC

Table BCW-B1.11b
5-Foot Scouring Scenario Exposure Concentration and Dose Calculations for Carcinogenic Effects for C O P Cs in BCW Soil Using Depth-Weighted EPCs: Recreational User - Hiker

Post-Soil N T C R A Human Health and Ecological Risk Assessment Report
PG&E Topock Compressor Station
Needles, California

C O P C	Age-Adjusted Adult Hiker (5 to 6 feet bgs)[a] Soil Pathway EC: Particulate Inhalation (mg/m^3)	Age-Adjusted Adult Hiker (5 to 6 feet bgs)[a] Soil Pathway EC: Outdoor Vapor Inhalation (mg/m^3)	Age-Adjusted Adult Hiker (5 to 6 feet bgs)[a] Soil Pathway CDI: Dermal Contact (mg/kg-day)	Age-Adjusted Adult Hiker (5 to 6 feet bgs)[a] Soil Pathway CDI: Ingestion (mg/kg-day)	Age-Adjusted Adult Hiker (5 to 10 feet bgs)[a] Soil Pathway EC: Particulate Inhalation (mg/m^3)	Age-Adjusted Adult Hiker (5 to 10 feet bgs)[a] Soil Pathway EC: Outdoor Vapor Inhalation (mg/m^3)	Age-Adjusted Adult Hiker (5 to 10 feet bgs)[a] Soil Pathway CDI: Dermal Contact (mg/kg-day)	Age-Adjusted Adult Hiker (5 to 10 feet bgs)[a] Soil Pathway CDI: Ingestion (mg/kg-day)
Polychlorinated Biphenyls								
Total PCBs	ND	8.0E-10	ND	ND	2.8E-13	8.0E-10	7.3E-10	1.5E-09
Total Petroleum Hydrocarbons								
TPH as diesel	NC	NC	NC	NC	NC	NC	NC	NC
TPH as motor oil	NC	NC	NC	NC	NC	NC	NC	NC
Dioxins/Furans								
TEQ Human	3.6E-16	8.7E-13	1.9E-13	2.0E-12	3.7E-16	8.7E-13	2.0E-13	2.0E-12

Notes:
[a] Exposure point concentrations (EPCs) for exposure to subsurface I soil (5 to 15 feet bgs) are used to evaluate the vapor inhalation pathway.

Abbreviations:
bgs = below ground surface.
CDI = Chronic Daily Intake.
C O P C = Constituent of Potential Concern.
EC = Exposure Concentration.
mg/kg-day = milligrams per kilogram per day.
mg/m^3 = milligrams per cubic meter.
na = Not applicable. Potential exposure to lead is evaluated using California Environmental Protection Agency (Cal/E P A) Department of Toxic Substances Control's (DTSC) LeadSpread model. Please see text for discussion.
NA = Not applicable. Hexavalent chromium is not absorbed via dermal contact.
NC = Not considered a carcinogen.
ND = Not detected.
NS = Not sampled.
NV = Not volatile.
PCB = Polychlorinated biphenyls.
TPH = Total Petroleum Hydrocarbons.
TEQ = Toxic Equivalent.

Table BCW-B1.11c

5-Foot Scouring Scenario Exposure Concentration and Dose Calculations for Carcinogenic Effects for C O P Cs in BCW Soil Using Depth-Weighted EPCs: Recreational User - Off-Highway Vehicle Rider

Post-Soil N T C R A Human Health and Ecological Risk Assessment Report
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C O P C	Age-Adjusted Adult OHV Rider (5 to 6 feet bgs)[a] Soil Pathway EC: Particulate Inhalation (mg/m^3)	Age-Adjusted Adult OHV Rider (5 to 6 feet bgs)[a] Soil Pathway EC: Outdoor Vapor Inhalation (mg/m^3)	Age-Adjusted Adult OHV Rider (5 to 6 feet bgs)[a] Soil Pathway CDI: Dermal Contact (mg/kg-day)	Age-Adjusted Adult OHV Rider (5 to 6 feet bgs)[a] Soil Pathway CDI: Ingestion (mg/kg-day)	Age-Adjusted Adult OHV Rider (5 to 10 feet bgs)[a] Soil Pathway EC: Particulate Inhalation (mg/m^3)	Age-Adjusted Adult OHV Rider (5 to 10 feet bgs)[a] Soil Pathway EC: Outdoor Vapor Inhalation (mg/m^3)	Age-Adjusted Adult OHV Rider (5 to 10 feet bgs)[a] Soil Pathway CDI: Dermal Contact (mg/kg-day)	Age-Adjusted Adult OHV Rider (5 to 10 feet bgs)[a] Soil Pathway CDI: Ingestion (mg/kg-day)
Inorganics								
Antimony	NC	NV	NC	NC	NC	NV	NC	NC
Chromium, Hexavalent	1.1E-09	NV	NA	8.6E-09	1.8E-09	NV	NA	1.4E-08
Chromium, total	NC	NV	NC	NC	NC	NV	NC	NC
Cobalt	1.0E-08	NV	NC	NC	1.0E-08	NV	NC	NC
Copper	NC	NV	NC	NC	NC	NV	NC	NC
Lead	na	na	na	na	na	na	na	na
Mercury (inorganic)	NC	NC	NC	NC	NC	NC	NC	NC
Orthophosphate	NS	NV	NS	NS	NC	NV	NC	NC
Thallium	NC	NV	NC	NC	NC	NV	NC	NC
Zinc	NC	NV	NC	NC	NC	NV	NC	NC
Semi-Volatile Organic Compounds								
bis (2-ethylhexyl) phthalate	4.4E-10	NV	3.8E-08	3.1E-09	4.0E-10	NV	3.4E-08	2.8E-09
Polycyclic Aromatic Hydrocarbons								
2-Methyl naphthalene	ND	NV	ND	ND	NC	NV	NC	NC
Acenaphthylene	ND	NV	ND	ND	ND	NV	ND	ND
Anthracene	NC	NV	NC	NC	NC	NV	NC	NC
Benzo (ghi) perylene	NC	NV	NC	NC	NC	NV	NC	NC
Fluoranthene	NC	NV	NC	NC	NC	NV	NC	NC
Fluorene	ND	NV	ND	ND	NC	NV	NC	NC
Naphthalene	ND	1.8E-10	ND	ND	6.4E-12	1.8E-10	8.2E-10	4.5E-11
Phenanthrene	NC	NV	NC	NC	NC	NV	NC	NC
Pyrene	NC	NV	NC	NC	NC	NV	NC	NC

Table BCW-B1.11c

5-Foot Scouring Scenario Exposure Concentration and Dose Calculations for Carcinogenic Effects for C O P Cs in BCW Soil Using Depth-Weighted EPCs: Recreational User - Off-Highway Vehicle Rider

Post-Soil N T C R A Human Health and Ecological Risk Assessment Report
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C O P C	Age-Adjusted Adult OHV Rider (5 to 6 feet bgs)[a] Soil Pathway EC: Particulate Inhalation (mg/m^3)	Age-Adjusted Adult OHV Rider (5 to 6 feet bgs)[a] Soil Pathway EC: Outdoor Vapor Inhalation (mg/m^3)	Age-Adjusted Adult OHV Rider (5 to 6 feet bgs)[a] Soil Pathway CDI: Dermal Contact (mg/kg-day)	Age-Adjusted Adult OHV Rider (5 to 6 feet bgs)[a] Soil Pathway CDI: Ingestion (mg/kg-day)	Age-Adjusted Adult OHV Rider (5 to 10 feet bgs)[a] Soil Pathway EC: Particulate Inhalation (mg/m^3)	Age-Adjusted Adult OHV Rider (5 to 10 feet bgs)[a] Soil Pathway EC: Outdoor Vapor Inhalation (mg/m^3)	Age-Adjusted Adult OHV Rider (5 to 10 feet bgs)[a] Soil Pathway CDI: Dermal Contact (mg/kg-day)	Age-Adjusted Adult OHV Rider (5 to 10 feet bgs)[a] Soil Pathway CDI: Ingestion (mg/kg-day)
Polychlorinated Biphenyls								
Total PCBs	ND	5.0E-11	ND	ND	2.8E-11	5.0E-11	3.5E-09	1.9E-10
Total Petroleum Hydrocarbons								
TPH as diesel	NC	NC	NC	NC	NC	NC	NC	NC
TPH as motor oil	NC	NC	NC	NC	NC	NC	NC	NC
Dioxins/Furans								
TEQ Human	3.7E-14	5.4E-14	9.3E-13	2.5E-13	3.7E-14	5.4E-14	9.5E-13	2.6E-13

Notes:

[a] Exposure point concentrations (EPCs) for exposure to subsurface I soil (5 to 15 feet bgs) are used to evaluate the vapor inhalation pathway.

Abbreviations:

bgs = below ground surface.
CDI = Chronic Daily Intake.
C O P C = Constituent of Potential Concern.
EC = Exposure Concentration.
mg/kg-day = milligrams per kilogram per day.
mg/m^3 = milligrams per cubic meter.
na = Not applicable. Potential exposure to lead is evaluated using California Environmental Protection Agency (Cal/E P A) Department of Toxic Substances Control's (DTSC) LeadSpread model. Please see text for discussion.
NA = Not applicable. Hexavalent chromium is not absorbed via dermal contact.
NC = Not considered a carcinogen.
ND = Not detected.
NS = Not sampled.
NV = Not volatile.
PCB = Polychlorinated biphenyls.
TPH = Total Petroleum Hydrocarbons.
TEQ = Toxic Equivalent.

Table BCW-B1.12a
5-Foot Scouring Scenario Exposure Concentration and Dose Calculations for Noncarcinogenic Effects for C O P Cs in BCW Soil Using Depth-Weighted EPCs: Recreational User - Camper

Post-Soil N T C R A Human Health and Ecological Risk Assessment Report
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C O P C	Child Camper (5 to 6 feet bgs)[a] Soil Pathway EC: Particulate Inhalation (mg/m^3)	Child Camper (5 to 6 feet bgs)[a] Soil Pathway EC: Outdoor Vapor Inhalation (mg/m^3)	Child Camper (5 to 6 feet bgs)[a] Soil Pathway CDI: Dermal Contact (mg/kg-day)	Child Camper (5 to 6 feet bgs)[a] Soil Pathway CDI: Ingestion (mg/kg-day)	Adult Camper (5 to 6 feet bgs)[a] Soil Pathway EC: Particulate Inhalation (mg/m^3)	Adult Camper (5 to 6 feet bgs)[a] Soil Pathway EC: Outdoor Vapor Inhalation (mg/m^3)	Adult Camper (5 to 6 feet bgs)[a] Soil Pathway CDI: Dermal Contact (mg/kg-day)	Adult Camper (5 to 6 feet bgs)[a] Soil Pathway CDI: Ingestion (mg/kg-day)	Child Camper (5 to 10 feet bgs)[a] Soil Pathway EC: Particulate Inhalation (mg/m^3)	Child Camper (5 to 10 feet bgs)[a] Soil Pathway EC: Outdoor Vapor Inhalation (mg/m^3)	Child Camper (5 to 10 feet bgs)[a] Soil Pathway CDI: Dermal Contact (mg/kg-day)	Child Camper (5 to 10 feet bgs)[a] Soil Pathway CDI: Ingestion (mg/kg-day)	Adult Camper (5 to 10 feet bgs)[a] Soil Pathway EC: Particulate Inhalation (mg/m^3)	Adult Camper (5 to 10 feet bgs)[a] Soil Pathway EC: Outdoor Vapor Inhalation (mg/m^3)	Adult Camper (5 to 10 feet bgs)[a] Soil Pathway CDI: Dermal Contact (mg/kg-day)	Adult Camper (5 to 10 feet bgs)[a] Soil Pathway CDI: Ingestion (mg/kg-day)
Inorganics																
Antimony	2.0E-11	NV	1.0E-08	3.6E-07	2.0E-11	NV	1.4E-09	3.4E-08	2.0E-11	NV	1.1E-08	3.7E-07	2.0E-11	NV	1.5E-09	3.5E-08
Chromium, Hexavalent	8.0E-12	NV	NA	1.4E-07	8.0E-12	NV	NA	1.4E-08	1.3E-11	NV	NA	2.4E-07	1.3E-11	NV	NA	2.3E-08
Chromium, total	6.3E-10	NV	3.3E-07	1.1E-05	6.3E-10	NV	4.5E-08	1.1E-06	1.5E-09	NV	8.0E-07	2.8E-05	1.5E-09	NV	1.1E-07	2.6E-06
Cobalt	1.4E-10	NV	7.2E-08	2.5E-06	1.4E-10	NV	9.9E-09	2.3E-07	1.4E-10	NV	7.2E-08	2.5E-06	1.4E-10	NV	9.8E-09	2.3E-07
Copper	2.0E-10	NV	1.0E-07	3.5E-06	2.0E-10	NV	1.4E-08	3.3E-07	2.0E-10	NV	1.0E-07	3.5E-06	2.0E-10	NV	1.4E-08	3.3E-07
Lead	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
Mercury (inorganic)	9.4E-13	NV	4.9E-10	1.7E-08	9.4E-13	NV	6.7E-11	1.6E-09	9.1E-13	NV	4.8E-10	1.7E-08	9.1E-13	NV	6.6E-11	1.6E-09
Orthophosphate	NS	NV	NS	NS	NS	NV	NS	NS	5.0E-09	NV	2.6E-06	9.1E-05	5.0E-09	NV	3.6E-07	8.5E-06
Thallium	3.7E-11	NV	1.9E-08	6.7E-07	3.7E-11	NV	2.7E-09	6.3E-08	3.8E-11	NV	2.0E-08	6.9E-07	3.8E-11	NV	2.7E-09	6.5E-08
Zinc	1.3E-09	NV	6.7E-07	2.3E-05	1.3E-09	NV	9.2E-08	2.2E-06	1.2E-09	NV	6.4E-07	2.2E-05	1.2E-09	NV	8.7E-08	2.1E-06
Semi-Volatile Organic Compounds																
bis (2-ethylhexyl) phthalate	6.0E-12	NV	3.1E-08	1.1E-07	6.0E-12	NV	4.3E-09	1.0E-08	5.3E-12	NV	2.8E-08	9.6E-08	5.3E-12	NV	3.8E-09	9.0E-09
Polycyclic Aromatic Hydrocarbons																
2-Methyl naphthalene	ND	1.2E-09	ND	ND	ND	1.2E-09	ND	ND	4.9E-14	1.2E-09	3.9E-10	8.9E-10	4.9E-14	1.2E-09	5.3E-11	8.3E-11
Acenaphthylene	ND	NV	ND	ND	ND	NV	ND	ND	ND	NV	ND	ND	ND	NV	ND	ND
Anthracene	5.2E-13	5.6E-10	4.1E-09	9.4E-09	5.2E-13	5.6E-10	5.6E-10	8.8E-10	4.3E-13	5.6E-10	3.4E-09	7.9E-09	4.3E-13	5.6E-10	4.7E-10	7.4E-10
Benzo (ghi) perylene	9.5E-14	NV	7.5E-10	1.7E-09	9.5E-14	NV	1.0E-10	1.6E-10	8.5E-14	NV	6.7E-10	1.5E-09	8.5E-14	NV	9.1E-11	1.4E-10
Fluoranthene	4.4E-13	NV	3.5E-09	8.0E-09	4.4E-13	NV	4.7E-10	7.5E-10	8.7E-14	NV	6.9E-10	1.6E-09	8.7E-14	NV	9.4E-11	1.5E-10
Fluorene	ND	3.5E-10	ND	ND	ND	3.5E-10	ND	ND	5.8E-14	3.5E-10	4.6E-10	1.0E-09	5.8E-14	3.5E-10	6.2E-11	9.8E-11
Naphthalene	ND	4.0E-09	ND	ND	ND	4.0E-09	ND	ND	8.6E-14	4.0E-09	6.8E-10	1.6E-09	8.6E-14	4.0E-09	9.3E-11	1.5E-10
Phenanthrene	2.4E-12	NV	1.9E-08	4.4E-08	2.4E-12	NV	2.6E-09	4.1E-09	1.3E-13	NV	1.1E-09	2.4E-09	1.3E-13	NV	1.4E-10	2.3E-10
Pyrene	4.2E-13	3.4E-11	3.3E-09	7.5E-09	4.2E-13	3.4E-11	4.5E-10	7.1E-10	8.3E-14	3.4E-11	6.5E-10	1.5E-09	8.3E-14	3.4E-11	8.9E-11	1.4E-10

Table BCW-B1.12a
5-Foot Scouring Scenario Exposure Concentration and Dose Calculations for Noncarcinogenic Effects for C O P Cs in BCW Soil Using Depth-Weighted EPCs: Recreational User - Camper

Post-Soil N T C R A Human Health and Ecological Risk Assessment Report
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Needles, California

C O P C	Child Camper (5 to 6 feet bgs)[a] Soil Pathway EC: Particulate Inhalation (mg/m^3)	Child Camper (5 to 6 feet bgs)[a] Soil Pathway EC: Outdoor Vapor Inhalation (mg/m^3)	Child Camper (5 to 6 feet bgs)[a] Soil Pathway CDI: Dermal Contact (mg/kg-day)	Child Camper (5 to 6 feet bgs)[a] Soil Pathway CDI: Ingestion (mg/kg-day)	Adult Camper (5 to 6 feet bgs)[a] Soil Pathway EC: Particulate Inhalation (mg/m^3)	Adult Camper (5 to 6 feet bgs)[a] Soil Pathway EC: Outdoor Vapor Inhalation (mg/m^3)	Adult Camper (5 to 6 feet bgs)[a] Soil Pathway CDI: Dermal Contact (mg/kg-day)	Adult Camper (5 to 6 feet bgs)[a] Soil Pathway CDI: Ingestion (mg/kg-day)	Child Camper (5 to 10 feet bgs)[a] Soil Pathway EC: Particulate Inhalation (mg/m^3)	Child Camper (5 to 10 feet bgs)[a] Soil Pathway EC: Outdoor Vapor Inhalation (mg/m^3)	Child Camper (5 to 10 feet bgs)[a] Soil Pathway CDI: Dermal Contact (mg/kg-day)	Child Camper (5 to 10 feet bgs)[a] Soil Pathway CDI: Ingestion (mg/kg-day)	Adult Camper (5 to 10 feet bgs)[a] Soil Pathway EC: Particulate Inhalation (mg/m^3)	Adult Camper (5 to 10 feet bgs)[a] Soil Pathway EC: Outdoor Vapor Inhalation (mg/m^3)	Adult Camper (5 to 10 feet bgs)[a] Soil Pathway CDI: Dermal Contact (mg/kg-day)	Adult Camper (5 to 10 feet bgs)[a] Soil Pathway CDI: Ingestion (mg/kg-day)
Polychlorinated Biphenyls																
Total PCBs	ND	1.1E-09	ND	ND	ND	1.1E-09	ND	ND	3.7E-13	1.1E-09	2.9E-09	6.8E-09	3.7E-13	1.1E-09	4.0E-10	6.3E-10
Total Petroleum Hydrocarbons																
TPH as diesel	4.8E-09	1.1E-03	2.5E-05	8.8E-05	4.8E-09	1.1E-03	3.5E-06	8.2E-06	3.9E-09	1.1E-03	2.0E-05	7.0E-05	3.9E-09	1.1E-03	2.8E-06	6.6E-06
TPH as motor oil	5.9E-09	NV	3.1E-05	1.1E-04	5.9E-09	NV	4.2E-06	9.9E-06	4.5E-09	NV	2.4E-05	8.2E-05	4.5E-09	NV	3.3E-06	7.7E-06
Dioxins/Furans																
TEQ Human	4.9E-16	1.2E-12	7.7E-13	8.9E-12	4.9E-16	1.2E-12	1.1E-13	8.3E-13	5.0E-16	1.2E-12	7.9E-13	9.1E-12	5.0E-16	1.2E-12	1.1E-13	8.5E-13

Notes:
[a] Exposure point concentrations (EPCs) for exposure to subsurface soil (5 to 15 feet bgs) are used to evaluate the vapor inhalation pathway.

Abbreviations:
bgs = below ground surface.
CDI = Chronic Daily Intake.
C O P C = Constituent of Potential Concern.
EC = Exposure Concentration.
mg/kg-day = milligrams per kilogram per day.
mg/m^3 = milligrams per cubic meter.
na = Not applicable. Potential exposure to lead is evaluated using California Environmental Protection Agency (Cal/E P A) Department of Toxic Substances Control's (DTSC) LeadSpread model. Please see text for discussion.
NA = Hexavalent chromium is not absorbed via dermal contact.
ND = Not detected.
NS = Not sampled.
NV = Not volatile.
PCB = Polychlorinated biphenyls.
TPH = Total Petroleum Hydrocarbons.
TEQ = Toxic Equivalent.

Table BCW-B1.12b
5-Foot Scouring Scenario Exposure Concentration and Dose Calculations for Noncarcinogenic Effects for C O P Cs in BCW Soil Using Depth-Weighted EPCs: Recreational User - Hiker

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PG&E Topock Compressor Station
Needles, California

COPC	Child Hiker (5 to 6 feet bgs)[a] Soil Pathway EC: Particulate Inhalation (mg/m^3)	Child Hiker (5 to 6 feet bgs)[a] Soil Pathway EC: Outdoor Vapor Inhalation (mg/m^3)	Child Hiker (5 to 6 feet bgs)[a] Soil Pathway CDI: Dermal Contact (mg/kg-day)	Child Hiker (5 to 6 feet bgs)[a] Soil Pathway CDI: Ingestion (mg/kg-day)	Adult Hiker (5 to 6 feet bgs)[a] Soil Pathway EC: Particulate Inhalation (mg/m^3)	Adult Hiker (5 to 6 feet bgs)[a] Soil Pathway EC: Outdoor Vapor Inhalation (mg/m^3)	Adult Hiker (5 to 6 feet bgs)[a] Soil Pathway CDI: Dermal Contact (mg/kg-day)	Adult Hiker (5 to 6 feet bgs)[a] Soil Pathway CDI: Ingestion (mg/kg-day)	Child Hiker (5 to 10 feet bgs)[a] Soil Pathway EC: Particulate Inhalation (mg/m^3)	Child Hiker (5 to 10 feet bgs)[a] Soil Pathway EC: Outdoor Vapor Inhalation (mg/m^3)	Child Hiker (5 to 10 feet bgs)[a] Soil Pathway CDI: Dermal Contact (mg/kg-day)	Child Hiker (5 to 10 feet bgs)[a] Soil Pathway CDI: Ingestion (mg/kg-day)	Adult Hiker (5 to 10 feet bgs)[a] Soil Pathway EC: Particulate Inhalation (mg/m^3)	Adult Hiker (5 to 10 feet bgs)[a] Soil Pathway EC: Outdoor Vapor Inhalation (mg/m^3)	Adult Hiker (5 to 10 feet bgs)[a] Soil Pathway CDI: Dermal Contact (mg/kg-day)	Adult Hiker (5 to 10 feet bgs)[a] Soil Pathway CDI: Ingestion (mg/kg-day)
Inorganics																
Antimony	4.0E-11	NV	2.1E-08	7.2E-07	4.0E-11	NV	2.8E-09	6.7E-08	4.1E-11	NV	2.1E-08	7.4E-07	4.1E-11	NV	2.9E-09	6.9E-08
Chromium, Hexavalent	1.6E-11	NV	NA	2.9E-07	1.6E-11	NV	NA	2.7E-08	2.7E-11	NV	NA	4.8E-07	2.7E-11	NV	NA	4.5E-08
Chromium, total	1.3E-09	NV	6.6E-07	2.3E-05	1.3E-09	NV	9.0E-08	2.1E-06	3.1E-09	NV	1.6E-06	5.5E-05	3.1E-09	NV	2.2E-07	5.2E-06
Cobalt	2.8E-10	NV	1.4E-07	5.0E-06	2.8E-10	NV	2.0E-08	4.7E-07	2.7E-10	NV	1.4E-07	5.0E-06	2.7E-10	NV	2.0E-08	4.7E-07
Copper	3.9E-10	NV	2.1E-07	7.1E-06	3.9E-10	NV	2.8E-08	6.6E-07	3.9E-10	NV	2.1E-07	7.1E-06	3.9E-10	NV	2.8E-08	6.6E-07
Lead	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
Mercury (inorganic)	1.9E-12	NV	9.9E-10	3.4E-08	1.9E-12	NV	1.3E-10	3.2E-09	1.8E-12	NV	9.6E-10	3.3E-08	1.8E-12	NV	1.3E-10	3.1E-09
Orthophosphate	NS	NV	NS	NS	NS	NV	NS	NS	1.0E-08	NV	5.3E-06	1.8E-04	1.0E-08	NV	7.2E-07	1.7E-05
Thallium	7.4E-11	NV	3.9E-08	1.3E-06	7.4E-11	NV	5.3E-09	1.3E-07	7.6E-11	NV	4.0E-08	1.4E-06	7.6E-11	NV	5.5E-09	1.3E-07
Zinc	2.6E-09	NV	1.3E-06	4.6E-05	2.6E-09	NV	1.8E-07	4.3E-06	2.4E-09	NV	1.3E-06	4.4E-05	2.4E-09	NV	1.7E-07	4.1E-06
Semi-Volatile Organic Compounds																
bis (2-ethylhexyl) phthalate	1.2E-11	NV	6.3E-08	2.2E-07	1.2E-11	NV	8.6E-09	2.0E-08	1.1E-11	NV	5.6E-08	1.9E-07	1.1E-11	NV	7.6E-09	1.8E-08
Polycyclic Aromatic Hydrocarbons																
2-Methyl naphthalene	ND	2.4E-09	ND	ND	ND	2.4E-09	ND	ND	9.8E-14	2.4E-09	7.7E-10	1.8E-09	9.8E-14	2.4E-09	1.1E-10	1.7E-10
Acenaphthylene	ND	NV	ND	ND	ND	NV	ND	ND	ND	NV	ND	ND	ND	NV	ND	ND
Anthracene	1.0E-12	1.1E-09	8.1E-09	1.9E-08	1.0E-12	1.1E-09	1.1E-09	1.8E-09	8.7E-13	1.1E-09	6.8E-09	1.6E-08	8.7E-13	1.1E-09	9.3E-10	1.5E-09
Benzo (ghi) perylene	1.9E-13	NV	1.5E-09	3.4E-09	1.9E-13	NV	2.0E-10	3.2E-10	1.7E-13	NV	1.3E-09	3.1E-09	1.7E-13	NV	1.8E-10	2.9E-10
Fluoranthene	8.8E-13	NV	6.9E-09	1.6E-08	8.8E-13	NV	9.5E-10	1.5E-09	1.7E-13	NV	1.4E-09	3.2E-09	1.7E-13	NV	1.9E-10	3.0E-10
Fluorene	ND	6.9E-10	ND	ND	ND	6.9E-10	ND	ND	1.2E-13	6.9E-10	9.1E-10	2.1E-09	1.2E-13	6.9E-10	1.2E-10	2.0E-10
Naphthalene	ND	7.9E-09	ND	ND	ND	7.9E-09	ND	ND	1.7E-13	7.9E-09	1.4E-09	3.1E-09	1.7E-13	7.9E-09	1.9E-10	2.9E-10
Phenanthrene	4.8E-12	NV	3.8E-08	8.8E-08	4.8E-12	NV	5.2E-09	8.2E-09	2.7E-13	NV	2.1E-09	4.8E-09	2.7E-13	NV	2.9E-10	4.5E-10
Pyrene	8.3E-13	6.8E-11	6.6E-09	1.5E-08	8.3E-13	6.8E-11	9.0E-10	1.4E-09	1.7E-13	6.8E-11	1.3E-09	3.0E-09	1.7E-13	6.8E-11	1.8E-10	2.8E-10

Table BCW-B1.12b
5-Foot Scouring Scenario Exposure Concentration and Dose Calculations for Noncarcinogenic Effects for C O P Cs in BCW Soil Using Depth-Weighted EPCs: Recreational User - Hiker

Post-Soil N T C R A Human Health and Ecological Risk Assessment Report
PG&E Topock Compressor Station
Needles, California

C O P C	Child Hiker (5 to 6 feet bgs)[a] Soil Pathway EC: Particulate Inhalation (mg/m^3)	Child Hiker (5 to 6 feet bgs)[a] Soil Pathway EC: Outdoor Vapor Inhalation (mg/m^3)	Child Hiker (5 to 6 feet bgs)[a] Soil Pathway CDI: Dermal Contact (mg/kg-day)	Child Hiker (5 to 6 feet bgs)[a] Soil Pathway CDI: Ingestion (mg/kg-day)	Adult Hiker (5 to 6 feet bgs)[a] Soil Pathway EC: Particulate Inhalation (mg/m^3)	Adult Hiker (5 to 6 feet bgs)[a] Soil Pathway EC: Outdoor Vapor Inhalation (mg/m^3)	Adult Hiker (5 to 6 feet bgs)[a] Soil Pathway CDI: Dermal Contact (mg/kg-day)	Adult Hiker (5 to 6 feet bgs)[a] Soil Pathway CDI: Ingestion (mg/kg-day)	Child Hiker (5 to 10 feet bgs)[a] Soil Pathway EC: Particulate Inhalation (mg/m^3)	Child Hiker (5 to 10 feet bgs)[a] Soil Pathway EC: Outdoor Vapor Inhalation (mg/m^3)	Child Hiker (5 to 10 feet bgs)[a] Soil Pathway CDI: Dermal Contact (mg/kg-day)	Child Hiker (5 to 10 feet bgs)[a] Soil Pathway CDI: Ingestion (mg/kg-day)	Adult Hiker (5 to 10 feet bgs)[a] Soil Pathway EC: Particulate Inhalation (mg/m^3)	Adult Hiker (5 to 10 feet bgs)[a] Soil Pathway EC: Outdoor Vapor Inhalation (mg/m^3)	Adult Hiker (5 to 10 feet bgs)[a] Soil Pathway CDI: Dermal Contact (mg/kg-day)	Adult Hiker (5 to 10 feet bgs)[a] Soil Pathway CDI: Ingestion (mg/kg-day)
Polychlorinated Biphenyls																
Total PCBs	ND	2.2E-09	ND	ND	ND	2.2E-09	ND	ND	7.4E-13	2.2E-09	5.9E-09	1.4E-08	7.4E-13	2.2E-09	8.0E-10	1.3E-09
Total Petroleum Hydrocarbons																
TPH as diesel	9.7E-09	2.2E-03	5.1E-05	1.8E-04	9.7E-09	2.2E-03	6.9E-06	1.6E-05	7.8E-09	2.2E-03	4.1E-05	1.4E-04	7.8E-09	2.2E-03	5.6E-06	1.3E-05
TPH as motor oil	1.2E-08	NV	6.2E-05	2.1E-04	1.2E-08	NV	8.4E-06	2.0E-05	9.1E-09	NV	4.8E-05	1.6E-04	9.1E-09	NV	6.5E-06	1.5E-05
Dioxins/Furans																
TEQ Human	9.8E-16	2.3E-12	1.5E-12	1.8E-11	9.8E-16	2.3E-12	2.1E-13	1.7E-12	1.0E-15	2.3E-12	1.6E-12	1.8E-11	1.0E-15	2.3E-12	2.2E-13	1.7E-12

Notes:
[a] Exposure point concentrations (EPCs) for exposure to subsurface I soil (5 to 15 feet bgs) are used to evaluate the vapor inhalation pathway.

Abbreviations:
bgs = below ground surface.
CDI = Chronic Daily Intake.
C O P C = Constituent of Potential Concern.
EC = Exposure Concentration.
mg/kg-day = milligrams per kilogram per day.
mg/m^3 = milligrams per cubic meter.
na = Not applicable. Potential exposure to lead is evaluated using California Environmental Protection Agency (Cal/E P A) Department of Toxic Substances Control's (DTSC) LeadSpread model. Please see text for discussion.
NA = Hexavalent chromium is not absorbed via dermal contact.
ND = Not detected.
NS = Not sampled.
NV = Not volatile.
PCB = Polychlorinated biphenyls.
TPH = Total Petroleum Hydrocarbons.
TEQ = Toxic Equivalent.

Table BCW-B1.12c

5-Foot Scouring Scenario Exposure Concentration and Dose Calculations for Noncarcinogenic Effects for C O P Cs in BCW Soil Using Depth-Weighted EPCs: Recreational User - Off-Highway Vehicle Rider

Post-Soil N T C R A Human Health and Ecological Risk Assessment Report
PG&E Topock Compressor Station
Needles, California

COPC	Child OHV Rider (5 to 6 feet bgs)[a] Soil Pathway EC: Particulate Inhalation (mg/m^3)	Child OHV Rider (5 to 6 feet bgs)[a] Soil Pathway EC: Outdoor Vapor Inhalation (mg/m^3)	Child OHV Rider (5 to 6 feet bgs)[a] Soil Pathway CDI: Dermal Contact (mg/kg-day)	Child OHV Rider (5 to 6 feet bgs)[a] Soil Pathway CDI: Ingestion (mg/kg-day)	Adult OHV Rider (5 to 6 feet bgs)[a] Soil Pathway EC: Particulate Inhalation (mg/m^3)	Adult OHV Rider (5 to 6 feet bgs)[a] Soil Pathway EC: Outdoor Vapor Inhalation (mg/m^3)	Adult OHV Rider (5 to 6 feet bgs)[a] Soil Pathway CDI: Dermal Contact (mg/kg-day)	Adult OHV Rider (5 to 6 feet bgs)[a] Soil Pathway CDI: Ingestion (mg/kg-day)	IV Rider (5 to 10 f Soil Pathway EC: Particulate Inhalation (mg/m^3)	IV Rider (5 to 10 f Soil Pathway EC: Outdoor Vapor Inhalation (mg/m^3)	IV Rider (5 to 10 f Soil Pathway CDI: Dermal Contact (mg/kg-day)	IV Rider (5 to 10 f Soil Pathway CDI: Ingestion (mg/kg-day)	IV Rider (5 to 10 f Soil Pathway EC: Particulate Inhalation (mg/m^3)	IV Rider (5 to 10 f Soil Pathway EC: Outdoor Vapor Inhalation (mg/m^3)	IV Rider (5 to 10 f Soil Pathway CDI: Dermal Contact (mg/kg-day)	IV Rider (5 to 10 f Soil Pathway CDI: Ingestion (mg/kg-day)
Inorganics																
Antimony	4.0E-09	NV	3.8E-08	5.1E-08	4.0E-09	NV	3.3E-08	2.1E-08	4.1E-09	NV	3.9E-08	5.2E-08	4.1E-09	NV	3.3E-08	2.1E-08
Chromium, Hexavalent	1.6E-09	NV	NA	2.0E-08	1.6E-09	NV	NA	8.4E-09	2.7E-09	NV	NA	3.4E-08	2.7E-09	NV	NA	1.4E-08
Chromium, total	1.3E-07	NV	1.2E-06	1.6E-06	1.3E-07	NV	1.0E-06	6.6E-07	3.1E-07	NV	2.9E-06	3.9E-06	3.1E-07	NV	2.5E-06	1.6E-06
Cobalt	2.8E-08	NV	2.6E-07	3.5E-07	2.8E-08	NV	2.3E-07	1.4E-07	2.7E-08	NV	2.6E-07	3.5E-07	2.7E-08	NV	2.2E-07	1.4E-07
Copper	3.9E-08	NV	3.7E-07	5.0E-07	3.9E-08	NV	3.2E-07	2.1E-07	3.9E-08	NV	3.7E-07	5.0E-07	3.9E-08	NV	3.2E-07	2.1E-07
Lead	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
Mercury (inorganic)	1.9E-10	NV	1.8E-09	2.4E-09	1.9E-10	NV	1.5E-09	9.9E-10	1.8E-10	NV	1.7E-09	2.3E-09	1.8E-10	NV	1.5E-09	9.6E-10
Orthophosphate	NS	NV	NS	NS	NS	NV	NS	NS	1.0E-06	NV	9.6E-06	1.3E-05	1.0E-06	NV	8.2E-06	5.3E-06
Thallium	7.4E-09	NV	7.1E-08	9.5E-08	7.4E-09	NV	6.1E-08	3.9E-08	7.6E-09	NV	7.3E-08	9.7E-08	7.6E-09	NV	6.2E-08	4.0E-08
Zinc	2.6E-07	NV	2.4E-06	3.3E-06	2.6E-07	NV	2.1E-06	1.3E-06	2.4E-07	NV	2.3E-06	3.1E-06	2.4E-07	NV	2.0E-06	1.3E-06
Semi-Volatile Organic Compounds																
bis (2-ethylhexyl) phthalate	1.2E-09	NV	1.1E-07	1.5E-08	1.2E-09	NV	9.8E-08	6.3E-09	1.1E-09	NV	1.0E-07	1.4E-08	1.1E-09	NV	8.7E-08	5.6E-09
Polycyclic Aromatic Hydrocarbons																
2-Methyl naphthalene	ND	1.5E-10	ND	ND	ND	1.5E-10	ND	ND	9.8E-12	1.5E-10	1.4E-09	1.2E-10	9.8E-12	1.5E-10	1.2E-09	5.2E-11
Acenaphthylene	ND	NV	ND	ND	ND	NV	ND	ND	ND	NV	ND	ND	ND	NV	ND	ND
Anthracene	1.0E-10	7.1E-11	1.5E-08	1.3E-09	1.0E-10	7.1E-11	1.3E-08	5.4E-10	8.7E-11	7.1E-11	1.2E-08	1.1E-09	8.7E-11	7.1E-11	1.1E-08	4.6E-10
Benzo (ghi) perylene	1.9E-11	NV	2.7E-09	2.4E-10	1.9E-11	NV	2.3E-09	1.0E-10	1.7E-11	NV	2.4E-09	2.2E-10	1.7E-11	NV	2.1E-09	8.9E-11
Fluoranthene	8.8E-11	NV	1.3E-08	1.1E-09	8.8E-11	NV	1.1E-08	4.6E-10	1.7E-11	NV	2.5E-09	2.2E-10	1.7E-11	NV	2.1E-09	9.2E-11
Fluorene	ND	4.3E-11	ND	ND	ND	4.3E-11	ND	ND	1.2E-11	4.3E-11	1.7E-09	1.5E-10	1.2E-11	4.3E-11	1.4E-09	6.1E-11
Naphthalene	ND	5.0E-10	ND	ND	ND	5.0E-10	ND	ND	1.7E-11	5.0E-10	2.5E-09	2.2E-10	1.7E-11	5.0E-10	2.1E-09	9.1E-11
Phenanthrene	4.9E-10	NV	6.9E-08	6.2E-09	4.9E-10	NV	5.9E-08	2.5E-09	2.7E-11	NV	3.8E-09	3.4E-10	2.7E-11	NV	3.3E-09	1.4E-10
Pyrene	8.3E-11	4.2E-12	1.2E-08	1.1E-09	8.3E-11	4.2E-12	1.0E-08	4.4E-10	1.7E-11	4.2E-12	2.4E-09	2.1E-10	1.7E-11	4.2E-12	2.0E-09	8.7E-11

Table BCW-B1.12c

5-Foot Scouring Scenario Exposure Concentration and Dose Calculations for Noncarcinogenic Effects for C O P Cs in BCW Soil Using Depth-Weighted EPCs: Recreational User - Off-Highway Vehicle Rider

Post-Soil N T C R A Human Health and Ecological Risk Assessment Report
PG&E Topock Compressor Station
Needles, California

C O P C	Child OHV Rider (5 to 6 feet bgs)[a] Soil Pathway EC: Particulate Inhalation (mg/m^3)	Child OHV Rider (5 to 6 feet bgs)[a] Soil Pathway EC: Outdoor Vapor Inhalation (mg/m^3)	Child OHV Rider (5 to 6 feet bgs)[a] Soil Pathway CDI: Dermal Contact (mg/kg-day)	Child OHV Rider (5 to 6 feet bgs)[a] Soil Pathway CDI: Ingestion (mg/kg-day)	Adult OHV Rider (5 to 6 feet bgs)[a] Soil Pathway EC: Particulate Inhalation (mg/m^3)	Adult OHV Rider (5 to 6 feet bgs)[a] Soil Pathway EC: Outdoor Vapor Inhalation (mg/m^3)	Adult OHV Rider (5 to 6 feet bgs)[a] Soil Pathway CDI: Dermal Contact (mg/kg-day)	Adult OHV Rider (5 to 6 feet bgs)[a] Soil Pathway CDI: Ingestion (mg/kg-day)	V Rider (5 to 10 f Soil Pathway EC: Particulate Inhalation (mg/m^3)	V Rider (5 to 10 f Soil Pathway EC: Outdoor Vapor Inhalation (mg/m^3)	V Rider (5 to 10 f Soil Pathway CDI: Dermal Contact (mg/kg-day)	V Rider (5 to 10 f Soil Pathway CDI: Ingestion (mg/kg-day)	V Rider (5 to 10 f Soil Pathway EC: Particulate Inhalation (mg/m^3)	V Rider (5 to 10 f Soil Pathway EC: Outdoor Vapor Inhalation (mg/m^3)	V Rider (5 to 10 f Soil Pathway CDI: Dermal Contact (mg/kg-day)	V Rider (5 to 10 f Soil Pathway CDI: Ingestion (mg/kg-day)
Polychlorinated Biphenyls																
Total PCBs	ND	1.4E-10	ND	ND	ND	1.4E-10	ND	ND	7.5E-11	1.4E-10	1.1E-08	9.5E-10	7.5E-11	1.4E-10	9.2E-09	3.9E-10
Total Petroleum Hydrocarbons																
TPH as diesel	9.7E-07	1.4E-04	9.2E-05	1.2E-05	9.7E-07	1.4E-04	7.9E-05	5.1E-06	7.8E-07	1.4E-04	7.4E-05	9.9E-06	7.8E-07	1.4E-04	6.4E-05	4.1E-06
TPH as motor oil	1.2E-06	NV	1.1E-04	1.5E-05	1.2E-06	NV	9.6E-05	6.2E-06	9.1E-07	NV	8.7E-05	1.2E-05	9.1E-07	NV	7.5E-05	4.8E-06
Dioxins/Furans																
TEQ Human	9.9E-14	1.5E-13	2.8E-12	1.3E-12	9.9E-14	1.5E-13	2.4E-12	5.2E-13	1.0E-13	1.5E-13	2.9E-12	1.3E-12	1.0E-13	1.5E-13	2.5E-12	5.3E-13

Notes:

[a] Exposure point concentrations (EPCs) for exposure to subsurface soil (5 to 15 feet bgs) are used to evaluate the vapor inhalation pathway.

Abbreviations:

bgs = below ground surface.
CDI = Chronic Daily Intake.
C O P C = Constituent of Potential Concern.
EC = Exposure Concentration.
mg/kg-day = milligrams per kilogram per day.
mg/m^3 = milligrams per cubic meter.
na = Not applicable. Potential exposure to lead is evaluated using California Environmental Protection Agency (Cal/E P A) Department of Toxic Substances Control's (DTSC) LeadSpread model. Please see text for discussion.
NA = Hexavalent chromium is not absorbed via dermal contact.
ND = Not detected.
NS = Not sampled.
NV = Not volatile.
PCB = Polychlorinated biphenyls.
TPH = Total Petroleum Hydrocarbons.
TEQ = Toxic Equivalent.

Table BCW-B1.13a
5-Foot Scouring Scenario ILCRs for C O P Cs in BCW Soil Using Depth-Weighted EPCs: Recreational User- Camper

Post-Soil N T C R A Human Health and Ecological Risk Assessment Report
PG&E Topock Compressor Station
Needles, California

C O P C	Age-Adjusted Adult Camper (5 to 6 feet bgs)[a] Soil Pathway Particulate Inhalation	Age-Adjusted Adult Camper (5 to 6 feet bgs)[a] Soil Pathway Vapor Inhalation	Age-Adjusted Adult Camper (5 to 6 feet bgs)[a] Soil Pathway Dermal Contact	Age-Adjusted Adult Camper (5 to 6 feet bgs)[a] Soil Pathway Ingestion	Age-Adjusted Adult Camper (5 to 6 feet bgs)[a] Soil Pathway Total Cancer Risk	Age-Adjusted Adult Camper (5 to 10 feet bgs) Soil Pathway Particulate Inhalation	Age-Adjusted Adult Camper (5 to 10 feet bgs) Soil Pathway Vapor Inhalation	Age-Adjusted Adult Camper (5 to 10 feet bgs) Soil Pathway Dermal Contact	Age-Adjusted Adult Camper (5 to 10 feet bgs) Soil Pathway Ingestion	Age-Adjusted Adult Camper (5 to 10 feet bgs) Soil Pathway Total Cancer Risk
Inorganics										
Antimony	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Chromium, Hexavalent	1.2E-09	NV	NA	3.7E-08	3.8E-08	2.1E-09	NV	NA	6.2E-08	6.4E-08
Chromium, total	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Cobalt	4.6E-10	NV	NC	NC	4.6E-10	4.6E-10	NV	NC	NC	4.6E-10
Copper	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Lead	na	na	na	na	na	na	na	na	na	na
Mercury (inorganic)	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Orthophosphate	NS	NC	NS	NS	--	NC	NC	NC	NC	--
Thallium	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Zinc	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Semi-Volatile Organic Compounds										
bis (2-ethylhexyl) phthalate	5.3E-15	NV	5.5E-11	1.7E-10	2.3E-10	4.7E-15	NV	4.9E-11	1.5E-10	2.0E-10
Polycyclic Aromatic Hydrocarbons										
2-Methyl naphthalene	ND	NC	ND	ND	--	NC	NC	NC	NC	--
Acenaphthylene	ND	NC	ND	ND	--	ND	NC	ND	ND	--
Anthracene	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Benzo (ghi) perylene	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Fluoranthene	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Fluorene	ND	NC	ND	ND	--	NC	NC	NC	NC	--
Naphthalene	ND	5.0E-11	ND	ND	5.0E-11	1.1E-15	5.0E-11	1.0E-11	2.1E-11	8.1E-11
Phenanthrene	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Pyrene	NC	NC	NC	NC	--	NC	NC	NC	NC	--

Table BCW-B1.13a
5-Foot Scouring Scenario ILCRs for C O P Cs in BCW Soil Using Depth-Weighted EPCs: Recreational User- Camper

Post-Soil N T C R A Human Health and Ecological Risk Assessment Report
PG&E Topock Compressor Station
Needles, California

C O P C	Age-Adjusted Adult Camper (5 to 6 feet bgs)[a] Soil Pathway Particulate Inhalation	Age-Adjusted Adult Camper (5 to 6 feet bgs)[a] Soil Pathway Vapor Inhalation	Age-Adjusted Adult Camper (5 to 6 feet bgs)[a] Soil Pathway Dermal Contact	Age-Adjusted Adult Camper (5 to 6 feet bgs)[a] Soil Pathway Ingestion	Age-Adjusted Adult Camper (5 to 6 feet bgs)[a] Soil Pathway Total Cancer Risk	Age-Adjusted Adult Camper (5 to 10 feet bgs) Soil Pathway Particulate Inhalation	Age-Adjusted Adult Camper (5 to 10 feet bgs) Soil Pathway Vapor Inhalation	Age-Adjusted Adult Camper (5 to 10 feet bgs) Soil Pathway Dermal Contact	Age-Adjusted Adult Camper (5 to 10 feet bgs) Soil Pathway Ingestion	Age-Adjusted Adult Camper (5 to 10 feet bgs) Soil Pathway Total Cancer Risk
Polychlorinated Biphenyls										
Total PCBs	ND	4.0E-11	ND	ND	4.0E-11	1.4E-14	4.0E-11	7.3E-10	1.5E-09	2.3E-09
Total Petroleum Hydrocarbons										
TPH as diesel	NC	NC	NC	NC	--	NC	NC	NC	NC	--
TPH as motor oil	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Dioxins/Furans										
TEQ Human	6.9E-12	1.7E-08	1.3E-08	1.3E-07	1.6E-07	7.1E-12	1.7E-08	1.3E-08	1.3E-07	1.6E-07
Cumulative ILCR	**2E-09**	**2E-08**	**1E-08**	**2E-07**	**2E-07**	**3E-09**	**2E-08**	**1E-08**	**2E-07**	**2E-07**

Notes:
[a] Exposure point concentrations (EPCs) for exposure to subsurface I soil (5 to 15 feet bgs) are used to evaluate the vapor inhalation pathway.

Abbreviations:
-- = not calculated.
bgs = below ground surface.
C O P C = Constituent of Potential Concern.
ILCR = Incremental Lifetime Cancer Risk.
na = Not applicable. Potential exposure to lead is evaluated using California Environmental Protection Agency (Cal/E P A) Department of Toxic Substances Control's (DTSC) LeadSpread model. Please see text for discussion.

NA = Not applicable. Hexavalent chromium is not absorbed via dermal contact.
NC = Not considered a carcinogen.
ND = Not detected.
NS = Not sampled.
NV = Not volatile.
PCB = Polychlorinated biphenyls.
TPH = Total Petroleum Hydrocarbons.
TEQ = Toxic Equivalent.

Table BCW-B1.13b
5-Foot Scouring Scenario ILCRs for C O P Cs in BCW Soil Using Depth-Weighted EPCs: Recreational User - Hiker

Post-Soil N T C R A Human Health and Ecological Risk Assessment Report
PG&E Topock Compressor Station
Needles, California

C O P C	Age-Adjusted Adult Hiker (5 to 6 feet bgs)[a] Soil Pathway Particulate Inhalation	Age-Adjusted Adult Hiker (5 to 6 feet bgs)[a] Soil Pathway Vapor Inhalation	Age-Adjusted Adult Hiker (5 to 6 feet bgs)[a] Soil Pathway Dermal Contact	Age-Adjusted Adult Hiker (5 to 6 feet bgs)[a] Soil Pathway Ingestion	Age-Adjusted Adult Hiker (5 to 6 feet bgs)[a] Soil Pathway Total Cancer Risk	Age-Adjusted Adult Hiker (5 to 10 feet bgs)[a] Soil Pathway Particulate Inhalation	Age-Adjusted Adult Hiker (5 to 10 feet bgs)[a] Soil Pathway Vapor Inhalation	Age-Adjusted Adult Hiker (5 to 10 feet bgs)[a] Soil Pathway Dermal Contact	Age-Adjusted Adult Hiker (5 to 10 feet bgs)[a] Soil Pathway Ingestion	Age-Adjusted Adult Hiker (5 to 10 feet bgs)[a] Soil Pathway Total Cancer Risk
Inorganics										
Antimony	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Chromium, Hexavalent	2.5E-09	NV	NA	7.4E-08	7.6E-08	4.1E-09	NV	NA	1.2E-07	1.3E-07
Chromium, total	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Cobalt	9.2E-10	NV	NC	NC	9.2E-10	9.1E-10	NV	NC	NC	9.1E-10
Copper	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Lead	na	na	na	na	na	na	na	na	na	na
Mercury (inorganic)	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Orthophosphate	NS	NC	NS	NS	--	NC	NC	NC	NC	--
Thallium	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Zinc	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Semi-Volatile Organic Compounds										
bis (2-ethylhexyl) phthalate	1.1E-14	NV	1.1E-10	3.4E-10	4.5E-10	9.5E-15	NV	9.7E-11	3.0E-10	4.0E-10
Polycyclic Aromatic Hydrocarbons										
2-Methyl naphthalene	ND	NC	ND	ND	--	NC	NC	NC	NC	--
Acenaphthylene	ND	NC	ND	ND	--	ND	NC	ND	ND	--
Anthracene	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Benzo (ghi) perylene	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Fluoranthene	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Fluorene	ND	NC	ND	ND	--	NC	NC	NC	NC	--
Naphthalene	ND	1.0E-10	ND	ND	1.0E-10	2.2E-15	1.0E-10	2.0E-11	4.2E-11	1.6E-10
Phenanthrene	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Pyrene	NC	NC	NC	NC	--	NC	NC	NC	NC	--

Table BCW-B1.13b
5-Foot Scouring Scenario ILCRs for C O P Cs in BCW Soil Using Depth-Weighted EPCs: Recreational User - Hiker

Post-Soil N T C R A Human Health and Ecological Risk Assessment Report
PG&E Topock Compressor Station
Needles, California

C O P C	Age-Adjusted Adult Hiker (5 to 6 feet bgs)[a] Soil Pathway Particulate Inhalation	Age-Adjusted Adult Hiker (5 to 6 feet bgs)[a] Soil Pathway Vapor Inhalation	Age-Adjusted Adult Hiker (5 to 6 feet bgs)[a] Soil Pathway Dermal Contact	Age-Adjusted Adult Hiker (5 to 6 feet bgs)[a] Soil Pathway Ingestion	Age-Adjusted Adult Hiker (5 to 6 feet bgs)[a] Soil Pathway Total Cancer Risk	Age-Adjusted Adult Hiker (5 to 10 feet bgs)[a] Soil Pathway Particulate Inhalation	Age-Adjusted Adult Hiker (5 to 10 feet bgs)[a] Soil Pathway Vapor Inhalation	Age-Adjusted Adult Hiker (5 to 10 feet bgs)[a] Soil Pathway Dermal Contact	Age-Adjusted Adult Hiker (5 to 10 feet bgs)[a] Soil Pathway Ingestion	Age-Adjusted Adult Hiker (5 to 10 feet bgs)[a] Soil Pathway Total Cancer Risk
Polychlorinated Biphenyls										
Total PCBs	ND	8.0E-11	ND	ND	8.0E-11	2.8E-14	8.0E-11	1.5E-09	3.0E-09	4.6E-09
Total Petroleum Hydrocarbons										
TPH as diesel	NC	NC	NC	NC	--	NC	NC	NC	NC	--
TPH as motor oil	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Dioxins/Furans										
TEQ Human	1.4E-11	3.3E-08	2.5E-08	2.6E-07	3.2E-07	1.4E-11	3.3E-08	2.6E-08	2.7E-07	3.2E-07
Cumulative ILCR	**3E-09**	**3E-08**	**3E-08**	**3E-07**	**4E-07**	**5E-09**	**3E-08**	**3E-08**	**4E-07**	**5E-07**

Notes:
[a] Exposure point concentrations (EPCs) for exposure to subsurface I soil (5 to 15 feet bgs) are used to evaluate the vapor inhalation pathway.

Abbreviations:
-- = not calculated.
bgs = below ground surface.
C O P C = Constituent of Potential Concern.
ILCR = Incremental Lifetime Cancer Risk.
na = Not applicable. Potential exposure to lead is evaluated using California Environmental Protection Agency (Cal/E P A) Department of Toxic Substances Control's (DTSC) LeadSpread model. Please see text for discussion.

NA = Not applicable. Hexavalent chromium is not absorbed via dermal contact.
NC = Not considered a carcinogen.
ND = Not detected.
NS = Not sampled.
NV = Not volatile.
PCB = Polychlorinated biphenyls.
TPH = Total Petroleum Hydrocarbons.
TEQ = Toxic Equivalent.

Table BCW-B1.13c
5-Foot Scouring Scenario ILCRs for C O P Cs in BCW Soil Using Depth-Weighted EPCs: Recreational User - Off-Highway Vehicle Rider

Post-Soil N T C R A Human Health and Ecological Risk Assessment Report
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C O P C	Age-Adjusted Adult OHV Rider (5 to 6 feet bgs)[a] Soil Pathway Particulate Inhalation	Age-Adjusted Adult OHV Rider (5 to 6 feet bgs)[a] Soil Pathway Vapor Inhalation	Age-Adjusted Adult OHV Rider (5 to 6 feet bgs)[a] Soil Pathway Dermal Contact	Age-Adjusted Adult OHV Rider (5 to 6 feet bgs)[a] Soil Pathway Ingestion	Age-Adjusted Adult OHV Rider (5 to 6 feet bgs)[a] Soil Pathway Total Cancer Risk	Age-Adjusted Adult OHV Rider (5 to 10 feet bgs)[a] Soil Pathway Particulate Inhalation	Age-Adjusted Adult OHV Rider (5 to 10 feet bgs)[a] Soil Pathway Vapor Inhalation	Age-Adjusted Adult OHV Rider (5 to 10 feet bgs)[a] Soil Pathway Dermal Contact	Age-Adjusted Adult OHV Rider (5 to 10 feet bgs)[a] Soil Pathway Ingestion	Age-Adjusted Adult OHV Rider (5 to 10 feet bgs)[a] Soil Pathway Total Cancer Risk
Inorganics										
Antimony	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Chromium, Hexavalent	1.6E-07	NV	NA	4.3E-09	1.6E-07	2.6E-07	NV	NA	7.2E-09	2.7E-07
Chromium, total	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Cobalt	9.2E-08	NV	NC	NC	9.2E-08	9.2E-08	NV	NC	NC	9.2E-08
Copper	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Lead	na	na	na	na	na	na	na	na	na	na
Mercury (inorganic)	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Orthophosphate	NS	NC	NS	NS	--	NC	NC	NC	NC	--
Thallium	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Zinc	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Semi-Volatile Organic Compounds										
bis (2-ethylhexyl) phthalate	1.1E-12	NV	5.3E-10	4.3E-11	5.7E-10	9.5E-13	NV	4.7E-10	3.9E-11	5.1E-10
Polycyclic Aromatic Hydrocarbons										
2-Methyl naphthalene	ND	NC	ND	ND	--	NC	NC	NC	NC	--
Acenaphthylene	ND	NC	ND	ND	--	ND	NC	ND	ND	--
Anthracene	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Benzo (ghi) perylene	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Fluoranthene	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Fluorene	ND	NC	ND	ND	--	NC	NC	NC	NC	--
Naphthalene	ND	6.3E-12	ND	ND	6.3E-12	2.2E-13	6.3E-12	9.8E-11	5.4E-12	1.1E-10
Phenanthrene	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Pyrene	NC	NC	NC	NC	--	NC	NC	NC	NC	--

Table BCW-B1.13c
5-Foot Scouring Scenario ILCRs for C O P Cs in BCW Soil Using Depth-Weighted EPCs: Recreational User - Off-Highway Vehicle Rider

Post-Soil N T C R A Human Health and Ecological Risk Assessment Report
PG&E Topock Compressor Station
Needles, California

C O P C	Age-Adjusted Adult OHV Rider (5 to 6 feet bgs)[a] Soil Pathway Particulate Inhalation	Age-Adjusted Adult OHV Rider (5 to 6 feet bgs)[a] Soil Pathway Vapor Inhalation	Age-Adjusted Adult OHV Rider (5 to 6 feet bgs)[a] Soil Pathway Dermal Contact	Age-Adjusted Adult OHV Rider (5 to 6 feet bgs)[a] Soil Pathway Ingestion	Age-Adjusted Adult OHV Rider (5 to 6 feet bgs)[a] Soil Pathway Total Cancer Risk	Age-Adjusted Adult OHV Rider (5 to 10 feet bgs)[a] Soil Pathway Particulate Inhalation	Age-Adjusted Adult OHV Rider (5 to 10 feet bgs)[a] Soil Pathway Vapor Inhalation	Age-Adjusted Adult OHV Rider (5 to 10 feet bgs)[a] Soil Pathway Dermal Contact	Age-Adjusted Adult OHV Rider (5 to 10 feet bgs)[a] Soil Pathway Ingestion	Age-Adjusted Adult OHV Rider (5 to 10 feet bgs)[a] Soil Pathway Total Cancer Risk
Polychlorinated Biphenyls										
Total PCBs	ND	5.0E-12	ND	ND	5.0E-12	2.8E-12	5.0E-12	7.1E-09	3.9E-10	7.5E-09
Total Petroleum Hydrocarbons										
TPH as diesel	NC	NC	NC	NC	--	NC	NC	NC	NC	--
TPH as motor oil	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Dioxins/Furans										
TEQ Human	1.4E-09	2.1E-09	1.2E-07	3.3E-08	1.6E-07	1.4E-09	2.1E-09	1.2E-07	3.4E-08	1.6E-07
Cumulative ILCR	**3E-07**	**2E-09**	**1E-07**	**4E-08**	**4E-07**	**4E-07**	**2E-09**	**1E-07**	**4E-08**	**5E-07**

Notes:
[a] Exposure point concentrations (EPCs) for exposure to subsurface I soil (5 to 15 feet bgs) are used to evaluate the vapor inhalation pathway.

Abbreviations:
-- = not calculated.
bgs = below ground surface.
C O P C = Constituent of Potential Concern.
ILCR = Incremental Lifetime Cancer Risk.
na = Not applicable. Potential exposure to lead is evaluated using California Environmental Protection Agency (Cal/E P A) Department of Toxic Substances Control's (DTSC) LeadSpread model. Please see text for discussion.

NA = Not applicable. Hexavalent chromium is not absorbed via dermal contact.
NC = Not considered a carcinogen.
ND = Not detected.
NS = Not sampled.
NV = Not volatile.
PCB = Polychlorinated biphenyls.
TPH = Total Petroleum Hydrocarbons.
TEQ = Toxic Equivalent.

Table BCW-B1.14a
5-Foot Scouring Scenario H Is for C O P Cs in BCW Soil Using Depth-Weighted EPCs: Recreational User - Camper

Post-Soil N T C R A Human Health and Ecological Risk Assessment Report
PG&E Topock Compressor Station
Needles, California

C O P C	Child Camper (5 to 6 feet bgs)[a] Soil Pathway Particulate Inhalation	Child Camper (5 to 6 feet bgs)[a] Soil Pathway Vapor Inhalation	Child Camper (5 to 6 feet bgs)[a] Soil Pathway Dermal Contact	Child Camper (5 to 6 feet bgs)[a] Soil Pathway Ingestion	Child Camper (5 to 6 feet bgs)[a] Soil Pathway Total Hazard Index	Adult Camper (5 to 6 feet bgs)[a] Soil Pathway Particulate Inhalation	Adult Camper (5 to 6 feet bgs)[a] Soil Pathway Vapor Inhalation	Adult Camper (5 to 6 feet bgs)[a] Soil Pathway Dermal Contact	Adult Camper (5 to 6 feet bgs)[a] Soil Pathway Ingestion	Adult Camper (5 to 6 feet bgs)[a] Soil Pathway Total Hazard Index	Child Camper (5 to 10 feet bgs)[a] Soil Pathway Particulate Inhalation	Child Camper (5 to 10 feet bgs)[a] Soil Pathway Vapor Inhalation	Child Camper (5 to 10 feet bgs)[a] Soil Pathway Dermal Contact	Child Camper (5 to 10 feet bgs)[a] Soil Pathway Ingestion	Child Camper (5 to 10 feet bgs)[a] Soil Pathway Total Hazard Index	Adult Camper (5 to 10 feet bgs)[a] Soil Pathway Particulate Inhalation	Adult Camper (5 to 10 feet bgs)[a] Soil Pathway Vapor Inhalation	Adult Camper (5 to 10 feet bgs)[a] Soil Pathway Dermal Contact	Adult Camper (5 to 10 feet bgs)[a] Soil Pathway Ingestion	Adult Camper (5 to 10 feet bgs)[a] Soil Pathway Total Hazard Index
Inorganics																					
Antimony	6.6E-08	NV	2.6E-05	9.0E-04	9.2E-04	6.6E-08	NV	3.6E-06	8.4E-05	8.8E-05	6.8E-08	NV	2.7E-05	9.2E-04	9.5E-04	6.8E-08	NV	3.6E-06	8.6E-05	9.0E-05
Chromium, Hexavalent	8.0E-08	NV	NA	4.8E-05	4.8E-05	8.0E-08	NV	NA	4.5E-06	4.6E-06	1.3E-07	NV	NA	8.0E-05	8.0E-05	1.3E-07	NV	NA	7.5E-06	7.7E-06
Chromium, total	1.0E-05	NV	2.2E-07	7.6E-06	1.8E-05	1.0E-05	NV	3.0E-08	7.1E-07	1.1E-05	2.5E-05	NV	5.4E-07	1.8E-05	4.5E-05	2.5E-05	NV	7.3E-08	1.7E-06	2.7E-05
Cobalt	2.3E-05	NV	2.4E-04	8.3E-03	8.6E-03	2.3E-05	NV	3.3E-05	7.8E-04	8.4E-04	2.3E-05	NV	2.4E-04	8.3E-03	8.5E-03	2.3E-05	NV	3.3E-05	7.8E-04	8.3E-04
Copper	1.2E-09	NV	2.6E-06	8.8E-05	9.1E-05	1.2E-09	NV	3.5E-07	8.3E-06	8.6E-06	1.2E-09	NV	2.6E-06	8.8E-05	9.1E-05	1.2E-09	NV	3.5E-07	8.3E-06	8.6E-06
Lead	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
Mercury (inorganic)	3.1E-08	NV	3.1E-06	1.1E-04	1.1E-04	3.1E-08	NV	4.2E-07	1.0E-05	1.0E-05	3.0E-08	NV	3.0E-06	1.0E-04	1.1E-04	3.0E-08	NV	4.1E-07	9.7E-06	1.0E-05
Orthophosphate	NS	NV	NS	NS	--	NS	NV	NS	NS	--	4.3E-10	NV	9.0E-07	3.1E-05	3.2E-05	4.3E-10	NV	1.2E-07	2.9E-06	3.0E-06
Thallium	9.3E-07	NV	1.9E-03	6.7E-02	6.9E-02	9.3E-07	NV	2.7E-04	6.3E-03	6.6E-03	9.5E-07	NV	2.0E-03	6.9E-02	7.1E-02	9.5E-07	NV	2.7E-04	6.5E-03	6.7E-03
Zinc	1.1E-09	NV	2.2E-06	7.7E-05	7.9E-05	1.1E-09	NV	3.1E-07	7.2E-06	7.5E-06	1.0E-09	NV	2.1E-06	7.3E-05	7.5E-05	1.0E-09	NV	2.9E-07	6.9E-06	7.2E-06
Semi-Volatile Organic Compounds																				
bis (2-ethylhexyl) phthalate	7.5E-11	NV	1.6E-06	5.4E-06	7.0E-06	7.5E-11	NV	2.1E-07	5.1E-07	7.2E-07	6.6E-11	NV	1.4E-06	4.8E-06	6.2E-06	6.6E-11	NV	1.9E-07	4.5E-07	6.4E-07
Polycyclic Aromatic Hydrocarbons																				
2-Methyl naphthalene	ND	7.5E-08	ND	ND	7.5E-08	ND	7.5E-08	ND	ND	7.5E-08	3.1E-12	7.5E-08	9.7E-08	2.2E-07	3.9E-07	3.1E-12	7.5E-08	1.3E-08	2.1E-08	1.1E-07
Acenaphthylene	ND	NV	ND	ND	--	ND	NV	ND	ND	--	ND	NV	ND	ND	--	ND	NV	ND	ND	--
Anthracene	4.3E-13	4.7E-10	1.4E-08	3.1E-08	4.5E-08	4.3E-13	4.7E-10	1.9E-09	2.9E-09	5.2E-09	3.6E-13	4.7E-10	1.1E-08	2.6E-08	3.8E-08	3.6E-13	4.7E-10	1.6E-09	2.5E-09	4.5E-09
Benzo (ghi) perylene	7.9E-13	NV	2.5E-08	5.7E-08	8.2E-08	7.9E-13	NV	3.4E-09	5.4E-09	8.8E-09	7.1E-13	NV	2.2E-08	5.1E-08	7.3E-08	7.1E-13	NV	3.0E-09	4.8E-09	7.8E-09
Fluoranthene	2.7E-12	NV	8.7E-08	2.0E-07	2.9E-07	2.7E-12	NV	1.2E-08	1.9E-08	3.1E-08	5.4E-13	NV	1.7E-08	3.9E-08	5.7E-08	5.4E-13	NV	2.3E-09	3.7E-09	6.0E-09
Fluorene	ND	2.2E-09	ND	ND	2.2E-09	ND	2.2E-09	ND	ND	2.2E-09	3.6E-13	2.2E-09	1.1E-08	2.6E-08	4.0E-08	3.6E-13	2.2E-09	1.6E-09	2.5E-09	6.2E-09
Naphthalene	ND	1.3E-06	ND	ND	1.3E-06	ND	1.3E-06	ND	ND	1.3E-06	2.9E-11	1.3E-06	3.4E-08	7.8E-08	1.4E-06	2.9E-11	1.3E-06	4.7E-09	7.3E-09	1.3E-06
Phenanthrene	2.0E-12	NV	6.4E-08	1.5E-07	2.1E-07	2.0E-12	NV	8.7E-09	1.4E-08	2.2E-08	1.1E-13	NV	3.5E-09	8.0E-09	1.2E-08	1.1E-13	NV	4.8E-10	7.5E-10	1.2E-09
Pyrene	3.5E-12	2.8E-10	1.1E-07	2.5E-07	3.6E-07	3.5E-12	2.8E-10	1.5E-08	2.4E-08	3.9E-08	6.9E-13	2.8E-10	2.2E-08	5.0E-08	7.2E-08	6.9E-13	2.8E-10	3.0E-09	4.7E-09	8.0E-09

Table BCW-B1.14a
5-Foot Scouring Scenario H Is for C O P Cs in BCW Soil Using Depth-Weighted EPCs: Recreational User - Camper

Post-Soil N T C R A Human Health and Ecological Risk Assessment Report
PG&E Topock Compressor Station
Needles, California

C O P C	Child Camper (5 to 6 feet bgs)[a] Soil Pathway Particulate Inhalation	Child Camper (5 to 6 feet bgs)[a] Soil Pathway Vapor Inhalation	Child Camper (5 to 6 feet bgs)[a] Soil Pathway Dermal Contact	Child Camper (5 to 6 feet bgs)[a] Soil Pathway Ingestion	Child Camper (5 to 6 feet bgs)[a] Soil Pathway Total Hazard Index	Adult Camper (5 to 6 feet bgs)[a] Soil Pathway Particulate Inhalation	Adult Camper (5 to 6 feet bgs)[a] Soil Pathway Vapor Inhalation	Adult Camper (5 to 6 feet bgs)[a] Soil Pathway Dermal Contact	Adult Camper (5 to 6 feet bgs)[a] Soil Pathway Ingestion	Adult Camper (5 to 6 feet bgs)[a] Soil Pathway Total Hazard Index	Child Camper (5 to 10 feet bgs)[a] Soil Pathway Particulate Inhalation	Child Camper (5 to 10 feet bgs)[a] Soil Pathway Vapor Inhalation	Child Camper (5 to 10 feet bgs)[a] Soil Pathway Dermal Contact	Child Camper (5 to 10 feet bgs)[a] Soil Pathway Ingestion	Child Camper (5 to 10 feet bgs)[a] Soil Pathway Total Hazard Index	Adult Camper (5 to 10 feet bgs)[a] Soil Pathway Particulate Inhalation	Adult Camper (5 to 10 feet bgs)[a] Soil Pathway Vapor Inhalation	Adult Camper (5 to 10 feet bgs)[a] Soil Pathway Dermal Contact	Adult Camper (5 to 10 feet bgs)[a] Soil Pathway Ingestion	Adult Camper (5 to 10 feet bgs)[a] Soil Pathway Total Hazard Index
Polychlorinated Biphenyls																					
Total PCBs	ND	1.4E-05	ND	ND	1.4E-05	ND	1.4E-05	ND	ND	1.4E-05	4.7E-09	1.4E-05	1.5E-04	3.4E-04	5.0E-04	4.7E-09	1.4E-05	2.0E-05	3.2E-05	6.5E-05
Total Petroleum Hydrocarbons																					
TPH as diesel	1.9E-08	4.2E-03	1.3E-03	4.6E-03	1.0E-02	1.9E-08	4.2E-03	1.8E-04	4.3E-04	4.8E-03	1.5E-08	4.2E-03	1.1E-03	3.7E-03	9.0E-03	1.5E-08	4.2E-03	1.5E-04	3.5E-04	4.7E-03
TPH as motor oil	9.8E-09	NV	2.1E-04	7.1E-04	9.1E-04	9.8E-09	NV	2.8E-05	6.6E-05	9.4E-05	7.6E-09	NV	1.6E-04	5.5E-04	7.1E-04	7.6E-09	NV	2.2E-05	5.2E-05	7.3E-05
Dioxins/Furans																					
TEQ Human	1.2E-08	2.9E-05	1.1E-03	1.3E-02	1.4E-02	1.2E-08	2.9E-05	1.5E-04	1.2E-03	1.4E-03	1.3E-08	2.9E-05	1.1E-03	1.3E-02	1.4E-02	1.3E-08	2.9E-05	1.5E-04	1.2E-03	1.4E-03
Total Hazard Index	**3E-05**	**4E-03**	**5E-03**	**9E-02**	**1E-01**	**3E-05**	**4E-03**	**7E-04**	**9E-03**	**1E-02**	**5E-05**	**4E-03**	**5E-03**	**1E-01**	**1E-01**	**5E-05**	**4E-03**	**7E-04**	**9E-03**	**1E-02**

Notes:
[a] Exposure point concentrations (EPCs) for exposure to subsurface I soil (5 to 15 feet bgs) are used to evaluate the vapor inhalation pathway.

Abbreviations:
– = not calculated.
bgs = below ground surface.
C O P C = Constituent of Potential Concern.
H I = Hazard Index
na = Not applicable. Potential exposure to lead is evaluated using California Environmental Protection Agency (Cal/E P A) Department of Toxic Substances Control's (DTSC) LeadSpread model. Please see text for discussion.
NA = Hexavalent chromium is not absorbed via dermal contact.
ND = Not detected.
NS = Not sampled.
NV = Not volatile.
PCB = Polychlorinated biphenyls.
TPH = Total Petroleum Hydrocarbons.
TEQ = Toxic Equivalent.

Table BCW-B1.14b
5-Foot Scouring Scenario H Is for C O P Cs in BCW Soil Using Depth-Weighted EPCs: Recreational User - Hiker

Post-Soil N T C R A Human Health and Ecological Risk Assessment Report
PG&E Topock Compressor Station
Needles, California

C O P C	Child Hiker (5 to 6 feet bgs)[a] Soil Pathway Particulate Inhalation	Child Hiker (5 to 6 feet bgs)[a] Soil Pathway Vapor Inhalation	Child Hiker (5 to 6 feet bgs)[a] Soil Pathway Dermal Contact	Child Hiker (5 to 6 feet bgs)[a] Soil Pathway Ingestion	Child Hiker (5 to 6 feet bgs)[a] Soil Pathway Total Hazard Index	Adult Hiker (5 to 6 feet bgs)[a] Soil Pathway Particulate Inhalation	Adult Hiker (5 to 6 feet bgs)[a] Soil Pathway Vapor Inhalation	Adult Hiker (5 to 6 feet bgs)[a] Soil Pathway Dermal Contact	Adult Hiker (5 to 6 feet bgs)[a] Soil Pathway Ingestion	Adult Hiker (5 to 6 feet bgs)[a] Soil Pathway Total Hazard Index	Child Hiker (5 to 10 feet bgs)[a] Soil Pathway Particulate Inhalation	Child Hiker (5 to 10 feet bgs)[a] Soil Pathway Vapor Inhalation	Child Hiker (5 to 10 feet bgs)[a] Soil Pathway Dermal Contact	Child Hiker (5 to 10 feet bgs)[a] Soil Pathway Ingestion	Child Hiker (5 to 10 feet bgs)[a] Soil Pathway Total Hazard Index	Adult Hiker (5 to 10 feet bgs)[a] Soil Pathway Particulate Inhalation	Adult Hiker (5 to 10 feet bgs)[a] Soil Pathway Vapor Inhalation	Adult Hiker (5 to 10 feet bgs)[a] Soil Pathway Dermal Contact	Adult Hiker (5 to 10 feet bgs)[a] Soil Pathway Ingestion	Adult Hiker (5 to 10 feet bgs)[a] Soil Pathway Total Hazard Index
Inorganics																					
Antimony	1.3E-07	NV	5.2E-05	1.8E-03	1.8E-03	1.3E-07	NV	7.1E-06	1.7E-04	1.8E-04	1.4E-07	NV	5.3E-05	1.8E-03	1.9E-03	1.4E-07	NV	7.3E-06	1.7E-04	1.8E-04
Chromium, Hexavalent	1.6E-07	NV	NA	9.6E-05	9.6E-05	1.6E-07	NV	NA	9.0E-06	9.2E-06	2.7E-07	NV	NA	1.6E-04	1.6E-04	2.7E-07	NV	NA	1.5E-05	1.5E-05
Chromium, total	2.1E-05	NV	4.4E-07	1.5E-05	3.7E-05	2.1E-05	NV	6.0E-08	1.4E-06	2.2E-05	5.1E-05	NV	1.1E-06	3.7E-05	8.9E-05	5.1E-05	NV	1.5E-07	3.5E-06	5.5E-05
Cobalt	4.6E-05	NV	4.8E-04	1.7E-02	1.7E-02	4.6E-05	NV	6.6E-05	1.6E-03	1.7E-03	4.6E-05	NV	4.8E-04	1.7E-02	1.7E-02	4.6E-05	NV	6.5E-05	1.6E-03	1.7E-03
Copper	2.4E-09	NV	5.1E-06	1.8E-04	1.8E-04	2.4E-09	NV	7.0E-07	1.7E-05	1.7E-05	2.4E-09	NV	5.1E-06	1.8E-04	1.8E-04	2.4E-09	NV	7.0E-07	1.7E-05	1.7E-05
Lead	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
Mercury (inorganic)	6.3E-08	NV	6.2E-06	2.1E-04	2.2E-04	6.3E-08	NV	8.4E-07	2.0E-05	2.1E-05	6.1E-08	NV	6.0E-06	2.1E-04	2.1E-04	6.1E-08	NV	8.2E-07	1.9E-05	2.0E-05
Orthophosphate	NS	NV	NS	NS	--	NS	NV	NS	NS	--	8.5E-10	NV	1.8E-06	6.2E-05	6.4E-05	8.5E-10	NV	2.4E-07	5.8E-06	6.0E-06
Thallium	1.9E-06	NV	3.9E-03	1.3E-01	1.4E-01	1.9E-06	NV	5.3E-04	1.3E-02	1.3E-02	1.9E-06	NV	4.0E-03	1.4E-01	1.4E-01	1.9E-06	NV	5.5E-04	1.3E-02	1.3E-02
Zinc	2.1E-09	NV	4.5E-06	1.5E-04	1.6E-04	2.1E-09	NV	6.1E-07	1.4E-05	1.5E-05	2.0E-09	NV	4.2E-06	1.5E-04	1.5E-04	2.0E-09	NV	5.8E-07	1.4E-05	1.4E-05
Semi-Volatile Organic Compounds																				
bis (2-ethylhexyl) phthalate	1.5E-10	NV	3.1E-06	1.1E-05	1.4E-05	1.5E-10	NV	4.3E-07	1.0E-06	1.4E-06	1.3E-10	NV	2.8E-06	9.6E-06	1.2E-05	1.3E-10	NV	3.8E-07	9.0E-07	1.3E-06
Polycyclic Aromatic Hydrocarbons																				
2-Methyl naphthalene	ND	1.5E-07	ND	ND	1.5E-07	ND	1.5E-07	ND	ND	1.5E-07	6.1E-12	1.5E-07	1.9E-07	4.4E-07	7.9E-07	6.1E-12	1.5E-07	2.6E-08	4.2E-08	2.2E-07
Acenaphthylene	ND	NV	ND	ND	--	ND	NV	ND	ND	--	ND	NV	ND	ND	--	ND	NV	ND	ND	--
Anthracene	8.6E-13	9.4E-10	2.7E-08	6.2E-08	9.0E-08	8.6E-13	9.4E-10	3.7E-09	5.8E-09	1.0E-08	7.2E-13	9.4E-10	2.3E-08	5.2E-08	7.6E-08	7.2E-13	9.4E-10	3.1E-09	4.9E-09	9.0E-09
Benzo (ghi) perylene	1.6E-12	NV	5.0E-08	1.1E-07	1.6E-07	1.6E-12	NV	6.8E-09	1.1E-08	1.8E-08	1.4E-12	NV	4.4E-08	1.0E-07	1.5E-07	1.4E-12	NV	6.1E-09	9.6E-09	1.6E-08
Fluoranthene	5.5E-12	NV	1.7E-07	4.0E-07	5.7E-07	5.5E-12	NV	2.4E-08	3.7E-08	6.1E-08	1.1E-12	NV	3.4E-08	7.9E-08	1.1E-07	1.1E-12	NV	4.7E-09	7.4E-09	1.2E-08
Fluorene	ND	4.3E-09	ND	ND	4.3E-09	ND	4.3E-09	ND	ND	4.3E-09	7.2E-13	4.3E-09	2.3E-08	5.2E-08	7.9E-08	7.2E-13	4.3E-09	3.1E-09	4.9E-09	1.2E-08
Naphthalene	ND	2.6E-06	ND	ND	2.6E-06	ND	2.6E-06	ND	ND	2.6E-06	5.8E-11	2.6E-06	6.8E-08	1.6E-07	2.9E-06	5.8E-11	2.6E-06	9.3E-09	1.5E-08	2.7E-06
Phenanthrene	4.0E-12	NV	1.3E-07	2.9E-07	4.2E-07	4.0E-12	NV	1.7E-08	2.7E-08	4.5E-08	2.2E-13	NV	7.0E-09	1.6E-08	2.3E-08	2.2E-13	NV	9.6E-10	1.5E-09	2.5E-09
Pyrene	6.9E-12	5.7E-10	2.2E-07	5.0E-07	7.2E-07	6.9E-12	5.7E-10	3.0E-08	4.7E-08	7.8E-08	1.4E-12	5.7E-10	4.4E-08	1.0E-07	1.4E-07	1.4E-12	5.7E-10	6.0E-09	9.4E-09	1.6E-08

Table BCW-B1.14b
5-Foot Scouring Scenario H Is for C O P Cs in BCW Soil Using Depth-Weighted EPCs: Recreational User - Hiker

Post-Soil N T C R A Human Health and Ecological Risk Assessment Report
PG&E Topock Compressor Station
Needles, California

C O P C	Child Hiker (5 to 6 feet bgs)[a] Soil Pathway Particulate Inhalation	Child Hiker (5 to 6 feet bgs)[a] Soil Pathway Vapor Inhalation	Child Hiker (5 to 6 feet bgs)[a] Soil Pathway Dermal Contact	Child Hiker (5 to 6 feet bgs)[a] Soil Pathway Ingestion	Child Hiker (5 to 6 feet bgs)[a] Soil Pathway Total Hazard Index	Adult Hiker (5 to 6 feet bgs)[a] Soil Pathway Particulate Inhalation	Adult Hiker (5 to 6 feet bgs)[a] Soil Pathway Vapor Inhalation	Adult Hiker (5 to 6 feet bgs)[a] Soil Pathway Dermal Contact	Adult Hiker (5 to 6 feet bgs)[a] Soil Pathway Ingestion	Adult Hiker (5 to 6 feet bgs)[a] Soil Pathway Total Hazard Index	Child Hiker (5 to 10 feet bgs)[a] Soil Pathway Particulate Inhalation	Child Hiker (5 to 10 feet bgs)[a] Soil Pathway Vapor Inhalation	Child Hiker (5 to 10 feet bgs)[a] Soil Pathway Dermal Contact	Child Hiker (5 to 10 feet bgs)[a] Soil Pathway Ingestion	Child Hiker (5 to 10 feet bgs)[a] Soil Pathway Total Hazard Index	Adult Hiker (5 to 10 feet bgs)[a] Soil Pathway Particulate Inhalation	Adult Hiker (5 to 10 feet bgs)[a] Soil Pathway Vapor Inhalation	Adult Hiker (5 to 10 feet bgs)[a] Soil Pathway Dermal Contact	Adult Hiker (5 to 10 feet bgs)[a] Soil Pathway Ingestion	Adult Hiker (5 to 10 feet bgs)[a] Soil Pathway Total Hazard Index
Polychlorinated Biphenyls																					
Total PCBs	ND	2.7E-05	ND	ND	2.7E-05	ND	2.7E-05	ND	ND	2.7E-05	9.3E-09	2.7E-05	2.9E-04	6.8E-04	1.0E-03	9.3E-09	2.7E-05	4.0E-05	6.3E-05	1.3E-04
Total Petroleum Hydrocarbons																					
TPH as diesel	3.7E-08	8.4E-03	2.7E-03	9.2E-03	2.0E-02	3.7E-08	8.4E-03	3.7E-04	8.7E-04	9.6E-03	3.0E-08	8.4E-03	2.1E-03	7.4E-03	1.8E-02	3.0E-08	8.4E-03	2.9E-04	7.0E-04	9.4E-03
TPH as motor oil	2.0E-08	NV	4.1E-04	1.4E-03	1.8E-03	2.0E-08	NV	5.6E-05	1.3E-04	1.9E-04	1.5E-08	NV	3.2E-04	1.1E-03	1.4E-03	1.5E-08	NV	4.3E-05	1.0E-04	1.5E-04
Dioxins/Furans																					
TEQ Human	2.5E-08	5.9E-05	2.2E-03	2.5E-02	2.8E-02	2.5E-08	5.9E-05	3.0E-04	2.4E-03	2.7E-03	2.5E-08	5.9E-05	2.3E-03	2.6E-02	2.8E-02	2.5E-08	5.9E-05	3.1E-04	2.4E-03	2.8E-03
Total Hazard Index	**7E-05**	**8E-03**	**1E-02**	**2E-01**	**2E-01**	**7E-05**	**8E-03**	**1E-03**	**2E-02**	**3E-02**	**1E-04**	**8E-03**	**1E-02**	**2E-01**	**2E-01**	**1E-04**	**8E-03**	**1E-03**	**2E-02**	**3E-02**

Notes:
[a] Exposure point concentrations (EPCs) for exposure to subsurface I soil (5 to 15 feet bgs) are used to evaluate the vapor inhalation pathway.

Abbreviations:
– = not calculated.
bgs = below ground surface.
C O P C = Constituent of Potential Concern.
H I = Hazard Index
na = Not applicable. Potential exposure to lead is evaluated using California Environmental Protection Agency (Cal/E P A) Department of Toxic Substances Control's (DTSC) LeadSpread model. Please see text for discussion.
NA = Hexavalent chromium is not absorbed via dermal contact.
ND = Not detected.
NS = Not sampled.
NV = Not volatile.
PCB = Polychlorinated biphenyls.
TPH = Total Petroleum Hydrocarbons.
TEQ = Toxic Equivalent.

Table BCW-B1.14c
5-Foot Scouring Scenario H Is for C O P Cs in BCW Soil Using Depth-Weighted EPCs: Recreational User - Off-Highway Vehicle Rider

Post-Soil N T C R A Human Health and Ecological Risk Assessment Report
PG&E Topock Compressor Station
Needles, California

C O P C	Child OHV Rider (5 to 6 feet bgs)[a] Soil Pathway Particulate Inhalation	Child OHV Rider (5 to 6 feet bgs)[a] Soil Pathway Vapor Inhalation	Child OHV Rider (5 to 6 feet bgs)[a] Soil Pathway Dermal Contact	Child OHV Rider (5 to 6 feet bgs)[a] Soil Pathway Ingestion	Child OHV Rider (5 to 6 feet bgs)[a] Soil Pathway Total Hazard Index	Adult OHV Rider (5 to 6 feet bgs)[a] Soil Pathway Particulate Inhalation	Adult OHV Rider (5 to 6 feet bgs)[a] Soil Pathway Vapor Inhalation	Adult OHV Rider (5 to 6 feet bgs)[a] Soil Pathway Dermal Contact	Adult OHV Rider (5 to 6 feet bgs)[a] Soil Pathway Ingestion	Adult OHV Rider (5 to 6 feet bgs)[a] Soil Pathway Total Hazard Index	Rider (5 to 10 Soil Pathway Particulate Inhalation	Rider (5 to 10 Soil Pathway Vapor Inhalation	Rider (5 to 10 Soil Pathway Dermal Contact	Rider (5 to 10 Soil Pathway Ingestion	Rider (5 to 10 Soil Pathway Total Hazard Index	Rider (5 to 10 Soil Pathway Particulate Inhalation	Rider (5 to 10 Soil Pathway Vapor Inhalation	Rider (5 to 10 Soil Pathway Dermal Contact	Rider (5 to 10 Soil Pathway Ingestion	Rider (5 to 10 Soil Pathway Total Hazard Index
Inorganics																					
Antimony	1.3E-05	NV	9.5E-05	1.3E-04	2.3E-04	1.3E-05	NV	8.1E-05	5.2E-05	1.5E-04	1.4E-05	NV	9.7E-05	1.3E-04	2.4E-04	1.4E-05	NV	8.3E-05	5.3E-05	1.5E-04
Chromium, Hexavalent	1.6E-05	NV	NA	6.8E-06	2.3E-05	1.6E-05	NV	NA	2.8E-06	1.9E-05	2.7E-05	NV	NA	1.1E-05	3.8E-05	2.7E-05	NV	NA	4.7E-06	3.1E-05
Chromium, total	2.1E-03	NV	8.0E-07	1.1E-06	2.1E-03	2.1E-03	NV	6.9E-07	4.4E-07	2.1E-03	5.1E-03	NV	1.9E-06	2.6E-06	5.1E-03	5.1E-03	NV	1.7E-06	1.1E-06	5.1E-03
Cobalt	4.6E-03	NV	8.8E-04	1.2E-03	6.7E-03	4.6E-03	NV	7.5E-04	4.8E-04	5.8E-03	4.6E-03	NV	8.7E-04	1.2E-03	6.6E-03	4.6E-03	NV	7.5E-04	4.8E-04	5.8E-03
Copper	2.4E-07	NV	9.3E-06	1.2E-05	2.2E-05	2.4E-07	NV	8.0E-06	5.1E-06	1.3E-05	2.4E-07	NV	9.3E-06	1.2E-05	2.2E-05	2.4E-07	NV	8.0E-06	5.1E-06	1.3E-05
Lead	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
Mercury (inorganic)	6.3E-06	NV	1.1E-05	1.5E-05	3.2E-05	6.3E-06	NV	9.6E-06	6.2E-06	2.2E-05	6.1E-06	NV	1.1E-05	1.5E-05	3.2E-05	6.1E-06	NV	9.4E-06	6.0E-06	2.1E-05
Orthophosphate	NS	NV	NS	NS	–	NS	NV	NS	NS	–	8.6E-08	NV	3.3E-06	4.3E-06	7.7E-06	8.6E-08	NV	2.8E-06	1.8E-06	4.7E-06
Thallium	1.9E-04	NV	7.1E-03	9.5E-03	1.7E-02	1.9E-04	NV	6.1E-03	3.9E-03	1.0E-02	1.9E-04	NV	7.3E-03	9.7E-03	1.7E-02	1.9E-04	NV	6.2E-03	4.0E-03	1.0E-02
Zinc	2.1E-07	NV	8.1E-06	1.1E-05	1.9E-05	2.1E-07	NV	7.0E-06	4.5E-06	1.2E-05	2.0E-07	NV	7.7E-06	1.0E-05	1.8E-05	2.0E-07	NV	6.6E-06	4.2E-06	1.1E-05
Semi-Volatile Organic Compounds																				
bis (2-ethylhexyl) phthalate	1.5E-08	NV	5.7E-06	7.6E-07	6.5E-06	1.5E-08	NV	4.9E-06	3.1E-07	5.2E-06	1.3E-08	NV	5.1E-06	6.8E-07	5.8E-06	1.3E-08	NV	4.3E-06	2.8E-07	4.6E-06
Polycyclic Aromatic Hydrocarbons																				
2-Methyl naphthalene	ND	9.4E-09	ND	ND	9.4E-09	ND	9.4E-09	ND	ND	9.4E-09	6.1E-10	9.4E-09	3.5E-07	3.1E-08	3.9E-07	6.1E-10	9.4E-09	3.0E-07	1.3E-08	3.2E-07
Acenaphthylene	ND	NV	ND	ND	–	ND	NV	ND	ND	–	ND	NV	ND	ND	–	ND	NV	ND	ND	–
Anthracene	8.6E-11	5.9E-11	4.9E-08	4.4E-09	5.4E-08	8.6E-11	5.9E-11	4.2E-08	1.8E-09	4.4E-08	7.3E-11	5.9E-11	4.1E-08	3.7E-09	4.5E-08	7.3E-11	5.9E-11	3.6E-08	1.5E-09	3.7E-08
Benzo (ghi) perylene	1.6E-10	NV	9.1E-08	8.1E-09	9.9E-08	1.6E-10	NV	7.8E-08	3.3E-09	8.1E-08	1.4E-10	NV	8.1E-08	7.2E-09	8.8E-08	1.4E-10	NV	6.9E-08	3.0E-09	7.3E-08
Fluoranthene	5.5E-10	NV	3.2E-07	2.8E-08	3.4E-07	5.5E-10	NV	2.7E-07	1.2E-08	2.8E-07	1.1E-10	NV	6.2E-08	5.5E-09	6.8E-08	1.1E-10	NV	5.4E-08	2.3E-09	5.6E-08
Fluorene	ND	2.7E-10	ND	ND	2.7E-10	ND	2.7E-10	ND	ND	2.7E-10	7.2E-11	2.7E-10	4.1E-08	3.7E-09	4.5E-08	7.2E-11	2.7E-10	3.5E-08	1.5E-09	3.7E-08
Naphthalene	ND	1.7E-07	ND	ND	1.7E-07	ND	1.7E-07	ND	ND	1.7E-07	5.8E-09	1.7E-07	1.2E-07	1.1E-08	3.1E-07	5.8E-09	1.7E-07	1.1E-07	4.5E-09	2.8E-07
Phenanthrene	4.0E-10	NV	2.3E-07	2.1E-08	2.5E-07	4.0E-10	NV	2.0E-07	8.5E-09	2.1E-07	2.2E-11	NV	1.3E-08	1.1E-09	1.4E-08	2.2E-11	NV	1.1E-08	4.7E-10	1.1E-08
Pyrene	7.0E-10	3.5E-11	4.0E-07	3.5E-08	4.3E-07	7.0E-10	3.5E-11	3.4E-07	1.5E-08	3.6E-07	1.4E-10	3.5E-11	7.9E-08	7.1E-09	8.7E-08	1.4E-10	3.5E-11	6.8E-08	2.9E-09	7.1E-08

Table BCW-B1.14c
5-Foot Scouring Scenario H Is for C O P Cs in BCW Soil Using Depth-Weighted EPCs: Recreational User - Off-Highway Vehicle Rider

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C O P C	Child OHV Rider (5 to 6 feet bgs)[a] Soil Pathway Particulate Inhalation	Child OHV Rider (5 to 6 feet bgs)[a] Soil Pathway Vapor Inhalation	Child OHV Rider (5 to 6 feet bgs)[a] Soil Pathway Dermal Contact	Child OHV Rider (5 to 6 feet bgs)[a] Soil Pathway Ingestion	Child OHV Rider (5 to 6 feet bgs)[a] Soil Pathway Total Hazard Index	Adult OHV Rider (5 to 6 feet bgs)[a] Soil Pathway Particulate Inhalation	Adult OHV Rider (5 to 6 feet bgs)[a] Soil Pathway Vapor Inhalation	Adult OHV Rider (5 to 6 feet bgs)[a] Soil Pathway Dermal Contact	Adult OHV Rider (5 to 6 feet bgs)[a] Soil Pathway Ingestion	Adult OHV Rider (5 to 6 feet bgs)[a] Soil Pathway Total Hazard Index	Rider (5 to 10 Soil Pathway Particulate Inhalation	Rider (5 to 10 Soil Pathway Vapor Inhalation	Rider (5 to 10 Soil Pathway Dermal Contact	Rider (5 to 10 Soil Pathway Ingestion	Rider (5 to 10 Soil Pathway Total Hazard Index	Rider (5 to 10 Soil Pathway Particulate Inhalation	Rider (5 to 10 Soil Pathway Vapor Inhalation	Rider (5 to 10 Soil Pathway Dermal Contact	Rider (5 to 10 Soil Pathway Ingestion	Rider (5 to 10 Soil Pathway Total Hazard Index
Polychlorinated Biphenyls																				
Total PCBs	ND	1.7E-06	ND	ND	1.7E-06	ND	1.7E-06	ND	ND	1.7E-06	9.3E-07	1.7E-06	5.3E-04	4.7E-05	5.8E-04	9.3E-07	1.7E-06	4.6E-04	2.0E-05	4.8E-04
Total Petroleum Hydrocarbons																				
TPH as diesel	3.7E-06	5.2E-04	4.9E-03	6.5E-04	6.0E-03	3.7E-06	5.2E-04	4.2E-03	2.7E-04	5.0E-03	3.0E-06	5.2E-04	3.9E-03	5.2E-04	5.0E-03	3.0E-06	5.2E-04	3.4E-03	2.2E-04	4.1E-03
TPH as motor oil	2.0E-06	NV	7.5E-04	9.9E-05	8.5E-04	2.0E-06	NV	6.4E-04	4.1E-05	6.8E-04	1.5E-06	NV	5.8E-04	7.7E-05	6.6E-04	1.5E-06	NV	5.0E-04	3.2E-05	5.3E-04
Dioxins/Furans																				
TEQ Human	2.5E-06	3.7E-06	4.0E-03	1.8E-03	5.8E-03	2.5E-06	3.7E-06	3.5E-03	7.4E-04	4.2E-03	2.5E-06	3.7E-06	4.1E-03	1.8E-03	5.9E-03	2.5E-06	3.7E-06	3.5E-03	7.5E-04	4.3E-03
Total Hazard Index	**7E-03**	**5E-04**	**2E-02**	**1E-02**	**4E-02**	**7E-03**	**5E-04**	**2E-02**	**5E-03**	**3E-02**	**1E-02**	**5E-04**	**2E-02**	**1E-02**	**4E-02**	**1E-02**	**5E-04**	**1E-02**	**6E-03**	**3E-02**

Notes:
[a] Exposure point concentrations (EPCs) for exposure to subsurface I soil (5 to 15 feet bgs) are used to evaluate the vapor inhalation pathway.

Abbreviations:
– = not calculated.
bgs = below ground surface.
C O P C = Constituent of Potential Concern.
H I = Hazard Index
na = Not applicable. Potential exposure to lead is evaluated using California Environmental Protection Agency (Cal/E P A) Department of Toxic Substances Control's (DTSC) LeadSpread model. Please see text for discussion.
NA = Hexavalent chromium is not absorbed via dermal contact.
ND = Not detected.
NS = Not sampled.
NV = Not volatile.
PCB = Polychlorinated biphenyls.
TPH = Total Petroleum Hydrocarbons.
TEQ = Toxic Equivalent.

Table BCW-B1.15a
5-Foot Scouring Scenario Risk Evaluation for Lead in BCW Surface Soil (5 to 6 feet bgs) Using Depth-Weighted EPCs:
Recreational User (Camper)

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Needles, California

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INPUT MEDIUM	INPUT LEVEL
Lead in Soil/Dust (ug/g)	8.9
Respirable Dust (ug/m^3)	1.5

OUTPUT	Percentile Estimate of Blood Pb (ug/dl) 50th	Percentile Estimate of Blood Pb (ug/dl) 90th	Percentile Estimate of Blood Pb (ug/dl) 95th	Percentile Estimate of Blood Pb (ug/dl) 98th	Percentile Estimate of Blood Pb (ug/dl) 99th	PRG-90 (ug/g)
BLOOD Pb, CHILD	0.002	0.004	0.00	0.01	0.01	2159
BLOOD Pb, PICA CHILD	0.004	0.01	0.01	0.01	0.01	1084

EXPOSURE PARAMETERS	units	children
Days per week	days/wk	0.25[a]
Geometric Standard Deviation	ug/dl	1.6
Blood lead level of concern	ug/dl	1
Skin area, residential	cm^2	2900
Soil adherence	ug/cm^2	200
Dermal uptake constant	(ug/dl)/(ug/day)	0.0001
Soil ingestion	mg/day	100
Soil ingestion, pica	mg/day	200
Ingestion constant	(ug/dl)/(ug/day)	0.16
Bioavailability	unitless	0.44
Breathing rate	m^3/day	6.8
Inhalation constant	(ug/dl)/(ug/day)	0.192

CHILDREN Pathway	typical Pathway contribution PEF	typical Pathway contribution ug/dl	typical Pathway contribution percent	with pica Pathway contribution PEF	with pica Pathway contribution ug/dl	with pica Pathway contribution percent
Soil Contact	2.1E-6	1.8E-05	1%	--	1.8E-05	0.4%
Soil Ingestion	2.5E-4	2.2E-03	99%	5.0E-4	4.5E-03	100%
Inhalation	7.0E-8	6.2E-07	0.03%	--	6.2E-07	0.01%

Notes:
[a] Highlighted values are Site-specific: days per week based on the assumption of 1 day per month (1 day/4 weeks = 0.25 days/week), 8 months per year. See Table 5.1 of the main report for details.

Table BCW-B1.15b
5-Foot Scouring Scenario Risk Evaluation for Lead in BCW Shallow Soil (5 to 10 feet bgs) Using Depth-Weighted EPCs:
Recreational User (Camper)

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LEAD RISK ASSESSMENT SPREADSHEET 8
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INPUT MEDIUM	INPUT LEVEL
Lead in Soil/Dust (ug/g)	7.1
Respirable Dust (ug/m^3)	1.5

OUTPUT	Percentile Estimate of Blood Pb (ug/dl) 50th	Percentile Estimate of Blood Pb (ug/dl) 90th	Percentile Estimate of Blood Pb (ug/dl) 95th	Percentile Estimate of Blood Pb (ug/dl) 98th	Percentile Estimate of Blood Pb (ug/dl) 99th	PRG-90 (ug/g)
BLOOD Pb, CHILD	0.002	0.003	0.00	0.00	0.01	2159
BLOOD Pb, PICA CHILD	0.004	0.01	0.01	0.01	0.01	1084

EXPOSURE PARAMETERS	units	children
Days per week	days/wk	0.25[a]
Geometric Standard Deviation	ug/dl	1.6
Blood lead level of concern	ug/dl	1
Skin area, residential	cm^2	2900
Soil adherence	ug/cm^2	200
Dermal uptake constant	(ug/dl)/(ug/day)	0.0001
Soil ingestion	mg/day	100
Soil ingestion, pica	mg/day	200
Ingestion constant	(ug/dl)/(ug/day)	0.16
Bioavailability	unitless	0.44
Breathing rate	m^3/day	6.8
Inhalation constant	(ug/dl)/(ug/day)	0.192

CHILDREN	typical Pathway contribution	typical Pathway contribution	typical Pathway contribution	with pica Pathway contribution	with pica Pathway contribution	with pica Pathway contribution
Pathway	PEF	ug/dl	percent	PEF	ug/dl	percent
Soil Contact	2.1E-6	1.5E-05	1%	--	1.5E-05	0.4%
Soil Ingestion	2.5E-4	1.8E-03	99%	5.0E-4	3.6E-03	100%
Inhalation	7.0E-8	5.0E-07	0.03%	--	5.0E-07	0.01%

Notes:
[a] Highlighted values are Site-specific: days per week based on the assumption of 1 day per month (1 day/4 weeks = 0.25 days/week), 8 months per year. See Table 5.1 of the main report for details.

Table BCW-B1.15c
5-Foot Scouring Scenario Risk Evaluation for Lead in BCW Surface Soil (5 to 6 feet bgs) Using Depth-Weighted EPCs:
Recreational User (Hiker)

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INPUT MEDIUM	**INPUT** LEVEL
Lead in Soil/Dust (ug/g)	8.9
Respirable Dust (ug/m^3)	1.5

OUTPUT	Percentile Estimate of Blood Pb (ug/dl) 50th	Percentile Estimate of Blood Pb (ug/dl) 90th	Percentile Estimate of Blood Pb (ug/dl) 95th	Percentile Estimate of Blood Pb (ug/dl) 98th	Percentile Estimate of Blood Pb (ug/dl) 99th	PRG-90 (ug/g)
BLOOD Pb, CHILD	0.004	0.008	0.01	0.01	0.01	1079
BLOOD Pb, PICA CHILD	0.009	0.02	0.02	0.02	0.03	542

EXPOSURE PARAMETERS	units	children
Days per week	days/wk	0.5 [a]
Geometric Standard Deviation	ug/dl	1.6
Blood lead level of concern	ug/dl	1
Skin area, residential	cm^2	2900
Soil adherence	ug/cm^2	200
Dermal uptake constant	(ug/dl)/(ug/day)	0.0001
Soil ingestion	mg/day	100
Soil ingestion, pica	mg/day	200
Ingestion constant	(ug/dl)/(ug/day)	0.16
Bioavailability	unitless	0.44
Breathing rate	m^3/day	6.8
Inhalation constant	(ug/dl)/(ug/day)	0.192

CHILDREN Pathway	typical Pathway contribution PEF	typical Pathway contribution ug/dl	typical Pathway contribution percent	with pica Pathway contribution PEF	with pica Pathway contribution ug/dl	with pica Pathway contribution percent
Soil Contact	4.1E-6	3.7E-05	1%	--	3.7E-05	0.4%
Soil Ingestion	5.0E-4	4.5E-03	99%	1.0E-3	8.9E-03	100%
Inhalation	1.4E-7	1.2E-06	0.03%	--	1.2E-06	0.01%

Notes:
[a] Highlighted values are Site-specific: days per week based on the assumption of 2 days per month (2 days/4 weeks = 0.5 days/week), 8 months per year. See Table 5.1 of the main report for details.

Table BCW-B1.15d
5-Foot Scouring Scenario Risk Evaluation for Lead in BCW Shallow Soil (5 to 10 feet bgs) Using Depth-Weighted EPCs: Recreational User (Hiker)

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INPUT MEDIUM	**INPUT** LEVEL
Lead in Soil/Dust (ug/g)	7.1
Respirable Dust (ug/m^3)	1.5

OUTPUT	Percentile Estimate of Blood Pb (ug/dl) 50th	Percentile Estimate of Blood Pb (ug/dl) 90th	Percentile Estimate of Blood Pb (ug/dl) 95th	Percentile Estimate of Blood Pb (ug/dl) 98th	Percentile Estimate of Blood Pb (ug/dl) 99th	PRG-90 (ug/g)
BLOOD Pb, CHILD	0.004	0.007	0.01	0.01	0.01	1079
BLOOD Pb, PICA CHILD	0.007	0.01	0.02	0.02	0.02	542

EXPOSURE PARAMETERS	units	children
Days per week	days/wk	0.5[a]
Geometric Standard Deviation	ug/dl	1.6
Blood lead level of concern	ug/dl	1
Skin area, residential	cm^2	2900
Soil adherence	ug/cm^2	200
Dermal uptake constant	(ug/dl)/(ug/day)	0.0001
Soil ingestion	mg/day	100
Soil ingestion, pica	mg/day	200
Ingestion constant	(ug/dl)/(ug/day)	0.16
Bioavailability	unitless	0.44
Breathing rate	m^3/day	6.8
Inhalation constant	(ug/dl)/(ug/day)	0.192

CHILDREN Pathway	typical Pathway contribution PEF	typical Pathway contribution ug/dl	typical Pathway contribution percent	with pica Pathway contribution PEF	with pica Pathway contribution ug/dl	with pica Pathway contribution percent
Soil Contact	4.1E-6	2.9E-05	1%	--	2.9E-05	0.4%
Soil Ingestion	5.0E-4	3.6E-03	99%	1.0E-3	7.2E-03	100%
Inhalation	1.4E-7	9.9E-07	0.03%	--	9.9E-07	0.01%

Notes:
[a] Highlighted values are Site-specific: days per week based on the assumption of 2 days per month (2 days/4 weeks = 0.5 days/week), 8 months per year. See Table 5.1 of the main report for details.

Table BCW-B1.15e

5-Foot Scouring Scenario Risk Evaluation for Lead in BCW Surface Soil (5 to 6 feet bgs) Using Depth-Weighted EPCs: Recreational User (Off-Highway Vehicle Rider)

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INPUT MEDIUM	**INPUT** LEVEL
Lead in Soil/Dust (ug/g)	8.9
Respirable Dust (ug/m^3)	1.5

OUTPUT	Percentile Estimate of Blood Pb (ug/dl) 50th	Percentile Estimate of Blood Pb (ug/dl) 90th	Percentile Estimate of Blood Pb (ug/dl) 95th	Percentile Estimate of Blood Pb (ug/dl) 98th	Percentile Estimate of Blood Pb (ug/dl) 99th	PRG-90 (ug/g)
BLOOD Pb, CHILD	0.002	0.003	0.00	0.00	0.00	3180
BLOOD Pb, PICA CHILD	0.009	0.02	0.02	0.02	0.03	535

EXPOSURE PARAMETERS	units	children
Days per week	days/wk	0.5 [a]
Geometric Standard Deviation	ug/dl	1.6
Blood lead level of concern	ug/dl	1
Skin area, residential	cm^2	2900
Soil adherence	ug/cm^2	800 [a]
Dermal uptake constant	(ug/dl)/(ug/day)	0.0001
Soil ingestion	mg/day	31 [a]
Soil ingestion, pica	mg/day	200
Ingestion constant	(ug/dl)/(ug/day)	0.16
Bioavailability	unitless	0.44
Breathing rate	m^3/day	0.425 [a]
Inhalation constant	(ug/dl)/(ug/day)	0.192

CHILDREN Pathway	typical Pathway contribution PEF	typical Pathway contribution ug/dl	typical Pathway contribution percent	with pica Pathway contribution PEF	with pica Pathway contribution ug/dl	with pica Pathway contribution percent
Soil Contact	1.7E-5	1.5E-04	10%	--	1.5E-04	1.6%
Soil Ingestion	1.6E-4	1.4E-03	90%	1.0E-3	8.9E-03	98%
Inhalation	8.7E-9	7.7E-08	0.01%	--	7.7E-08	0.00%

Notes:
[a] Highlighted values are Site-specific: days per week based on the assumption of 2 days per month, 8 months per year. Soil ingestion rate of 330 mg/day is modified by exposure time (1.5 hours riding at site per 16 awake hours, or 0.09). Default inhalation breathing rate of 6.8 m^3/day is modified to account for exposure time (i.e., 1.5 hours riding at site per 24 hours, or 0.06) . See Table 5.1 of the main report for details.

Table BCW-B1.15f

5-Foot Scouring Scenario Risk Evaluation for Lead in BCW Shallow Soil (5 to 10 feet bgs) Using Depth-Weighted EPCs: Recreational User (Off-Highway Vehicle Rider)

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INPUT MEDIUM	INPUT LEVEL
Lead in Soil/Dust (ug/g)	7.1
Respirable Dust (ug/m^3)	1.5

OUTPUT	Percentile Estimate of Blood Pb (ug/dl) 50th	Percentile Estimate of Blood Pb (ug/dl) 90th	Percentile Estimate of Blood Pb (ug/dl) 95th	Percentile Estimate of Blood Pb (ug/dl) 98th	Percentile Estimate of Blood Pb (ug/dl) 99th	PRG-90 (ug/g)
BLOOD Pb, CHILD	0.001	0.002	0.00	0.00	0.00	3180
BLOOD Pb, PICA CHILD	0.007	0.01	0.02	0.02	0.02	535

EXPOSURE PARAMETERS	units	children
Days per week	days/wk	0.5 [a]
Geometric Standard Deviation	ug/dl	1.6
Blood lead level of concern	ug/dl	1
Skin area, residential	cm^2	2900
Soil adherence	ug/cm^2	800 [a]
Dermal uptake constant	(ug/dl)/(ug/day)	0.0001
Soil ingestion	mg/day	31 [a]
Soil ingestion, pica	mg/day	200
Ingestion constant	(ug/dl)/(ug/day)	0.16
Bioavailability	unitless	0.44
Breathing rate	m^3/day	0.425 [a]
Inhalation constant	(ug/dl)/(ug/day)	0.192

CHILDREN Pathway	typical Pathway contribution PEF	typical Pathway contribution ug/dl	typical Pathway contribution percent	with pica Pathway contribution PEF	with pica Pathway contribution ug/dl	with pica Pathway contribution percent
Soil Contact	1.7E-5	1.2E-04	10%	--	1.2E-04	1.6%
Soil Ingestion	1.6E-4	1.1E-03	90%	1.0E-3	7.2E-03	98%
Inhalation	8.7E-9	6.2E-08	0.01%	--	6.2E-08	0.00%

Notes:
[a] Highlighted values are Site-specific: days per week based on the assumption of 2 days per month, 8 months per year. Soil ingestion rate of 330 mg/day is modified by exposure time (1.5 hours riding at site per 16 awake hours, or 0.09). Default inhalation breathing rate of 6.8 m^3/day is modified to account for exposure time (i.e., 1.5 hours riding at site per 24 hours, or 0.06) . See Table 5.1 of the main report for details.

ATTACHMENT C

Dose and Risk Calculations for Ecological Receptors at BCW Using Depth-Weighted EPCs and Area-Weighted EPCs

For additional help with the information provided in Attachment C, please contact Erin Osborn, Arcadis Principal Toxicologist, at 1-510-684-6760.

Table BCW-C.1
Desert Shrew Risk Calculations Using Depth-Weighted and Area-Weighted Exposure Point Concentrations (Wildlife SUF = 1, TRVs used for RBRG Development, and Selected BAFs) for BCW

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Scenario	Category	C O P E C	Terrestrial Receptors	TRV Type	Soil EPC (mg/kg or ng/kg)[a]	Diet Composition (Biota)	Diet Composition Fraction)	Tissue EPCs (mg/kg dw)	Body Weight (kg)
Baseline (Depth-Weighted)	Inorganics	Chromium, hexavalent	Desert Shrew	Selected	3.5E-01	100% Insects	2.0E-02	1.1E-01	5.0E-03
Baseline (Depth-Weighted)	Inorganics	Chromium, total	Desert Shrew	Selected	3.0E+01	100% Insects	2.0E-02	9.1E+00	5.0E-03
Baseline (Depth-Weighted)	Inorganics	Copper	Desert Shrew	Selected	1.5E+01	100% Insects	2.0E-02	7.5E+00	5.0E-03
Baseline (Depth-Weighted)	Dioxins	TEQ Mammals	Desert Shrew	Alternate	5.22E+01	100% Insects	2.0E-02	3.0E+02	5.0E-03
Baseline (Area-Weighted)	Inorganics	Chromium, hexavalent	Desert Shrew	Selected	3.0E-01	100% Insects	2.0E-02	9.2E-02	5.0E-03
Baseline (Area-Weighted)	Inorganics	Chromium, total	Desert Shrew	Selected	2.9E+01	100% Insects	2.0E-02	8.8E+00	5.0E-03
Baseline (Area-Weighted)	Inorganics	Copper	Desert Shrew	Selected	1.3E+01	100% Insects	2.0E-02	6.8E+00	5.0E-03
Baseline (Area-Weighted)	Dioxins	TEQ Mammals	Desert Shrew	Alternate	4.9E+01	100% Insects	2.0E-02	2.7E+02	5.0E-03
2 ft Scouring (Depth-Weighted)	Inorganics	Chromium, hexavalent	Desert Shrew	Selected	4.3E-01	100% Insects	2.0E-02	1.3E-01	5.0E-03
2 ft Scouring (Depth-Weighted)	Inorganics	Chromium, total	Desert Shrew	Selected	5.0E+01	100% Insects	2.0E-02	1.5E+01	5.0E-03
2 ft Scouring (Depth-Weighted)	Inorganics	Copper	Desert Shrew	Selected	1.2E+01	100% Insects	2.0E-02	6.2E+00	5.0E-03
2 ft Scouring (Depth-Weighted)	Dioxins	TEQ Mammals	Desert Shrew	Alternate	2.64E+01	100% Insects	2.0E-02	1.3E+02	5.0E-03
2 ft Scouring (Area-Weighted)	Inorganics	Chromium, hexavalent	Desert Shrew	Selected	6.3E-01	100% Insects	2.0E-02	1.9E-01	5.0E-03
2 ft Scouring (Area-Weighted)	Inorganics	Chromium, total	Desert Shrew	Selected	7.2E+01	100% Insects	2.0E-02	2.2E+01	5.0E-03
2 ft Scouring (Area-Weighted)	Inorganics	Copper	Desert Shrew	Selected	1.1E+01	100% Insects	2.0E-02	5.9E+00	5.0E-03
2 ft Scouring (Area-Weighted)	Dioxins	TEQ Mammals	Desert Shrew	Alternate	2.0E+01	100% Insects	2.0E-02	9.3E+01	5.0E-03
5 ft Scouring (Depth-Weighted)	Inorganics	Chromium, hexavalent	Desert Shrew	Selected	4.9E-01	100% Insects	2.0E-02	1.5E-01	5.0E-03
5 ft Scouring (Depth-Weighted)	Inorganics	Chromium, total	Desert Shrew	Selected	3.9E+01	100% Insects	2.0E-02	1.2E+01	5.0E-03
5 ft Scouring (Depth-Weighted)	Inorganics	Copper	Desert Shrew	Selected	1.2E+01	100% Insects	2.0E-02	6.2E+00	5.0E-03
5 ft Scouring (Depth-Weighted)	Dioxins	TEQ Mammals	Desert Shrew	Alternate	3.05E+01	100% Insects	2.0E-02	1.6E+02	5.0E-03
5 ft Scouring (Area-Weighted)	Inorganics	Chromium, hexavalent	Desert Shrew	Selected	3.5E-01	100% Insects	2.0E-02	1.1E-01	5.0E-03
5 ft Scouring (Area-Weighted)	Inorganics	Chromium, total	Desert Shrew	Selected	3.0E+01	100% Insects	2.0E-02	9.2E+00	5.0E-03
5 ft Scouring (Area-Weighted)	Inorganics	Copper	Desert Shrew	Selected	1.1E+01	100% Insects	2.0E-02	5.9E+00	5.0E-03
5 ft Scouring (Area-Weighted)	Dioxins	TEQ Mammals	Desert Shrew	Alternate	2.8E+01	100% Insects	2.0E-02	1.4E+02	5.0E-03

Table BCW-C.1
Desert Shrew Risk Calculations Using Depth-Weighted and Area-Weighted Exposure Point Concentrations (Wildlife SUF = 1, TRVs used for RBRG Development, and Selected BAFs) for BCW

Post-Soil N T C R A Human Health and Ecological Risk Assessment Report
PG&E Topock Compressor Station
Needles, California

Scenario	Category	C O P E C	Terrestrial Receptors	Intake Estimates (F I R) (kg dw/kg-day)	Intake Estimates (S I R) (kg dw/kg-day)	Site Use Factor (unitless)	Dose (Terrestrial Insects) (mg/kg-day)	Dose (Soil) (mg/kg-day)	Total Dose (mg/kg-day)
Baseline (Depth-Weighted)	Inorganics	Chromium, hexavalent	Desert Shrew	2.0E-01	4.1E-03	1.0E+00	2.2E-02	1.4E-03	2.3E-02
Baseline (Depth-Weighted)	Inorganics	Chromium, total	Desert Shrew	2.0E-01	4.1E-03	1.0E+00	1.9E+00	1.2E-01	2.0E+00
Baseline (Depth-Weighted)	Inorganics	Copper	Desert Shrew	2.0E-01	4.1E-03	1.0E+00	1.5E+00	5.9E-02	1.6E+00
Baseline (Depth-Weighted)	Dioxins	TEQ Mammals	Desert Shrew	2.0E-01	4.1E-03	1.0E+00	6.0E+01	2.12E-01	6.0E+01
Baseline (Area-Weighted)	Inorganics	Chromium, hexavalent	Desert Shrew	2.0E-01	4.1E-03	1.0E+00	1.9E-02	1.2E-03	2.0E-02
Baseline (Area-Weighted)	Inorganics	Chromium, total	Desert Shrew	2.0E-01	4.1E-03	1.0E+00	1.8E+00	1.2E-01	1.9E+00
Baseline (Area-Weighted)	Inorganics	Copper	Desert Shrew	2.0E-01	4.1E-03	1.0E+00	1.4E+00	5.3E-02	1.4E+00
Baseline (Area-Weighted)	Dioxins	TEQ Mammals	Desert Shrew	2.0E-01	4.1E-03	1.0E+00	5.6E+01	2.0E-01	5.6E+01
2 ft Scouring (Depth-Weighted)	Inorganics	Chromium, hexavalent	Desert Shrew	2.0E-01	4.1E-03	1.0E+00	2.7E-02	1.7E-03	2.8E-02
2 ft Scouring (Depth-Weighted)	Inorganics	Chromium, total	Desert Shrew	2.0E-01	4.1E-03	1.0E+00	3.1E+00	2.0E-01	3.3E+00
2 ft Scouring (Depth-Weighted)	Inorganics	Copper	Desert Shrew	2.0E-01	4.1E-03	1.0E+00	1.3E+00	4.9E-02	1.3E+00
2 ft Scouring (Depth-Weighted)	Dioxins	TEQ Mammals	Desert Shrew	2.0E-01	4.1E-03	1.0E+00	2.7E+01	1.07E-01	2.7E+01
2 ft Scouring (Area-Weighted)	Inorganics	Chromium, hexavalent	Desert Shrew	2.0E-01	4.1E-03	1.0E+00	3.9E-02	2.5E-03	4.1E-02
2 ft Scouring (Area-Weighted)	Inorganics	Chromium, total	Desert Shrew	2.0E-01	4.1E-03	1.0E+00	4.5E+00	2.9E-01	4.8E+00
2 ft Scouring (Area-Weighted)	Inorganics	Copper	Desert Shrew	2.0E-01	4.1E-03	1.0E+00	1.2E+00	4.6E-02	1.2E+00
2 ft Scouring (Area-Weighted)	Dioxins	TEQ Mammals	Desert Shrew	2.0E-01	4.1E-03	1.0E+00	1.9E+01	8.0E-02	1.9E+01
5 ft Scouring (Depth-Weighted)	Inorganics	Chromium, hexavalent	Desert Shrew	2.0E-01	4.1E-03	1.0E+00	3.1E-02	2.0E-03	3.3E-02
5 ft Scouring (Depth-Weighted)	Inorganics	Chromium, total	Desert Shrew	2.0E-01	4.1E-03	1.0E+00	2.4E+00	1.6E-01	2.6E+00
5 ft Scouring (Depth-Weighted)	Inorganics	Copper	Desert Shrew	2.0E-01	4.1E-03	1.0E+00	1.3E+00	4.9E-02	1.3E+00
5 ft Scouring (Depth-Weighted)	Dioxins	TEQ Mammals	Desert Shrew	2.0E-01	4.1E-03	1.0E+00	3.2E+01	1.24E-01	3.2E+01
5 ft Scouring (Area-Weighted)	Inorganics	Chromium, hexavalent	Desert Shrew	2.0E-01	4.1E-03	1.0E+00	2.2E-02	1.4E-03	2.3E-02
5 ft Scouring (Area-Weighted)	Inorganics	Chromium, total	Desert Shrew	2.0E-01	4.1E-03	1.0E+00	1.9E+00	1.2E-01	2.0E+00
5 ft Scouring (Area-Weighted)	Inorganics	Copper	Desert Shrew	2.0E-01	4.1E-03	1.0E+00	1.2E+00	4.6E-02	1.2E+00
5 ft Scouring (Area-Weighted)	Dioxins	TEQ Mammals	Desert Shrew	2.0E-01	4.1E-03	1.0E+00	2.8E+01	1.1E-01	2.9E+01

Table BCW-C.1
Desert Shrew Risk Calculations Using Depth-Weighted and Area-Weighted Exposure Point Concentrations (Wildlife SUF = 1, TRVs used for RBRG Development, and Selected BAFs) for BCW

Post-Soil N T C R A Human Health and Ecological Risk Assessment Report
PG&E Topock Compressor Station
Needles, California

Scenario	Category	C O P E C	Terrestrial Receptors	N O A E L TRV (mg/kg-day)	L O A E L TRV (mg/kg-day)	N O A E L HQ (unitless)	L O A E L HQ (unitless)
Baseline (Depth-Weighted)	Inorganics	Chromium, hexavalent	Desert Shrew	9.2E+00	3.8E+01	2E-03	6E-04
Baseline (Depth-Weighted)	Inorganics	Chromium, total	Desert Shrew	2.4E+00	9.6E+00	8E-01	2E-01
Baseline (Depth-Weighted)	Inorganics	Copper	Desert Shrew	9.4E+00	1.6E+01	2E-01	1E-01
Baseline (Depth-Weighted)	Dioxins	TEQ Mammals	Desert Shrew	4.9E+00	3.0E+01	**1E+01**	**2E+00**
Baseline (Area-Weighted)	Inorganics	Chromium, hexavalent	Desert Shrew	9.2E+00	3.8E+01	2E-03	5E-04
Baseline (Area-Weighted)	Inorganics	Chromium, total	Desert Shrew	2.4E+00	9.6E+00	8E-01	2E-01
Baseline (Area-Weighted)	Inorganics	Copper	Desert Shrew	9.4E+00	1.6E+01	2E-01	9E-02
Baseline (Area-Weighted)	Dioxins	TEQ Mammals	Desert Shrew	4.9E+00	3.0E+01	**1E+01**	**2E+00**
2 ft Scouring (Depth-Weighted)	Inorganics	Chromium, hexavalent	Desert Shrew	9.2E+00	3.8E+01	3E-03	7E-04
2 ft Scouring (Depth-Weighted)	Inorganics	Chromium, total	Desert Shrew	2.4E+00	9.6E+00	1E+00	3E-01
2 ft Scouring (Depth-Weighted)	Inorganics	Copper	Desert Shrew	9.4E+00	1.6E+01	1E-01	8E-02
2 ft Scouring (Depth-Weighted)	Dioxins	TEQ Mammals	Desert Shrew	4.9E+00	3.0E+01	**6E+00**	9E-01
2 ft Scouring (Area-Weighted)	Inorganics	Chromium, hexavalent	Desert Shrew	9.2E+00	3.8E+01	4E-03	1E-03
2 ft Scouring (Area-Weighted)	Inorganics	Chromium, total	Desert Shrew	2.4E+00	9.6E+00	**2E+00**	5E-01
2 ft Scouring (Area-Weighted)	Inorganics	Copper	Desert Shrew	9.4E+00	1.6E+01	1E-01	8E-02
2 ft Scouring (Area-Weighted)	Dioxins	TEQ Mammals	Desert Shrew	4.9E+00	3.0E+01	**4E+00**	6E-01
5 ft Scouring (Depth-Weighted)	Inorganics	Chromium, hexavalent	Desert Shrew	9.2E+00	3.8E+01	4E-03	9E-04
5 ft Scouring (Depth-Weighted)	Inorganics	Chromium, total	Desert Shrew	2.4E+00	9.6E+00	1E+00	3E-01
5 ft Scouring (Depth-Weighted)	Inorganics	Copper	Desert Shrew	9.4E+00	1.6E+01	1E-01	8E-02
5 ft Scouring (Depth-Weighted)	Dioxins	TEQ Mammals	Desert Shrew	4.9E+00	3.0E+01	**7E+00**	1E+00
5 ft Scouring (Area-Weighted)	Inorganics	Chromium, hexavalent	Desert Shrew	9.2E+00	3.8E+01	3E-03	6E-04
5 ft Scouring (Area-Weighted)	Inorganics	Chromium, total	Desert Shrew	2.4E+00	9.6E+00	8E-01	2E-01
5 ft Scouring (Area-Weighted)	Inorganics	Copper	Desert Shrew	9.4E+00	1.6E+01	1E-01	8E-02
5 ft Scouring (Area-Weighted)	Dioxins	TEQ Mammals	Desert Shrew	4.9E+00	3.0E+01	**6E+00**	1E+00

Table BCW-C.1
Desert Shrew Risk Calculations Using Depth-Weighted and Area-Weighted Exposure Point Concentrations (Wildlife SUF = 1, TRVs used for RBRG Development, and Selected BAFs) for BCW

Post-Soil N T C R A Human Health and Ecological Risk Assessment Report
PG&E Topock Compressor Station
Needles, California

Notes:
[a] Inorganics presented in mg/kg; dioxin presented in ng/kg.
[b] Total dose equation is presented below:

Total Dose (mg/kg-day) = $[(EPC_{soil} \times SIR) + (C_{plants} \times FIR \times F_{plants}) + (C_{insects} \times FIR \times F_{insects}) + (C_{mammals} \times FIR \times F_{mammals})] \times SUF$

[c] HQ = Total Dose / TRV

Abbreviations:

BCW = Bat Cave Wash
BTAG = Biological Technical Assistance Group
COPEC = constituent of potential ecological concern
dw = dry weight
EPC_{soil} = exposure point concentration in soil (mg/kg dw)
EPC_{plants} = exposure point concentration in plants (mg/kg dw)
$EPC_{insects}$ = exposure point concentration in insects (mg/kg dw)
$EPC_{mammals}$ = exposure point concentration in mammals (mg/kg dw)
F_{plants} = fraction of plants in diet
$F_{insects}$ = fraction of insects in diet
$F_{mammals}$ = fraction of mammals in diet
FIR = food ingestion rate (kg dw/kg bw-day)
HQ = hazard quotient (unitless)
kg = kilogram
kg dw/kg bw-day = kilograms per kilogram of body weight per day
LOAEL = lowest observed adverse effect level (mg/kg-day)
m = maximum detected concentration
mg/kg = milligrams per kilogram
mg/kg-day = milligrams per kilogram per day
ND = not detected
ng/kg = nanograms per kilogram
NOAEL = no observed adverse effect level (mg/kg-day)
PCBs = polychlorinated biphenyls
PAH = polycyclic aromatic hydrocarbons
SIR = soil ingestion rate (kg dw/kg bw-day)
SUF = site use factor (fraction)
TCDD = tetrachlorodibenzo-p-dioxin
TEQ = 2,3,7,8-TCDD toxic equivalents
TRV = toxicity reference value (mg/kg-day)

Table BCW-C.2

Desert Shrew Risk Calculations Using Depth-Weighted Exposure Point Concentrations and Congener-Specific BAFs (Wildlife SUF = 1, TRVs used for RBRG Development) for BCW

Post-Soil N T C R A Human Health and Ecological Risk Assessment Report
PG&E Topock Compressor Station
Needles, California

Scenario	Category	C O P E C	Terrestrial Receptors	TRV Type	BAF Type	Soil EPC ng/kg)[a]	Diet Composition (Biota)	Diet Composition (Soil Fraction)	Tissue EPCs (mg/kg dw)	Body Weight (kg)
Baseline (Depth-Weighted)	Dioxins	TEQ Mammals	Desert Shrew	Alternate	Congener-Specific (USEPA 1999)	52.18	100% Insects	2.0E-02	1.1E+01	5.0E-03
Baseline (Depth-Weighted)	Dioxins	TEQ Mammals	Desert Shrew	Alternate	Congener-Specific (Fagervold et al. 2010)	52.18	100% Insects	2.0E-02	9.1E+00	5.0E-03
2 ft Scouring (Depth-Weighted)	Dioxins	TEQ Mammals	Desert Shrew	Alternate	Congener-Specific (USEPA 1999)	26.39	100% Insects	2.0E-02	4.9E+00	5.0E-03
2 ft Scouring (Depth-Weighted)	Dioxins	TEQ Mammals	Desert Shrew	Alternate	Congener-Specific (Fagervold et al. 2010)	26.39	100% Insects	2.0E-02	8.2E+00	5.0E-03
5 ft Scouring (Depth-Weighted)	Dioxins	TEQ Mammals	Desert Shrew	Alternate	Congener-Specific (USEPA 1999)	30.47	100% Insects	2.0E-02	2.0E+01	5.0E-03
5 ft Scouring (Depth-Weighted)	Dioxins	TEQ Mammals	Desert Shrew	Alternate	Congener-Specific (Fagervold et al. 2010)	30.47	100% Insects	2.0E-02	4.8E+01	5.0E-03

Table BCW-C.2

Desert Shrew Risk Calculations Using Depth-Weighted Exposure Point Concentrations and Congener-Specific BAFs (Wildlife SUF = 1, TRVs used for RBRG Development) for BCW

Post-Soil N T C R A Human Health and Ecological Risk Assessment Report
PG&E Topock Compressor Station
Needles, California

Scenario	Category	C O P E C	Terrestrial Receptors	Intake Estimates (F I R) (kg dw/kg-day)	Intake Estimates (S I R) (kg dw/kg-day)	Site Use Factor (unitless)	Dose (Terrestrial Insects) (mg/kg-day)	Dose (Soil) (mg/kg-day)	Total Dose (mg/kg-day)
Baseline (Depth-Weighted)	Dioxins	TEQ Mammals	Desert Shrew	2.0E-01	4.1E-03	1.0E+00	2.3E+00	2.1E-01	2.5E+00
Baseline (Depth-Weighted)	Dioxins	TEQ Mammals	Desert Shrew	2.0E-01	4.1E-03	1.0E+00	1.8E+00	2.1E-01	2.1E+00
2 ft Scouring (Depth-Weighted)	Dioxins	TEQ Mammals	Desert Shrew	2.0E-01	4.1E-03	1.0E+00	9.9E-01	1.1E-01	1.1E+00
2 ft Scouring (Depth-Weighted)	Dioxins	TEQ Mammals	Desert Shrew	2.0E-01	4.1E-03	1.0E+00	1.7E+00	1.1E-01	1.8E+00
5 ft Scouring (Depth-Weighted)	Dioxins	TEQ Mammals	Desert Shrew	2.0E-01	4.1E-03	1.0E+00	4.1E+00	1.2E-01	4.2E+00
5 ft Scouring (Depth-Weighted)	Dioxins	TEQ Mammals	Desert Shrew	2.0E-01	4.1E-03	1.0E+00	9.8E+00	1.2E-01	9.9E+00

Table BCW-C.2

Desert Shrew Risk Calculations Using Depth-Weighted Exposure Point Concentrations and Congener-Specific BAFs (Wildlife SUF = 1, TRVs used for RBRG Development) for BCW

Post-Soil N T C R A Human Health and Ecological Risk Assessment Report
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Scenario	Category	C O P E C	Terrestrial Receptors	N O A E L TRV (mg/kg-day)	L O A E L TRV (mg/kg-day)	N O A E L HQ (unitless)	L O A E L HQ (unitless)
Baseline (Depth-Weighted)	Dioxins	TEQ Mammals	Desert Shrew	4.9E+00	3.0E+01	5E-01	8E-02
Baseline (Depth-Weighted)	Dioxins	TEQ Mammals	Desert Shrew	4.9E+00	3.0E+01	4E-01	7E-02
2 ft Scouring (Depth-Weighted)	Dioxins	TEQ Mammals	Desert Shrew	4.9E+00	3.0E+01	2E-01	4E-02
2 ft Scouring (Depth-Weighted)	Dioxins	TEQ Mammals	Desert Shrew	4.9E+00	3.0E+01	4E-01	6E-02
5 ft Scouring (Depth-Weighted)	Dioxins	TEQ Mammals	Desert Shrew	4.9E+00	3.0E+01	9E-01	1E-01
5 ft Scouring (Depth-Weighted)	Dioxins	TEQ Mammals	Desert Shrew	4.9E+00	3.0E+01	**2E+00**	3E-01

Table BCW-C.2
Desert Shrew Risk Calculations Using Depth-Weighted Exposure Point Concentrations and Congener-Specific BAFs (Wildlife SUF = 1, TRVs used for RBRG Development) for BCW

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Notes:
[a] Inorganics presented in mg/kg; dioxin presented in ng/kg.
[b] Total dose equation is presented below:

Total Dose (mg/kg-day) = $[(EPC_{soil} \times SIR) + (C_{plants} \times FIR \times F_{plants}) + (C_{insects} \times FIR \times F_{insects}) + (C_{mammals} \times FIR \times F_{mammals})] \times SUF$

[c] HQ = Total Dose / TRV

Abbreviations:
BCW = Bat Cave Wash
BTAG = Biological Technical Assistance Group
COPEC = constituent of potential ecological concern
dw = dry weight
EPC_{soil} = exposure point concentration in soil (mg/kg dw)
EPC_{plants} = exposure point concentration in plants (mg/kg dw)
$EPC_{insects}$ = exposure point concentration in insects (mg/kg dw)
$EPC_{mammals}$ = exposure point concentration in mammals (mg/kg dw)
F_{plants} = fraction of plants in diet
$F_{insects}$ = fraction of insects in diet
$F_{mammals}$ = fraction of mammals in diet
FIR = food ingestion rate (kg dw/kg bw-day)
HQ = hazard quotient (unitless)
kg = kilogram
kg dw/kg bw-day = kilograms per kilogram of body weight per day
LOAEL = lowest observed adverse effect level (mg/kg-day)
m = maximum detected concentration
mg/kg = milligrams per kilogram
mg/kg-day = milligrams per kilogram per day
ND = not detected
ng/kg = nanograms per kilogram
NOAEL = no observed adverse effect level (mg/kg-day)
PCBs = polychlorinated biphenyls
PAH = polycyclic aromatic hydrocarbons
SIR = soil ingestion rate (kg dw/kg bw-day)
SUF = site use factor (fraction)
TCDD = tetrachlorodibenzo-p-dioxin
TEQ = 2,3,7,8-TCDD toxic equivalents
TRV = toxicity reference value (mg/kg-day)

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