

PG&E Topock Compressor Station Soil Investigation Project

Final EIR

SCH# 2012111079

Lead Agency: California Department of Toxic Substances Control

August 2015



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Acronyms and Abbreviations Used in this FEIR

μm	micrometer
A&P	Atlantic and Pacific
AB	Assembly Bill
ACEC	Area of Critical Environmental Concern
ADT	Average Daily Traffic
AE	Applied Earthworks, Inc.
AFY	acre-feet per year
AIRFA	American Indian Religious Freedom Act
AMM	avoidance and minimization measure
amsl	above mean sea level
AOC	Area of Concern
APCO	Air Pollution Control Officer
APE	Area of Potential Effects
AQAP	1991 Air Quality Attainment Plan
ARAR	applicable or relevant and appropriate requirements
ARB	California Air Resources Board
ARMR	Archaeological Resource Management Reports
ARPA	Archaeological Resources Protection Act
ASTM	American Society for Testing and Materials
AT&SF	Atchison, Topeka and Santa Fe Railway
BACT	best available control technology
BDO	Boards, Departments and Offices
bgs	below ground surface
BIA	U.S. Bureau of Indian Affairs
BIAMP	Bird Avoidance and Minimization Plan
BLM	U.S. Bureau of Land Management
BMP	Best Management Practice
BNSF	Burlington Northern Santa Fe Railway
BOR	U.S. Bureau of Reclamation
CAAQS	California ambient air quality standards

CACA	Corrective Action Consent Agreement
CAL FIRE	California Department of Forestry and Fire Protection
CalEEMod	California Emissions Estimator Model
Caltrans	California Department of Transportation
CARB	California Air Resources Board
CBC	California Building Code
CCAA	California Clean Air Act
CCR	California Code of Regulations
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CESA	California Endangered Species Act
CFR	Code of Federal Regulations
CGP	Construction General Permit
CH ₄	methane
CHPMP	Cultural and Historic Properties Management Plan
CHRIS	California Historical Resources Information System
CLP	USEPA Contract Laboratory Program
CM/FS Work Plan	Corrective Measures/Feasibility Study Work Plan
СМР	comprehensive management plan
CMS/FS	Corrective Measures Study/Feasibility Study
CNDDB	California Natural Diversity Database
CNEL	Community Noise Equivalent Level
CNPS	California Native Plant Society
СО	carbon monoxide
CO ₂	carbon dioxide
CO ₂ e	CO ₂ equivalents
COPC	chemical of potential concern
COPEC	chemical of potential ecological concern
Cortese List	Hazardous Waste and Substances Sites List
County	San Bernardino County

Cr(III)	trivalent chromium
Cr(T)	total chromium
Cr(VI)	hexavalent chromium
CRHR	California Register of Historical Resources
CRIT	Colorado River Indian Tribe
CRPR	CNPS California Rare Plant Rank
CUPA	Certified Unified Program Agency
CWA	Clean Water Act
dB	decibels
dBA	A-weighted decibels
DEIR	draft environmental impact report
DEM	digital elevation model
DOI Consent Decree	Remedial Action/Remedial Design Consent Decree between the United States of America and Pacific Gas & Electric Company
DOI	U.S. Department of the Interior
DOT	U.S. Department of Transportation
DPM	diesel particulate matter
DPR	California Department of Parks and Recreation
DQO	Data Quality Objective
DTSC	California Department of Toxic Substances Control
EHS	San Bernardino County Department of Public Health, Division of Environmental Health Services
EIR	environmental impact report
EM	Electromagnetic Induction
EPA	California Environmental Protection Agency
EPCRA	Emergency Planning and Community Right-to-Know Act
ERA	Ecological Risk Assessment
ERPW	East Ravine Sediment and Pore Water
ESA	Endangered Species Act
EZ	exclusion zone
FAA	Federal Aviation Administration
FCAA	Federal Clean Air Act

FCAAA	Federal Clean Air Act Amendments of 1990
FCR	field contact representative
FEIR	final environmental impact report
FEMA	Federal Emergency Management Agency
FHWA	Federal Highway Administration
Final Groundwater CMS/FS	Final Groundwater Corrective Measures Study/Feasibility Study Report for SWMU 1/AOC 1 and AOC 10
Final RFI/RI Report Volume 3 (Soil)	Final RCRA Facility Investigation and Remedial Investigation Report (RFI/RI Report) Volume 3 (Soil)
FLPMA	Federal Land Policy and Management Act
FMIT	Fort Mojave Indian Tribe
FMMP	Farmland Mapping and Monitoring Program
FTA	Federal Transit Administration
GANDA	Garcia and Associates
GHG Plan	San Bernardino County's GHG Emissions Reduction Plan
GHG	greenhouse gas
GIS	Geographic Information System
gpm	gallons per minute
GPR	ground-penetrating radar
H_2S	hydrogen sulfide
HAP	Hazardous Air Pollutants
HDCR	Hualapai Department of Cultural Resources
HDPE	high-density polyethylene
HFC	hydrofluorocarbon
HHRA	Human Health Risk Assessment
HI	Hazard Index
HMD	Hazardous Materials Division
HNWR	Havasu National Wildlife Refuge
HSWA	Hazardous and Solid Waste Amendments
Hz	hertz
I-40	Interstate 40
IDW	investigation-derived waste

IM	Interim Measure
IM-3 Facility	Interim Measure 3 Groundwater Extraction and Treatment Facility
IM-3	Interim Measure 3
Interested Tribes	Chemehuevi Indian Tribe, Cocopah Indian Tribe, Colorado River Indian Tribes, Fort Mojave Indian Tribe, the Hualapai Indian Tribe, and the Fort-Yuma Quechan Tribe
IRZ	in situ reactive zone
kWh	kilowatt-hours
LACM	Natural History Museum of Los Angeles County
LCR MSCP	Lower Colorado River Multi-Species Conservation Program
LCRWSP	Lower Colorado River Water Supply Project
L _{eq}	energy-equivalent noise level
L _{max}	maximum noise level
L_{min}	minimum noise level
LOS	Level of Service
LUST	Leaking Underground Storage Tank
Maze	Topock Maze
MBTA	Migratory Bird Treaty Act
MCL	maximum contaminant level
MDAB	Mojave Desert Air Basin
MDAQMD	Mojave Desert Air Quality Management District
MET	meteorological weather
mg/kg	milligrams per kilogram
MLD	Most Likely Descendant
MMRP	Mitigation Monitoring and Reporting Program
MRZ	Mineral Resource Zone
MS4	municipal separate storm sewer system
msl	mean sea level
MW	monitoring well
MWD	Metropolitan Water District
MWh	megawatt-hour
my	million years

N ₂ O	nitrous oxide
NAAQS	national ambient air quality standards
NAHC	Native American Heritage Commission
NCP	National Contingency Plan
NED	National Elevation Dataset
NEPA	National Environmental Policy Act
NESHAP	national emissions standards for hazardous air pollutants
NHPA	National Historic Preservation Act
NO ₂	nitrogen dioxide
NOI	Notice of Intent
NOP	Notice of Preparation
NOP	Notice of Preparation
NO _x	nitrogen oxides
NPDES	National Pollutant Discharge Elimination System
NPS	U.S. National Park Service
NRCS	National Resource Conservation Service
NRHP	National Register of Historic Places
NWP	Nationwide Permit
ОЕННА	Office of Environmental Health Hazard Assessment
OHV	Off-Highway Vehicle
PA	Programmatic Agreement
РАН	polycyclic aromatic hydrocarbon
PBA	Programmatic Biological Assessment for Pacific Gas and Electric Topock Compressor Station Remedial and Investigative Actions
PCB	polychlorinated biphenyls
PFC	perfluorocarbon
PFYC	Potential Fossil Yield Classification
PG&E	Pacific Gas and Electric Company
PM	Particulate Matter
ppd	pounds per day
PPV	peak particle velocity

PQS	professional qualifications standards
PRC	Public Resources Code
PRMP	Paleontological Resources Management Plan
PRPA	Paleontological Resources Preservation Act
RAWP	Human Health and Ecological Risk Assessment Work Plan
RCNM	FHWA Roadway Construction Noise Model
RCRA	Resource Conservation and Recovery Act
REAP	Rain Event Action Plan
RFA	RCRA Facility Assessment
RFI	RCRA Facility Investigation
RFI/RI	Resource Conservation and Recovery Act Facility Investigation and Remedial Investigation Report
RFI/RI Report	Revised Final RCRA Facility Investigation and Remedial Investigation Report
RFI/RI Report Volume 1	Revised Final RCRA Facility Investigation and Remedial Investigation Report Volume 1 – Site Background and History
RFI/RI Report Volume 2	Final RCRA Facility Investigation and Remedial Investigation Report Volume 2 – Hydrogeologic Characterization and Results of Groundwater and Surface Water Investigation
RFI/RI Report Volume 2 Addendum	Final RCRA Facility Investigation and Remedial Investigation Report Volume 2 Addendum – Hydrogeologic Characterization and Results of Groundwater and Surface Water Investigation
RFI/RI	Resource Conservation and Recovery Act Facility Investigation and Remedial Investigation Report
RMP	Resource Management Plan
RMS	root mean square
ROG	reactive organic gases
ROW	right-of-way
RPM	Resource Management Plan
RV	recreational vehicle
RWQCB	Regional Water Quality Control Board
SBAIC	San Bernardino Archaeological Information Center
SBCM	Museum of San Bernardino County

Scoping Plan Update	California Air Resources Board First Update to the Climate Change Scoping Plan
SCRMA	Special Cultural Resource Management Area
Section 106	Section 106 of the National Historic Preservation Act
SERC	State Emergency Response Commission
SF ₆	sulfur hexafluoride
SHPO	State Historic Preservation Officer
SIP	State Implementation Plan
SLF	Sacred Lands File
SO_2	sulfur dioxide
Soil CMS/FS	Soil Corrective Measures Study/Feasibility Study
Soil RFI/RI Work Plan	Soil RCRA Facility Investigation/Remedial Investigation Work Plan
Soil Work Plan	Soil RCRA Facility Investigation/Remedial Investigation Work Plan
SOP	Standard Operating Procedure
Station	Topock Compressor Station
SVOC	semivolatile organic compound
SWMU	Solid Waste Management Unit
SWPPP	Stormwater Pollution Prevention Plan
SWRCB	State Water Resources Control Board
TACs	toxic air contaminants
TAL/TCL	Target Compound and Target Analyte Lists
TBC	To Be Considered
TCA	Topock Cultural Area
ТСР	Traditional Cultural Property
TCRA	timecritical removal action
TCVA	Tribal Cultural Values Assessment
TDS	total dissolved solids
TMDL	Total Maximum Daily Load
ТРН	total petroleum hydrocarbon
TRC	Technical Review Committee
TWG	Technical Working Group

UA	Undesignated Area
ug/kg	micrograms per kilogram
ug/L	micrograms per liter
USACE	U.S. Army Corps of Engineers
USEPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
VdB	decibel notation
VMG	Vertical Magnetic Gradient
VOC	volatile organic compound
VRM	Visual Resource Management
VRP	Voluntary Remediation Program
WDR	Waste Discharge Requirements
WWII	World War II
XRF	x-ray fluorescence

OVERVIEW OF THE FINAL EIR

OV.1 Purpose of the Final Environmental Impact Report

This final environmental impact report (FEIR) has been prepared to respond to comments received from responsible, trustee, and other public agencies; Native American Tribes; interested organizations; and members of the public regarding the draft environmental impact report (DEIR) and Partially Recirculated DEIR prepared for the Pacific Gas and Electric Company (PG&E) Topock Compressor Station (Station) Soil Investigation Project (Project). In accordance with the California Environmental Quality Act (CEQA), the California Department of Toxic Substances Control (DTSC), in its role as the state lead agency, is required to communicate with and obtain comments from public agencies that have jurisdiction by law with respect to the Project, to provide the general public with opportunities to comment on the DEIR (Public Resources Code [PRC] Section 21091), and to respond to significant environmental issues raised during the public review process. This FEIR consists of three volumes:

- Volume 1 contains a list of persons, organizations, and public agencies commenting on the DEIR; comments received on the DEIR; and responses to significant environmental points raised in the review and communication process.
- Volume 2 contains a list of persons, organizations, and public agencies commenting on the Partially Recirculated DEIR; comments received on the Partially Recirculated DEIR; and responses to significant environmental points raised in the review and communication process.
- Volume 3 contains the revised DEIR text in its entirety, including all revisions made to the DEIR, and the mitigation monitoring and reporting program (MMRP).

Technical appendices are also considered part of the FEIR and are being provided on CD which is found in the back cover of Volume 3.

OV.2 Project Summary

The FEIR addresses the potential environmental effects of actions associated with the soil investigation activities at the Station (please see Volume 3, Chapter 3, "Project Description," of the FEIR for a full narrative of the Project details). Soil within the Station fence line and in the vicinity of the Station has been affected by historical releases of chemicals of potential concern, including hexavalent chromium and other metals, petroleum hydrocarbons, polycyclic aromatic hydrocarbons, polychlorinated biphenyls, volatile organic compounds, semivolatile organic compounds, and dioxins detected at concentrations above screening levels. The Project involves

soil investigation activities within the Station fence line and the surrounding area (Project Site). These investigation activities are necessary to determine the nature and extent of soil contamination at the Station and surrounding area, including as evaluated and summarized in the *Soil RCRA Facility Investigation/Remedial Investigation (RFI/RI) Work Plan* (Soil RFI/RI Work Plan, or Soil Work Plan) (CH2M HILL 2013; Appendix A to the DEIR) and the Corrective Measures/Feasibility Study Work Plan (CH2M HILL 2008). The Project would provide sufficient data for the completion of the RFI/RI process that is consistent with applicable state law. The results of the investigation activities would be compiled and combined with all investigation data sets for the preparation of the Final RFI/RI Report Volume 3 (Soil). The results of the soil investigation, along with existing data, will enable the evaluation and selection of corrective measures, if warranted, in a future *Soil Corrective Measures Study/Feasibility Study* (Soil CMS/FS). If soil remediation is determined necessary, the remedial alternatives would be evaluated in a separate environmental review under CEQA.

The Project includes soil sampling and analysis as described in the Soil Work Plan; potential bench scale tests, pilot studies, and geotechnical evaluations to support a future Soil CMS/FS; and potential plant or other biota sampling activities to support an ecological risk assessment. Bench scale tests and pilot studies may be implemented after soil sampling analysis is completed to evaluate potential soil remedy options if remedial action is found to be necessary based on the results of the soil sampling.

The FEIR evaluates the potential environmental effects of the Project summarized above and the following three alternatives:

- Alternative 1 Reduction of Project Footprint (Avoid Mouth of Bat Cave Wash)
- Alternative 2 Reduction of Project Noise
- Alternative 3 No Project Alternative

OV.3 CEQA Requirements

This FEIR has been prepared to respond to comments received on the DEIR and Partially Recirculated DEIR. The FEIR has been prepared by DTSC in accordance with Sections 15089 and 15132 of the CEQA Guidelines. Additionally, as defined under CEQA Guidelines Sections15204 and 15088, response to comments is typically reserved to those that specifically pertain to the sufficiency of an environmental document under CEQA, and ways in which the significant effects of the project might be avoided or mitigated. Lead agencies need only respond to significant environmental issues and do not need to provide all information requested by reviewers, as long as a good faith effort at full disclosure is made.

OV.4 Public Review and Future Steps

As the lead agency, before considering certification of the FEIR and approval of the Project, DTSC must provide no less than ten days for review by commenting responsible and trustee agencies of the proposed responses to those comments. On August 10, 2015, DTSC provided commenting parties with draft responses to their comments.

Copies of this FEIR are available for review at:

Department of Toxic Substances Control Cypress Office 5796 Corporate Avenue Cypress, CA 90630

Parker Public Library 1001 Navajo Avenue Parker, AZ 85344

Colorado River Indian Tribes Library Second Avenue and Mohave Road Parker, AZ 85344

Lake Havasu City Library 1770 McCulloch Boulevard Lake Havasu City, AZ 86403 Golden Shores/Topock Station Library 13136 S. Golden Shores Parkway Topock, AZ 86436

Chemehuevi Indian Reservation Environmental Protection Office 2000 Chemehuevi Trail Havasu Lake, CA 92363

Needles Branch Library 1111 Bailey Avenue Needles, CA 92363

As the lead agency, before approving the Project, DTSC must certify the FEIR as adequate and completed in accordance with CEQA. DTSC must also review and consider the information contained in the FEIR, including all supporting documents, before considering approval of the Project. DTSC will certify the FEIR using independent judgment and analysis. In consideration of the findings of the FEIR, DTSC will approve the Project or an alternative thereof through a written finding of fact and a statement of overriding consideration for each identified significant adverse environmental impact and any significant and unavoidable impact identified in the FEIR. Because some Project impacts were found to be significant, DTSC will adopt mitigation measures that either avoid or reduce those impacts to less than significant levels where feasible. These mitigation measures are identified in the MMRP in Volume 3, Chapter 11 of this FEIR. If the Project is approved, DTSC will file a notice of determination with the Governor's Office of Planning and Research, State Clearinghouse within 5 working days of Project approval.

OV.5 Revisions to DEIR

DTSC has made revisions to the DEIR based on comments received on the DEIR and the Partially Recirculated DEIR. DTSC has also made additional minor modifications to the DEIR for clarification purposes which do not involve "significant new information" that would require additional recirculation of the Draft EIR pursuant to CEQA Guidelines Section 15088.5. The revised DEIR is included as Volume 3 of this FEIR. Changes in the text of the DEIR are indicated by strikeouts (strikeout) where text is removed and by underlining (underline) where text is added.

Volume 1 Draft EIR Response to Comments

CHAPTER 1 Introduction

1.1 Overview of Volume 1

Volume 1 contains a list of persons, organizations, and public agencies commenting on the draft environmental impact report (DEIR); comments received on the DEIR; and responses to significant environmental points raised in the review and communication process.

1.2 Public Review of DEIR

In accordance with Section 15105 of the California Environmental Quality Act Guidelines, a public review and comment period was provided for the DEIR, beginning on July 7, 2014. After specific requests were received from commenting parties, the California Department of Toxic Substances Control (DTSC) extended the mandated 45-day public review period from August 21, 2014, to September 5, 2014, for a total of 60 days.

Two public meetings were held during the public review period to provide an opportunity for public comment. These meetings took place on July 22, 2014, in Needles, California, and July 23, 2014, in Golden Shores, Arizona. Transcripts of the comments received at these public hearings are included as part of the final environmental impact report (FEIR) (see Chapter 3, "Individual Comments and Responses").

As shown in **Table 1-1**, a total of 22 written comment letters were received by DTSC on the DEIR and 5 oral comments were submitted at the DEIR public hearings.

Letter #	Commenter	Date of Comment
Agency		
A1	Mojave Desert Air Quality District Alan J. DeSalvio, Supervising Air Quality Engineer	July 17, 2014
A2	Native American Heritage Commission Dave Singleton, Program Analyst	July 21, 2014
A3	Arizona Department of Environmental Quality Danielle Taber, Project Manager	August 7, 2014
A4	United States Department of Interior Pamela Innis, DOI Topock Remedial Project Manager	August 8, 2014
A5	Office of Planning & Research/ State Clearinghouse Scott Morgan, Director State Clearinghouse	August 21, 2014

TABLE 1-1 LIST OF COMMENTERS

TABLE 1-1 LIST OF COMMENTERS

Letter #	Commenter	Date of Comment
A6	California Department of Fish and Wildlife Chris Hayes, Deputy Regional Manager	September 5, 2014
A7	Office of Planning & Research/ State Clearinghouse Scott Morgan, Director State Clearinghouse	September 8, 2014

Individual

l1	John K. Ziegler	July 14, 2014
12	William R. Blake	July 16, 2014
13	Christie Sahlstrom	July 18, 2014
14	Tomas Getz	July 23, 2014
15	Larry Wehr	July 23, 2014
16	Eddie Rigdon	July 23, 2014
17	Russell Morse	August 6, 2014
18	Kimberly Morris	August 8, 2014
19	Karen Rae Erickson	August 19, 2014
l10	John K. Ziegler	August 27, 2014
l11	Pacific Gas & Electric Company (PG&E)	September 5, 2014
l12	Scott Jarc	September 11, 2014

Tribes

T1	Fort Mojave Indian Tribe Nora McDowell	July 22, 2014
T2	Fort Mojave Indian Tribe Ron VanFleet	July 23, 2014
Т3	Hualapai Indian Tribe Dawn Hubbs	July 29, 2014
T4	Cocopah Indian Tribe Edgar Castillo	September 3, 2014
T5	Chemehuevi Indian Tribe Raymond Mejia	September 5, 2014
Τ6	Fort Mojave Indian Tribe Timothy Williams; Courtney Coyle; Dr. Michael Sullivan; Technical Review Committee (TRC)	September 5, 2014
T7	Hualapai Indian Tribe Loretta Jackson-Kelly	September 5, 2014
Т8	Agua Caliente Band of Cahuilla Indians Katie Eskew	July 17, 2014

CHAPTER 2 Master Responses

This chapter contains master responses to comments received on the Pacific Gas and Electric Company (PG&E) Topock Compressor Station Soil Investigation Project (Project) draft environmental impact report (DEIR). After reviewing all of the comments received on the DEIR, the California Department of Toxic Substances Control (DTSC) identified several reoccurring themes and has prepared "master responses" that address them individually. These master responses provide comprehensive discussions in response to select sets of issues that received multiple comments. The master responses are as follows:

- 25 percent contingency of soil investigation that was not a part of the *Soil RCRA Facility Investigation/Remedial Investigation (RFI/RI) Work Plan* (Soil Work Plan)
- Additional sampling and testing activities that are included in the project description that were not a part of the Soil Work Plan
- Cumulative projects that were included in the cumulative analysis of the DEIR
- Use of the residential land use criteria for soil characterization
- Issues related to groundwater contamination and remediation

The master responses provide clarification and refinement of information presented in the DEIR and, in some cases, to correct or update information in the DEIR. In some instances, the text of the DEIR has been revised in these master responses, and the revised text is included as part of the master response. Where appropriate, the commenter is directed to these master responses to answer to individual comments.

Master Response: 25 Percent Contingency

Several comments were received questioning the inclusion of a 25 percent soil sampling contingency (i.e., 73 additional sampling locations) in the draft environmental impact report (DEIR) (see page 3-13 of the DEIR). Most of these comments expressed concern that the 25 percent soil sampling contingency was not included within the *Soil RCRA Facility Investigation/Remedial Investigation (RFI/RI) Work Plan* (Soil Work Plan) and that this is an inconsistency between the DEIR and the Soil Work Plan.

The inclusion of the 25 percent contingency is necessary for the California Department of Toxic Substances Control (DTSC) to retain some flexibility to address contingencies as they may arise in the field, and to ensure that a sufficient number of samples are obtained to adequately characterize the soil contamination within the Pacific Gas and Electric Company Topock Compressor Station Soil Investigation Project (Project) Site (see DEIR Section 3.4). The 25 percent contingency is included, in part, based on past soil testing experiences and field efforts at the Project Site, as well as the potential for encountering (and avoiding through investigation relocation) sensitive resources on-site. As stated in the DEIR on page 3-13, "Specific locations and number of samples collected at each location may vary based on access considerations, the results of field screening, and field observations. Further, because of unforeseen circumstances or data gaps, additional samples/sampling locations may be necessary." These contingency borings may be needed to protect or avoid disturbance of sensitive resources at the site, including unexpected resources or conditions that may be encountered during a planned boring. Some, if not all, of the 25 percent contingency borings may prove unnecessary. Contingency samples are typically not limited to a specific percentage; however, DTSC limited the proposed contingency samples to 25 percent in response to historic Tribal input regarding the sensitivity of the area and the request to minimize impacts when feasible. DTSC nevertheless assumed the full 25 percent contingency in the impact analyses of the DEIR, as summarized below, to ensure the Project is able to meet the Project objectives and to ensure a complete environmental evaluation as required by California Environmental Quality Act (CEQA) to the extent such impacts may be reasonably foreseeable.

The contingency of up to 25 percent additional sampling locations (i.e., up to 73 locations) has been given full consideration in the DEIR evaluation. The contingency represents the upper bound (i.e., maximum worst-case effects) that could occur under the Project if approved and within the Project Site. Although all 25 percent may not be required, the CEQA analysis conservatively evaluated full implementation of the contingency. For example, the Project timeline, areas of disturbance, and each resource area impact analysis of the DEIR includes the 25 percent contingency to the extent such analysis is reasonably foreseeable at this time (see Aesthetics Section 4.1.1.3; Biological Resources Section 4.3.3.1; and Air Quality Section 4.2.3.3; see also Table 3-3.

As a condition of approval for the Project, DTSC would require preparation of one or more work plans that describes the precise location and the extent and nature of the additional contingency soil sampling activities. The work plan(s) would be provided to stakeholders for review and comment, consistent with past practice. DTSC may find the impacts of the work plan(s) and contingency sites, if any, fall within the scope of the impacts analysis of this environmental impact report (EIR). DTSC may also find that some form of additional environmental review is needed. Until the need for one or more contingency locations is identified, DTSC can only include a good faith analysis of the potential effects of the contingency locations should they be needed to the extent those effects are reasonably foreseeable (e.g., from air quality emissions, aesthetics, biological resources). As with any additional work plans that may be required, in accordance with Mitigation Measure CR-1a-1, "Tribal Document Review and Comment," Tribes will also be afforded the opportunity to review and comment on all cultural-resources-related documentation.

If deemed needed, DTSC would implement any necessary soil sampling contingency, up to 25 percent, following the initial phase of sampling, which includes 292 locations. The criteria used to pick the precise additional locations for soil sampling would take into consideration the findings from the initial phase of sampling and would be in accordance with the Soil Work Plan. Section 4.4, Data Gap Evaluation, of the Soil Work Plan contemplates that if sampling objectives have not been met (i.e., data gaps have been identified) or previously identified data gaps have not been resolved, additional sampling will be conducted, if feasible given the site location. The contingency value of 25 percent described in the DEIR is based on DTSC's extensive investigation experience and best professional judgment.

If needed, some or all of the contingency soil samples would be conducted in the same manner as the initial sampling activities, as described in the DEIR Section 3.5, "Project Description," under Section 3.5.2, "Soil Sampling and Sample Analysis," including using the identified access points and staging areas analyzed for the Project, as well as the sample collection procedures, treatment of investigation-derived waste, borehole decommissioning, and site restoration. In addition, all Standard Operating Procedures and Best Management Practices listed in Section 3.5.7 would apply to the 25 percent contingency, as well as all identified Mitigation Measures (see DEIR Table 1-1).

Regarding the concern that the soil sampling contingency was not specifically included in the Soil Work Plan, it is not necessary that the Soil Work Plan include all of the elements in the DEIR Project Description. DTSC, as lead agency charged with protecting health, safety, and the physical environment, including its duties under the Health and Safety Code, has discretion to require the inclusion of additional reasonably foreseeable activities it deems necessary in the Project Description for evaluation in the EIR. If DTSC certifies the EIR as adequate, it may rely on the EIR for purposes of approving the Soils Work Plan. The range of activities included in the EIR Project Description is described in Section 3.5 of the DEIR, beginning on page 3-12. The CEQA Project Description therefore includes all components of the Project, consistent with CEQA (see CEQA Guidelines Sections 15124 and 15126).

Master Response: Additional Testing and Sampling Activities

Several comments were received on the draft environmental impact report (DEIR) related to activities included in the proposed Pacific Gas and Electric Company (PG&E) Topock Compressor Station Soil Investigation Project (Project) that are not a part of the *Soil RCRA Facility Investigation/Remedial Investigation (RFI/RI) Work Plan* (Soil Work Plan), namely bench scale tests, pilot studies, geotechnical evaluations, and plant and biota sampling (referred to as "additional activities"). Commenters express general concern that these activities had not been reviewed as part of the Soil Work Plan process, and point out that these activities were not explicitly described in the Notice of Preparation (NOP) for the Project that was issued in November 2012. Comments further assert that, because the location and scope of these activities are not fully known to a precise level of detail, potential adverse impacts are unknown and sufficient Tribal coordination has not occurred. Concerns were also expressed in relation to the timing of these activities in the overall remediation process, suggesting they may be avoided altogether by waiting until after risk management decisions are made.

The NOP dated November 28, 2012, provides a general description of the proposed Project:

The proposed project involves consideration of the *Soil Resource Conservation Recovery Act (RCRA) Facility Investigation/Remedial Investigation* (RFI/RI) Work Plan (Soil Work Plan) (September 2012) for adoption by DTSC. Adoption and implementation of the Soil Work Plan would enable further investigation and characterization of the nature and extent of chemicals of potential concern (COPCs) that have been identified at the site during previous soil investigations. It would also provide additional data to inform preparation of a future Soil Corrective Measures Study/Feasibility Study (CMS/FS) which would identify and nominate clean up alternatives if necessary.

A NOP, to be adequate, must include enough information to enable a meaningful response by responsible and trustee agencies (California Environmental Quality Act [CEQA] Guidelines, Section 15082). Under CEQA, a NOP must include: a description of the project; its location, either by street address or on a map; and a statement of the project's probable environmental effects (CEQA Guidelines, Section 15082, subd. (a)(1)). A NOP need not include a detailed description of the Project. Rather, a NOP is merely the procedural device used to initiate interagency dialogue involving the scope of the impacts analysis (CEQA Guidelines, Section 15082, subd. (a); Public Resources Code, Section 21080.4). The NOP for the Project fulfilled this purpose.

As explained in the DEIR, the bench scale tests and pilot studies were added during development of the Soil Work Plan and preparation of the DEIR to ensure that if soil remediation is deemed necessary, the California Department of Toxic Substances Control (DTSC) has enough information about the various remedy options and methods to move forward with developing a proposed project description for consideration and adoption of a final remedy as part of a future Soil Corrective Measures Study/Feasibility Study (CMS/FS) (see DEIR pages 3-12 through 3-13 and 3-31 through 3-34). The NOP was not revised or reissued because the inclusion of the bench scale tests and pilot studies in the Project Description did not deprive commenters or trustee or responsible agencies from providing meaningful input regarding the scope of issues they believed necessary for inclusion in the DEIR.

The additional testing and sampling activities were included in the DEIR, in part, to respond to comments made by stakeholders during the scoping process and Soil Work Plan development. Stakeholders requested that all potential project activities be included in the CEQA process leading up to a soil remedy selection. In response, DTSC made every effort to anticipate and include in the DEIR all possible activities that may be needed prior to completion of a Soil CMS/FS and subsequent remedy selection, and complete a sufficient level of CEQA analysis so that any necessary activities following the initial phase of soil sampling can move forward efficiently.

As described in the DEIR, bench scale tests, pilot studies, geotechnical evaluations, and plant and biota sampling, if determined necessary, would be implemented after soil sampling is completed and would be guided by the results of the soil sampling activities and soil risk assessment (DEIR Sections 3.5.3, 3.5.4, and 3.5.5). The DEIR analyzes, to the extent known, the number, location, configuration, resource use, and level of effort associated with the potential bench scale tests, pilot studies, geotechnical evaluations, and plant and biota sampling (see Section 4.2.3.3, "Air Quality"; Section 4.3.3.1, "Biological Resources"; and Section 4.6.3.3, "Hydrology and Water Quality"). If the precise locations for all of the potential activities are not identified in the DEIR, that is because those determinations must be made based on the results of the initial soil sampling. The impact analysis and mitigation measures have nevertheless been prepared to include, to the extent feasible, the potentially significant adverse environmental impacts that may result from such future actions should they be found necessary, thus rendering the DEIR as useful a document as possible for DTSC's ability to efficiently obtain an adequate characterization of the scope and extent of soil contamination within the Project Site. The mitigation measures were therefore formulated such that any and all of these activities would be conducted in a manner that considers and protects significantly affected environmental resources (see also Master Response 25 Percent Contingency).

If the additional testing and sampling activities are deemed necessary, all Standard Operating Procedures and Best Management Practices identified in Section 3.5.7 of the DEIR would apply, as well as all identified mitigation measures (see summary of mitigation measures in DEIR Table 1-1). DTSC has determined that the proposed Project, which is inclusive of these additional activities, would result in less than significant impacts to all environmental resource areas, with the exception of Cultural Resources and Noise. All mitigation measures listed for these areas would apply to the additional activities. This includes management of displaced soil consistent with Appendix J of the Soil Work Plan (see Appendix A to the DEIR), borehole decommissioning, vegetation management, health and safety, and waste management, among others. In any event, as explained further in this section, when the precise location and scope of any additional activities are determined, DTSC will consider whether additional environmental review is necessary.

Numerous concerns were raised in the comments regarding the methods and outcomes of plant and biota sampling. In response to these comments, the description of plant and biota sampling in the DEIR Section 3.5.5, beginning on page 3-34, is revised in the final environmental impact report (FEIR) as follows:

3.5.5 Plant or Other Biota Samples

After the proposed soil investigation activities are complete, a Human Health Risk Assessment (HHRA) and an Ecological Risk Assessment (ERA) (a paper study) would be performed, following the approach presented in the Human Health and Ecological Risk Assessment Work Plan (RAWP). The ERA makes a number of conservative assumptions, and as such, it may indicate theoretical potential risk to herbivorous <u>(i.e., eats plants)</u> and invertivorous <u>(i.e., eats invertebrates)</u> wildlife populations. In that event, a validation study composed of collecting and analyzing biota tissue samples from the Project Site may be considered to reduce uncertainty in the ERA.

Specific target species for plant and invertebrate sampling, if any, will be dependent on the outcome of the baseline ecological risk assessment for soil. The purpose of the sampling, if conducted, would be to obtain representative plant or prey tissue concentrations to evaluate dietary exposure to birds or mammals consuming the plants or prey. Therefore, the specific sampling design will be dependent on the feeding guild potentially at risk. Tissue samples may be collected from multiple species to best represent the diet composition of representative receptors for the feeding guild of interest.

In the event that a validation study is required, plant and invertebrate tissue samples and potentially co-located soil samples would need to be collected from the Project Site. The sampling at the Project Site would focus on the areas of the soil investigations, although specific AOCs cannot be determined at this time without completing the predictive ERA. To minimize additional soil sampling, tissue samples would be collected from locations where soil sampling has already been completed or planned (which can be representative of co-located data) provided adequate biomass is available from those locations.

As part of the study, tissue and co-located soil samples would also need to be collected from a reference area representative of ambient conditions. The reference area could be identified within the boundary of the APE, but outside of the soil investigation areas.

The tissue sampling methods recommended would not require use of motorized equipment and tissue would be collected from areas providing foraging habitat. The following summarizes some general approaches to sampling:

• Plant Tissue Sampling – Based on review of diet composition of representative receptors and listed special-status and culturally-sensitive plants, no collection of special-status and culturally-sensitive plant species will be necessary. Plant tissue samples would be collected using less invasive methods, for example by hand pruning without sacrificing individual plants. Tissue would be collected from as

few plants as practical to provide a representative sample of diet concentrations in that specific sampling location. Tissue collection could require 1 to 2 weeks of field work in each area and focus on leafy vegetation rather than more intrusive seed collection, as allowed by study objectives.

 Invertebrate Tissue Sampling – <u>Pit traps would be used to collect invertebrates</u> for tissue analysis in the laboratory. Pit traps could be set where soil from a location is pushed aside to create a shallow pit (approximately 1 foot square by 1 foot deep) using a hand auger, shovel, or trowel. While the specific number of pits would depend on the area needing assessment, for the purposes of this DEIR, it is assumed it will be 8 to10 pits co-located with soil sample locations. A 1gallon vessel (jug/can) could be put in a shallow pit with the lip of the vessel at ground surface, and invertebrates can be collected using these baited traps. A thin plywood cover board would be placed over the trap and secured from other predators. It is conceivable that this effort could take 1 to 2 weeks of daily trapping to collect sufficient biomass in a desert environment. Once sampling is completed, the traps would be removed and soil would be pushed back to cover the shallow pits. Invertebrate tissue sampling, if conducted, would result in mortality of individual invertebrates.

As the soil investigation proceeds, additional data may identify additional key chemicals of potential ecological concern (COPECs) (e.g., dioxins/furans, PCBs, or other organic chemicals). If unacceptable risk is predicted for carnivorous receptors, a validation study may be required where small mammal tissue would need to be collected from the Project Site.

<u>Small Mammal Tissue Sampling -</u> Tissue would be collected using Sherman live or similar traps deployed on the ground surface. Trapping in each area could require 1 to 2 weeks to collect sufficient biomass for analysis. The sampling methods would only be minimally invasive, focusing on locations where soil sampling has already been completed or planned (which can be representative of co-located data) provided adequate biomass is available from those locations. The specific target species, if any, will be dependent on the outcome of the baseline ecological risk assessment for soil. The purpose of the sampling, if conducted, would be to obtain representative small mammal tissue concentrations for dietary exposure to carnivorous birds or mammals. Therefore, the specific sampling design will be dependent on the dietary composition of the representative receptors potentially at risk. Typical small mammal tissue sampling methods entail mortality of individual animals. However, no impact to the health of small mammal populations would be collected.

Sampling and analysis plans for any validation study, if necessary, will be developed with transparency and input from the government agencies and stakeholders prior to approval.

Biota tissue sampling, if conducted, would seek to minimize potential impact to nontarget species. Should such sampling be deemed needed, the sampling and analysis plans will include measures that reduce harm to non-target species. For example, the use of live traps shall be given priority to allow non-target species to be released when the traps are emptied. Traps may also be deployed in the evening and emptied in the morning so that trapped animals are not subject to excessive heat or captivity.

Accordingly, potential impacts associated with these activities have been addressed in Section 4.3, "Biological Resources," and Section 4.4, "Cultural Resources," of the FEIR at the pages indicated below.

Text in Section 4.3, "Biological Resources," page 4.3-51 of the DEIR is added to the FEIR as follows:

As the soil investigation proceeds, additional data may identify additional key chemicals of potential ecological concern (COPECs) (e.g., dioxins/furans, PCBs, or other organic chemicals). If unacceptable risk is predicted for carnivorous receptors, a validation study may be required where small mammal tissue would need to be collected from the Project Site. Tissue would be collected using Sherman live or similar traps deployed on the ground surface. No impacts are anticipated to occur to jurisdictional resources as a result of biota tissue sampling.

Text in Section 4.3, "Biological Resources," page 4.3-62 of the DEIR is added to the FEIR as follows:

As the soil investigation proceeds, additional data may identify additional key COPECs (e.g., dioxins/furans, PCBs, or other organic chemicals). If unacceptable risk is predicted for carnivorous receptors, a validation study may be required where small mammal tissue would need to be collected from the Project Site; however, tissue would be collected using Sherman live or similar traps deployed on the ground surface, which are not large enough to capture ring-tailed cat. For this reason, no impacts would occur to ring-tailed cat from tissue sampling.

Text in Section 4.3, "Biological Resources," page 4.3-63 of the DEIR is added to the FEIR as follows:

As the soil investigation proceeds, additional data may identify additional key COPECs (e.g., dioxins/furans, PCBs, or other organic chemicals). If unacceptable risk is predicted for carnivorous receptors, a validation study may be required where small mammal tissue would need to be collected from the Project Site. Tissue would be collected from smaller mammals using Sherman live or similar traps deployed on the ground surface if a validation study is required. These traps are not large enough to capture Nelson's bighorn sheep, and therefore no impacts would occur to Nelson's bighorn sheep from tissue sampling.

Text in Section 4.4, "Cultural Resources," the Topock Traditional Cultural Property discussion on pages 4.4-69 and 70 of the DEIR is revised in the FEIR as follows:

Topock Traditional Cultural Property

The Project Site is located within a larger area determined by the BLM to encompass the NRHP-eligible Topock TCP. Impacts to those physical characteristics (contributing elements) that convey the TCP's historical significance, such as the Topock Maze, land, water, plants, animals, prehistoric archaeological resources, and the viewshed, would result in a significant impact to the historical resource identified as the Topock TCP. Contributing elements that would not be affected by the Project include the Topock Maze, <u>known prehistoric archaeological resources</u>, and water and animals. Contributing elements that could be affected by the Project include land, plants, <u>animals</u>, <u>unknown</u> prehistoric archaeological resources, and the viewshed. Impacts to each of these elements are considered below.

<u>Animals</u>

Activities involving biota sampling would directly and adversely affect animals identified by some Interested Tribes as contributing elements of the Topock TCP. Because animals themselves are essential to the significance of the TCP, biota sampling is considered disruptive to the natural environment of the Topock TCP.

Text in Section 4.4, "Cultural Resources," on pages 4.4-73 of the DEIR is revised in the FEIR as follows:

Impact CR-1 Potential Impacts to the Topock Traditional Cultural Property.

Implementation of the proposed Project could cause a substantial adverse change in the significance of the historical resource identified as the Topock TCP as a result of the physical destruction and alteration to the characteristics of the property that convey its historical significance and qualify it for inclusion in the CRHR as defined in CEQA Guidelines Section 15064.5. The substantial adverse change to the TCP and its contributing elements would result from ground-disturbing activity that would directly and adversely affect the soil, landforms, and <u>unknown</u> prehistoric archaeological resources; pruning or alteration of the natural growth of native and traditional plant species; <u>plant and biota sampling</u>; and the presence of equipment, workers, and vehicles, which would introduce activities that are inconsistent with the natural setting associated with the Topock TCP. These activities would also materially affect the cultural values ascribed to the TCP by Tribes. This impact would be **significant**.

Text in Section 5.1.1, "Cultural Resources," on pages 5-1 through pages 5-3 of the DEIR is revised in the FEIR as follows:

5.1.1 Cultural Resources

Topock Traditional Cultural Property

The California Department of Toxic Substances Control (DTSC) has determined that implementation of the proposed Project would result in a substantial adverse impact on the National Register of Historic Places-eligible Topock Traditional Cultural Property (TCP). According to input from Interested Tribes, those physical characteristics that convey the TCP's historical significance (contributing elements) include the Topock Maze, land, water, plants, animals, prehistoric archaeological resources, and the viewshed (see Section 4.4.1.5). All of these contributing elements to the Topock TCP, with the exception of the Topock Maze, known prehistoric archaeological resources, and water, and animals could be affected by the Project.

Implementation of the proposed Project, in addition to the other ongoing activities within the Topock TCP, could cause a substantial adverse change in the significance of the TCP historical resource as a result of the physical destruction and alteration to the characteristics of the property that convey its historical significance and qualify it for inclusion in the California Register of Historical Resources as defined in CEQA Guidelines Section 15064.5. The substantial adverse change to the contributing elements to the Topock TCP would result from ground-disturbing activity that would directly and adversely affect the soil, landforms, and <u>unknown</u> prehistoric archaeological resources; pruning or alteration of the natural growth of native and traditional plant species; <u>plant</u> <u>and biota sampling;</u> and the presence of equipment, workers, and vehicles, which would introduce activities that are inconsistent with the natural setting associated with the Topock TCP. These activities would also materially affect the cultural values ascribed to the TCP by some Native American Tribes. This impact would be **significant**. (**Impact CR-1**)

In order to reduce these impacts, **Mitigation Measures CR-1a, CR-1b, CR-1c, CR-1d,** and **CR-1e** shall be implemented (see Section 4.4).

Implementation of Mitigation Measures CR-1a through CR-1e would reduce but not completely avoid the potential for significant impacts to the historical resources identified in <u>as</u> the Topock TCP. The Project would result in the destruction or alteration of contributing elements which convey the historical significance of the Topock TCP. As a result, the impacts to the historical resource identified as the Topock TCP would remain **significant and unavoidable**.

As a condition of approval for the Project, prior to implementation of any bench scale tests, pilot studies, geotechnical evaluations, or plant and biota sampling, PG&E would prepare a work plan that further describes the specific location, extent, configuration, and rationale for such activities at the level of detail requested in many of the comments, and would ensure that the mitigation measures presented in the DEIR are sufficient and applicable. The work plan(s) would be provided to stakeholders, including Tribes, for review and comment. In accordance with
Mitigation Measure CR-1a-1, "Tribal Document Review and Comment," Tribes will be afforded the opportunity to review and comment on all cultural-resources-related documentation prepared as a result of this Project. Prior to implementation of any additional activities, DTSC would also evaluate the need for any additional California Environmental Quality Act (CEQA) documentation for these additional testing and sampling activities, to ensure that any disturbance is within the scope of this environmental impact report (EIR) and that CEQA requirements are met. Specifically, these activities will be reviewed against the standards set forth in Sections 15162 through 15164 of the CEQA Guidelines to determine the level of CEQA review required, if necessary.

Regarding concerns expressed about the timing of the additional activities in the overall investigation process, Section 2.3 of the DEIR provides a general overview and sequence of the main steps undertaken as part of the corrective action. This is a general overview and sequence, and is not intended to be a required order. The implementation of bench scale tests, pilot studies, geotechnical evaluations, and/or plant and biota sampling prior to CMS/FS completion is typical and is not considered a deviation from the normal schedule or process. These additional activities, if determined necessary, would be implemented after soil sampling is complete and would be guided by the results of the soil sampling activities and soil risk assessment (see DEIR Sections 3.5.3, 3.5.4, and 3.5.5). These activities would only be undertaken in a location where the results of the soil investigation and risk assessment determine that there is a need to perform remedial actions, which will ensure that only those areas that will be subject to cleanup will undergo additional testing and sampling activities.

Master Response: Cumulative Projects

Several comments were received regarding the list of cumulative projects included in Chapter 6, "Cumulative Impacts," of the draft environmental impact report (DEIR). Specifically, comments suggested additional projects should have been included in the list of related projects with the potential to result in cumulative impacts when considered in conjunction with the effects of the Pacific Gas and Electric Company (PG&E) Topock Compressor Station (Station) Soil Investigation Project (Project). These included several projects conducted by PG&E at the Station, such as the past soil investigation activities and any future soil remediation activities, as well as off-site projects led by other parties. This master response addresses those particular comments received. Comments regarding the cumulative analysis presented in each environmental resource area (e.g., Aesthetics, Cultural Resources, or Noise) or other specific cumulative issues are addressed in individual responses to comments.

Regarding past soil investigation activities that have occurred, Section 2.2.2, "Soil and Groundwater Investigation Activities," provides an overview of the past investigation activities that have taken place at the Station and surrounding areas. Additional detail has been provided on page 2-3 of the DEIR, as shown below. The historical investigation activities noted in the added text contribute to the existing baseline conditions used as the setting to evaluate the potential effects of the Project throughout the DEIR. This information is widely known by stakeholders and Interested Tribes and does not present any new information, or otherwise affect the analysis

in the DEIR. It has been merely added for clarification purposes. The DEIR text on page 2-3 has been revised in the final environmental impact report (FEIR) as follows:

Investigative activities at and in the vicinity of the Station date back to the late 1980s with the identification of Solid Waste Management Units (SWMUs) through a RCRA Facility Assessment (RFA). Closure activities of former hazardous waste management facilities at the Station were performed from 1988 to 1993. <u>In 1988, as documented in the Administrative Consent Agreement, executed in 2005 (see page 6, Section 5.3), PG&E also completed a soil investigation in the Bat Cave Wash area which documented the presence of chromium in the environment around the former percolation bed. The RCRA Facility Investigation (RFI) began in 1996 when DTSC and PG&E executed a Corrective Action Consent Agreement (CACA), summarized below in Section 2.3. Since that time, additional data collection and evaluation has been performed to characterize the nature and extent of contamination in and around the Station, and to identify potential remedial alternatives.</u>

Several comments also suggested that the DEIR did not thoroughly consider the potential for future soil remediation activities as a reasonably foreseeable cumulative project. As described in the DEIR Section 6.4.2, the California Department of Toxic Substances Control (DTSC) has determined that any soil remedy action would not be a cumulative project for purposes of the analysis of the Soil Investigation Project as it would occur, if determined to be needed, after soil investigation is complete. By its very nature the investigation activities analyzed in this environmental impact report (EIR) must come first. It is also highly speculative, at this time, for DTSC to guess where, when, and how soil remediation activities might be implemented, if at all, based on the soil investigation which has yet to take place. DTSC must first obtain the soil-sampling results needed to characterize the soil contamination within the Project Site before determining whether remediation is warranted and, if so, the details of those activities.

Further, given the relatively short period of time needed to implement the Soil Investigation Project and Work Plan, if approved, impacts from any future soil remediation effort is not anticipated to result in related environmental impacts, including cumulative impacts. Therefore, these activities did not need to be included in the cumulative impacts analysis (see California Environmental Quality Act [CEQA] Guidelines Section 15130, subd. (a)(1) ["a cumulative impact consists of an impact which is created as a result of the combination of the project evaluated in the EIR together with other projects causing related impacts. An EIR should not discuss impacts which do not result in part from the project evaluated in the EIR"].)

To clarify, the text in the DEIR Section 6.4.2, page 6-6, is revised in the FEIR as follows:

In addition, after the completion of the soil sampling that is proposed within this DEIR, which is expected to be completed by October 2015, areas identified as having soil contamination with chemicals of potential concern (COPCs) at concentrations above action levels, surface stains, and hazardous debris within the Station boundary and in the surrounding area may undergo remediation. Soil remediation, if warranted, could take many forms in varying locations, including, but not limited to: excavation and off-site

disposal; excavation and on-site treatment; soil flushing; solidification/stabilization; in situ chemical reduction; capping; and/or institutional controls. DTSC has concluded that it is too speculative to include soil remediation in the list of reasonably foreseeable projects. The soil remedy, if needed, is anticipated to occur from mid 2016 into early-2017 at the Station and surrounding areas. Any soil remedy, if determined warranted, would not temporally overlap with the Soil Investigation Project. Further, given the temporary nature of the impacts associated with the Soil Investigation Project, impacts from any future soil remediation effort would not result in related environmental impacts. The soil characterization and investigation proposed as part of this DEIR will by nature be completed by the time the soil remedy is identified and implemented and therefore no temporal overlap between the soil investigation Project and the soil remediation would occur. As such, the potential effects of any future soil remediation are not included in this cumulative analysis. Any future soil remedy would be evaluated in accordance with CEQA, including a cumulative impact analysis.

Several comments suggested additional projects purportedly should have also been included in the cumulative impacts analysis. In response to these comments, revisions have been made to Chapter 6, "Cumulative Analysis," beginning on page 6-6, Paragraph 3, of the DEIR as shown in the following pages (changes made as appropriate throughout the chapter as necessary to reflect the additional projects; see Chapter 6 for all revisions in strikeout and underline text). The additional projects added to the cumulative list include PG&E's Part A Phase I Soil Investigation (1G), PG&E's Time Critical Removal Action at Area of Concern (AOC) 4 (1H), and the Southwest Gas Pipeline project (10A). In addition, clarifications were made regarding the timing of the future construction of the Groundwater Remediation Project (1C).

The inclusion of these additional projects and project timing clarifications in the DEIR do not present a new significant adverse cumulative environmental impact or need for mitigation, result in a substantial increase in the severity of previously identified significant adverse environmental impacts (Cultural Resources and Noise), result in new feasible project alternatives or mitigation measures, or preclude meaningful public review and comment (see Section 15088.5 of the CEQA Guidelines). In particular, the potential timing overlap of the Groundwater Remediation Project (1C) with the proposed Project would be limited to the potential bench scale, pilot tests, geotechnical evaluations, and biota studies. These activities may or may not be required, depending on the results of the soil investigation activities. If they are determined to be not necessary, there would be no overlap or impacts. Should they be required, the individual activities would be relatively small efforts compared to the Project as a whole (in scale, equipment, and employee demand—see Chapter 3, "Project Description"), at individual isolated locations. All mitigation measures included in the DEIR would apply to these activities where appropriate, and they would likely be conducted in areas where soil investigation already occurred, thereby minimizing any impacts to previously undisturbed areas and sensitive resources. Additionally, prior to undertaking any of these Project activities that may overlap with construction of the Groundwater Remediation Project, work plans would be prepared and circulated to Interested Tribes that identify all sensitive resources and best management practices and disclose full project plans.

The cumulative effects of the Groundwater Remediation and Soil Investigation Projects were also considered in the FEIR for the Topock Compressor Station Groundwater Remediation Project (DTSC 2011). Neither of these projects is new to the area, and while being separate actions, have required thoughtful consideration, planning, and review by the project proponent (PG&E) and the lead agency (DTSC) as their timelines have evolved over time. Both the proposed Project and construction of the Groundwater Remediation Project (1C) would be temporary in nature and would implement a full suite of mitigation measures as required from their respective EIRs that would reduce both Project and cumulative impacts (with the exception of Cultural Resources and Noise). Projects 1G and 1H would contribute to the overall impacts to the Topock Cultural Property; however, this would be consistent with the findings already presented in the DEIR (significant and unavoidable Cultural Resources Impacts). The addition of these projects, in particular the PG&E projects, as part of the cumulative discussion does not present substantial new information or preclude meaningful public review, as they are projects that are widely known by the agencies, Tribes, and stakeholders, and were generally regarded to form part of the baseline condition due to their age (6 years ago for project 1G and nearly 5 years ago for project 1H).

To clarify, the text in the DEIR Section 6.4.2, beginning at page 6-6, is revised in the FEIR as follows:

The existing infrastructure within the Project Site, including roads, bridges, railroads, and utilities are not included in the Table 6-3<u>. since t These</u> past projects in the vicinity of the proposed Project are part of the baseline/existing conditions that are considered throughout Chapter 4 of this DEIR. Likewise, the marinas in California and Arizona and nearby industrial facilities, such as the six natural gas transmission lines in the vicinity of the Project Site, are part of the baseline/existing conditions of this DEIR. Additionally, PG&E has conducted ongoing maintenance, investigation, and decommissioning projects for the past 10 years on-site, including tests and studies to evaluate technologies to reduce groundwater contamination. Some PG&E past projects have been included in Table 6.3 and described in Section 6.4.2.1 to the extent such information is relevant to the understanding of past activities which have occurred on-site, although the effects of those activities have become part of the existing environment (or "baseline") from which the potential effects of the proposed Project have been identified. These projects are considered part of the existing/baseline conditions in this DEIR and are not included in Table 6-3.

TABLE 6-3
LIST OF PROJECTS LOCATED AT OR WITHIN THE VICINITY OF THE PROPOSED PROJECT

Exhibit 6-1 Map Key	Project Name	Description of Project	Size (Acreage) or Extent	Jurisdiction/ Land Owner	Approximate Distance from Proposed Project (miles)	Implementation Status
1. PG&E						
1A	Site Improvement Projects	Minor annual site improvements based on available budget	Within the Station footprint and surrounding PG&E facilities	PG&E	On-site	2013-2014; Ongoing
1B	Interim Measure 3 Emergency Groundwater Extraction and Management	Provides extraction rate of 130 gallons per minute at TW-2 extraction well during month of highest groundwater discharge rates	Immediate vicinity of the Station	PG&E	On-site	Construction 2005; Ongoing
1C	Groundwater Remediation Project	Remediation of groundwater	Immediate vicinity of the Station	PG&E	On-site	2015–2017
1D	East Ravine Groundwater Investigation Phase 2	Drilling and groundwater investigation to characterize the groundwater flow pathway and groundwater conditions of bedrock formations in the East Ravine and MW-23 area	Immediate vicinity of the Station	PG&E	On-site	2012
1E	Groundwater Monitoring	Monitoring programs, including site-wide surface water monitoring, IM-3 performance monitoring	Immediate vicinity of the Station and on the AZ side of the river, near Topock, AZ	PG&E	On-site	Ongoing (quarterly)
1F	Repair of MW- 38S and MW-38D and Old Well/Pipe Reconnaissance	Rehabilitation of the MW-38 well cluster and evaluation of the possible existence of an old well/ pipe in the bottom of Bat Cave Wash	Immediate vicinity of the Station	PG&E	On-site	Ongoing
<u>1G</u>	Part A Phase 1 Soil Investigation	Investigation of soil contamination	Immediate vicinity of the Station	PG&E	<u>On-site</u>	<u>Completed</u>
<u>1H</u>	<u>Time Critical</u> <u>Removal Action</u> <u>at AOC 4</u>	Investigation and remediation of contaminated soils	Immediate vicinity of the Station	<u>PG&E/DOI</u>	<u>On-site</u>	<u>Completed</u> – <u>2010</u>

TABLE 6-3 LIST OF PROJECTS LOCATED AT OR WITHIN THE VICINITY OF THE PROPOSED PROJECT

Exhibit 6 1		Description of		lurisdiction/	Approximate Distance	Implementation
Map Key	Project Name	Project	or Extent	Land Owner	Project (miles)	Status
2. U.S. Bureau of Rec	lamation					
2A	Lower Colorado River Multi- Species Conservation Program	Program to conserve and work toward recovery of endangered species and protect and maintain habitat along the Colorado River	Extends along Colorado River from Lake Meade to Southerly International Border with Mexico	Multiple federal agencies	Less than 1 mile	2012–2015
2В	Quarry Operations	Stockpiled materials are used by BOR for maintenance and construction of banklines, river control structures, levees, canals, and reservoirs along the Lower Colorado River	Parcel located directly north of the Moabi Regional Park footprint	BOR	Approximately 1 mile	Ongoing
3. U.S. Bureau of Lan	d Management					
3A	Cathodic Protection System	Installation of cathodic protection system for a gas pipeline by Southern California Gas	Approximately 235 feet	BLM	Approximately 2,000 feet	2012
4. U.S. Fish and Wild	life Service					
4A	Lower Colorado River National Wildlife Refuges Comprehensive Management Plan	Management plan for refuges along Lower Colorado River, including Havasu National Wildlife Refuge (HNWR)	HNWR: 30 river miles (300 miles of shoreline) between Needles, CA, and Lake Havasu City	USFWS	Less than 1 mile	2012-2014
4B	Topock Marsh Water Infrastructure Improvement Project on the Havasu National Wildlife Refuge	Replacement and rehabilitation of the HNWR main water delivery system for the Topock Marsh unit	Approximately 63 acres	USFWS	Less than 1 mile	Phase I – 2011; Phase II – undetermined
5. Arizona Departmer	nt of Transportation	ı				
5A	State Route 95 Realignment Project	Realignment of State Route 95	42-mile corridor	Arizona Department of Transportation and Federal Highway Administration	Approximately 2 miles	Environmental review – 2014

TABLE 6-3
LIST OF PROJECTS LOCATED AT OR WITHIN THE VICINITY OF THE PROPOSED PROJECT

Exhibit 6-1 Map Key	Project Name	Description of Project	Size (Acreage) or Extent	Jurisdiction/ Land Owner	Approximate Distance from Proposed Project (miles)	Implementation Status
6. San Bernardino Co	ounty					
6A	Moabi Regional Park	Construction utility hookups, sewer	To be determined	San Bernardino County	1 mile	Sewer treatment plant – 2012;
	improvements	facility, pavement, lane widening, and drainage improvements				other improvements – undetermined
6B	Pirate Cove Resort	667 additional RV and/or cabin sites; OHV area	To be determined	San Bernardino County	Less than 1.5 miles from the Station	OHV Area – 2013; RV/cabins – undetermined
6C	Verizon Wireless Communication Facility	Installation of an antenna on an existing 157 foot pole and construction of an equipment shelter	To be determined	San Bernardino County	10 miles	Permit Submitted – 2013
6D	Needles Highway Improvement Project	Improvement and/or rehabilitation along 16-mile corridor of the Needles Highway, from "N" Street in City of Needles to California/Nevada state line	16-mile corridor	San Bernardino County, Caltrans, Federal Highway Administration	12 miles	Segment N - 2016; Subsequent Phases – undetermined
7. City of Needles, CA	A					
7A	I-40 Connection Project	Street improvement project	To be determined	City of Needles	10 miles	2015
8. Mohave County, A	Z					
8A	Topock Marina Improvements	Restaurant (Phase I); Hotel (Phase II)	Approximately 5.6 acres	Mohave County	Less than 1 mile	Phase I – 2013; Phase II – undetermined
8B	Sterling Project	Solar power generation site	Approximately 10,000 acres	Mohave County	Approximately 5 miles	Zoning approved – 2012
9. Lake Havasu City,	AZ					
9A	Airport Business Park	Light industrial business park development	Approximately 80 acres	Lake Havasu City	Approximately 14 miles	2014
10. Southwest Gas Pi	peline					
<u>10A</u>	Distribution System Upgrades	Upgrade to existing distribution system that runs along the Colorado River up to Laughlin.	Improvements limited to Park Moabi area	San Bernardino County	<u>1 mile</u>	Construction complete in December 2011

SOURCES: ADOT 2014; BOR 2014; City of Needles Planning Department 2014; County of San Bernardino 2014; Darling 2014; Meier 2014; Miller 2014; Schmeling 2014; Shabazz 2014; Snelgrove 2014; Taylor 2014; Wolff 2014; Southwest Gas 2014.

Ongoing Operation of Interim Measure 3 Emergency Groundwater Extraction and Management (1B)

PG&E implemented operation of a groundwater remediation facility to address hydraulic control of contaminated groundwater and prevent contaminated groundwater from entering the Colorado River. The treatment facility, known as Interim Measure 3 (IM-3), was designed to treat 135 gallons per minute (gpm) with a maximum capacity of 150 gpm. Three Board Orders (Board Order No. R7-2004-0080, Board Order No. R7-2004-0103, and Board Order No. R7-2004-0100) were approved by the regional water quality control board addressing the remediation facility.

PG&E is currently operating the IM-3 treatment plant at the Station. IM-3 consists of groundwater extraction for hydraulic control of the groundwater plume boundaries in the Colorado River floodplain, treatment of extracted groundwater and reinjection of treated water. Operation of the current groundwater treatment and injection system began in July 2005. The groundwater pumping, transport, and disposal activities are considered an Interim Measure (IM) pursuant to Section IV.A of the Corrective Action Consent Agreement (CACA) entered into by PG&E, and the California Department of Toxic Substances Control (DTSC).

Currently, the IM-3 facilities include a groundwater extraction system (four extraction wells: TW-2D, TW-3D, TW-2S, and PE-1), conveyance piping, a groundwater treatment plant, and an injection well field for the discharge of the treated groundwater. Of the four extraction wells, two are currently in operation (TW-3D and PE-1). The groundwater treatment system is a continuous, multistep process that involves reduction of hexavalent chromium to the less soluble trivalent form, trivalent chromium, precipitation and removal of precipitate solids by clarification and microfiltration, and lowering the naturally occurring total dissolved solids (TDS) using reverse osmosis. Treated groundwater is returned to the aquifer through an injection system consisting of two injection wells, IW-2 and IW-3. The existing groundwater extraction, treatment, and injection systems, collectively, are referred to as IM-3.

Groundwater Remediation Project at the Station (1C)

In January 2011, DTSC adopted a Final Remedy for the groundwater plume based on PG&E's study of the site and certified final environmental impact report (FEIR). The U.S. Department of the Interior (DOI), as a co-regulatory agency overseeing the site, also adopted a Groundwater Record of Decision, in December 2010, and presented the same selected remedy for the groundwater cleanup. The proposed Remedial Design/Remedial Action Consent Decree (Consent Decree) between PG&E and the DOI regarding implementation of the groundwater remedial action at the PG&E Topock site has been lodged with the federal district court by the U.S. Department of Justice. The notice of availability was published on January 18, 2013, in the Federal Register. The public comment period lasted 30 days ending on February 19, 2013. <u>DTSC prepared the *Topock Compressor Station Groundwater Remediation Project Environmental Impact Report Addendum No. 1 for Alternative Freshwater Source Evaluation Activities* (DTSC 2013)</u>

in August 2013, which evaluated additional freshwater sources for consideration in the Groundwater Remediation Project. The limited field work component of this effort was conducted in October 2013 through April of 2014. Other activities related to the Groundwater Remediation Project will not be constructed until agency approval of the final design, as described below.

The Draft Basis of Design Report/ Preliminary (30%) Design was submitted in November 2011 and presents the preliminary design, design criteria, drawings, and list of specifications as well as additional information required for the final groundwater remedy at the Station. The Basis of Design Report/Intermediate (60%) Design that was submitted in April 2013 is a continuation and expansion of the preliminary (30%) submittal, and contains the intermediate design details, drawings, specifications, and appendices for implementation of the remedy. The Basis of Design Report/Final (90%) Design is expected to be submitted in full, in September 2014 Spring 2015, followed by a 30-day stakeholder comment and review period. See the letter from DTSC/DOI to Yvonne Meeks, PG&E, Re: Incomplete Elements Identified in Pre-Final (90%) Basis of Design Report (Oct. 21, 2014). Under the most optimistic of timeframes, DTSC anticipates final approval of the Groundwater Remediation Project will not occur until Fall 2015. After obtaining the necessary approvals (rights-of-way, easement, access agreements, etc.) remedy implementation is expected to begin in May 2015 with pre-construction and field preparation are expected to begin in late 2015. Construction activities are expected to last through Summer or Fall of 2018. IM-3 would be shut off and ultimately decommissioned as part of the Groundwater Remediation Project.

It is not anticipated that construction of the Groundwater Remediation Project would overlap with the proposed Project's soil investigation activities. While project schedules may shift, there is potential for activities from the Groundwater Remediation Project and the proposed Project to overlap. The proposed Project has a 12-month schedule for the soil sampling activities, estimated to begin in Spring 2015, with additional activities supporting a future Soil CMS/FS (pilot studies, bench scale tests, geotechnical evaluations, and plant and biota sampling), if needed, expected to occur from late 2016 for 13 to 27 months. If overlap occurs, the initial field preparation and surveys for the groundwater remediation may overlap with the tail end of proposed soil investigation sampling activities. The additional activities supporting a future Soil CMS/FS, if needed, would overlap with the construction of the Groundwater Remediation Project, both occurring from 2016 through 2018.

Groundwater Monitoring (1E)

PG&E conducts continual monitoring at the Station and surrounding areas, which was initiated as part of a Resource Conservation and Recovery Act (RCRA) and Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) facility investigation/remedial investigation groundwater investigation. The three monitoring programs include a Site-wide Groundwater Monitoring Program (<u>GMP</u>), Site-wide Surface Water Monitoring Program (<u>RMP</u>), and IM-3 Performance Monitoring

Program (PMP). Monitoring wells that are part of the Groundwater Monitoring Program are sampled at frequencies ranging from monthly (monthly sampling is done only from November through February) to quarterly, semi-annually, annually, and bi-annually. Sitewide Surface Water Monitoring Program samples are collected on a quarterly basis, with an additional winter low river level event.

The complete GMP includes 146 groundwater monitoring wells, which consist of:

- One hundred twenty-nine monitoring wells in California (including two bedrock wells formerly equipped with packers and newly installed East Ravine/Topock Compressor Station Wells, two dry wells and five wells currently sampled under the Pilot Test Program).
- Eight monitoring wells in Arizona
- <u>Two water supply wells</u>
- <u>Two active IM-3 extraction wells</u>
- <u>Five test wells</u>

The RMP consists of:

- Ten river channel surface water monitoring locations
- Four shoreline surface water monitoring locations
- <u>Two other surface water monitoring locations</u>

Part A Phase I Soil Investigation (1G)

The Part A soil investigation addresses 15 Solid Waste Management Unit (SWMU), Areas of Concern (AOCs), and other Undesignated Areas (UAs) outside the Station fence line. Additional sampling was performed in 10 of the 15 areas, and only un-intrusive investigation in 1 of the 10 areas. Field activities for the Soil Part A Phase 1 soil investigation were implemented between August and November 2008. The Part A Phase 1 soil investigation encompassed the following 10 investigation areas outside of the Station fence line:

- <u>SWMU 1 Former Percolation Bed</u>
- <u>AOC 1 Area Around Former Percolation Bed</u>
- <u>AOC 4 Debris Ravine</u>
- AOC 9 Southeast Fence Line
- AOC 10 East Ravine
- <u>AOC 11 Topographic Low Areas</u>
- AOC 12 Fill Areas
- AOC 14 Railroad Debris Area

- <u>UA 1 Pipeline Disposal Area</u>
- <u>UA 2 Former 300B Pipeline Liquids Tank Area</u>

In total, 659 soil samples, 7 white powder material samples, and 4 debris/wood samples were collected (sample counts do not include duplicate samples collected for quality control purposes). Two samples were also collected from one location in an area of Bat Cave Wash where soil is transitioning into sediment near the mouth of Bat Cave Wash. DTSC also directed the collection of three soil samples of white powder at locations in AOC 10.

Time Critical Removal Action at AOC 4 (1H)

The Time Critical Removal Action (TCRA) at AOC 4 was performed from December 2009 through December 2010 in compliance with the TCRA Work Plan. The TCRA removed approximately 11,799 tons of waste from the AOC 4 Debris Ravine. The allowable disturbance from this activity occurred on steep slopes of AOC 4, with a small portion of the activity occurring in the ephemeral channel at the floor of the AOC 4 ravine. The three primary methods employed to remove fill and debris material from AOC 4 were manual collection, vacuum excavation, and mechanical excavation.

The TCRA was performed as an interim remedial action measure directed by the U.S. Department of the Interior to stabilize and mitigate the threat of release of contaminated material into the environment. This TCRA was conducted under the authority of CERCLA Section 104 and was, therefore, exempt from obtaining any federal, state, or local permits or complying with other administrative requirements, pursuant to CERCLA Section 121(e).

6.4.2.10 Southwest Gas

Southwest Gas Pipeline (10A)

Southwest Gas operates a gas pipeline that runs along the Colorado River in the vicinity of the Project Site, terminating in Laughlin, Nevada. Southwest Gas completed upgrades to a portion of the pipeline segment in Park Moabi, approximately 1 mile from the Station.

To further clarify, the text in the DEIR on page 2-6 is revised in the FEIR as follows:

The Groundwater Remediation Project is currently in the design stage and construction of the final remedy is scheduled to begin in mid-2015. Under the most optimistic of timeframes, DTSC anticipates final approval of the Groundwater Remediation Project will not occur until Fall 2015.

Master Response: Future Land Use Scenario

Several comments were received regarding California Department of Toxic Substances Control's (DTSC's) use of the residential land use criteria for soil characterization on the Topock Site. These comments generally assert that the land use assumptions for the Pacific Gas and Electric Company (PG&E) Topock Compressor Station (Station) Soil Investigation Project (Project) Site are not consistent with the land use decisions, designations, and compatibilities in relevant U.S. Department of the Interior (DOI) land use plans.

As explained on several occasions with the Tribes and in a joint letter from DOI and DTSC to Tribal leaders dated October 6, 2011, adequately characterizing the nature and extent of contamination associated with Station activities, not future land use assumptions, has been the driving consideration in specifying sampling activities. As explained in another joint letter from DOI and DTSC to Tribal leaders dated August 31, 2012, soil characterization is based on state and federal law that require that site investigation and remedial action, if any, be fully protective of human health and the environment, that this protection be maintained over time, and that selected remedies minimize untreated waste and residual risks. Characterization of the site to levels of residential/unrestricted land use is the point of departure for evaluation of risk and potential alternatives at the site as described in DTSC Management Memo #EO-02-002MM (DTSC 2002) (**Appendix G** to this final environmental impact report). The August 31, 2012, letter further explained that the future land use preferences by the property owner(s) are also taken into consideration as part of the assessment to determine if remediation will be necessary.

With respect to specific uses of the land surrounding the Station, DOI established expected future land use assumptions to be applied in the ongoing soil investigation tailored to the reasonably foreseeable uses of federal lands and reflecting the presence of sensitive cultural and biological resources in the vicinity of the Station in a memo to PG&E dated October 5, 2007 (DOI 2007). The Consultative Work Group Distribution List was copied on this memo. These assumptions were also reiterated in a DOI letter to the Tribes on September 28, 2011. As described in the 2007 memo, DOI's assumptions about reasonably foreseeable future uses at the Project Site were developed by examining current land uses, adjacent land uses, development patterns in the area, federal Resource Management Plans (RPMs), cultural and ecological factors, and geographic and geological information. The future land use assumptions adopted in the baseline risk assessment for the U.S. Bureau of Land Management (BLM) portion of the site take into consideration three factors: (1) it is reasonably foreseeable that land may be transferred out of federal ownership; (2) human use of the Park Moabi-leased portion will continue to include both seasonal residential use by the public and year-round residential use by a limited number of San Bernardino County staff; and (3) it is reasonably foreseeable that camping on the floodplain will occur under either San Bernardino's proposed expansion or BLM's future use of non-leased areas under the RMP. (See also Letter from Pamela S. Innis, DOI Topock Project Manager, to Fort Mojave Indian Tribe consultant M. Sullivan [March 26, 2014] at p. 2 [explaining that "DOI maintains that the future land use assumptions for BLM managed land should remain conservative and reflect a residential scenario while future human use assumptions on the Havasu National Wildlife Refuge will be limited to recreational and tribal uses. DOI is developing recreational assumptions for use in the

2. Master Responses

risk assessment and looks forward to the opportunity to share this information with tribes and stakeholders"].)

Commenters also assert that the characterization assumptions for future land use are inconsistent with the draft environmental impact report (DEIR) analysis, particularly relative to agricultural resources and residential uses/population and housing. The land use criteria, determined through the process previously described, is used by DTSC as the standard implemented for investigation at the Project Site. This is separate and distinct from the analysis of potential impacts in the DEIR per the California Environmental Quality Act (CEQA). Appendix G of the CEQA Guidelines includes a list of questions that provide the basis for the thresholds used in the DEIR to assess environmental impacts. Appendix G, Section II, "Agriculture and Forestry Resources," contains specific thresholds for analysis of agricultural resources. As explained in DEIR Section 5.3.1, "Agricultural Resources," the proposed Project would not convert farmland identified by the Farmland Mapping and Monitoring Program (FMMP) to non-agricultural use, conflict with a Williamson Act contract, or otherwise result in conversion of farmland to non-agricultural use, which are the thresholds of significance that have been established by DTSC for agriculture, consistent with CEQA Guidelines Appendix G. Further, the population and housing analysis contained in the DEIR focuses on the potential for the Project to induce substantial population growth or displace housing or people, which is consistent with the guidance provided by Appendix G of the CEQA Guidelines. As concluded in the DEIR, the proposed Project would not create an impact on existing populations or housing.

Although no existing residential development, housing, or agricultural uses would be affected by the proposed Project, and no new residential development, housing, or agricultural uses are known to be proposed or are being contemplated at this time, the analysis contained in the DEIR does not in any way preclude these uses from being introduced to the site in the future. DTSC therefore concluded that, for purposes of the soil investigation, using a future residential land use scenario would provide DTSC with appropriate and sufficient information to allow an informed decision as to whether soil remediation activities are warranted or not. This determination by DTSC and DOI does not mandate that the agencies also assume a future residential land use scenario for purposes of determining what remediation, if any, is warranted for the Project Site.

Master Response: Groundwater

Several comments were received related to the groundwater contamination at the Topock Compressor Station (Station) and potential related health effects resulting from the presence of hexavalent chromium. Many of the comments on this topic were received during the public hearing that was held during the draft environmental impact report (DEIR) comment period on July 23, 2014, in Golden Shores, Arizona.

As explained in the DEIR, the Pacific Gas and Electric Company (PG&E) Topock Compressor Station Soil Investigation Project (Project) analyzed in the DEIR involves soil investigation activities only. The issue of potential health effects from existing groundwater contamination at the Station is a separate issue beyond the scope of the potentially significant adverse environmental effects of the proposed Project as identified and considered in this EIR. The Groundwater Remediation Project is a separate project from the proposed Soil Investigation Project, in part because one activity (e.g., groundwater remediation) does not cause the need for the other (e.g., soil remediation). For example, the decision in *Banning Ranch Conservancy v. City of Newport Beach* (2012) 211 Cal.App.4th 1209 is of particular relevance. At issue in that case was whether installing a road that would serve two different projects—one a city park, the other a private development proposal—required both projects to be considered in the same EIR. The City prepared two separate EIRs and the court upheld that approach. As stated in the court's ruling, in relevant part:

....two projects may properly undergo separate environmental review (i.e., no piecemealing) when the projects have different proponents, serve different purposes, or can be implemented independently. (*Communities for a Better Environment v. City of Richmond* (2010) 184 Cal.App.4th 70, 99 [refinery upgrade and construction of pipeline exporting excess hydrogen from upgraded refinery were "independently justified separate projects with different project proponents"]; *Planning & Conservation League v. Castaic Lake Water Agency* 2009) 180 Cal.App.4th 210, 237 [water transfer had "significant independent or local utility" from broader water supply agreement, and would be implemented with or without it].

The two projects have different purposes: (1) soil investigation and (2) groundwater remediation. The two projects also have independent utility in that one does not cause the need for the other. That is the fundamental test regarding segmentation under the California Environmental Quality Act. Although most comments on this topic were not directed toward specific environmental issues covered in the DEIR, this master response is nonetheless provided in an effort to keep the public informed as much as possible regarding the groundwater cleanup efforts at Topock.

Although a separate project, the status of the Groundwater Remediation Project is presented in Section 2.2.2, "Groundwater Remediation Project" of the Soil Investigation DEIR. PG&E is currently in the process of preparing the final design of the groundwater remediation system that will be implemented at Topock, which followed the preparation and certification a final environmental impact report (FEIR) in 2011 (see the FEIR for the Topock Compressor Station Groundwater Remediation Project [DTSC 2011].) Ongoing monitoring and testing of the

contaminated groundwater plume indicates that contamination has not reached the Colorado River, or local wells used for public consumption. The extent of the contaminated groundwater plume is shown in the Groundwater Remediation Project FEIR. The contaminated groundwater plume is not in Arizona, including the Golden Shores community. A complete discussion of groundwater-related activity is provided on the California Department of Toxic Substances Control (DTSC) Topock project website (http://dtsc-topock.com/groundwater-activity-overview).

The project that is the subject of the DEIR that was most recently distributed for public review is the Soil Investigation Project, a project that is specifically intended to gather information that allows DTSC to define the nature and extent of contamination within soil and sediment on the California side of the Colorado River. It should not be confused with the ongoing Groundwater Remediation Project. The two projects, and their distinctive components, are described in the Introduction of the DEIR, in Section 2.2, "Background" (see more specifically Section 2.2.3, "Groundwater Remediation" regarding the independent utility of both projects). As described in that section:

In summary, potential soil contamination cleanup activities in the future may prove to be a key component of the overall cleanup efforts at the Station, but the proposed soil investigation effort is a separate project from the Groundwater Remediation Project and has independent utility. In addition, if the soil investigation activities that are the subject of this DEIR indicate that soil remediation is necessary, future environmental review would be required before initiating any remediation of contaminated soil.

Although not impacted by PG&E's hexavalent chromium groundwater plume, DTSC has held various public meetings and conducted focused outreach with Golden Shores community members to ensure that they are updated and informed of the project. Most recently, public meetings regarding groundwater contamination at the Station were held in Golden Shores on December 12, 2011.

Any particular comments or questions regarding PG&E's groundwater contamination or the potential human health risks associated with that contamination should be directed to DTSC directly as a separate matter of concern.

CHAPTER 3 Agency Responses

This chapter contains the comment letters received on the Pacific Gas and Electric Company (PG&E) Topock Compressor Station Soil Investigation Project (Project) draft environmental impact report (DEIR) and the Department of Toxic Substances Control's (DTSC's) responses to significant environmental points that were raised in those comments. Each letter, as well as each individual comment within the letter, has been given an assigned letter and number for cross-referencing. Responses are sequenced to reflect the order of comments within each letter. In some instances, Master Responses presented in Chapter 2 of this final environmental impact report (FEIR) may be referenced in response to comments. **Table 3-1** lists all public agencies who submitted comments on the DEIR during the public review period.

Letter #	Commenter	Date of Comment	Comment Page Number	Response Page Number
A1	Mojave Desert Air Quality District Alan J. DeSalvio, Supervising Air Quality Engineer	July 17, 2014	3-2	3-3
A2	Native American Heritage Commission Dave Singleton, Program Analyst	July 21, 2014	3-4	3-8
A3	Arizona Department of Environmental Quality Danielle Taber, Project Manager	August 7, 2014	3-9	3-13
A4	U.S. Department of the Interior Pamela Innis, DOI Topock Remedial Project Manager	August 8, 2014	3-15	3-20
A5	Office of Planning & Research/ State Clearinghouse Scott Morgan, Director State Clearinghouse	August 21, 2014	3-23	3-27
A6	California Department of Fish and Wildlife Chris Hayes, Deputy Regional Manager	September 5, 2014	3-28	3-30
A7	Office of Planning & Research/ State Clearinghouse Scott Morgan, Director State Clearinghouse	September 8, 2014	3-32	3-35

TABLE 3-1 LIST OF AGENCY COMMENTERS

Letter A1: Mojave Desert Air Quality District



Aaron Yue, Project Manager Department of Toxic Substances Control 5796 Corporate Ave. Cypress, CA 90630

Project: PG&E Topok Compressor Station Soil Investigation Project

Dear Mr. Yue:

The Mojave Desert Air Quality Management District (District) has reviewed the Draft Environmental Impact Report (DEIR) for the PG&E Topok Compressor Station Soil Investigation Project. The Project proposes soil investigation activities associated with soil contamination at the PG&E Topok Compressor Station, and the DEIR evaluates the potential environmental impacts associated with the implementation of soil investigation activities required to determine the nature and extent of soil contamination at the Station and surrounding areas.

Mojave Desert Air Quality Management District

14306 Park Avenue, Victorville, CA 92392-2310

760.245.1661 • fax 760.245.2699 Visit our web site: http://www.mduqmd.ca.gov Eldon Heaston, Executive Director

The District has reviewed the Draft Environmental Impact Report and concurs with the determination of "Less than Significant Impact" for Air Quality issues.

A1-001

Thank you for the opportunity to review this planning document. If you have any questions regarding this letter, please contact me at (760) 245-1661, extension 6726, or Tracy Walters at extension 6122.

Sincerely,

Alan J. De Salvio

Supervising Air Quality Engineer

AJD/tw

PG&E Topok DEIR

Carp off. Additiona	-Tawa 01 Apple Vailes	L'my of Burstow	Cary at Bixthe	City of Hespenic	Cay of Nosilley	Consty-ral Rivervide	Crimity of Son Barnardino	Cayout Dwentyman Palan	Gag at Victorsille	Trove of Yucca Valley

Letter	Mojave Desert Air Quality District		
A1	Alan J. DeSalvio		
Response	July 17, 2014		
A1-001	The commenter summarizes the objectives of the proposed Pacific Gas and Electric Company Topock Compressor Station Soil Investigation Project and states that the Mojave Desert Air Quality Management District concurs with the "Less than Significant Impact" for air quality		

issues. The comment is noted for the record.

Letter A2: Native American Heritage Commission

Letter A2 STATE OF CALIFORNIA Edmund G. Brown, Jr., Governor NATIVE AMERICAN HERITAGE COMMISSION ISO Harbor Boulevard, Suite 100 West Sacramento, CA 95691 (916) 373-3715 Fax (916) 373-5471 Web Site www.nate.ca.gov Ds. nahc@pacbell.net a-mail: ds_nahc@pacbell.net July 17, 2014 Mr. Aaron Yue, Project Manager **California Department of Toxic Substances control** 5796 Corporate Avenue Cypress, CA 90630 Sent by U.S. Mail No. of Pages: 4 RE: SCH#2012111079 CEQA Notice Completion; draft Environmental Impact Report (DEIR) for the "PG&E TOPOCK Compressor Station Soil Investigation Project;" located in the Colorado River-Fort Mojave Indian Reservation and north of City of Needles; San Bernardino County, California Dear Mr. Yue The Native American Heritage Commission (NAHC) has reviewed the above-referenced environmental document. The California Environmental Quality Act (CEQA) states that any project A2-001 which includes archeological resources, is a significant effect requiring the preparation of an EIR (CEQA guidelines 15064.5(b).. To adequately comply with this provision and mitigate project-related impacts on archaeological resources, the Commission recommends the following actions be required: Lead agencies should include in their mitigation plan provisions for the identification and evaluation of accidentally discovered archeological resources. pursuant to California Environmental Quality Act (CEQA) §15064.5(f). In areas A2-002 of identified archaeological sensitivity, a certified archaeologist and a culturally affiliated Native American, with knowledge in cultural resources, should monitor all ground-disturbing activities. Also, California Public Resources Code Section 21083.2 require documentation and analysis of archaeological items that meet the standard in Section 15064.5 (a)(b)(f). If there is federal jurisdiction of this project due to funding or regulatory provisions; then the following may apply: the National Environmental Policy Act (NEPA 42 U.S.C 4321-43351) and Section 106 of the National Historic Preservation Act (16 A2-003 U.S.C 470 et seq.) and 36 CFR Part 800.14(b) require consultation with culturally affiliated Native American tribes to determine if the proposed project may have an adverse impact on cultural resources

We suggest that this (additional archaeological activity) be coordinated with the NAHC, if possible. The final report containing site forms, site significance, and mitigation measurers should be submitted immediately to the planning department. Any information regarding site locations, Native American human remains, and associated funerary objects should be in a separate confidential addendum, and not be made available for pubic disclosure pursuant to California Government Code Section 6254.10.

A list of appropriate Native American Contacts for consultation concerning the project site has been provided and is attached to this letter to determine if the proposed active might impinge on any cultural resources.

California Government Code Section 65040.12(e) defines "environmental justice" to provide "fair treatment of People ...with respect to the development, adoption, implementation, and enforcement of environmental laws, regulations and policies." (The California Code is consistent with the Federal Executive Order 12898 regarding "environmental justice." Also, applicable to state agencies is Executive Order B-10-11 requires consultation with Native American tribes their elected officials and other representatives of tribal governments to provide meaningful input into the development of legislation, regulations, rules, and policies on matters that may affect tribal communities.

Lead agencies should consider first, avoidance for sacred and/or historical sites, pursuant to CEQA Guidelines 15370(a). Then if the project goes ahead then, lead agencies include in their mitigation and monitoring plan provisions for the analysis and disposition of recovered artifacts, pursuant to California Public Resources Code Section 21083.2 in consultation with culturally affiliated Native Americans.

Lead agencies should include provisions for discovery of Native American human remains in their mitigation plan. Health and Safety Code §7050.5, CEQA. §15064.5(e), and Public Resources Code §5097.98 mandates the process to be followed in the event of an accidental discovery of any human remains in a location other than a dedicated cemetery.

Sincerely, Dave Singleton Program Analyst

CC: State Clearinghouse

Attachment: Native American Contacts list

PS: I will be leaving the NAHC July 25th after more than eight years working for cultural preservation and protection. I have enjoyed the collaboration with you in the interest of building community relationships with Native American tribes through the environmental planning process. My replacement is Gayle Totton (gayle.totton@nahc.ca.gov). Send her a note if you wish. Thanks for the past productive eight years plus. I can be reached at gdavidsingle@rocketmail.com, Dave Singleton

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A2-003 cont

A2-004

A2-005

Native American Contacts San Bernardino County July 17, 2014

San Manuel Band of Mission Indians Carla Rodriquez, Chairwoman 26569 Community Center Drive Serrano Highland , CA 92346 (909) 864-8933 (909) 864-3724 Fax (909) 864-3370 Fax

Joseph R. Benitez (Mike) P.O. Box 1829 Indio , CA 92201 (760) 347-0488 (760) 408-4089 Cell

Chemehuevi Reservation Edward Smith, Chairperson P.O. Box 1976 Chemehuevi , CA 92363 chair1cit@yahoo.com (760) 858-4301 (760) 858-5400 Fax

Fort Mojave Indian Tribe Timothy Williams, Chairperson 500 Merriman Ave Mojave Needles CA 92363 (760) 629-4591 (760) 629-5767 Fax Colorado River Indian Tribe Dennis Patch, Chairman 26600 Mojave Road Parker AZ 85344 (crit.museum@yahoo.com (928) 669-9211Tribal Office (928) 669-8970 ext 21 (928) 669-1925 Fax

Mojave Chemehuevi

AhaMaKav Cultural Society, Fort Mojave Indian Linda Otero, Director P.O. Box 5990 Mojave Mohave Valley AZ 86440 LindaOtero@fortmojave.com (928) 768-4475 (928) 768-7996 Fax

San Manuel Band of Mission Indians Daniel McCarthy, M.S.., Director-CRM Dept. 26569 Community Center Drive Serrano Highland , CA 92346 dmccarthy@sanmanuel-nsn.gov (909) 864-8933 Ext 3248 (909) 862-5152 Fax

Fort Mojave Indian Tribe Nora McDowell, Aha Makav Society Needles CA 92363 Mojave noramcdowallantone@fortmojave.com (760) 629-5767 Fax

This list is current only as of the date of this document.

Distribution of this list does not relieve any person of the statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resources Code and Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting locative Americans with regard to cultural resources for the proposed SCH#2012111079; CEQA Notice of Completion; draft Environmental Impact Report (DEIR) for the PG&E TOPOCK Compressore Stationb Soil investigation Project; located near the Fort Mojave Indian Reservation and the City of Needles; San Bernardino County, California

Native American Contacts San Bernardino County July 17, 2014

Quechan Indian Nation Arlene Kingery, THPO P.O. Box 1899 Quechan Yuma AZ 85366 historicpreservation@quechantribe

(760) 572-2423 (760) 572-0515 Fax Pahrump Paiute Tribe Richard Arnold, Chairperson P.O. Box 3411 Paiute Pahrump , NV 89041-

Las Vegas Paiute Tribe Attn: Cultural Resources Department 1 Paiute Drive Paiute Las Vegas + NV 89106 contact@lvpaiute.com (702) 386-3926 (702) 383-4019 Fax

Twenty-Nine Palms Band of Mission Indians Anthony Madrigal, Jr, THPO Officer 46-200 Harrison Place Chemehuevi Coachella : CA 92236 amadrigal@29palmsbomi-nsi.gov (760) 863-2444 (760) 625-7872 Cell (760) 863-2449 Fax

MOAPA Band of Paiutes William Anderson, Chairperson P.O. Box 340 Paiute Moapa , NV 89025 www.moapabandofpaiute-nsn.gov (702) 865-2077-Env Office

This list is current only as of the date of this document.

Distribution of this list does not relieve any person of the statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resources Code and Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting locative Americans with regard to cultural resources for the proposed SCH#2012111079; CEOA Notice of Completion; draft Environmental Impact Report (DEIR) for the PG&E TOPOCK Compressore Stationb Soli Investigation Project; located near the Fort Mojave Indian Reservation and the City of Needles; San Bernardino County, California

Letter A2 Response	Native American Heritage Commission Dave Singleton July 21, 2014 The commenter indicates that the preparation of an environmental impact report (EIR) is required to address impacts to archaeological resources. The California Department of Toxic Substances Control (DTSC)
	acknowledges this comment, and as the lead agency has prepared this EIR, which analyzes impacts to archaeological resources under the California Environmental Quality Act.
A2-002	The commenter states that lead agencies should include provisions for accidental discovery of archaeological resources in their mitigation and that a certified archaeologist and culturally affiliated Native American monitor should monitor all ground-disturbing activities. Consistent with this requirement, accidental discovery measures and archaeological and Native American monitoring have been included in the draft environmental impact report (DEIR) as Mitigation Measures CR-1d and CR-2d.
A2-003	The commenter states that National Environmental Policy Act (NEPA) and Section 106 of the National Historic Preservation Act (NHPA) may apply if the project has a federal nexus. The Pacific Gas and Electric Company Topock Compressor Station Soil Investigation Project (Project) is exempt from NEPA. As the lead federal agency, the U.S. Department of the Interior, Bureau of Land Management is responsible for fulfillment of the requirements of Section 106 of the NHPA through adherence to the Programmatic Agreement (PA) Section IV (Characterizing, Remediating, and Mitigating Soils Contamination) and PA Appendix B (Consultation Protocol), which can be found on DTSC's project website at http://dtsc-topock.com/documents/other-and- environmental-impact-review/groundwater/ceqa-eir/eir-documents.
A2-004	The commenter notes that a list of Native American contacts for use in consultation concerning the Project Site has been provided to DTSC as an attachment to the comment letter. DTSC has conducted extensive Native American outreach for the Project prior to and since the release of the DEIR. The commenter is referred to Section 4.4.17, "Native American Scoping," on pages 4.4-46 through 4.4-49 and the PG&E Topock Tribal Communications Summary Table (Appendix H of the Final EIR), for detail regarding DTSC's comprehensive outreach efforts.
A2-005	The commenter notes several statutes, including those applicable to human remains, and notes that lead agencies should provide provisions for discovery and disposition in mitigation. The commenter is directed to Mitigation Measure CR-4 of the DEIR, which includes such provisions.

Letter A3: Arizona Department of Environmental Quality

ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY 1110 West Washington Street • Phoenix, Arizona 85007 (602) 771-2300 • www.azdeq.gov



Janice K. Brewer Governor

Via U.S. Mail and Email

August 7, 2014 VRP 15-026

Mr. Aaron Yue Project Manager, Geological Services Branch California Department of Toxic Substances Control 5796 Corporate A venue Cypress, California 90630

RE: Review of Draft Environmental Impact Report (DEIR) Topock Compressor Station Groundwater VRP Site Pacific Gas & Electric, Needles, California VRP Site Code: 506252-01

Dear Mr. Yue:

The Arizona Department of Environmental Quality (ADEQ) Voluntary Remediation Program (VRP) has completed its review of the document entitled *Pacific Gas & Electric Topock Compressor Station Soil Investigation Project Draft Environmental Impact Report* (DEIR), prepared for the California Department of Toxic Substance Control (DTSC) and dated July 2014. This DEIR was submitted to the ADEQ VRP for stakeholder review on July 7, 2014.

Recommendations

The suggestions below are not required by State law and there are no legal consequences should you choose to disregard them; however, ADEQ appreciates DTSC's willingness to consider the following:

General Comment

Specifically based on the regulatory approvals and authorizations cited in Table 3-1, the VRP reviewed the DEIR with the understanding that none of the soil program activities would impact the land or waters of the State of Arizona¹. With this understanding, the VRP did not review the DEIR for compliance with any Applicable or Relevant and Appropriate Requirements (ARARs)² for the State of Arizona or County of Mohave. However, the VRP did review the DEIR for general completeness. The following section provides specific comments and recommendations from the VRP's review.

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Letter A3

A3-001

ESA / 120112

August 2015

¹ Although surface waters of the State of Arizona will not be affected by the proposed remedial activities, Arizona surface waterways and washes are referenced in the DEIR in multiple sections because they serve as tributaries to the Colorado River. Arizona land (with the exception of sovereign tribal land) and Arizona groundwater (with the exception of existing wells) are not specifically referenced in the text and are not expected to be impacted by any of the proposed soil-related activities.

² ARARs pursuant to Section 121(d) of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980.

Mr. Ad VRP Si	ron Yue VRP 15-026 ite Code: 506252-01 Page 2 of 2	
Specif	ic Comments	
1.	In Section 3.5.5, the Plant Tissue Sampling bullet specifically states that plant tissue samples will be collected in a manner that will not sacrifice the plant as a whole. However, the Invertebrate Tissue Sampling bullet does not indicate whether or not invertebrates will be sacrificed in the collection of tissue samples. The VRP suggests this is clarified.	A3-002
2.	Section 4.4.2.2 references individual State of California laws, rules, and regulations enacted to protect antiquities and cultural/historic sites. For comprehensive references, the VRP recommends mentioning the handbook entitled <i>California State Law & Historic Preservation Statutes, Regulations & Administrative Policies Regarding the Preservation & Protection of Cultural & Historical Resources</i> , published by the California Office of Historic Preservation, Department of Parks and Recreation.	A3-003
3.	The VRP suggests that Section 5.3.4 specifically reference the California Global Warming Solutions Act of 2006 and then parenthetically reference it as Assembly Bill 32 (AB 32), as the bill was not previously introduced in the text prior to being referenced as "AB 32" on page 5-9.	A3-004
4.	Section 6.4.2 itemizes the list of projects slated to be performed by PG&E and others in the vicinity of the Topock Compressor Station. The VRP notes many of these projects are slated to occur on the Arizona side of the Colorado River (e.g.: rehabilitation of Topock Marsh; improvements along State Route 95; Sterling Project solar generation site; etc.). However, the VRP also notes that none of these projects, with the exception of on-going groundwater monitoring conducted by PG&E, require VRP input as it relates to the PG&E Topock Compressor Station VRP Site. The VRP understands that groundwater monitoring of Arizona wells will continue to occur as has been approved by the VRP and other stakeholders in the past.	A3-005
As req for sub attache	uested in the July 15, 2014 Consultative Working Group meeting, DTSC provided a blank template omitting comments on the DEIR for simplifying the Response to Comments process. The VRP has ed the completed form to this letter.	A3-006
Additi	onal Information	
Inform visiting Revise www.a www.a	ation pertaining to the VRP can be obtained by accessing ADEQ's web page at www.azdeq.gov, or by g ADEQ's office at 1110 W. Washington Street, Phoenix, Arizona. Information pertaining to Arizona d Statutes Title 49 can be obtained by accessing the Arizona State Legislature web page at izleg.gov. Information pertaining to VRP Arizona Administrative Code rule citations may be found at izsos.gov.	A3-007
Please questic	contact me at 602-771-4414, toll-free at 1-800-234-5677, or dt3@azdeq.gov if you have any ons. ADEQ appreciates the opportunity to comment as a stakeholder on the DEIR.	
Sincere	ely, Delta le Taber, Project Manager	
volunt	ary Kemediation Program, Waste Programs Division	

Attachment:

nt: Comments on the Pacific Gas & Electric Company Topock Compressor Station Soil Investigation Project Draft EIR Form

cc: Joey Pace, ADEQ

Ms. Yvonne Meeks, Pacific Gas and Electric Company, Topock Project Manager Ms. Pamela Innis, U.S. Department of the Interior, Topock Remedial Project Manager

Comments on	the Pacific Ga	s & Electric Company	FROM: The Arizona Department of
Topock Comp	ressor Station	Soil Investigation Project	Environmental Quality (ADEQ) Draft EIR
Comment No.	Section/ Page	Reference Text	DEIR Comment (Please provide sufficient detail, include specifically what you are looking for)
General Comments	on Soil Investigation	Project	
1			
2			
3		1	
4		1	
5	-		
6			
Project Description	Carlo Santa	A REAL PROPERTY AND A REAL	
7	3.5.5 / 3-35	The Plant Tissue Sampling bullet	The Plant Tissue Sampling bullet specifically states that plant tissue samples will be collected in a manner that will not sacrifice the plant as a whole. However, the Invertebrate Tissue Sampling bullet does not indicate whether or not invertebrates will be sacrificed in the collection of tissue samples. The VRP recommends this is clarified.
8			
9		-	
10	100		
11			
12			
DEIR Methodology	D		
13	4.4.2.2 / 4.4-60	State of California and associated subsections	This section references individual State of California laws, rules, and regulations enacted to protect antiquities and cultural/historic sites. For comprehensive references, the VRP recommends mentioning the handbook entitled California State Law & Historic Preservation Statutes, Regulations & Administrative Policies Regarding the Preservation & Protection of Cultural & Historical Resources, published by the California Office of Historic Preservation, Department of Parks and Recreation.
14			
15			
16			

1

Comments on	the Pacific Ga	s & Electric Company	FROM: The Arizona Department of		
			Environmental Quality (ADEQ)		
Topock Comp	ressor Station	Soil Investigation Project I	Draft EIR		
Comment No.	Section/ Page	Reference Text	DEIR Comment (Please provide sufficient detail, include specifically what you are looking for)		
17	1.1				
18					
DEIR Analysis	1.				
19	5.3.4 / 5-9	Greenhouse Gas Emissions; Third paragraph reference to AB 32.	The VRP suggests this section specifically reference the California Global Warming Solutions Act of 2006 and then parenthetically reference it as Assembly Bill 32 (AB 32), as the bill was not previously introduced in the text prior to being referenced as "AB 32".		
20					
21					
22					
23					
24					
DEIR Analysis					
25					
26					
27	-				
28					
29					
30					
Cumulative Analysis	s				
31					
32					
33					
34					
35					
36					

2

Letter A3 Response	Arizona Department of Environmental Quality Danielle Taber August 7, 2014		
A3-001	The commenter summarizes the review conducted by the Arizona Department of Environmental Quality on the draft environmental impact report (DEIR). The comment is noted for the record.		
A3-002	The commenter requests clarification on whether or not the invertebrate tissue sampling would require the sacrifice of invertebrates. Invertebrate sampling, if conducted, could result in mortality of individual invertebrates to assess potential impact to upper trophic level wildlife. See Master Response Additional Testing and Sampling Activities for more information.		
A3-003	The commenter recommends citing a document that is part of the California Office of Historic Preservation Technical Assistance Series. Not all of the laws and regulations provided in the referenced technical assistance document are applicable to the proposed Pacific Gas and Electric Company (PG&E) Topock Compressor Station Soil Investigation Project (Project). The most relevant and applicable cultural-resources-related laws and regulations are provided in the Regulatory Background discussion of the Cultural Resources section (see Section 4.4.2 of the DEIR).		
A3-004	The commenter states that Section 5.3-4 in the DEIR should reference the full name of the California Global Warming Solutions Act of 2006 and then parenthetically reference it as Assembly Bill 32. In response to the comment, the DEIR text on page 5-9 is revised in this final environmental impact report as follows:		
	The GHG Plan presents a comprehensive set of actions to reduce San Bernardino County's internal and external GHG emissions to 15 percent below current levels by 2020, consistent with the <u>Assembly Bill 32</u> (AB 32, <u>California Global Warming Solutions</u> <u>Act of 2006</u>) Scoping Plan adopted by the California Air Resources Board (CARB).		
A3-005	The commenter summarizes part of the cumulative impacts analysis related to projects on the Arizona side of the Colorado River. The commenter also summarizes ongoing groundwater monitoring operations on the Arizona side of the Colorado River and acknowledges that these operations will continue to occur as approved by the Voluntary Remediation Program (VRP). The comment is noted for the record.		
A3-006	The commenter describes the process taken for submitting comments to the California Department of Toxic Substances Control on the Soil Investigation Project DEIR. The comment is noted for the record.		

A3-007 The commenter provides information about where information about the VRP can be obtained. The comment is noted for the record.

Comments on the Pacific Gas & Electric Company FROM: U.S Department of the Interior				
Topock Compre	ssor Station S	oil Investigation Project Dra	ft EIR	
Comment No.	Section/ Page	Reference Text	DEIR Comment (Please provide sufficient detail, include specifically what you are looking for)	
General Comments on	Soil Investigation P	roject		1
Project Description				
1	3.3 Project Location	The lands adjoining the PG&E parcel are owned and/or managed by a number of government agencies and private entities, including lands owned by the Fort Mojave Indian Tribe (FMIT); the Havasu National Wildlife Refuge, which is managed by the USFWS; lands managed by the DOI (including the BLM and Bureau of Reclamation); Caltrans – leased land; the BNSF; and other privately owned lands (Figure 3-7).	The following language change should be made for both of these sections: The lands adjoining the PG&E parcel are owned and/or managed by a number of government agencies and private entities. Private land includes properties owned by the Fort Mojave Indian Tribe (FMIT), Caltrans – leased land, the BNSF, and other privately owned lands. In addition, land owned by the United States is under the jurisdiction custody and control of the Department of the Interior and includes the Havasu National Wildlife Refuge, which is managed by the USFWS, as well as lands managed by the BLM and Bureau of Reclamation. (Figure 3-7).	A4-001
	4.1.2 Regulatory Background	These include lands owned by the FMIT; the Havasu National Wildlife Refuge, which is managed by the U.S. Fish and Wildlife Service (USFWS); lands managed by the U.S. Department of the Interior (DOI) (including the BLM] and Bureau of Reclamation);		
2	3.5.8.1 Soil Sampling and Sample Analysis 3.5.8.2 Bench Scale Tests and Pilot Studies	Work phases and approximate timelines for soil sampling and sample analysis are as follows: • Permitting and site planning – 2 months Work phases and approximate timelines for bench scale tests are as follows:	All references to permitting in the DEIR should be deleted. Permits are not required for on-site activities associated with CERCLA response action per CERCLA Section 121(e)(1).	A4-002
		 Permitting, procurement, and site planning – 2 months 		

Comments on t	Comments on the Pacific Gas & Electric Company FROM: U.S Department of the Interior			
Topock Compressor Station Soil Investigation Project Draft EIR				
Comment No.	Section/ Page	Reference Text	DEIR Comment (Please provide sufficient detail, include specifically what you are looking for)	
3	Section 4.1.2.1, Page 4.1-40	Bureau of Land Management A portion of the Project Site lies on BLM land as well as San Bernardino County leased property managed by the BLM and administered by the Needles Field Office.	BLM-administered public land located within the Lake Havasu Field Office planning area is comprised of portions of Mohave, La Paz, Yavapai, and Maricopa Counties in Arizona and San Bernardino County in California including the Topock Remediation Project Area. The Record of Decision and Lake Havasu Field office Approved Resource Management Plan dated May 2007should be referenced for this area.	A4-003
4	Section 4.1.2.1		There is no mention of the Beale Slough Riparian and Cultural Area of Critical Environmental Concern (ACEC). ACEC designations highlight areas where special management attention is needed to protect, and prevent irreparable damage to important historical, cultural, and scenic values, fish, or wildlife resources or other natural systems or processes; or to protect human life and safety from natural hazards. It is recommended that the DEIR reference the ACEC.	A4-004
DEIR Methodology	DEIR Methodology			
DEIR Analysis				

Comment No.	Section/ Page	Reference Text	DEIR Comment (Please provide sufficient detail, include specifically what you are looking for)
5	7.6,1.1 Ability to Meet Most of the Project Objectives	The existing analytical results indicate that surface soil and sediment in and adjacent to the heavily vegetated area is known to have chemical concentrations above background and action levels. No samples have been collected from within the inner portions of the area. If DTSC were to eliminate sampling in this area, the information necessary to fully evaluate the nature and extent of contamination known to be present in this area would not be collected and the fundamental objectives of the Project would not be met. Having incomplete data would affect the accuracy and effectiveness of future remediation planning efforts. including but not limited to reducing the accuracy of the soil risk assessment and jeopardizing the effective design of remedial alternatives in this area. Characterization of the nature and extent of soil and sediment contamination at the mouth of Bat Cave Wash is fundamental to understanding whether contamination groundwater and have the potential to avoidance of soil and sediment sampling at the mouth of Bat Cave Wash would not	The Department of the Interior agrees with the assessment of the need to characterize the mouth of Bat Cave Wash during the soil investigation and supports reject the Reduction of Project Footprint Alternative. This area accumulates sediment from flood events in Bat Cave Wash and has the potential for harboring contamination from SWMU1, AOC1 and AOC4. As required by the National Contingency Plan (40 CRF 300,430), the fundamental objective of field investigations is to characterize the nature and extent of contamination such that informed decisions can be made as to the level of risk presented by the site and the appropriate type(s) of remedial response to address those risks.

Comments on the Pacific Gas & Electric Company			FROM: U.S Department of the Interior]
Topock Compr	essor Station S	Soil Investigation Project Dra	aft EIR	
Comment No.	Section/ Page	Reference Text	DEIR Comment (Please provide sufficient detail, include specifically what you are looking for)	
6	7.6.3.1 Ability to Meet Most of the Project Objectives	Under the No Project Alternative, soil contamination and soil contamination migration would not be assessed and would continue into the future. The presence of potentially contaminated soil would continue to exist unmitigated. Pursuant to the RCRA, PG&E must investigate all possible hazardous material releases from past waste management activities and mitigate the contamination if necessary; the No Project Alternative would impede the requirement of the law.	The Department of the Interior agrees with the DTSC assessment of the need to characterize the site during soil investigation and supports rejection of the No Project Alternative. As required by the National Contingency Plan (40 CRF 300.430), the fundamental objective of field investigations is to characterize the nature and extent of contamination such that informed decisions can be made as to the level of risk presented by the site and the appropriate type(s) of remedial response to address those risks.	A4-006
7]
8				1
9				1
10]
DEIR Analysis]
11				1
12]
13				
14				
15				
16				
Cumulative Analysis				
17]
18]
19				
20				
21				
22				

4

Comments on the Pacific Gas & Electric Company Topock Compressor Station Soil Investigation Project			FROM: U.S Department of the Interio raft EIR
Comment No.	Section/ Page	Reference Text	DEIR Comment (Please provide sufficient detail, include specifically what you are looking for)
Alternatives Analysis			
23			
24	1		())
25	1.1		
26			
27			
28			

Letter A4 Response	U.S. Department of the Interior Pamela S. Innis August 8, 2014		
A4-001	The commenter suggests changes in the description of land ownership associated with the Pacific Gas and Electric Company (PG&E) Topock Compressor Station Soil Investigation Project (Project). The following text in Section 3.3, page 3-3, of the draft environmental impact report (DEIR) is revised in this final environmental impact report (FEIR) in response to the comment:		
	The lands adjoining the PG&E parcel are owned and/or managed by a number of government agencies and private entities ,including lands owned by the Fort Mojave Indian Tribe (FMIT); the Havasu National Wildlife Refuge, which is managed by the USFWS; lands managed by the DOI (including the BLM and Bureau of Reclamation); Caltrans – leased land; the BNSF; and other privately owned lands Private land includes properties owned by the Fort Mojave Indian Tribe (FMIT), Caltrans – leased land, the BNSF, and other privately owned lands. In addition, land owned by the United States is under the jurisdiction custody and control of the DOI and includes the Havasu National Wildlife Refuge, which is managed by the USFWS, as well as lands managed by the BLM and Bureau of Reclamation (Figure 3-7).		
	The following text in Section 4.1.2 of the DEIR, page 4.1-40, is revised in this FEIR in response to the comment:		
	These include lands owned by the FMIT; the Havasu National Wildlife Refuge, which is managed by the U.S. Fish and Wildlife Service (USFWS); lands managed by the U.S. Department of the Interior (DOI) (including the BLM] and Bureau of Reclamation); land leased by the California Department of Transportation (Caltrans); the BNSF line; and privately owned lands. Private land includes properties owned by the FMIT, California Department of Transportation (Caltrans) – leased land, the BNSF, and other privately owned lands. In addition, land owned by the United States is under the jurisdiction custody and control of the Department of the Interior and includes the Havasu National Wildlife Refuge, which is managed by the U.S. Fish and Wildlife Service (USFWS), as well as lands managed by the BLM and Bureau of Reclamation.		
A4-002	The commenter states that permits are not required to implement the proposed Project because of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) response action per CERCLA Section 121(e)(1). As explained in the DEIR Chapter 3,		

"Project Description," page 3-2, third full paragraph, on-site response actions are exempt from obtaining federal, state, and local permits pursuant to CERCLA Section 121(e)(1). However, the exemption does not remove the requirement to meet substantive provisions of applicable laws. For example, in Section 4.5, "Hazards and Hazardous Materials," page 4.5-13; and Section 4.6, "Hydrology and Water Quality," page 4.6-19, of the DEIR explain that PG&E would develop and implement an erosion control plan, similar to a Stormwater Pollution Prevention Plan, which would be in conformance with the substantive requirements of the Construction General Permit. In addition, as outlined in Chapter 3, "Project Description," Table 3-1, PG&E would acquire right-of-way and access-related permits from Caltrans, Burlington Northern Santa Fe Railway, and private pipeline companies during the first "permitting and site planning phase" of the proposed Project. For more information on the CERCLA exemption, see DEIR Chapter 2, "Introduction," Section 2.3. The commenter does not note a specific reference to permitting in the DEIR that is incorrect. For this reason, no revisions to the DEIR are made to respond to this comment.

A4-003 The commenter suggests that the Record of Decision and *Lake Havasu Field Office Approved Resource Management Plan* dated May 2007 should be referenced appropriately in the DEIR within Section 4.1, "Aesthetics." Section 4.1.2.1 of the DEIR, pages 4.1-40 and 4.1-41, is revised in this FEIR in response to this comment:

> A portion of the Project Site lies on BLM land <u>administered by</u> <u>the Lake Havasu Field Office and a portion lies on as well as</u>-San Bernardino County leased property managed by the BLM and administered by the Needles Field Office.

Management classes describe the different degrees of modification allowed to the basic elements of the landscape (form, line, color, texture). Management classes and their goals are listed in **Table 4.1-1**. <u>Management classes are identified in</u> <u>BLM Resource Management Plans.</u>

The Lake Havasu Approved Resource Management Plan (May 2007) identifies the visual resource management classes for areas around the Project (BLM 2007). As a special designation, the Chemehuevi Mountain Wilderness, which lies approximately 0.4 miles south of the Project Site, has a Class I designation...

A4-004 The commenter requests the inclusion of a reference to the Beale Slough Riparian and Cultural Area of Critical Environmental Concern (ACEC) to the Federal Regulatory Background Section (4.1.2.1) of "Aesthetics." The commenter is correct that the ACEC receives special management attention per the Lake Havasu Field Office Record of Decision and Approved Resource Management Plan (BLM 2007), the subject ACEC is designated as a Visual Resource Management Class III, which indicates all other lands in the vicinity of the Project are primarily designated as
	Class III. This is consistent with the statement on page 4.1-41 of the DEIR. The Bureau of Land Management <i>Lake Havasu Approved Resource Management Plan</i> (BLM 2007), which includes the ACEC designation, is cited in the text of the DEIR. In response to the comment, the DEIR text on page 4.1-41 is revised in the FEIR to clarify that it includes the ACEC, as follows:
	The other BLM lands in the vicinity of the Project, including the Beale Slough Riparian and Cultural Area of Critical Environmental Concern, are primarily designated as Class III (DOI 2013 and DOI 2007).
A4-005	The commenter expresses agreement with the DEIR's assessment of the characterization of the mouth of Bat Cave Wash, and supports rejection of the Reduction of Project Footprint Alternative. The commenter also restates the fundamental objective of the proposed Project, which is to characterize the nature and extent of contamination at the Project Site. The comment is noted for the record.
A4-006	The commenter expresses agreement with the assessment presented in the DEIR regarding the need to characterize the site during soil investigation activities. The commenter also supports the rejection of the No Project Alternative. The commenter also restates the fundamental objective of the proposed Project, which is to characterize the nature and extent of contamination at the Project Site. The comment is noted for the record.

Letter A5: Office of Planning & Research/ **State Clearinghouse**

STATE OF CALIFORNIA

Governor's Office of Planning and Research State Clearinghouse and Planning Unit





Ken Alex Director

August 21, 2014

Aaron Yue Department of Toxic Substances Control 5796 Corporate Avenue Cypress, CA 90630

Subject: PG&E Topock Compressor Station Soil Investigation Project EIR SCH#: 2012111079

Dear Aaron Yue:

The State Clearinghouse submitted the above named Draft EIR to selected state agencies for review. On the enclosed Document Details Report please note that the Clearinghouse has listed the state agencies that reviewed your document. The review period closed on August 20, 2014, and the comments from the responding agency (ies) is (are) enclosed. If this comment package is not in order, please notify the State Clearinghouse immediately. Please refer to the project's ten-digit State Clearinghouse number in future correspondence so that we may respond promptly.

Please note that Section 21104(c) of the California Public Resources Code states that:

A5-001

"A responsible or other public agency shall only make substantive comments regarding those activities involved in a project which are within an area of expertise of the agency or which are required to be carried out or approved by the agency. Those comments shall be supported by specific documentation."

These comments are forwarded for use in preparing your final environmental document. Should you need more information or clarification of the enclosed comments, we recommend that you contact the commenting agency directly.

This letter acknowledges that you have complied with the State Clearinghouse review requirements for draft environmental documents, pursuant to the California Environmental Quality Act. Please contact the State Clearinghouse at (916) 445-0613 if you have any questions regarding the environmental review process.

Sincerely,

Mugan

Scott Morgan Director, State Clearinghouse

Enclosures cc: Resources Agency 1400 TENTH STREET P.O. BOX 3044 SACRAMENTO, CALIFORNIA 95812-3044 TEL (916) 445-0613 FAX (916) 323-3018 www.opr.ca.gov

Document Details Report State Clearinghouse Data Base

Lead Agency	2012111079 PG&E Topock Compressor Station Soil Investigation Project EIR Toxic Substances Control, Department of
Туре	EIR Draft EIR
Description	Soil within the PG&E Compressor Station fence line and surrounding vicinity has been affected by historical releases of hexavalent chromium and other metals. Hexavalent chromium was used as a corrosion inhibitor at the Compressor Station between 1951 and 1985 and is one of the primary drivers of the investigative and remedial activities. The proposed Project involves soil Investigation activities including soil sampling and sample analysis, bench scale tests, pilot studies, geotechnical evaluations, and plant and other biota sampling to support ecological risk assessment. The soil sampling and sample analysis are required to determine the nature and extent of soil contamination at the PG&E Compressor Station and surrounding area. The proposed Project would provide sufficient data to support evaluation of possible soil remedial action if determine necessary.
Lead Agend	y Contact
Name	Aaron Yue
Agency	Department of Toxic Substances Control
Phone	714 484-5439 Fax
omail	
Address	5796 Corporate Avenue
City	Cypress State CA Zip 90630
Project Loc	ation
County	San Bernardino
City	Needles
Region	
Lat/Long	34° 43' 15" N / 114° 29' 45" W
Cross Streets	National Trails Highway
Parcel No.	Various
Township	
	7N Range 24E Section 5,6, Base MDB&M
Proximity to	7N Range 24E Section 5,6, Base MDB&M
Proximity to Highways	7N Range 24E Section 5,6, Base MDB&M : .
Proximity to Highways Airports	7N Range 24E Section 5,6, Base MDB&M : .
Proximity to Highways Airports Railways	7N Range 24E Section 5,6, Base MDB&M : SR 66/I-40 BNSF
Proximity to Highways Airports Railways Waterways	7N Range 24E Section 5,6, Base MDB&M : SR 66/I-40 BNSF Colorado River
Proximity to Highways Airports Railways Waterways Schools	7N Range 24E Section 5,6, Base MDB&M : . SR 66/I-40 BNSF Colorado River
Proximity to Highways Airports Railways Waterways Schools Land Use	7N Range 24E Section 5,6, Base MDB&M : SR 66/I-40 BNSF Colorado River Institutional/Open Space/Recreational
Proximity to Highways Airports Railways Waterways Schools Land Use Project Issues	7N Range 24E Section 5,6, Base MDB&M : SR 66/I-40 BNSF Colorado River Institutional/Open Space/Recreational Air Quality; Archaeologic-Historic; Biological Resources; Geologic/Seismic; Noise; Public Services; Soil Erosion/Compaction/Grading; Toxic/Hazardous; Traffic/Circulation; Vegetation; Water Quality; Water Supply: Water Quality;
Proximity to Highways Airports Railways Waterways Schools Land Use	7N Range 24E Section 5,6, Base MDB&M : SR 66/I-40 BNSF Colorado River Institutional/Open Space/Recreational Air Quality; Archaeologic-Historic; Biological Resources; Geologic/Seismic; Noise; Public Services; Soil Erosion/Compaction/Grading; Toxic/Hazardous; Traffic/Circulation; Vegetation; Water Quality; Water Supply; Wetland/Riparian; Wildlife; Cumulative Effects; Aesthetic/Visual; Flood Plain/Flooding; Event Land/Eiro Heard; Drainee(Abservation; Miscrete: Device); Mater Quality; Mater Supply; Wetland/Riparian; Wildlife; Cumulative Effects; Aesthetic/Visual; Flood Plain/Flooding; Event Land/Eiro Heard; Drainee(Abservation; Miscrete: Device); Mater Mater Supply; Wetland/Riparian; Wildlife; Cumulative Effects; Aesthetic/Visual; Flood Plain/Flooding; Event Land/Eiro Heard; Drainee(Abservation; Miscrete: Device); Mater Mater Supply; Wetland/Riparian; Wildlife; Cumulative Effects; Aesthetic/Visual; Flood Plain/Flooding; Event Land/Eiro Heard; Drainee(Abservation; Miscrete: Device); Mater Mate
Proximity to Highways Airports Railways Waterways Schools Land Use	7N Range 24E Section 5,6, Base MDB&M : SR 66/I-40 BNSF Colorado River Institutional/Open Space/Recreational Air Quality: Archaeologic-Historic; Biological Resources; Geologic/Selsmic; Noise; Public Services; Soil Erosion/Compaction/Grading; Toxic/Hazardous; Traffic/Circulation; Vegetation; Water Quality; Water Supply; Wetland/Riparian; Wildlife; Cumulative Effects; Aesthetic/Visual; Flood Plain/Flooding; Forest Land/Fire Hazard; Drainage/Absorption; Minerals; Population/Housing Balance; Perceation/Packe; Solid Water
Proximity to Highways Airports Railways Waterways Schools Land Use	7N Range 24E Section 5,6, Base MDB&M : SR 66/I-40 BNSF Colorado River Institutional/Open Space/Recreational Air Quality; Archaeologic-Historic; Biological Resources; Geologic/Seismic; Noise; Public Services; Soil Erosion/Compaction/Grading; Toxic/Hazardous; Traffic/Circulation; Vegetation; Water Quality; Water Supply; Wetland/Riparian; Wildlife; Cumulative Effects; Aesthetic/Visual; Flood Plain/Flooding; Forest Land/Fire Hazard; Drainage/Absorption; Minerals; Population/Housing Balance; Recreation/Parks; Solid Waste
Proximity to Highways Airports Railways Waterways Schools Land Use Project Issues Project Issues Reviewing Agencies	7N Range 24E Section 5,6, Base MDB&M : SR 66/I-40 Section 4 Section 7 Section 40/I Gaing: Total Addition 11/I Section 11/I Sectio

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STATE OF CALIFORNIA	Edmund G. Brow	n, Jr., Governor
NATIVE AMERICAN HERITAG 1550 Harbor Boulevard, Suite 100 West Sacramento, CA 95691 (916) 373-3715 Fax (916) 373-5471 Web Site www.mbnc.ca.gov De_nahc@pacbell.net e-mail: ds_nahc@pacbell.net	E COMMISSION	
Mr. Aaron Yue. Project Mana	der	
California Department o	of Toxic Substances control	RECEIVED
5796 Corporate Avenue Cypress, CA 90630		JUL 2 9 2014
Sent by U.S. Mail		STATE CLEARING HOUSE
No. of Pages:	3	L

RE: SCH#2012111079 CEQA Notice Completion; draft Environmental Impact Report (DEIR) for the "PG&E TOPOCK Compressor Station Soil Investigation Project;" located in the Colorado River-Fort Mojave Indian Reservation and north of City of Needles; San Bernardino County, California

Dear Mr. Yue

The Native American Heritage Commission (NAHC) has reviewed the above-referenced environmental document.

The California Environmental Quality Act (CEQA) states that any project which includes archeological resources, is a significant effect requiring the preparation of an EIR (CEQA guidelines 15064.5(b).. To adequately comply with this provision and mitigate project-related impacts on archaeological resources, the Commission recommends the following actions be required:

Lead agencies should include in their mitigation plan provisions for the identification and evaluation of accidentally discovered archeological resources, pursuant to California Environmental Quality Act (CEQA) §15064.5(f). In areas of identified archaeological sensitivity, a certified archaeologist and a culturally affiliated Native American, with knowledge in cultural resources, should monitor all ground-disturbing activities. Also, California Public Resources Code Section 21083.2 require documentation and analysis of archaeological items that meet the standard in Section 15064.5 (a)(b)(f).

If there is federal jurisdiction of this project due to funding or regulatory provisions; then the following may apply: the National Environmental Policy Act (NEPA 42 U.S.C 4321-43351) and Section 106 of the National Historic Preservation Act (16 U.S.C 470 et seq.) and 36 CFR Part 800.14(b) require consultation with culturally affiliated Native American tribes to determine if the proposed project may have an adverse impact on cultural resources

We suggest that this (additional archaeological activity) be coordinated with the NAHC, if possible. The final report containing site forms, site significance, and mitigation measurers should be submitted immediately to the planning department. Any information regarding site locations, Native American human remains, and associated funerary objects should be in a separate confidential addendum, and not be made available for pubic disclosure pursuant to California Government Code Section 6254.10.

A list of appropriate Native American Contacts for consultation concerning the project site has been provided and is attached to this letter to determine if the proposed active might impinge on any cultural resources.

California Government Code Section 65040.12(e) defines "environmental justice" to provide "fair treatment of People... with respect to the development, adoption, implementation, and enforcement of environmental laws, regulations and policies." (The California Code is consistent with the Federal Executive Order 12898 regarding "environmental justice" Also, applicable to state agencies is Executive Order B-10-11 requires consultation with Native American tribes their elected officials and other representatives of tribal governments to provide meaningful input into the development of legislation, regulations, rules, and policies on matters that may affect tribal communities.

Lead agencies should consider first, avoidance for sacred and/or historical sites, pursuant to CEQA Guidelines 15370(a). Then if the project goes ahead then, lead agencies include in their mitigation and monitoring plan provisions for the analysis and disposition of recovered artifacts, pursuant to California Public Resources Code Section 21083.2 in consultation with culturally affiliated Native Americans.

Lead agencies should include provisions for discovery of Native American human remains in their mitigation plan. Health and Safety Code §7050.5, CEQA §15064.5(e), and Public Resources Code §5097.98 mandates the process to be followed in the event of an accidental discovery of any human remains in a location other than a dedicated cemetery.



CC: State Clearinghouse

Attachment: Native American Contacts list

PS: I will be leaving the NAHC July 25th after more than eight years working for cultural preservation and protection. I have enjoyed the collaboration with you in the interest of building community relationships with Native American tribes through the environmental planning process. My replacement is Gayle Totton (gayle.totton@nahc.ca.gov). Send her a note if you wish. Thanks for the past productive eight years plus. I can be reached at gdavidsingle@rocketmail.com. Dave Singleton

Letter	Office of Planning & Research/State Clearinghouse	
A5	Scott Morgan	
Response	August 21, 2014	
A5-001	The commenter states that the draft environmental impact report was submitted by the State Clearinghouse to identified agencies for review.	
	The comment is noted for the record.	

Letter A6: California Department of Fish and Wildlife



<u>State of California – Natural Resources Agency</u> DEPARTMENT OF FISH AND WILDLIFE Director's Office 1416 Ninth Street, 12th Floor Sacramento, CA 95814 www.wildlife.ca.gov EDMUND G. BROWN JR., Governor CHARLTON H. BONHAM, Director

Letter A6



September 4, 2014

Aaron Yue Project Manager California Department of Toxic Substance Control 5796 Corporate Avenue Cypress, CA 90630

Subject: PG&E Topock Compressor Station Soil Investigation, SCH# 2012111079

Dear Mr. Aaron Yue:

The Department of Fish and Wildlife (Department) appreciates the opportunity to comment on the following document "PG&E Topock Compressor Station Soil Investigation Project DEIR" identified with the State Clearinghouse Number SCH# 2012111079, relative to impacts to biological resources. The Department is responding as a Trustee Agency for fish and wildlife resources [Fish and Game Code sections 711.7 and 1802 and the California Environmental Quality Act Guidelines (CEQA) section 15386] and as a Responsible Agency regarding any discretionary actions (CEQA Guidelines section 15381), such as a Lake or Streambed Alteration Agreement or an Incidental Take Permit, pursuant to the California Endangered Species Act (CESA). In these capacities, the Department provides the following comments on the Proposed Project.

- 1. As of June, 2013 the California Fish and Game Commission named the Townsend's big-eared bat (*Corynorhinus townsendii*) a candidate for protection as an endangered species under the state's Endangered Species Act. Candidate status provides immediate protection to the bat under Fish and Game Code 2050-2069.
 A6-002
- The Department recommends that all biological surveys conducted be reported to the California Natural Diversity Database online at <u>http://www.dfg.ca.gov/biogeodata/cnddb/</u>.
- 3. <u>Fully Protected Species</u> The DEIR addresses fully protected species such as ring-tailed cat (*Bassariscus astutusl*), Nelson's bighorn sheep (*Ovis canadensis nelsoni*) and California black rail (*Laterallus jamaicensis corturniculus*). The document includes mitigation measures for disturbance of ring-tailed cat but does not address mitigation measures for Nelson's bighorn sheep or California black rail. Please address mitigation measures for Nelson's bighorn sheep and California black rail. The Department has jurisdiction over fully protected species of birds, mammals, amphibians, reptiles, and fish, pursuant to Fish and Game Code sections 3511, 4700, 5050, and 5515. Except as provided in the Fish and

Conserving California's Wildlife Since 1870

A6-003

A6-004

A6-005

Cont.

Aaron Yue, Project Manager California Department of Toxic Substance Control 9/4/14 Page 2

Game Code (e.g. for necessary scientific research), take of any fully protected species is prohibited and cannot be authorized by the Department. The Department recommends avoiding all impacts to fully protected species.

 According to the California Desert Native Plant Act, a permit is required to harvest native vegetation. In the Food and Agricultural Code "harvest" means to remove or cut and remove from the place where grown. Section 80073 of the Food and Agricultural Code reads:

80073. The following native plants, or any part thereof, may not be harvested except under a permit issued by the commissioner or the sheriff of the county in which the native plants are growing:

(a) All species of the family Agavaceae (century plants, nolinas, yuccas). (b) All species of the family Cactaceae (cacti), except for the plants listed in subdivisions (b) and (c) of Section 80072 which may be harvested under a permit obtained pursuant to that section.

(c) All species of the family Fouquieriaceae (ocotillo, candlewood).

(d) All species of the genus Prosopis (mesquites).

(e) All species of the genus Cercidium (palos verdes).

(f) Acacia greggii (catclaw).

(g) Atriplex hymenelytra (desert-holly).

(h) Dalea spinosa (smoke tree).

(i) Olneya tesota (desert ironwood), including both dead and live desert ironwood.

The Department appreciates the opportunity to review and provide comments. Should you have any Questions or concerns regarding the above comments, please feel free to contact Austin Smith, Environmental Scientist at (760) 922-9094 or at Austin.Smith@wildlife.ca.gov.

Sincerely,

Chris Hayes Deputy Regional Manager

Letter A6 Response	California Department of Fish and Wildlife Chris Hayes September 5, 2014
A6-001	The commenter provides an introduction to comments made by the California Department of Fish and Wildlife (CDFW) and identifies the general role of CDFW in regard to wildlife resources. The comment is noted for the record. In addition to this letter received on the DEIR, CDFW provided an additional comment letter on June 1, 2015 in response to the Partially Recirculated DEIR, which addressed various biological issues, including comments made by CDFW as part of this September 14, 2014 letter.
A6-002	The commenter points out that as of June 2013, CDFW named the Townsend's big-eared bat (<i>Corynorhinus townsendii</i>) a candidate for protection as an endangered species under the California Endangered Species Act and that candidate status provides immediate protection to the bat under Fish and Game Code 2050-2069. Results of 2015 bat surveys have been incorporated into the FEIR, including updating the potential for occurrence for Townsend's big-eared bat. In addition, DTSC has included appropriate protections for the Townsend's big-eared bat in the FEIR (Section 4.3, "Biological Resources"). These measures were disclosed as part of the Partially Recirculated DEIR.
A6-003	The commenter recommends that all biological surveys conducted be reported to the California Natural Diversity Database (CNDDB). Pacific Gas and Electric Company (PG&E) has confirmed that all special-status species observations have had CNDDB forms completed and submitted to CDFW by their biological consultants.
A6-004	The commenter requests the inclusion of mitigation measures for Nelson's bighorn sheep and the California black rail. Mitigation Measure BR-4 addresses potential impacts and provides mitigation for disturbance of the California black rail. The text in Mitigation Measure BR-4 is modified in the FEIR as follows:
	Disturbance of Special-Status Birds.
	The following measures shall be implemented to avoid impacts to active nests and nesting birds and to ensure compliance with the Migratory Bird Treaty Act and California Fish and Game Code:
	 a) Where possible, v Vegetation trimming, pruning, or clearing and other activities shall be timed to avoid the nesting season for special-status bird species that may be present (March 15 through September 30) except as provided for in item b, below.

b)	If vegetation removal or other Project activities are
	necessary in vegetated areas between March 15 and
	September 30, DTSC shall be notified and focused
	surveys for active nests of special-status birds (including
	Arizona Bell's vireo, California black rail, Yuma clapper
	rails and other species identified in Table 4.3-3) shall be
	conducted no more than 72 hours before such activities
	begin. A qualified biologist shall conduct pre-
	investigation surveys to identify active nests that could
	be affected. The appropriate area to be surveyed and the
	timing of the survey may vary depending on the activity
	and species that could be affected and shall be
	determined by the qualified Projectbiologist. For the
	Yuma clapper rail, the pre-investigation surveys shall
	specifically identify habitat within 300 feet of
	investigation areas, in accordance with measures set
	forth in the Bird Avoidance and Minimization Plan
	(BIAMP) which was finalized on April 30, 2014 (CH2M
	HILL 2014).

- c) The qualified Project biologist shall implement all of the avoidance and minimization measures that are outlined in the BIAMP (CH2M HILL 2014).
- d) The <u>qualified</u> biologist shall consult the BIAMP (CH2M HILL 2014) for required nesting bird avoidance buffers and requirements for the on-site biological monitor. Buffers vary depending on the species of bird, so the BIAMP (CH2M HILL 2014) should be consulted once a nest is identified.

In regard to mitigation measures for Nelson's bighorn sheep, the text in Mitigation Measure BR-7 is modified in the FEIR as follows:

Mitigation Measure BR-7: Disturbance of Nelson's Bighorn Sheep. If a bighorn sheep is observed at the Project Site during soil investigation activities, work shall be halted in the vicinity of the sheep (within 250 feet of the sheep). Project activities can recommence after the animal moves away on its own.

A6-005

The commenter states that a permit is required to harvest native vegetation protected by the California Desert Native Plant Act. As described in the DEIR on page 4.4-77, Mitigation Measure CR-1e-4: *Avoidance of Indigenous Plants of Biological and Cultural Significance,* addresses the avoidance of species protected by the California Desert Native Plant Act, thereby absolving the requirement of a permit. The species listed in comment A6-005 are included in Appendix D-3 of the DEIR, which is referenced in Mitigation Measure CR-1e-4.

Letter A7: Office of Planning and Research/ State Clearinghouse



STATE OF CALIFORNIA Governor's Office of Planning and Research State Clearinghouse and Planning Unit



Letter A7

September 8, 2014



Subject: PG&E Topock Compressor Station Soil Investigation Project EIR SCH#: 2012111079

Dear Aaron Yue:

The enclosed comment (s) on your Draft EIR was (were) received by the State Clearinghouse after the end of the state review period, which closed on August 20, 2014. We are forwarding these comments to you because they provide information or raise issues that should be addressed in your final environmental document.

The California Environmental Quality Act does not require Lead Agencies to respond to late comments. However, we encourage you to incorporate these additional comments into your final environmental document and to consider them prior to taking final action on the proposed project.

Please contact the State Clearinghouse at (916) 445-0613 if you have any questions concerning the environmental review process. If you have a question regarding the above-named project, please refer to the ten-digit State Clearinghouse number (2012111079) when contacting this office.

Sincerely

Scott Morgan Director, State Clearinghouse

Enclosures cc: Resources Agency

DEPARTMENT OF TOXIC SUBSTANCES CONTROL

SEP 11 2014

DATE RECEIVED

1400 TENTH STREET P.O. BOX 3044 SACRAMENTO, CALIFORNIA 35812-3044 TEL (916) 445-0613 FAX (916) 323-3018 sww.sopr.ca.gov A7-001



State of California - Natural Resources Agency DEPARTMENT OF FISH AND WILDLIFE Director's Office 1416 Ninth Street, 12th Floor Sacramento, CA 95814 www.wildlife.ca.gov

EDMUND G. BROWN JR., Governor CHARLTON H. BONHAM, Director 8120114

STATE CLEARING HOUSE



September 4, 2014

Aaron Yue Project Manager California Department of Toxic Substance Control 5796 Corporate Avenue Cypress, CA 90630

Subject: PG&E Topock Compressor Station Soil Investigation, SCH# 2012111079

LATE

5

Dear Mr. Aaron Yue:

The Department of Fish and Wildlife (Department) appreciates the opportunity to comment on the following document "PG&E Topock Compressor Station Soil Investigation Project DEIR" identified with the State Clearinghouse Number SCH# 2012111079, relative to impacts to biological resources. The Department is responding as a Trustee Agency for fish and wildlife resources [Fish and Game Code sections 711.7 and 1802 and the California Environmental Quality Act Guidelines (CEQA) section 15386] and as a Responsible Agency regarding any discretionary actions (CEQA Guidelines section 15381), such as a Lake or Streambed Alteration Agreement or an Incidental Take Permit, pursuant to the California Endangered Species Act (CESA). In these capacities, the Department provides the following comments on the Proposed Project.

- 1. As of June, 2013 the California Fish and Game Commission named the Townsend's big-eared bat (Corynorhinus townsendii) a candidate for protection as an endangered species under the state's Endangered Species Act. Candidate status provides immediate protection to the bat under Fish and Game Code 2050-2069.
- 2. The Department recommends that all biological surveys conducted be reported to the California Natural Diversity Database online at http://www.dfg.ca.gov/biogeodata/cnddb/.
- 3. Fully Protected Species The DEIR addresses fully protected species such as ring-tailed cat (Bassariscus astutusl), Nelson's bighorn sheep (Ovis canadensis nelsoni) and California black rail (Laterallus jamaicensis corturniculus). The document includes mitigation measures for disturbance of ring-tailed cat but does not address mitigation measures for Nelson's bighorn sheep or California black rail. Please address mitigation measures for Nelson's bighorn sheep and California black rail. The Department has jurisdiction over fully protected species of birds, mammals, amphibians, reptiles, and fish, pursuant to Fish and Game Code sections 3511, 4700, 5050, and 5515. Except as provided in the Fish and

Conserving California's Wildlife Since 1870

Aaron Yue, Project Manager California Department of Toxic Substance Control 9/4/14 Page 2

Game Code (e.g. for necessary scientific research), take of any fully protected species is prohibited and cannot be authorized by the Department. The Department recommends avoiding all impacts to fully protected species.

4. According to the California Desert Native Plant Act, a permit is required to harvest native vegetation. In the Food and Agricultural Code "harvest" means to remove or cut and remove from the place where grown. Section 80073 of the Food and Agricultural Code reads:

80073. The following native plants, or any part thereof, may not be harvested except under a permit issued by the commissioner or the sheriff of the county in which the native plants are growing:

(a) All species of the family Agavaceae (century plants, nolinas, yuccas).
(b) All species of the family Cactaceae (cacti), except for the plants listed in subdivisions (b) and (c) of Section 80072 which may be harvested under a permit obtained pursuant to that section.

(c) All species of the family Fouquieriaceae (ocotillo, candlewood).

(d) All species of the genus Prosopis (mesquites).

(e) All species of the genus Cercidium (palos verdes).

(f) Acacia greggii (catclaw).

- (g) Atriplex hymenelytra (desert-holly).
- (h) Dalea spinosa (smoke tree).

(i) Olneya tesota (desert ironwood), including both dead and live desert ironwood.

The Department appreciates the opportunity to review and provide comments. Should you have any Questions or concerns regarding the above comments, please feel free to contact Austin Smith, Environmental Scientist at (760) 922-9094 or at Austin.Smith@wildlife.ca.gov.

Sincerely,

Chris Hayes Deputy Regional Manager

Letter	Office of Planning and Research/State Clearinghouse		
A7	Scott Morgan		
Response	September 8, 2014		
47.001	The commentar states that the draft environmental impact report was		
A7-001	submitted by the State Clearinghouse to identified agencies for review.		
	The comment is noted for the record.		

CHAPTER 4 Individual Responses

This chapter contains the comment letters received from members of the public on the Pacific Gas and Electric Company (PG&E) Topock Compressor Station Soil Investigation Project (Project) draft environmental impact report (DEIR) and the Department of Toxic Substances Control's (DTSC's) responses to significant environmental points that were raised in those comments. Each letter, as well as each individual comment within the letter, has been given an assigned letter and number for cross-referencing. In some instances, Master Responses presented in Chapter 2 of this final environmental impact report may be referenced in response to comments. Responses are sequenced to reflect the order of comments within each letter. **Table 4-1** lists all individuals who submitted comment letters on the Topock Compressor Station Soil Investigation DEIR, including the individual comments submitted at the two public hearings, during the public review period. This chapter includes the transcripts of the comments. The parts of the transcripts that did not include public comments were removed in the attempt to be more concise, but the full transcripts are included in the public record.

Letter #	Commenter	Date of Comment	Comment Page Number	Response Page Number
11	John K. Ziegler	July 14, 2014	4-2	4-3
12	William R. Blake	July 16, 2014	4-4	4-5
13	Christie Sahlstrom	July 18, 2014	4-6	4-7
14	Tomas Getz	July 23, 2014	4-8	4-11
15	Larry Wehr	July 23, 2014	4-12	4-15
16	Eddie Rigdon	July 23, 2014	4-16	4-20
17	Russell Morse	August 6, 2014	4-21	4-23
18	Kimberly Morris	August 8, 2014	4-24	4-25
19	Karen Rae Erickson	August 19, 2014	4-26	4-27
l10	John K. Ziegler	August 27, 2014	4-29	4-31
111	Pacific Gas & Electric Company (PG&E)	September 5, 2014	4-32	4-44
112	Scott Jarc	September 11, 2014	4-59	4-60

TABLE 4-1 LIST OF INDIVIDUAL COMMENTERS

Letter I1: John K. Ziegler

Letter 11

7-14-14

Dear Mr. Yue,

I'm writing as a follow-up to a letter I had send you in December of 2012, requesting a copy of the <u>NOTICE OF PREPARATION OF A SOIL</u> <u>INVESTIGATION AT PACIFIC GAS AND ELECTRIC TOPOCK COMPRESSOR STATION</u>, with which you complied and sent me a copy. I'm interested to learn of the current status of the project.

11-001

Would you be so kind to send me any info on the progress to date? I do not own a computer, so any materials you could provide via the mail would certainly be appreciated.

Thank you.

Sincerely,

John K. Ziegler

Letter I1 John K. Ziegler Response July 14, 2014

I1-001

The commenter requests to be updated on the progress of the Pacific Gas and Electric Company Topock Compressor Station Soil Investigation Project (Project) to date. In response to the request, the California Department of Toxic Substances Control sent a letter to Mr. Ziegler dated August 19, 2014, indicating the status of the Project and directing the commenter to resource centers where the draft environmental impact report can be reviewed.

Letter I2: William R. Blake

PUBLIC COMMENT FORM	
45-Day Public Comment Period for Draft Soil Investigation Environmental Impact Report for PG Topock Compressor Station Site, Needles, CA July 7 th – August 21 st , 2014	¥Е
Cou can use this form to send in your written public comments on the draft Environmental Impact Report (EIR). nay also ask to be added or deleted from the PG&E Topock Site mailing list. If you know of anyone or any organizations that would like to be on the Project mailing list, please use this form to notify us. Please address all nailings to Aaron Yue, DTSC Project Manager, Department of Toxic Substances Control, 5796 Corporate Avenue Cypress, CA 90630-4732. You may also e-mail this same information to: <u>Aaron,Yue@dtsc.ca.gov</u> .	You e,
Reminder: All public comments on the draft Environmental Impact Report (EIR) must be postmarked o e-mailed by August 21st, 2014. NAME: William R. Blake	r Î
AGENCY OR ORGANIZATION (if applicable):	
ADDRESS-	
Telephone #	12-
Place add me to the PC&F Tonnek Site mailing list	
X Plans John Street de DC & T Transle Size - No. Ko	
Z Please delete me from the PG&E Topock Site mailing list.	
Comments:	

Letter I2 Response	William R. Blake July 16, 2014		
I2-001	The commenter requests to be deleted from the Pacific Gas and Electric Company Topock Site mailing list. The commenter has been deleted from the mailing list.		

Letter I3: Christy Sahlstrom

Letter 13

My name is Christy Sahlstrom and I grew up in a little community just miles from Hinkley, California and now live in Topock, Arizona. Growing up there I know a lot of the people affected by the contamination PG&E had done and know many of their detailed accounts with how PG&E handled the process of all the sick. So I know in Hinkley PG&E hired their own doctors to treat the sick and the doctors lied to cover PG&E's butt. Now my question is: Is PG&E doing all the groundwater test or is it outside companies that have no affiliation with PG&E doing the tests? How do we know we are not being lied to like the folks in Hinkley?

Christy Sahlstrom

7/18/2014

Letter I3 Response

Christy Sahlstrom July 18, 2014

I3-001

The commenter expresses concern regarding potential health risks in the area that are associated with groundwater contamination, which is not related to the environmental analysis presented in the draft environmental impact report for the Pacific Gas and Electric Company Topock Compressor Station Soil Investigation Project. Please refer to Master Response Groundwater for a detailed response to this topic. This comment has been noted for the record and no further response is necessary.

Letter I4: Thomas Getz

Letter I4

1	PROCEEDINGS	
2		
3	(One-on-one comment to Court Reporter from	I
4	Thomas Getz:)	
5	MR. GETZ: Erin Brockovich came out to my	
6	house with a representative Bob Bowcock, and they tested my	
7	water and found I had a high carcinogen level of chromium VI	
8	in it. Okay.	
9	I have contracted cancer from that. And as I say,	
10	I've had two operations where they had to go into my liver	
11	and cut parts of it out, cut tumors out of my stomach and	
12	all through my body, and the operations almost killed me.	14-001
13	And I feel that the pain and suffering I went	
14	through with that is worth three two three million	
15	dollars. Okay.	
16	I tried to contact an attorney, and he said there	
17	wasn't enough evidence to convict them because they can't	
18	prove that the water is actually not $-\!\!-$ they say that the	
19	water has chromium VI in it because it's naturally	
20	occurring, and they can't prove that it came from from	
21	PG&E.	
22	I feel that if we can get a water sample from	
23	before the spill happened that we can prove that. So ${\tt I'm}$	
24	still waiting to get enough evidence. But if I can ever get	
25	enough evidence, I would launch a lawsuit against them with	
	Deterson Deporting Video & Litigation	

Peterson Reporting Video & Litigation

```
1
     an attorney.
2
                    THE COURT REPORTER: What's your name for the
3
      record.
4
                    MR. GETZ: Thomas Getz. Last name is
5
      G-e-t-z.
 6
                    THE COURT REPORTER: Do you want to give your
7
      address?
8
9
10
                I was trying to find Bob Bowcock's card in here.
                                                                     14-001
                                                                     Cont.
11
     There he is right there. Here's the man that tested my
     water and told me that.
12
                I almost died on the last operation. I was able
13
14
      to pull through. It took me almost a year to get over it.
15
               Anyway, I feel better now for telling you.
16
     Anyway, I appreciate it.
17
                      (End of the one-on-one comment.)
18
                             PUBLIC HEARING
19
20
                    MS. ISAACSON: Once again, good evening and
21
     thank you very, very much for being here. On behalf of the
22
     California Department of Toxic Substances Control, we
23
      appreciate you being here and attending the meeting and
24
      staying involved in this process.
25
                The focus of this evening's meeting is the Draft
```

```
first speaker this evening will be Thomas Getz.
1
2
                     MR. GETZ: Want me to come up there?
 3
                     MS. ISAACSON: Greg's going to come to you.
      He's going to make it easy. He's going to hold the
4
5
      microphone for you.
 6
                     MR. GETZ: After about three years of living
7
      in Topock, I found -- I was tested and found that I had
                                                                      14-002
8
      cancer, and, um, later on I contacted Erin Brockovich, and
9
      Bob Bowcock came out and tested my water and said it was
10
      very high in carcinogens. Okay. And I feel in my opinion
11
      that that's what caused my cancer.
12
               And it had a very strong impact on my life. I've
13
      had two operations now, and I am having very expensive
14
      treatments every month for it.
15
               Other than that, I would just like to warn
16
      everyone of those circumstances that I've seen in my
17
      opinion, and I think it would be a good idea if anyone has
18
      any information about what the water was like before this
19
      spill and compare that to what the water is like now, that
20
      that would be some concrete information to prove it so we
21
      can do something more about it.
22
                That's about it.
23
                     MS. ISAACSON: Thank you, Mr. Getz.
24
                Our second speakers is Ron Vanfleet.
25
                     MR. VANFLEET: Ron Vanfleet, Fort Mohave
```

Letter I4 Thomas Getz Response July 23, 2014

I4-001 The commenter expresses concern regarding potential health risks associated with groundwater contamination in the Project Site and surrounding area and is not related to the environmental analysis presented in the draft environmental impact report (DEIR) for the Pacific Gas and Electric Company Topock Compressor Station Soil Investigation Project (Project). Please refer to Master Response Groundwater for a detailed response to this topic. This comment has been noted for the record and no further response is necessary. I4-002 The commenter expresses concern regarding potential health risks associated with groundwater contamination in the Project Site and surrounding area and is not related to the environmental analysis presented in the DEIR for the Project. Please refer to Master Response Groundwater for a detailed response to this topic. This comment has been noted for the record and no further response is necessary.

Letter I5: Larry Wehr

Letter 15

1	diligence that goes into all of this. It's very complex.	
2	But the summary of my statement is along with the	
3	tribes and the concerns for the cultural issues, along with	
4	the concerns for the land and the water because it's so	
5	valuable to all of us, Metropolitan's sole purpose as a	
6	stakeholder is to protect that water, the Colorado River,	
7	for the supply in Southern California working with all the	
8	constituents and the people that are necessary, which	
9	includes the tribe, a whole host of agencies, federal,	
10	state, and local.	
11	Thank you very much.	
12	MS. ISAACSON: Thank you, Mr. Rigdon.	
13	Next is Larry Wehr.	
14	MR. WEHR: I get to stand up.	
15	About two years ago I was very active in this	
16	water problem. I had Erin Brockovich here. We had several	
17	city meetings. She left because it was like being, pardon,	
18	feathered. People thought she was here to destroy property	15-001
19	values and take over the town was their opinion. They	10 001
20	called her every name in the book.	
21	But a couple of things: I was very vocal at the	
22	last meeting a year ago, and I'm still trying to behave	
23	myself.	
24	Remember Bat Cave Wash was totally polluted. A	
25	gentleman who worked there even told us how many barrels $$	
	Peterson Reporting Video & Litigation	

Peterson Reporting Video & Litigation

```
1
      55-gallon barrels he personally had dumped in of
 2
      chromium VI. What year it was? -- They had to dig out some
                                                                     15-001
 3
      of it -- I don't know. But it was just a mass of it going
                                                                     Cont.
      down. There's a fly in here.
 4
               The problem of it is I feel this water plume is
 5
 6
      going down. It is moving around and Golden Shores is
 7
      pumping it out. We've got one of the highest cancer levels
 8
      going in the state in the town of Golden Shores. So it is
 9
      extremely poor.
10
                There's a well -- Okay. We got ten parts per
11
      billion is the level, right, State of California says. How
12
      come we have an artisan well five miles out on Polaris Road
13
      that's 56? Okay.
14
                There's all kinds of city wells in here that we
15
      tested a year and a half ago were in the thirties. Okay.
16
      We really didn't get anything accomplished. I can see the
17
      wheels of government turns very slow and we probably won't.
18
      It will be another 20 years until they put the first stake
      in the ground to try to remove some of this, and I've got to
19
20
      say that it's the chromium VI manmade chemicals that are
21
      killing us here in this town.
22
                I forgot everything on my note. Um, anyway, I
23
      wish people would become more active in this town and -- and
      be aware of what it is.
24
25
                I personally have a reverse osmosis system in my
```

1	house. I make 200 gallons a day. I store it in a tank. I	
2	pump it into my house, and I use RO water in my whole house.	
3	Remember, when you take a shower with chromium $\ensuremath{\texttt{VI}}$	
4	in the water, you are also breathing the vapors that goes	
5	into your lungs. So you shouldn't even be breathing your	
6	shower water. Of course, we are. We're standing in a mist.	
7	Um, swimming pools owners, I can't tell you how	15-001
8	bad. Remember the town of Hinkley? That was like one part	Cont.
9	per billion, I believe it was. How many people died up	
10	there. How many people were in such PG&E had to buy them	
11	out to move them out, and the plume up there is still moving $% \left[{{\left[{{\left[{{\left[{\left[{\left[{\left[{\left[{\left[{$	
12	around and contaminating more property.	
13	So it is not just an idle thing that owners here	
14	in Golden Shores have to worry about it. We should have had	
15	this room packed full of people. So please be active and	
16	help out everybody.	
17	That's all I'd better say. Thank you.	
18	MS. ISAACSON: And thank you for your	
19	comment.	
20	I have no more speaker cards. Excuse me everyone.	
21	Do we have any more speaker cards?	
22	(No response.)	
23	MS. ISAACSON: No, we have no more speaker	
24	cards.	
25	So we are going to go ahead and wrap up the public	

Letter I5 Response

Larry Wehr July 23, 2014

I5-001

The commenter expresses concern regarding potential health risks associated with groundwater contamination in the area, which is not related to the environmental analysis presented in the draft environmental impact report for the Pacific Gas and Electric Company Topock Compressor Station Soil Investigation Project. Please refer to Master Response Groundwater for a detailed response to this topic. This comment has been noted for the record and no further response is necessary.

Letter I6: Eddie Rigdon

Letter I6

1	Tribal member. I've been following along with the procedure	
2	here for the EIR for, gee, been a while. But, hey, it's	
3	good to see all your familiar faces with PG&E, the cleanup	
4	crew here, you know, they are always changing. It's good to	
5	have the same people back.	
6	Um, I had a comment there. I as of the last	
7	two weeks they are having a cleanup in old Needles dump	
8	where there was some slush dumped from the old PG&E and GE.	
9	I'm talking about 25, 30 years ago. In the cleanup they	
10	didn't find anything, and, you know, there's I know that	
11	we have the plume there, but there are also other places	
12	where it's washed down west of the plume.	
13	Correct me if I'm wrong, they also dumped some $% \left[{\left[{{\left[{{\left[{\left[{\left[{\left[{\left[{\left[{\left$	
14	some toxic behind us here in the desert in the wash, right.	
15	So I don't see anything like that on the cleanup. You know,	
16	so I'm just wondering, you know, how much of it is toxic or	
17	what are the levels or how, you know, is it safe now, you	
18	know. Of course, I also have cancer.	
19	Thank you.	
20	MS. ISAACSON: Thank you very much.	
21	Next is Eddie Rigdon.	
22	MR. RIGDON: My name is Eddie Rigdon,	
23	E-d-d-i-e and middle initial A. Last name is Rigdon,	16-001
24	R-i-g-d-o-n.	
25	I represent Metropolitan Water District of	

Peterson Reporting Video & Litigation

```
1
      Southern California. Metropolitan Water District is a
 2
      wholesaler of water for Southern California, which has a
 3
      service area of approximately 20 million, which represents
 4
      half the population of the state.
                                                                       16-001
                Metropolitan's interest is twofold: One, to
 5
                                                                       Cont.
 6
      protect the water supply of the Colorado River for everyone
 7
      involved, to whatever degree we can do that.
 8
                And we also do source water supply. We take
 9
      samples all throughout the Colorado River prior to our point
10
      of intake, which is Lake Havasu.
                We have worked very closely with other agencies in
11
                                                                      16-002
12
      this room to be as sensitive and work diligently with the
      cultural concerns, which are important to all of us, the
13
14
      historical value of the land, and that's part of the
15
      project, and there is a responsibility there that has been
16
      taken very seriously.
17
                In addition to that responsibility, Metropolitan
18
      has a responsibility of delivering water to Southern
      California, and it's important -- right now given the state
19
20
      of the drought, which is the worst in recorded history in
                                                                      16-003
21
      California. It's impacting the ag industry, which is a
22
      20-billion dollar industry throughout the State of
23
      California. It's very, very significant, and I would
      encourage you to do some searches on that because of the
24
25
      significance of it.
```

1	Currently the Colorado River is Metropolitan's	
2	sole source coming into the system. Currently it	
3	delivers and I'll put it in cubic foot per second and	
4	then and you can convert it to gallons but approximately	
5	it brings in 400 I'll put it in acre feet an acre foot	
6	of land is one-acre foot deep, about the size of a football	
7	field, which represents 395,000 gallons. Generally a family	
8	of five uses that a year depending upon the region. So one	
9	acre foot of water equals a football field one-foot deep	
10	approximately 325,000 gallons or a third of a million.	
11	Metropolitan delivers daily approximately 3600	
12	acre feet a day. That sounds like a lot of water, but with	16-003 Cont
13	the water demand in Southern California, currently those	oont.
14	six counties is 2.1 million acre feet of the service area	
15	representing 5,200 square miles, over 20 million people, as	
16	I stated before, three or 400 agencies. With the economy	
17	and everything associated with that state is significant, to	
18	say the least.	
19	So with the current demand of 1.2 million acre	
20	feet, Metropolitan's current supply, because of the	
21	significance of the drought, is about one million.	
22	Think of it in terms of cash. You have a hundred	
23	thousand dollar debt and you only make \$50,000 a year.	
24	Currently other than heavy rainfall, there's still a lot	
25	of resources. There's a lot of wisdom. There's a lot of	

1	diligence that goes into all of this. It's very complex.	
2	But the summary of my statement is along with the	
3	tribes and the concerns for the cultural issues, along with	
4	the concerns for the land and the water because it's so	
5	valuable to all of us, Metropolitan's sole purpose as a	16-004
6	stakeholder is to protect that water, the Colorado River,	10-004
7	for the supply in Southern California working with all the	
8	constituents and the people that are necessary, which	
9	includes the tribe, a whole host of agencies, federal,	
10	state, and local.	
11	Thank you very much.	
12	MS. ISAACSON: Thank you, Mr. Rigdon.	
13	Next is Larry Wehr.	
14	MR. WEHR: I get to stand up.	
15	About two years ago I was very active in this	
16	water problem. I had Erin Brockovich here. We had several	
17	city meetings. She left because it was like being, pardon,	
18	feathered. People thought she was here to destroy property	
19	values and take over the town was their opinion. They	
20	called her every name in the book.	
21	But a couple of things: I was very vocal at the	
22	last meeting a year ago, and I'm still trying to behave	
23	myself.	
24	Remember Bat Cave Wash was totally polluted. A	
25	gentleman who worked there even told us how many barrels $$	

Letter I6 Response	Eddie Rigdon July 23, 2014			
I6-001	The commenter states that one of Metropolitan Water District's (MWD's) interests is to protect Colorado River water supply. The comment is noted for the record.			
16-002	The commenter states that MWD has worked with constituents to be sensitive to cultural resources and historic uses of the land. The comment is noted for the record.			
16-003	The commenter describes the responsibility of MWD in delivering water to Southern California in the current drought conditions, and further articulates usage numbers and daily deliveries. The comment is noted for the record.			
I6-004	The commenter acknowledges concerns regarding cultural resources, land, and water, while highlighting that MWD's sole purpose is to protect Colorado River water. The comment is noted for the record.			

Letter I7: Russell Morse

PUBLIC COMMENT FORM	- 1
45-Day Public Comment Period for Draft Soil Investigation Environmental Impact Report for PG&E Topock Compressor Station Site, Needles, CA July 7th – August 21st, 2014	
You can use this form to send in your written public comments on the draft Environmental Impact Report (EIR). You nay also ask to be added or deleted from the PG&E Topock Site mailing list. If you know of anyone or any organizations that would like to be on the Project mailing list, please use this form to notify us. Please address all mailings to Aaron Yue, DTSC Project Manager, Department of Toxic Substances Control, 5796 Corporate Avenue, Cypress, CA 90630-4732. You may also e-mail this same information to: <u>Aaron Yue@dtsc.ca.gov</u> .	
Reminder: All public comments on the draft Environmental Impact Report (EIR) must be postmarked or e-mailed by August 21st, 2014.	
NAME: <u>RUSSELL PORSE</u>	
AGENCY OR ORGANIZATION (IT applicable):	
ADDIG:55:	
Please add me to the PG&F Topock Site mailing list	
Please delete me from the PC&E Topock Site mailing list	
Comments WHV - HAVEN'T I BEEN NOTIFIED ABOUT THIS	117
SOIL INVESTIGATION BEFORE .	1.
NI OWN PROPERTY RIGHT NEXT TO THE PGEE	T
TOPOCK COMPRESSOR STATION SITE	
2) I'M ATTACHING MY SAN BERNADINO PROPERTY	
TAX BILL WITH MY PAREL NUMBER 0650-131-	
12-0-000 AND THE LEGAL DESCRIPTION OF	
THE PROPERTY.	17
3) IT LOOK LIKE IT IN THE CONTAMINATION	11"
ZONE	
4) IS THE PROPERTY AND WATER CONTAMINATED.	
5) DO I ALWAYS HAVE TO WORRY ABOUT	
CURRENT AND FUTURE ISSUES	
6) I OWN 20 ACRES	
	11.
sarties. However, they are considered public records and, if requested, may be subject to release.	

		×			
AN REPARDING		La s	an Bernardino		
20	Larry Walke	r • Auditor-C	ontroller/Treasurer/Tax	Collector	CONTRACTORY AND
	2013 ANNU/	AL SECURED	PROPERTY TAX BIL	L	
failed to	FISC	AL YEAR JULY UI,	2013 TO JUNE 30, 2014 172 West Third St	reet, San Bernardino, CA 92415	, (909) 387-8308
			PROPERTY ASSESSMENT	г	CNTL-0044048
			(12) Description	ASSESSED VALUES	
DRTAC 1022293 lorcef/Number (2)/68/1 0650-131-12-0-000 130/2	Mumiber (3) HasiRata Area 521250 0096005	(1.261600	Land Improvement Fixtures Improvement Penalty Personal Property Personal Property Penalty Homeowners Exemption Other Exemptions Net Value	9364	
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JASE RUSSELL INUSI	(10)	the second second	GENERAL TAX LEVY	200 110 0000	93.64
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PURPARIS P	omogin soderas att				3EV.D
Letter I7 Russell Morse Response August 6, 2014

I7-001 The commenter expresses concern that they had not been notified previously about the proposed Pacific Gas and Electric Company (PG&E) Topock Compressor Station (Station) Soil Investigation Project (Project). The commenter's property is located approximately one mile southeast of the Station. Per California Environmental Quality Act Guidelines Section 15087(a)(3), notification requirements include "direct mailing to the owners and occupants of property contiguous to the parcel or parcels on which the project is located," which is why prior notification to the commenter did not occur. Nevertheless, in response to the comment, the commenter has been added to the mailing list for all activities at the Topock Site, not limited to the Soil Investigation Project. I7-002 The commenter expresses concern regarding groundwater contamination and associated potential health risks, which is not related to the environmental analysis presented in the draft environmental impact report for the Project. Please refer to Master Response Groundwater for a detailed response to this topic. This comment has been noted for the

record and no further response is necessary.

Letter I8: Kimberly Morris

PUBLIC COMMENT FORM	
45-Day Public Comment Period for Draft Soil Investigation Environmental Impact Report for PG&E Topock Compressor Station Site, Needles, CA July 7 th – August 21 st , 2014	
You can use this form to send in your written public comments on the draft Environmental Impact Report (EIR). You nay also ask to be added or deleted from the PG&E Topock Site mailing list. If you know of anyone or any organizations that would like to be on the Project mailing list, please use this form to notify us. Please address all nailings to Aaron Yue, DTSC Project Manager, Department of Toxic Substances Control, 5796 Corporate Avenue, Cypress, CA 90630-4732. You may also e-mail this same information to: <u>Aaron, Yue@dtsc.ca.gov</u> .	
Reminder: All public comments on the draft Environmental Impact Report (EIR) must be postmarked or e-mailed by August 214, 2014.	
NAME:ADDILO	
AGENCY OR ORGANIZA/ION/(if applicable):	
ADDRESS:	
Felephone #	18
Please add me to the PG&E Topock Site mailing list.	
Please delete me from the PG&E Topock Site mailing list.	
Comments:	
	1
8	
DTSC mailings are solely for the purpose of keeping persons informed of DTSC activities. Mailing lists are not routinely released to outside barties. However, they are considered public records and, if requested, may be subject to release.	

[

Letter IS Kimberly Morris Response August 8, 2014

I8-001

The commenter requests to be added to the Pacific Gas and Electric Company Topock Site mailing list. In response, the commenter has been added to the mailing list for all activities at the Topock Site, not limited to the Pacific Gas and Electric Company Topock Compressor Station Soil Investigation Project.

Letter I9: Karen Rae Erickson

Letter 19

August 15, 2014

Aaron Yue, Project Manager California Department of Toxic Substances Control 5796 Corporate Avenue Cypress, CA 90630

RE: DEIR for PG&E Topock Compressor Station Soil Investigation Project

Dear Mr. Yue:

During the last two decades I have noticed an alarming increase in the number and varieties of cancers and strange neurological disorders in the Havasu Lake, California, community. Our community health services are split not only between Indian Health Services and County of San Bernardino hospitals, but, also the V.A., Las Vegas, Nevada, Sunrise Hospital and hospitals in Mohave Valley, Bullhead, and Lake Havasu City, Arizona. Therefore, I want to make sure you know there may be serious health concerns.	19-001
From my research neither Indian Health Services nor County of San Bernardino have any interest in our community health statistics. Since we are directly downstream from the PG&E toxic plume, the Environmental Impact Report must include an examination of any existing harm to human life to be considered complete and final. Further, the final EIR should include an assessment of any health impact any soil investigation and remediation activities may have on the health of people in our community.	19-002
Please include us in your final report. The future of our well being is in your hands. Thank you.	19-003

Sincerely,

Formale Suiten

Karen Rae Erickson

Letter I9 Karen Rae Erickson Response August 19, 2014

I9-001

The commenter expresses concern regarding health risks to the Lake Havasu City community from groundwater contamination. The commenter is referred to the final environmental impact report (FEIR) for the Topock Compressor Station Groundwater Remediation Project (Groundwater FEIR) prepared and certified prior to identifying the preferred groundwater remedy (DTSC 2011), which can be found on the California Department of Toxic (DTSC's) website for all remediationrelated items at Topock at http://dtsc-topock.com/documents/other-andenvironmental-impact-review/groundwater/ceqa-eir. Please also refer to Master Response Groundwater.

I9-002 The commenter expresses concern that the Pacific Gas and Electric Company (PG&E) Topock Compressor Station Soil Investigation Project (Project) could harm the environment and further states that the environmental impact report (EIR) should include an assessment of any health impacts caused by the proposed Project. The proposed Project addresses potential impacts to human health as a result of air quality emissions from soil sampling and implementation of the Soil RCRA Facility Investigation/Remedial Investigation Work Plan (see Section 4.2, "Air Quality," of the draft environmental impact report [DEIR]). Regarding air quality health impacts, small-diameter particulate matter (PM) dust particles (PM_{10} and PM_{25}) are generally associated with adverse health effects as are criteria air pollutant emissions (reactive organic gases [ROG] and nitrogen oxides [NO_x]). However, implementation of the soil investigation activities would not cause exceedance of air quality standards as determined by the Mojave Desert Air Quality Management District and impacts would be less than significant (DEIR page 4.2-16). In addition, the Project would not emit carbon monoxide, a localized pollutant of concern (DEIR p. 4.2-17), nor cause a permanent increase of toxic air contaminants. One of the objectives of the proposed Project is to assess soil and sediment contaminants that have the potential to migrate off-site so that protection of health, safety, and the environment is ensured (DEIR page 3-12). Further, the soil characterization process is based on state and federal laws that require that the investigation and cleanup of hazardous substance sites protect human health and the environment, that this protection be maintained over time, and that selected remedies minimize untreated waste and residual risks (DEIR page 7-8; DTSC 2002). The Project has been designed to be consistent with these requirements.

> As described in the DEIR on page 3-29, investigation-derived waste would be tested and disposed of according to Appendix J of the *Soil RCRA Facility Investigation/Remedial Investigation Work Plan*, which would ensure soil contaminants do not migrate off-site. In addition, soil

investigation activities will adhere to Standard Operating Procedures and Best Management Practices to ensure protection of health, safety, and the environment as described in the DEIR on page 3-36.

Additionally, the Soil Investigation Project EIR does not involve remediation activities; any potential soil cleanup would be analyzed under a separate California Environmental Quality Act remedy document and would include consideration of health impacts. For concerns about groundwater contamination, please see Master Response Groundwater.

I9-003The commenter requests to be included in the FEIR. The commenter's
comments and DTSC's responses to those comments have been included
in this FEIR. The commenter has also been added to the PG&E Topock
Site mailing list.

Letter I10: John K. Ziegler

Letter I10

8-24-14

Hi Aaron,

Thanks so much for the information you sent me on the Topock Project. The Fact Sheet you enclosed is very satisfactory for my needs and thanks for sending along a form to add me to your mailing list.

Sincerely,

John K. Ziegler

45-Day Public Comment Period for Draft Soil Investigation Environ Topock Compressor Station Site, Needles, CA July 7 ⁴ ou can use this form to send in your written public comments on the draft Env ay also ask to be added or deleted from the PG&E Topock Site mailing list. If rganizations that would like to be on the Project mailing list, please use this form iailings to Aaron Yue, DTSC Project Manager, Department of Toxic Substances ypress, CA 90630-4732. You may also e-mail this same information to: <u>Aaron.</u> eminder: All public comments on the draft Environmental Impact Repor- mailed by August 21 ⁴ , 2014.	mental Impact Report for PG&E – August 21 st , 2014 ironmental Impact Report (EIR). You you know of anyone or any n to notify us. Please address all s Control, 5796 Corporate Avenue, <u>Yne@disc.ca.gov</u> . rt (EIR) must be postmarked or
ou can use this form to send in your written public comments on the draft Env nay also ask to be added or deleted from the PG&E Topock Site mailing list. If rganizations that would like to be on the Project mailing list, please use this forn hailings to Aaron Yue, DTSC Project Manager, Department of Toxic Substances ypress, CA 90630-4732. You may also e-mail this same information to: <u>Aaron.</u> eminder: All public comments on the draft Environmental Impact Repor- mailed by August 21 st , 2014.	ironmental Impact Report (EIR). You you know of anyone or any n to notify us. Please address all s Control, 5796 Corporate Avenue, <u>Yne@dtsc.ca.gov</u> . rt (EIR) must be postmarked or
eminder: All public comments on the draft Environmental Impact Repor- mailed by August 21st, 2014.	rt (EIR) must be postmarked or
JAME: John K. Ziegler	
GENCY OR ORGANIZATION (if applicable):	
DDRESS:	
elephone #	
XX Please add me to the PG&E Topock Site mailing list.	
Please delete me from the PG&E Topock Site mailing list.	
omments:	
TSC mailings are solely for the purpose of keeping persons informed of DTSC activities. Ma urties. However, they are considered public records and, if requested, may be subject to release.	iling lists are not routinely released to outside

Letter	
I10	John K. Ziegler
Response	August 27, 2014

I10-001The commenter is responding to the California Department of Toxic
Substances Control's (DTSC's) letter dated August 19, 2014, and thanks
DTSC for the written response. The comment is noted.

Letter I11: Pacific Gas and Electric Company (PG&E)



September 5, 2014

Subject:

Dear Mr. Yue:

Mr. Aaron Yue Project Manager California Department of Toxic Substances Control 5796 Corporate Avenue Cypress, CA 90630

Project

Yvonne J. Meeks Manager Environmental Remediation Mailing Addram 4325 South Higuera Street San Luis Obispo, CA 93401

Location 6588 Outario Road San Luis Obiapo, CA 93405

805-234.2257 E-Mail: <u>vim1@pge.com</u>

complete, legally adequate Draft EIR for PG&E's proposed soil investigation project (the "Project"). When reviewing the Draft EIR, we concluded that there were a number of sentences that could be clarified to improve the Draft EIR. These clarifications are presented in the chart attached to this letter as Exhibit A .	111-001
In addition to identifying text that should be clarified, PG&E also would like to raise its concerns about a few cultural mitigation measures that may be difficult to successfully implement based on potential incompatibility with federal requirements or technical constraints. These mitigation measures are CR-1, CR-2d, CR-3b, and CR-4.	111-002
PG&E is concerned that Mitigation Measure CR-1 may be construed to impose requirements that could conflict with PG&E's legal obligations under the Programmatic Agreement ("PA") and the Cultural and Historical Properties Management Plan ("CHPMP"). For example, Mitigation Measure CR-1a-1 provides an opportunity for Interested Tribes and representative landowners to review and comment on cultural resources-related documents. This provision could be construed to require an inconsistent or replacement comment process to the one required under the PA and referenced by the CHPMP.	111-003
Similarly, Mitigation Measure CR-1b requires cultural sensitivity training for workers, as does Appendix C to the PA. Because Mitigation Measure CR-1b is similar to, but not expressly consistent with, the federally required cultural sensitivity training, the mitigation measure creates the possibility that two separate sensitivity trainings with slightly inconsistent information must be presented to workers, which could result in unnecessary confusion. To avoid such potential conflicts or duplicative efforts, we suggest that a revision be made to the text on page 4.4-69 to state: "The mitigation presented in this section, including Mitigation Measure CR-1, is intended to be implemented in addition to any requirements under the PA and CHPMP, provided, however, that implementation of the mitigation measures shall be conducted in a manner that avoids duplication of and inconsistencies or conflicts with	111-004
the requirements in the PA and CHPMP." (Proposed new text underlined and text proposed for revision in strikethrough). Adding this text on page 4.4-69 would also address concerns regarding other cultural mitigation measures and potential conflicts with PA and CHPMP requirements, expressed below in this letter. (This suggested text is also set forth in the attached chart).	

Comments on the Draft EIR for the PG&E Topock Compressor Station Soil Investigation

Mr. Aaron Yue September 5, 2014 Page 2

Mitigation Measure CR-1e-3 also could be construed to be inconsistent with the PA and CHPMP. Mitigation Measure CR-1e-3 creates a procedure that allows further input regarding whether PG&E should have designed the Project to reuse previously disturbed areas. The timing, methodology, and purpose of this consultation is unclear, and potentially conflicts with the PA, which states that no consultation is required for activities that occur in areas in the Area of Potential Effects that have been previously disturbed by actions related to the Topock Remediation Project. (PA Appendix B, § III.D.1.g.) 111-005 In addition, Mitigation Measure CR-1e-3 appears to conflict with the CHPMP, which states, "[n]ew facilities or activities will be placed in areas already disturbed by previous grading and other mechanized activities to the extent practicable." (CHPMP (Cultural Property-Specific Treatment Measures) § 7.1.7.) Further, Interested Tribes will have the opportunity to comment on the Project design, including express concern regarding the Project's use of previously disturbed areas and suggest alternatives if those areas are culturally sensitive, during the EIR comment process. To address these issues, please delete the sentence in Mitigation Measure CR-1e-3 that allows additional consultation regarding the design of the Project. Alternatively, if DTSC keeps the consultation requirement, please add clarification regarding when and how the consultation should take place.

Mitigation Measures CR-2d, -3b, and -4 likewise address issues covered by the PA and CHPMP. Specifically, these mitigation measures require that if a discovery is made during field work, work will cease immediately within a 50-meter radius. The radius can be modified only if determined appropriate by the relevant landowner, PG&E, and the Tribal Monitor, with approval by DTSC. PG&E is concerned that this measure will cause undue delay to the implementation of the Project, especially if the relevant landowner is not accessible or the designated Tribal Monitor is not in attendance. PG&E suggests that this language be conformed to the language that is in the PA and CHPMP, which states that the 50 meter radius can be made smaller "if determined appropriate by the parties in the field" to prevent undue delay. (See, e.g., PA § IX (Discoveries).)

Because PG&E must be able to comply with the EIR mitigation measures and the PA and CHPMP, language should be added to clarify that PG&E is permitted to implement Mitigation Measures CR-1, CR-2d, CR-3b, and CR-4 in a manner that does not conflict with its federal obligations. We believe the edits proposed above with respect to page 4.4-69, applicable to all mitigation measures, would achieve this goal. These clarifications will ensure that PG&E is not caught between conflicting state and federal requirements.

PG&E also is concerned that it may not be able to successfully meet the time limits imposed by Mitigation Measure CR-1c-2. That mitigation measure requires PG&E to prepare a Pre-Investigation Historical Resources Field Check Memorandum (the "Memorandum") following the California Office of Historic Preservation's Archaeological Resource Management Reports guidelines in three weeks. That same measure allows Interested Tribes to take two weeks to prepare and submit comments to PG&E for incorporation into the Memorandum, thus leaving PG&E only one week to finalize the document. PG&E is concerned that it will be unable to successfully complete the task in three weeks. For this reason, PG&E asks DTSC to consider modifying the mitigation measure to allow PG&E at least five, if not six, weeks to complete the Memorandum.

ES030212023630BA0\120620002

Mr. Aaron Yue September 5, 2014 Page 3

PG&E appreciates the opportunity to comment on the Draft EIR. Please do not hesitate to contact me (805) 234-2257 if you have additional questions about the constraints that underlie PG&E's request for the above-listed clarifications.

Sincerely,

Geonne Make

Yvonne Meeks Topock Project Manager

Enclosure Exhibit A

cc:

Karen Baker/DTSC Pam Innis/DOI Glenn Caruso/PG&E Virginia Strohl/PG&E Kevin Sullivan/PG&E

EXHIBIT A

Soils Investigation EIR PG&E's Comments and Suggestions

No.	Section	Page	Paragraph/ Table/ Figure	Comment	
1.	3.5.1	3-13	Table 3-2	Indicate that the decontamination pad is existing and not new by revising the text as follows: " <u>Existing</u> Decontamination Pads."	111-010
2.	3.5.2.3	3-16	1	The existing facilities include numerous buildings and open structures within the Topock Compressor Station that prevent truck access to sampling locations. Accordingly, the following revision is suggested: The proposed Project would require access to sampling locations either by a truck- or track-mounted drilling rig/backhoe/excavator or on foot for hand sampling. Samples collected at the mouth of East Ravine <u>and in other locations with constrained access</u> , such as the Topock Compressor Station, would be accessed on foot. <u>Samples collected at the mouth of East Ravine also may be accessed</u> or by boat."	I11-011
3.	3.5.2.3	3-19	last bullet	The description of the storm drain investigation program inside the Compressor Station fence line should be revised because the only sampling proposed along the storm drain system within the fence line are at catch basins, and this sampling would be done only if sufficient soil has accumulated: "Sampling related to the storm drain system would be limited to areas outside the Station fence line in unpaved areas at outfalls and inside the fence line <u>at catch</u> <u>basins</u> , if <u>sufficient soil has accumulated</u> along visible lines, where surface sediment accumulates, or based on video camera surveys."	111-012
4.	3.5.2.4	3-20	1	This section should be renamed to "Survey of Subsurface Utilities <u>and Other Features</u> ." Geophysical survey methods are proposed in AOCs 17 and 27 to locate buried features, and not just utilities. Geophysical survey methods will also be used to assess alignments of storm drains.	111-013

055016\6378333v9

No.	Section	Page	Paragraph/ Table/ Figure					Comme	nt				
5.	3.5.2.9	3-24	1	In the descr used to clea first 10 feet up to appro- borings are	ription re ar deeper t of deepe ximately located	garding ho borings wi er borings) 10 feet bg within the	w soil san ithin the 1 , as shown s <u>and to c</u> Topock C	nples will Topock Co n: "The hy lear the fir ompressor	be taken, j mpressor S vdrovac prost 10 feet Station fe	blease add Station fen beess wou of deeper b nee line."	that hydrovac ce line (i.e., up ld be used for porings when s	will be p to the borings such	11-014
6.	3.5.7	3-37	2	This section do that wout Managemen noise contre potentially implement	n should ild be to nt Practic ol, worke undesiral an erosic	clarify that add the fol ces, provider safety, ac ble effects on control p	PG&E a lowing: ' es a gener ccess rout associate <u>blan.</u> "	lso is prepa 'Section 2. ral descript es, general d with the	aring an er 2.1 of the ion of BM housekee investigati	osion cont Soil Work Ps associa ping pract on. <u>PG&I</u>	rol plan. One Plan, Best ited with dust ices, and other E will also prep	way to control, pare and	111-015
7.	4.1		Figure 4.1-3c	Please veri are accurat Work Plan,	fy that the e and con , which as	e number a sistent wit re shown b	nd location h the back elow:	on of the d khoe locati	ots indicat ons and n	ing backho imbers in	bes on Figure 4 the Soils Inves	4.1-3c stigation	111-016
				Location	AOC 1	SWMU1	AOC 9	AOC 10	AOC 11	AOC 27	Storm Drain	Total	
				Backhoes	4	4	6	6	5	5	8	38	
8.	4.1.2.1	4.1-41	3	Section 4.4 "Section 4. cultural lan	is "Cultı 4., ' Proje dscape a	ural Resound the transformed and FMIT c	rces," and tion <u>Cultu</u> oncerns r	not "Proje tral Resource egarding th	ect Descrip r <u>ces</u> ' inclu ne Project.	otion." Ple des additio	ease revise as f onal information	`ollows: on on	111-017

No.	Section	Page	Paragraph/ Table/ Figure	Comment	
9.	4.3.3.3	4.3-49	1	The document indicates that there is a small amount of western honey mesquite bosque habitat (e.g., Table 4.3-1), and that that habitat is considered sensitive (4.3-42). Therefore, please clarify the text in section 4.3.3.3 as follows: "Western honey mesquite bosque is the only No natural communitiesy or habitats identified as sensitive by local or regional plans, policies, or regulations, or by CDFW or USFWS that exists on the Project Site; Soil sampling locations will avoid western honey mesquite bosque natural communities that occur on the Project Site and therefore, no impacts are anticipated to occur to this community."	111-018
10.	4.3.3.3	4.3-50	3	Only the top 12 inches of exploratory boreholes will be backfilled with native material. The remaining depth will be backfilled with bentonite grout. Thus please revise as follows: "All impacts are anticipated to be temporary (9 months) and once pilot studies are complete, infiltration galleries will be removed and backfilled with <u>bentonite grout and</u> , for the 12 inches closest to the surface, native material, and the pilot test area will be raked to reflect its original condition."	111-019
11.	4.3.3.3	4-50	4	On page 3-34 it states that there may be up to eight geotechnical evaluations. Please revise the following for consistency: "As described in Chapter 3, 'Project Description,' it is anticipated that up to three eight geotechnical evaluations will be undertaken within or near AOCs that have steep slopes and where remediation is determined necessary."	11-020
12.	4.3.3.3	4.3-53	Table 4.3-5	The EIR states that the estimated amount of jurisdictional USACE/CDFW resources in the Project area is 14 acres; however, the EIR also states that the estimated temporary impact to USACE/CDFW habitat is "up to 25 acres." PG&E requests that DTSC correct the acre of jurisdictional resources that the Project may impact, as it should be less than the number of acres in the Project area.	11-021
13.	4.3.3.3	4.3-63	2	This paragraph mistakenly states that there is an existing earthen dam across Bat Cave Wash. Thus, revise as follows: "It should be noted, however, that there <u>are is an existing earthen</u> dam across Bat Cave Wash and other barriers across East Ravine that should prevent any sediments detached by Project activities from reaching the aquatic habitats in the Colorado River."	11-022

No.	Section	Page	Paragraph/ Table/ Figure	Comment	
14.	4.4.1.5	4.4-28	2	Please add the following text to provide some background on the Section 106 process: "The Project Site is located within, and is encompassed by, a TCP of traditional religious and cultural significance to several Interested Tribes. <u>Pursuant to Section 106 of the NHPA, in</u> 2010, BLM, USFWS, State Historic Preservation Officers (SHPOs) of California and <u>Arizona, PG&E, the Advisory Council on Historic Preservation (ACHP), and the Hualapai</u> Tribe entered into a Programmatic Agreement (PA) for the Topock Remediation Project (including the soils investigation). In 2012, in conformance with the PA, BLM developed a <u>Cultural and Historic Properties Management Plan that specifies how cultural and historic</u> properties are to be treated during the Topock Remediation Project (including the soils <u>investigation)</u> . As a result of Section 106 consultation for the Topock Remediation Project (defined by the U.S. Bureau of Land Management [BLM] to include remedial investigations and groundwater and soil removal and response actions pursuant to the Comprehensive <u>Environmental Response, Compensation, and Liability Act [CERCLA]</u>), which resulted in the preparation of a Programmatic Agreement (PA) (BLM et al. 2010) and a Cultural and <u>Historical Properties Management Plan (CHPMP) (BLM 2012</u>), the BLM determined that there was a TCP of religious and cultural significance to several Interested Tribes within the Area of Potential Effects (APE) for the Groundwater Remediation Project, a larger area of approximately 1,600 acres that surrounds and encompasses the Project Site."	111-023
15.	4.4.1.5	4.4-38	1	Please correct the date, as shown below: "The resource consists of the historic-period PG&E Topock Gas Compressor Station. This resource was documented by AE in 20122013, and is an irregularly shaped compound of 33 structures located on approximately 12 acres of land."	111-024
16.	4.4.3.3	4.4-68	4th bullet	Please revise as follows to more accurately reflect the Project, which does not include any new staging areas, but does include use of existing staging areas: "Setting up Using existing staging areas that are, to the extent feasible, located in previously disturbed and existing operational areas (approximately 26 acres) for equipment storage, maintenance/fueling, and decontamination (work area exclusion zones); and for displaced soil management;"	111-025

No.	Section	Page	Paragraph/ Table/ Figure	Comment	
17.	4.4.3.3	4.4-69	1	PG&E is concerned that without express language stating that the cultural mitigation measures, especially Mitigation Measure CR-1 (measures concerning the TCP), should be implemented consistent with the PA and CHPMP, that measure could be construed to have inconsistent and duplicative requirements to those in the PA and CHPMP. Accordingly, PG&E suggests the following addition: "The mitigation presented in this section, including <u>Mitigation Measure CR-1</u> , is intended to be implemented in addition to any treatment requirements under the PA and CHPMP, provided, however, that implementation of the <u>mitigation measures shall be conducted in a manner that avoids duplication of and</u> <u>inconsistencies or conflicts with the requirements in the PA and CHPMP.</u> "	111-026
18.	4.4.3.3	4.4-69	5	Please clarify that the analysis regarding "contributing elements" is DTSC's and not based on the BLM's determination of eligibility by adding the following text: "The Project Site is located within, and is encompassed by, the National Register-eligible Topock TCP. Impacts to those physical characteristics (contributing elements) that <u>DTSC has determined</u> convey the TCP's historical significance, such as the Topock Maze, land, water, plants, animals, prehistoric archaeological resources, and the viewshed, would result in a significant impact to the historical resource identified as the Topock TCP."	111-027
19.	4.4.3.3	4.4-73	3	Mitigation Measure CR-1a-2 should be modified to clarify that access can be restricted to ensure non-interference with groundwater remediation activities, which may occur at the same time as soils investigation activities. One way to clarify this measure would be to make the following revision: "On non-federal property, access shall be accommodated by PG&E to the extent feasible; the access plan may place restrictions on access into certain areas, such as the Compressor Station and the existing evaporation ponds, subject to DTSC review with regard to health and safety concerns and to ensure noninterference with approved investigation and groundwater remediation activities."	111-028
20.	4.4.3.3	4.4-75	2	Mitigation Measure CR-1c-2 permits PG&E to take three weeks to submit the Pre- Investigation Historical Resources Field Check Memorandum. PG&E is concerned that three weeks may not be enough time, particularly if PG&E has only one week to finalize the memorandum after receiving tribal comments. PG&E asks that the measure be revised to allow PG&E five or six weeks to be able to prepare the memorandum.	111-029

No.	Section	Page	Paragraph/ Table/ Figure	Comment	
21.	4.4.3.3	4.4-77	2	Mitigation Measure CR-1e-3 allows the Interested Tribes an opportunity to express whether there are specific instances where disturbed areas may be more culturally sensitive than non- disturbed areas. The Tribes have this opportunity during the EIR comment process. In addition, the provision could be read to conflict with PG&E's obligations under the PA and CHPMP. For these reasons, please delete the provision as shown: "Priority shall be given to siting project elements within previously disturbed areas (areas disturbed within the last 50 years) over undisturbed or pristine areas to the maximum extent feasible as determined by DTSC, in coordination with Interested Tribes, PG&E, and respective landowners, to minimize impacts to intact landforms and natural features important to Tribes as part of the Topock TCP. Interested Tribes shall be afforded the opportunity to express, and DTSC shall consider, whether there are specific instances where disturbed areas may be more culturally sensitive than non-disturbed areas."	111-030
22.	4.4.3.3	4.4-83	2	Under Mitigation Measure CR-2d, please revise the text as follows to avoid delays and inconsistencies with the CHPMP: " discovery shall immediately cease within a 50 meter radius and temporary protective measures shall be implemented. The radius of the protected area may be modified if determined appropriate by the <u>parties in the field relevant landowner</u> , PG&E , and the Tribal Monitor, with approval by DTSC." (This proposed edit, in addition to the proposed edits in row 17 above, and rows 23 and 24 below, would ensure that EIR requirements to do not conflict with applicable federal requirements.)	111-031

No.	Section	Page	Paragraph/ Table/ Figure	Comment	
23.	4.4.3.3	4.4-85	3	Under Mitigation Measure CR-3b, please revise the text as follows to avoid delays and inconsistencies with the CHPMP: " all work shall be halted within a 50 meter radius and temporary protective measures shall be implemented until the discovery can be evaluated by a qualified paleontologist (defined as a paleontologist meeting the requirements of the Society of Vertebrate Paleontology [SVP, 2010]). The radius of the protected area may be modified if determined appropriate by the <u>parties in the field relevant landowner, PG&E</u> , and the Tribal Monitor, with approval by DTSC."	111-032
				(This proposed edit, in addition to the proposed edits in rows 17 and 22 above, and row 24 below, would ensure that EIR requirements to do not conflict with applicable federal requirements.)	
24.	4.4.3.3	4.4-86	2	Under Mitigation Measure CR-4, please revise the text as follows to avoid delays and inconsistencies with the CHPMP: "In the event of inadvertent discovery of human remains, all work shall be halted within a 50-meter radius and temporary protective measures shall be implemented. The radius of the protected area may be modified if determined appropriate by the <u>parties in the field-relevant landowner, PG&E, and the Tribal Monitor</u> , with approval by DTSC"	111-033
				ensure that EIR requirements to do not conflict with applicable federal requirements.)	
25.	4.5.3.3	4.5-19	1	The impact statement references "substantive provisions of federal and state regulations." These should be listed in Section 4.5.2.	111-034
26.	4.6.1.2	4.6-5	4	SWMU-1 and AOC-1 are located in Bat Cave Wash. Please revise the text as follows: "AOC-1 <u>and SWMU-1 are is-</u> located in this wash and the AOCs and SWMUs along the west side of the Station drain toward this wash."	111-035

No.	Section	Page	Paragraph/ Table/ Figure	Comment	
27.	4.6.1.2	4.6-5	5	AOC 2 is located on the west side of the lower yard of the Topock Compressor Station (it is around SWMU-2 and well PGE-8). AOC 11 is located to the northeast of the Compressor Station and is separated from AOC 10 by the Compressor Station access road. There is no surface water flow between these two AOCs. AOC 9 is located on the west bank of the East Ravine toward the southern portion of the Compressor Station. Accordingly, delete AOCs 2 and 11 from the list of AOCs located in and around the East Ravine, and add AOC 9, as shown: "AOCs $\underline{9-2}$, 10, $\underline{11}$, and 28 are located in and around this dry wash network."	111-036
28.	4.6.1.3	4.6-7	3	This section should add a sentence at the end of the last paragraph on page 4.6-7 that groundwater and groundwater contamination are being addressed through a separate, comprehensive groundwater remedial program, as follows: "The groundwater and groundwater contamination are being addressed through a separate, comprehensive groundwater remediation project. Impacts from the groundwater remediation project have been assessed in the Final Environmental Impact Report Topock Compressor Station Groundwater Remediation Project (DTSC, 2011)."	11-037
29.	4.6.3.1	4.6-16	Bullet 1	Please revise bullet 1 as follows to acknowledge that decontamination water may be treated at the IM-3 Treatment Facility, which is allowed under the WDRs: "The Project does not include the on-site treatment or discharge of waste water, except that decontamination water may be treated at the IM-3 Treatment Facility, which is allowed under the Waste Discharge Requirements and would comply with those requirements. Therefore, the Project would not exceed Waste Discharge Requirements and this impact is not discussed further.	l11-038
30.	5.3.11.1	5-17	4	Soil from bench-scale tests will likely be disposed of in a landfill. Thus, please revise the text as shown: "Soil from the bench scale tests will be hauled off-site for testing and would not be reused on-site or disposed of in a landfill. The Project would produce less than one cubic yard of soil from the bench scale tests that would likely hauled to a landfill. This would be a de minimis amount of waste for the type of landfill that accepts such soil."	111-039

No.	Section	Page	Paragraph/ Table/ Figure	Comment	
31.	6.5.6	6-24	2	The majority of the electricity at the Topock Compressor Station is self-generated. Accordingly, please add the following text clarification: "As discussed in Section 5.3.2, the Project Site is currently served by the Needles Public Utility Authority (City of Needles) electrical distribution system. <u>Although the Project Site is served by the City of Needles, the</u> majority of the electricity at the Topock Compressor State is self-generated, with only a few meters in the Station serviced by the Needles Public Utility Authority."	111-040
32.	6.5.9	6-27	4	The statement regarding not encountering groundwater during investigation should be revised as suggested, as several borings in Bat Cave Wash will be advanced to the top of the water table and deeper borings in AOC-11 also will likely encounter groundwater: "The maximum depth of drilling associated with the Project is 80 feet below ground surface-and is therefore not anticipated that drilling will encounter groundwater or cause any related impacts. The top of the groundwater table may be encountered by several borings in Bat Cave Wash and the deeper borings planned for AOC-11. Although borings may encounter groundwater, the Project will not contribute to cumulative impacts to hydrology and water quality because the Project will not introduce contaminants into the water table and all boreholes will be decommissioned following applicable regulations that protect water quality."	11-041
33.	6.5.17	6-35	4	Clarify that electricity may be provided by City of Needles or the Topock Compressor Station by making the following edit: "Electricity would be provided by the Needles Public Utility Authority (City of Needles) electrical distribution system or the existing power supply at the Topock Compressor Station."	111-042
34.	7.6.1.2	7-15	2	Generally, when the EIR refers to Interested Tribes, it uses that term alone. On page 7-15, the EIR refers to "several" Interested Tribes; for consistency, we suggest that the text be revised as follows: " The temporary presence of equipment, workers, and vehicles during soil sample collection would introduce activities that are inconsistent with the natural setting associated with the Topock TCP and are considered significant disturbances that would materially affect the cultural values ascribed to the TCP by several Interested Tribes."	11-043

Letter I11 Response	Pacific Gas and Electric Company (PG&E) September 5, 2014
I11-001	The commenter expresses appreciation for the California Department of Toxic Substances Control's (DTSC's) efforts to produce a complete and legally adequate draft environmental impact report (DEIR) and provides an introduction to specific comments and suggested revisions to the DEIR, as listed and responded to below. The comment is noted.
I11-002	The commenter notes that, as the entity tasked with carrying out many of the mitigation measures, they have concerns regarding the ability to implement Mitigation Measures CR-1, CR-2d, CR-3b, and CR-4 as presented in the DEIR. The commenter is referred to later responses provided in this letter that respond to the specific comments raised by the commenter on these mitigation measures. See, specifically, responses to comments I11-003, I11-004, I11-005, I11-006, I11-007, I11-008, I11-026, I11-028, I11-029, I11-030, I11-031, I11-032, and I11-033.
I11-003	The commenter notes that Mitigation Measure CR-1 could be construed to impose requirements that could conflict with Pacific Gas and Electric Company's (PG&E's) legal obligations under the Programmatic Agreement (PA) and Cultural and Historical Properties Management Plan (CHPMP), including providing an opportunity for Interested Tribes and representative landowners to review and comment on cultural-resources- related documents. The commenter does not provide any specific examples or citations to the PA or CHPMP of a conflict. In accordance with Mitigation Measure CR-1, Interested Tribes shall continue to be afforded the opportunity to review and comment on all cultural resources-related documentation prepared as a result of the PG&E Topock Compressor Station (Station) Soil Investigation Project (Project). Tribal comments shall be considered to the extent feasible by DTSC, in coordination with Interested Tribes, PG&E, and representative landowners (U.S. Bureau of Land Management [BLM], U.S. Bureau of Reclamation, Fort Mojave Indian Tribe, PG&E, and U.S. Fish and Wildlife Service). CR-1 provides Interested Tribes with an opportunity to review and comment on all cultural-resources-related documentation prepared as a result of proposed Project. DTSC, as the lead agency under California Environmental Quality Act (CEQA), has the obligation to ensure the protection of cultural resources during implementation of the Project. DTSC has referenced the requirements of the existing PA and CHPMP documents where appropriate, and has supplemented those requirements, where necessary, to ensure full disclosure and meet the requirements of CEQA. Mitigation Measure CR-1 is consistent with the Consultation Process as described in the PA and at the same time reflects DTSC's independent judgment and current policies and procedures regarding Tribal review and input on cultural-resources-related documents. The measure would not conflict with the process as outlined in the PA or the CHPMP, nor would it result in a

	replacement process. The comment will nevertheless be considered by DTSC as part of its decision-making process. No additional response is required.
I11-004	The commenter notes that Mitigation Measure CR-1b requires cultural sensitivity training for workers that may not be consistent with Appendix C of the PA and could result in two separate sensitivity training programs with slightly inconsistent information. It is not the intention for the mitigation measures presented in the DEIR to present inefficiencies or confusion among persons involved in the Project. DTSC believes that the mitigation measures do not present inconsistencies with the PA. Nevertheless, in response to the comment, Mitigation Measure CR-1b on page 4.4-74 is revised, in part, in the final environmental impact report (FEIR) as follows to clarify the intent of the training:
	CR-1b: Worker Education Program: A worker cultural resources sensitivity program shall continue to be implemented for the Project consistent with existing practices in addition to any requirements under the PA and CHPMP, but may be integrated in a manner that avoids duplication of requirements under the PA and CHPMP
	This change presented in the mitigation measure does not result in a decrease in the effectiveness of the proposed measure, result in a substantial increase in the severity of the identified impact after mitigation, or preclude meaningful review and comment.
I11-005	The commenter notes that Mitigation Measure CR-1e-3 could also be construed to be inconsistent with the PA and CHPMP. CR-1e-3 requires that priority be given to siting project elements within previously disturbed areas over undisturbed or pristine areas as determined by DTSC, and requires that Interested Tribes be given an opportunity to express whether there are specific instances where a disturbed area may be more culturally sensitive than a non-disturbed area. The PA (Appendix B, Section III.D.1.g), cited by the commenter, provides: "The following actions shall be determined to have 'no effect' or 'no adverse effect' when undertaken in connection with the Undertaking and may proceed without further consultation" It does not preclude DTSC from accepting additional input from Interested Tribes. It is not the intention for the mitigation measures presented in the DEIR to present inefficiencies or confusion among persons involved in the Project, or to cause delay. DTSC believes that the mitigation measure does not create inconsistencies with the PA or the CHPMP by merely providing for additional input. By additional input, DTSC means Interested Tribes may comment at any point during the process on specific locations for Project-related items, in particular the locations for contingency samples, bench scale tests, geotechnical evaluations, and pilot studies, if deemed needed, for which locations have not yet been specially identified as part of the Project design. DTSC will consider the comments but declines to require specific timeframes or a process that may delay implementation

of the Project should it be approved. In response to the comment, the DEIR text on page 4.4-77 is revised in the FEIR as follows:

CR-1e-3: Prioritized use of Previously Disturbed Areas. To minimize impacts to intact landforms and natural features important to Tribes as part of the Topock TCP, priority shall be given to siting project elements that have not formerly been subject to Tribal review and input as part of the Soil Work Plan (including the potential 25 percent contingency samples, bench scale tests, pilot studies, and geotechnical evaluations) within previously disturbed areas (areas disturbed within the last 50 years) over undisturbed or pristine areas to the maximum extent feasible as determined by DTSC, in coordination with Interested Tribes, PG&E, and respective landowners, to minimize impacts to intact landforms and natural features important to Tribes as part of the Topock TCP. Interested Tribes shall be afforded the opportunity to express, and DTSC shall consider, whether there are specific instances where disturbed areas may be more culturally sensitive than non-disturbed areas.

This change presented in the mitigation measure does not result in a decrease in the effectiveness of the proposed measure, result in a substantial increase in the severity of the identified impact after mitigation, or preclude meaningful review and comment.

I11-006 The commenter provides an overview of their concern regarding Mitigation Measures CR-2d, -3b, and -4, presenting inconsistencies with the PA and CHPMP. Specifically, the concern is that the decision to modify the protective buffer around inadvertent discoveries should be delegated to the parties in the field with approval by DTSC since the relevant landowner or designated Tribal Monitor may not be present and obtaining their input could result in undue delays. Regarding Mitigation Measure CR-2d, the measure would be modified so that the decision to modify the 50-meter radius would be delegated to the parties in the field with final approval by DTSC. The relevant landowner and Interested Tribes would be notified within 24 hours of any decision to modify the protective buffer. Regarding Mitigation Measure CR-3b, the decision to modify the 50-meter radius would be delegated to the parties in the field with final approval by DTSC. The relevant landowner and qualified paleontologist would be notified within 24 hours of any decisions to modify the protective buffer (this measure does not require Tribal input). Regarding Mitigation Measure CR-4, the flexibility to modify the 50-meter radius has been removed from the measure. Please see responses to comments I11-031, I11-032, and I11-033, which provide more specificity on these comments, including suggested revisions to the mitigation measures.

I11-007The commenter notes that PG&E (as the entity responsible for
implementing the Project) must be able to comply with the
environmental impact report (EIR) mitigation, PA, and CHPMP and

recommends that the language for Mitigation Measures CR-1, CR-2d, CR-3b, and CR-4 be modified to indicate that PG&E is permitted to implement these measures in a manner that does not conflict with their federal obligations. It is not the intention for the mitigation measures presented in the DEIR to present inefficiencies or confusion among persons involved in the Project. DTSC believes that the mitigation measures do not present inconsistencies with the PA or the CHPMP. Nevertheless, in response to the comment, the DEIR text on page 4.4-69 is revised in the FEIR as follows:

The mitigation presented in this section is intended to shall be implemented in addition to any treatment requirements under the PA and CHPMP, but may be integrated in a manner that avoids duplication of requirements under the PA and CHPMP.

This change presented in the mitigation measure does not result in a decrease in the effectiveness of the proposed measure, result in a substantial increase in the severity of the identified impact after mitigation, or preclude meaningful review and comment.

I11-008The commenter notes that PG&E (as the entity responsible for
implementing the Project) is concerned that it may not be able to
successfully meet the time limits imposed by Mitigation Measure CR-1c-
2. The intent of this measure is to provide timely field verifications and
reporting back to DTSC, and the lead agency acknowledges the request
for a time extension for reporting. As such, DEIR Mitigation Measure
CR1c-2, on page 4.4-75, is revised in this FEIR as follows:

CR-1c: Pre-Investigation Historical Resources Field Check <u>Verification</u>

CR-1c-1: Personnel Qualifications Standards. Cultural resources consulting staff shall meet, or be under the direct supervision of individuals meeting, the minimum professional qualifications standards (PQS) set forth by the Secretary of the Interior (codified in 36 CFR Part 61; 48 FR 44739). DTSC shall have approval authority over PG&E's cultural resources consultant. CR-1c-2: Pre-Investigation Historical Resources Field Check Verification. A pre-investigation historical resources field check verification for soil sampling locations shall be conducted by PG&E after approval of the work plan but not less than four weeks prior to the commencement of ground-disturbing activities in these locations. Additional field verifications may be completed as Project work progresses, provided the field portions of the verifications are conducted not less than four weeks prior to the start of ground disturbance in that area. Also, field verifications for contingency and pilot studies shall occur after approval work plan(s) but not less than four weeks prior to the start of ground disturbance. The field check verification shall include all sampling locations, including any future pilot study areas, new access areas, and equipment and materials staging

111-009	 areas, plus a 50-foot buffer surrounding sampling areas where topography allows. Sampling activities may occur within the buffer area without additional field eheek-verification. Interested Tribes shall be afforded the opportunity to participate and shall be provided 2 weeks (14 calendar days) notice prior to the start of the field eheek-verification. The objective of the field eheek verification will be to verify that additional resources qualifying as historical resources under CEQA are not present within the investigative location areas. Interested Tribes shall be afforded the opportunity to identify, and DTSC to consider, for the purposes of avoidance, any physical features of Tribal significance within the field eheek-verification area, including but not limited to trails, rock features, desert pavement areas, and cleared circles that might be considered contributors to the TCP. A Pre-Investigation Historical Resources Field Cheek Verification Alemorandaum following the California Office of Historic Preservation's (OHP's) Archaeological Resource Management Reports (ARMR) guidelines, shall be prepared by PG&E that documents the methods of the field eheek verification, and the results of the field eheek-verification. Interested Tribes shall be invited to prepare a section that reports Tribal observations during the field eheek-verification, and asked to provide any observations to PG&E within 2 weeks of the field portion of the verification. The Memorandaum shall be submitted to DTSC for review and comment within 3 weeks from completion of the field cheek man area, and the submission shall include any Tribal observations given to PG&E within the two-week time frame set forth above. Tribal review and comment of the Pre-Investigation Historical Resources Field Cheek Verification (Memorandaum shall be governed by CR-1a-1. This change presented in the mitigation measure does not result in a decrease in the effectiveness of the proposed measure, result in a substantial increase in the se
111-009	on the DEIR. The comment is noted for the record.
I11-010	The commenter requests clarification that decontamination pads for Project use are already existing. In response to the comment, the DEIR text on page 3-13, Table 3-2, is revised in this FEIR as follows: Existing Decontamination Pads
I11-011	The commenter requests specification in Chapter 3, "Project Description," on where soil samples would be collected by hand tools

	versus boats. In response to the comment, the DEIR text on page 3-16, is revised in this FEIR as follows:
	The proposed Project would require access to sampling locations either by a truck- or track-mounted drilling rig/backhoe/excavator or on foot for hand sampling. Samples collected at the mouth of East Ravine <u>and in other locations with constrained access, such</u> <u>as the Station</u> , would be accessed on foot or . <u>Samples collected at</u> <u>the mouth of East Ravine also may be accessed by boat</u> .
I11-012	The commenter requests clarification in Chapter 3, "Project Description," regarding the storm drain investigation program within the Station fence line, and suggests that the DEIR text should be revised to indicate that the only sampling proposed along the storm drain system within the Station fence line are at catch basins, and that the sampling would only be conducted if sufficient soil has accumulated. In the DEIR Appendix A, <i>Soil RCRA Facility Investigation/Remedial Investigation</i> <i>Work Plan</i> (Soil RFI/RI Work Plan), Section 1.4.3 of Appendix D already indicates that "Sampling within the fence line will be limited to any accumulated material encountered in the catch basins." Therefore, the recommended change to the environmental impact report (EIR) text is not necessary. Additionally, Section 1.3 of Appendix D of the Soil RFI/RI Work Plan states that "intrusive investigation along the storm drain lines is not planed at this time. The need for intrusive investigation will be reevaluated after the storm drain investigation outlined below has been completed." Therefore, potential future soil sampling along the storm drains within the fence line is also part of the Soil RFI/RI Work Plan.
I11-013	The commenter requests that the title of Section 3.5.2.4 be changed to indicate that other subsurface features in addition to utilities would be surveyed geophysically. In response to the comment, the DEIR text on page 3-20 is revised in this FEIR as follows:
	Survey of Subsurface Utilities and Other Features
I11-014	The commenter requests specificity on the use of hydrovac equipment to clear deeper borings within the Station fence line. In response to the comment, the DEIR text on page 3-24 is revised in this FEIR as follows:
	The hydrovac process would be used for borings up to approximately 10 feet bgs and to clear the first 10 feet of deeper borings when such borings are located within the Station fence line.
I11-015	The commenter requests clarification that an erosion control plan is also being prepared for the Project. In response to the comment, the DEIR text on page 3-37 is revised in this FEIR as follows:
	Section 2.2.1 of the Soil RFI/RI Work Plan, Best Management Practices, provides a general description of BMPs associated

	with dust control, noise control, worker safety, access routes, general housekeeping practices, and other potentially undesirable effects associated with the investigation. <u>PG&E will also prepare</u> and implement an erosion control plan.
I11-016	The commenter requests verification that the number and location of the backhoe sample locations indicated on Figure 4.1-3c are accurate and consistent with the <i>Soil RCRA Facility Investigation/Remedial Investigation Work Plan</i> (Soil Work Plan). Figure 4.1-3c is a viewshed map that includes locations where backhoe sampling is specified in the Soil Work Plan (see DEIR Table 3-3), as well as locations where backhoe sampling is noted as one of various sample types that might be used (i.e., small hand tools, sonic or hollow-stem auger drilling rig, or hydrovac truck). As noted in the DEIR, page 4.1-17, "In cases where the sampling locations may include multiple sample types, the viewshed calculation included all potential sampling types." In contrast, the Soil Work Plan maps (DEIR Figures 3-2 through 3-6) show a single type of sampling at each location, and text notes refer to cases where other sampling methods may be used. In response to the comment, the DEIR text on page 4.1-17 is revised in the FEIR as follows:
	The equipment visibility is less than the maximum height because only the narrow upper portion of a rig may be visible from some locations. In cases where the sampling locations may include multiple sample types, the viewshed calculation included all potential sampling types. For example, at AOC 1, there are a total of 33 sample locations with proposed Rotosonic sampling, 4 of these 33 may be backhoe excavations instead (DEIR Table 3-3). The viewshed maps include 4 of the 33 sample locations at AOC 1 on both the Rotosonic and backhoe viewshed maps.
I11-017	The commenter notes a typographical error on page 4.1-41 of the DEIR. This error has been fixed in the FEIR as follows:
	Section 4.4, "Project Description <u>Cultural Resources</u> ," includes additional information on cultural landscape and FMIT concerns regarding the Project.
I11-018	The commenter suggests revising the DEIR to clarify Project activities related to the western honey mesquite bosque. In response to the comment, the DEIR text on page 4.3-49 is revised in this FEIR as follows:

anticipated to occur to this community.

Western honey mesquite bosque is the only No natural communityies or habitats identified as sensitive by local or regional plans, policies, or regulations, or by CDFW or USFWS that exists on the Project Site; Soil sampling locations will avoid the western honey mesquite bosque natural communities that

occur on the Project Site and, therefore, no impacts are

I11-019 The commenter notes that only the top 12 inches of exploratory boreholes would be backfilled with native material, and that the remaining depth would be filled with bentonite grout. In response to the comment, the DEIR text on page 4.3-50 is revised in this FEIR as follows:

All impacts are anticipated to be temporary (9 months) and once pilot studies are complete, infiltration galleries will be removed and backfilled with <u>bentonite grout and</u> , for the 12 inches closest to the surface, native material, and the pilot test area will be raked to reflect its original condition.
The commenter notes that the DEIR incorrectly states the number of geotechnical evaluations included in the proposed Project. This is a typographical error in this particular location, and DTSC would like to note that the reference to eight geotechnical borings is correct on page 3-34 in the Project Description, which is the information used in the environmental analysis. In response to the comment, the DEIR text on page 4.3-50 is revised in this FEIR as follows:

As described in Chapter 3, "Project Description," it is anticipated that up to three eight geotechnical evaluations will be undertaken within or near AOCs that have steep slopes and where remediation is determined necessary.

I11-021The commenter requests that DTSC correct the acreage discrepancies for
existing versus impacted jurisdictional resources on-site. In response to the
comment, the acreages included in the DEIR Table 4.3-2 on page 4.3-17
and Table 4.3-5 on page 4.3-52 are revised in the FEIR as follows:

TABLE 4.3-2 JURISDICTIONAL (USACE/CDFW/RWQCB) RESOURCES IN THE PROJECT SITE		
Jurisdictional Habitat	Approximate Acreage	
USACE/CDFW Jurisdictional H	labitats	
Palustrine scrub-shrub wetlands associated with ephemeral washes (PSSA)	4.9	
Riverine Intermittent Stream Bed Cobble-Gravel Temporarily Flooded (R4SB3A)	<u>4.7</u>	
Palustrine, emergent, permanently flooded wetlands (PEMH, <u>R4SB3A</u>)	0.6	
Palustrine emergent, seasonally flooded wetlands (PEMC)	1.3	
Ephemeral washes	6.6	
Colorado River (R2UB2)	0.2	
Riparian habitat	0.4	
CDFW Only Jurisdictional Ha	<u>bitats</u>	
Riparian habitat	<u>0.4</u>	
GRAND TOTAL	<u>12.1</u> 14.0	

I11-020

TABLE 4.3-5 ESTIMATED TEMPORARY IMPACTS TO USACE/CDFW HABITATS WITHIN THE PROJECT SITE			
Jurisdictional Habitat	Estimated Temporary Impacts within the Project Site (Acres)	25% Contingency for Unforeseen Impacts (Acres)	<u>Total Estimated</u> <u>Temporary</u> <u>Impacts within the</u> <u>Project Site (Acres)</u>
USACE/CDFW	Jurisdictional Habitat	<u>5</u>	
Palustrine scrub-shrub temporarily flooded wetlands associated with ephemeral washes (PSSA)	2.1 Up to 9 acres	<u>0.525</u>	<u>Up to 2.6</u>
Riverine Intermittent Stream Bed Cobble-Gravel Temporarily Flooded (R4SB3A)	<u>2.5</u>	<u>0.625</u>	<u>Up to 3.1</u>
Palustrine emergent, permanently flooded wetlands (PEMH, <u>R4SB3A</u>)	0.2 Up to 1 acre	<u>0.050</u>	<u>Up to 0.3</u>
Palustrine, emergent, seasonally flooded wetlands (PEMC)	0.1 Up to 2 acres	0.025	<u>Up to 0.13</u>
Ephemeral washes	Up to 11 acres		
Colorado River (R2UB2)	0.04 Up to 1 acre	<u>0.010</u>	<u>Up to 0.05</u>
Riparian habitat	Up to 1 acre		
CDFW Only Jurisdictional Habitats			
Riparian habitat	<u>0.2</u>	0.050	<u>Up to 0.3</u>
Total Estimated Acres	<u>5.1</u> Up to 25 acres	<u>1.3</u>	<u>Up to 6.4</u>
SOURCES: CH2M HILL-and GANDA-2013ab; Parus 2014.			

I11-022

The commenter asserts that the DEIR incorrectly states that there is an existing earthen dam across Bat Cave Wash. National Trails Highway was built to cross Bat Cave Wash using an earthen berm with a brick culvert to allow for ample flow under the road during a storm event. In response to the comment, the DEIR text on page 4.3-63 is revised in this FEIR as follows:

It should be noted, however, that <u>National Trails Highway was</u> <u>built to cross Bat Cave Wash using an earthen berm with a brick</u> <u>culvert to allow for ample flow under the road during a storm</u> <u>event.</u> there is an existing earthen dam across Bat Cave Wash <u>Flow is constricted through this narrow opening which is filled</u> with dense vegetation. The dense vegetation and restricted flow <u>should prevent any sediment detached by Project activities from</u> <u>reaching the aquatic habitats in the Colorado River. and other</u> <u>Similar</u> barriers that across East Ravine that should also prevent any sediments detached by Project activities from reaching the aquatic habitats in the Colorado River.

I11-023 The commenter requests revisions to the description of the identification efforts for the Topock Traditional Cultural Property (TCP). The PA and CHPMP were created as a result of the Section 106 process and, while they provide guidance on the treatment of cultural and historic properties, they do not relieve DTSC as the lead agency of its obligations under CEQA. (See CHPMP, at p. iv [the BLM is responsible for preparation and implementation of the CHPMP].) Therefore, it would be

	misleading to state, or imply, in the EIR that the PA and CHPMP specify how cultural and historic properties should be treated by DTSC as part of its discretionary decision-making process for the Project. The comment is nevertheless noted for the record.
I11-024	The commenter requests that the date the Station was documented be changed from 2012 to 2013. The Station was documented in 2012 and evaluated for the National Register in 2013. In response to the comment, the DEIR text on page 4.4-38 is revised in the FEIR as follows:
	The resource consists of the historic-period PG&E Topock Gas Compressor Station. This resource was documented by AE in 2012 <u>and subsequently evaluated for the National Register in</u> <u>2013</u> , and is an irregularly shaped compound of 33 structures located on approximately 12 acres of land.
I11-025	The commenter notes that staging areas would be existing and that no setup process would be required. DTSC concurs with this clarification. In response to the comment, the DEIR text on page 4.4-68 is revised in this FEIR as follows:
	• Setting up Using existing staging areas that are, to the extent feasible, located in previously disturbed and existing operational areas (approximately 26 acres) for equipment storage, maintenance/fueling, and decontamination (work area exclusion zones); and for displaced soil management;
I11-026	The commenter notes that, as the Project proponent, they are concerned that Mitigation Measure CR-1 could be construed to have inconsistent and duplicative requirements to those in the PA and CHPMP. Please see response I11-007 regarding this comment and revisions to Mitigation Measure CR-1.
I11-027	The commenter requests a modification to the language describing the Topock TCP in the impacts analysis section (Section 4.4.3.3) of the DEIR to clarify that DTSC, not the BLM, has determined which physical characteristics of the Topock TCP are considered contributing elements. The commenter is referred to Section 4.4.1.5, page 4.4-28, for a discussion of the physical characteristics of the Topock TCP that are considered contributing elements. This section states that, "The BLM did not identify the contributing elements of the Topock TCP with the exception of prehistoric archaeological sites, which were identified as 'contributing properties' to the TCP (BLM 2012)." No text additions are necessary.
I11-028	The commenter requests that Mitigation Measure CR-1a-2 be modified to clarify that access can be restricted to ensure non-interference with groundwater remediation activities. It is correct that there is some potential timing overlap of the Groundwater Remediation Project with the proposed Project; however, it would be limited to the potential bench scale and pilot tests, geotechnical evaluations, and biota studies (and

	these activities may or may not be required, depending on the results of the soil investigation activities). It is not anticipated that Tribal access afforded during the Project, as referenced in Mitigation Measure CR-1a- 2, would conflict with groundwater remediation activities. The intent of this mitigation measure is to be directed at potential conflicts between Tribal use and the Soil Investigation Project. This EIR does not evaluate the potential for conflicts between Tribal use and the groundwater remediation activities. It is acknowledged, however, that Mitigation Measure CR-1a-2 could exclude Tribal access for a range of health and safety concerns. As such, DTSC feels that Mitigation Measure CR-1a-2 as written satisfies PG&E's concern that they be afforded the ability to restrict Tribal access where necessary and appropriate. For these reasons, no changes have been made to the mitigation measure to respond to this comment. The comment is noted for the record.
I11-029	The commenter notes that PG&E is concerned that it may not be able to successfully meet the time limits imposed by Mitigation Measure CR-1c-2. The commenter is referred to Response I11-008, which incorporates changes to the mitigation measure timing requirements.
I11-030	The commenter indicates that Mitigation Measure CR-1e-3 allows Interested Tribes the opportunity to express whether there are instances where disturbed areas may be more culturally sensitive than non- disturbed areas, which could result in delays and conflict with the PA and CHPMP. The commenter is referred to Response I11-005, which incorporates changes to the mitigation measure to clarify Tribal review.
I11-031	The commenter requests that, in order to avoid delays and conflicts with the CHPMP, the decision to reduce the protective buffer as defined in Mitigation Measure CR-2d be delegated to the parties in the field with approval by DTSC. It is not the intention for the mitigation measures presented in the DEIR to result in inefficiencies or confusion among persons involved in the Project. DTSC believes that the mitigation measures do not present inconsistencies with the PA or the CHPMP. However, the measure has been revised to clarify which agencies/individuals should be involved in the decision-making and approval process. Mitigation Measure CR-2d on page 4.4-83 is revised in this FEIR as follows:
	In the event that resources potentially qualifying as historical resources or unique archaeological resources per CEQA Guidelines Section 15064.5 are inadvertently discovered during ground-disturbing activities, work in the vicinity of the discovery shall immediately cease within a 50 meter radius and temporary protective measures shall be implemented. The radius of the protected area may be modified if determined appropriate by DTSC, BLM, PG&E, and the Tribal Monitor the relevant landowner, PG&E, and the Tribal Monitor, with final approval by DTSC on non-federal and private land and final approval by BLM on federal land

I11-032	The commenter requests that, in order to avoid delays and conflicts with the CHPMP, the decision to reduce the protective buffer as defined in Mitigation Measure CR-3b be delegated to the parties in the field with approval by DTSC. It is not the intention for the mitigation measures presented in the DEIR to present inefficiencies or confusion among persons involved in the Project. DTSC believes that the mitigation measures do not present inconsistencies with the PA or the CHPMP. However, the measure has been revised to clarify which agencies/individuals should be involved in the decision-making and approval process. Mitigation Measure CR-3b on page 4.4-85 is revised in
	approval process. Mitigation Measure CR-3b on page 4.4-85 is revised in the FEIR as follows:

In the event of inadvertent discovery of paleontological resources, all work shall be halted within a 50 meter radius and temporary protective measures shall be implemented until the discovery can be evaluated by a qualified paleontologist (defined as a paleontologist meeting the requirements of the Society of Vertebrate Paleontology [SVP, 2010]). The radius of the protected area may be modified if determined appropriate by DTSC, BLM, PG&E, and the qualified paleontologist the relevant landowner, PG&E, and the qualified paleontologist, with final approval by DTSC on non-federal and private land and final approval by BLM on federal land.

I11-033The commenter requests that, in order to avoid delays and conflicts with
the CHPMP, the decision to reduce the protective buffer as defined in
Mitigation Measure CR-4 be delegated to the parties in the field with
approval by DTSC. It is not the intention for the mitigation measures
presented in the DEIR to result in inefficiencies or confusion among
persons involved in the Project. DTSC believes that the mitigation
measures do not present inconsistencies with the PA or the CHPMP.
However, the measure has been revised to clarify which
agencies/individuals should be involved in the decision-making and
approval process. Mitigation Measure CR-4 on page 4.4-86 is revised in
this FEIR as follows:

In the event of inadvertent discovery of human remains, all work shall be halted within a 50-meter radius and temporary protective measures shall be implemented. The radius of the protected area may be modified if determined appropriate by <u>DTSC, BLM, PG&E, and the Tribal Monitor</u> the relevant landowner, PG&E, and the Tribal Monitor, with <u>final</u> approval by DTSC <u>on non-federal and private land and final approval by BLM on federal</u> land.

I11-034The commenter suggests that the substantive provisions of federal and
state regulations should be listed in Section 4.5.2. The substantive
regulations relevant to spark arrestors (California Vehicle Code Section
38366) are discussed in Section 4.5.2, Regulatory Framework.

I11-035	The commenter states that both Solid Waste Management Unit (SWMU) 1 and Area of Concern (AOC) 1 are located in Bat Cave Wash and suggests the DEIR text be revised accordingly. In response to the comment, the DEIR text on page 4.6-5 is revised in this FEIR as follows: AOC-1 and SWMU-1 are is located in this wash and the AOCs and SWMUs along the west side of the Station drain toward this wash.
I11-036	The commenter identifies a typographical error in reference to certain AOCs. In response to the comment, the DEIR text on page 4.6-5 is revised in this FEIR as follows:
	AOCs <u>92</u> , 10, 11, and 28 are located in and around this dry wash network.
I11-037	The commenter requests clarification on the separate analysis of groundwater contamination in the Groundwater Remediation Project. In response to the comment, on page 4.6-7 of the DEIR, text is added in the FEIR as follows:
	The groundwater and groundwater contamination are being addressed through a separate, comprehensive Groundwater Remediation Project. Impacts from the Groundwater Remediation Project have been assessed in the <i>Final</i> <i>Environmental Impact Report Topock Compressor Station</i> <i>Groundwater Remediation Project</i> (DTSC 2011).
I11-038	The commenter suggests revisions to a bullet on page 4.6-16, which lists the threshold questions for Hydrology and Water Quality that were determined to be less than significant. In response to the comment, the DEIR text on page 4.6-16 is revised in this FEIR as follows:
	"The Project does not include the on-site treatment of discharge of waste water, except for decontamination water that may be treated at the IM-3 Treatment Facility in accordance with Waste Discharge Requirements. Therefore, the Project would not exceed Waste Discharge Requirements and this impact is not discussed further."
	This suggested revision does not change the environmental impact conclusion or mitigation measures related to hydrology and water quality as presented in the DEIR.
I11-039	The commenter provides clarification on the disposal of soil at the Project Site. DTSC concurs with this clarification. In response to the comment, the DEIR text on page 5-17 is revised in this FEIR as follows:
	Soil from the bench scale tests will be hauled off-site for testing and would not be reused on-site or disposed of in a landfill. <u>The</u> <u>Project would produce less than one cubic yard of soil from the</u>

	bench scale tests that would be hauled to a landfill. This would not be a notable or significant amount of waste for the type of landfill that accepts such soil
	In addition, the DEIR text on page 3-31 is revised in this FEIR as follows:
	Soil used for bench scale testing would be disposed of by the laboratory and will not be reused on-site. <u>The Project would produce less than one cubic yard of soil from the bench scale tests that would be hauled to a landfill. This would not be a notable or significant amount of waste for the type of landfill that accepts such soil.</u>
I11-040	The commenter requests clarification on the electrical supply serving the Station, specifically stating that the electricity supplied to the Station is self-generated. In response to the comment, the DEIR text on page 6-24 is revised in this FEIR as follows:
	As discussed in Section 5.3.2, the Project Site is currently served by the Needles Public Utility Authority (City of Needles) electrical distribution system. <u>Although the Project Site is served</u> by the City of Needles, the majority of the electricity at the <u>Station is self-generated</u> , with only a few meters in the Station <u>serviced by the Needles Public Utility Authority</u> .
I11-041	The commenter requests clarification on the possibility of encountering groundwater as a result of Project implementation. In response to the comment, the DEIR text on page 6-27 is revised in the FEIR as follows:
	The maximum depth of drilling associated with the Project is 80 feet below ground surface and is therefore not anticipated that drilling will encounter groundwater or cause any related impacts. The top of the groundwater table may be encountered by several borings in Bat Cave Wash and the deeper borings planned for AOC-11. Although borings may encounter groundwater, the Project will not contribute to cumulative impacts to hydrology and water quality because the Project will not introduce contaminants into the water table and all boreholes will be decommissioned following applicable regulations that protect water quality as described in Impact 4.6-1 (beginning on page 4.6-18).
	The revisions that have been included in the text do not present significant new information, such as changes in the Project, environmental setting, or additional data or information.
I11-042	The commenter requests clarification that electricity may be provided by the City of Needles or the Station. In response to the comment, the DEIR text on page 6-35 is revised in this FEIR as follows:

Electricity would be provided by the Needles Public Utility Authority (City of Needles) electrical distribution system <u>or self-</u><u>generated by the Station</u>.

I11-043 The commenter requests that the word "several" be stricken when referring to cultural values ascribed to the TCP. DTSC acknowledges the comment; however, the language will not be modified as it would infer that all tribes identified as Interested Tribes (as defined on page 4.4-18 of the DEIR) feel the same way about the Topock area, which is not necessarily the case. The comment is noted for the record.
Letter I12: Scott Jarc

PUBLIC COMMENT FORM	
45-Day Public Comment Period for Draft Soil Investigation Environmental Impact Report for PG&E Topock Compressor Station Site, Needles, CA July 7th – August 21st, 2014	
You can use this form to send in your written public comments on the draft Environmental Impact Report (EIR). You may also ask to be added or deleted from the PG&E Topock Site mailing list. If you know of anyone or any organizations that would like to be on the Project mailing list, please use this form to notify us. Please address all mailings to Aaron Yue, DTSC Project Manager, Department of Toxic Substances Control, 5796 Corporate Avenue, Cypress, CA 90630-4732. You may also e-mail this same information to: <u>Aaron Yue@dtsc.ca.gov</u> .	
Reminder: All public comments on the draft Environmental Impact Report (EIR) must be postmarked or e-mailed by August 21*, 2014. NAME: SCOTT JARC	
AGENCY OR ORGANIZATION (if applicable):	1
ADDRESS:	
Telephone #	
Please add me to the PG&E Topock Site mailing list.	112-0
Please delete me from the PG&E Topock Site mailing list.	
TO PAY ME FOR MESSING UP	
MY WATER!!!	112-0
DEPARTMENT OF TOXIC SUBSTANCES CONTROL	
SEP 11 2014	
DATE RECEIVED OVPRESS OFFICE	
DTSC mailings are solely for the purpose of keeping persons informed of DTSC activities. Muiling lists are not routinely released to ontside	

Letter I12 Response	Scott Jarc September 11, 2014
I12-001	The commenter requests to be added to the Pacific Gas and Electric Company (PG&E) Topock Site mailing list. The commenter has been added to the mailing list.
I12-002	This comment is regarding groundwater contamination and is not related to the environmental analysis presented in the draft environmental impact report for the PG&E Topock Compressor Station Soil Investigation Project. Please see Master Response Groundwater regarding groundwater contamination. This comment has been noted for the record and no further response is necessary.

CHAPTER 5 Tribal Responses

This chapter contains the tribal comment letters received on the Pacific Gas and Electric Company (PG&E) Topock Compressor Station Soil Investigation Project (Project) draft environmental impact report (DEIR) and the California Department of Toxic Substances Control's (DTSC's) individual responses to significant environmental issues raised in those comments. Each letter, as well as each individual comment within the letter, has been given an assigned letter and number for cross-referencing. In some instances, Master Responses presented in Chapter 2 of this final environmental impact report (FEIR) may be referenced in response to comments. Responses are sequenced to reflect the order of comments within each letter. **Table 5-1** lists all tribal governments who submitted comments on the Topock Compressor Station Soil Investigation DEIR during the public review period.

Letter #	Commenter	Date of Comment	Comment Page Number	Response Page Number
T1	Fort Mojave Indian Tribe Nora McDowell	July 22, 2014	5-2	5-5
T2	Fort Mojave Indian Tribe Ron VanFleet	July 23, 2014	5-7	5-10
Т3	Hualapai Indian Tribe Dawn Hubbs	July 29, 2014	5-12	5-13
T4	Cocopah Indian Tribe Edgar Castillo	September 3, 2014	5-14	5-36
T5	Chemehuevi Indian Tribe Raymond Mejia	September 5, 2014	5-77	5-79
Т6	Fort Mojave Indian Tribe Timothy Williams; Courtney Coyle; Dr. Michael Sullivan; Technical Review Committee (TRC)	September 5, 2014	5-80	5-220
T7	Hualapai Indian Tribe Loretta Jackson-Kelly	September 5, 2014	5-360	5-388
Т8	Agua Caliente Band of Cahuilla Indians Katie Eskew	July 17, 2014	5-443	5-444

TABLE 5-1 LIST OF TRIBAL GOVERNMENT COMMENTERS

Letter T1: Fort Mojave Indian Tribe

Letter T1

```
1
      cards?
2
                    MS. ISAACSON: So we don't have any turned in
      yet. Okay. So we will just wait a minute. It looks like
3
 4
      some people are filling them out still.
5
                If someone can get the lights, that would be
      fabulous.
 6
7
                There we go. Thank you.
8
                All right. So our first speaker is going to be
      Nora McDowell.
9
10
                And, Greg, if you can go hold the microphone for
      her.
11
12
                     MR. PARK: I'll stand here as long as it
      takes, I promise.
13
14
                     NORA MCDOWELL: Nora McDowell, N-o-r-a
15
      M-c-D-o-w-e-l-l, the project manager for the Fort Mohave
16
      Indian Tribe concerning the Topock project.
17
                Just for the record, I wanted to note that Fort
18
      Mohave Tribe is here present at this meeting and the public
                                                                     T1-001
19
      comment meeting, and, um, we will be providing written
20
      comments for the record regarding the Soils Investigations
21
      Draft EIR.
22
                We do definitely have concerns regarding the
      sacred site area where the actual construction and
23
                                                                     T1-002
24
      remediation will take place within our sacred site area
25
      there at Topock.
                    Peterson Reporting Video & Litigation
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1	The main area is in the cultural, archaeological	1
2	items that are located on the land and the tribe having	
3	property also as part of the project area is of grave	
4	concern to our people, and we have been involved since 2004	
5	regarding the project and its location there.	l I
6	And the significance to the tribes is that we will	
7	live with those impacts that will be created out there for	
8	the generations to come because we will not leave the area.	T1-002
9	This is our home. This is our traditional homeland, and the	Cont.
10	tribe is very concerned about what's going to take place	
11	there.	
12	But yet we do know that the cleanup needs to take	
13	place, and, um, but it just needs to be done in a respectful	
14	manner that also takes into account the impacts to our	
15	people for generations to come because once that land is dug	
16	up and all the infrastructure will be put in place and	-
17	especially with the soils depending on what they do find,	11-003
18	there will be more holes that will be put in the ground $$	
19	in the earth and a lot of walls that will be put in places	
20	as well with the project that will continue, um, to bring	
21	concern to the land in itself.	
22	The whole place is a spiritual pathway for our	I.
23	people when we leave this earth, and, uh, so the tribe has	T1 00 1
24	always been apart of this to make sure that the interest of	11-004
25	the tribes are actively looked at and the concerns that are	

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taken into account when they are actually looking at 1 2 devising the plans and work plans to carry out the work that are being proposed in the soil investigation. 3 T1-004 4 So I just wanted to make those comments on behalf Cont. 5 of the tribe, and we will be submitting comments on the 6 Draft EIR. 7 Thank you. MS. ISAACSON: Thank you. 8 9 Do we have any other completed speaker cards? 10 (No response.) MS. ISAACSON: All right. Um, well, then, we 11 12 can conclude the formal public hearing portion given there 13 are no additional speakers, and the project team will be here for a few minutes cleaning up; and so if you have any 14 other questions about the process, we'll be around for a 15 16 little while. 17 And, please, anybody if you want to take a couple of minutes to fill out your comment form and submit it while 18 19 you're here, we can take it while you're here or you can send it in later. 20 21 Anything else? 22 (No response.) MS. ISAACSON: All right. Well, thank you 23 24 very much. We know it takes a commitment to come here on a 25 weekday evening to a meeting like this, and we do have

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Letter Fort Mojave Indian Tribe **T1 Nora McDowell** Response July 22, 2014 T1-001 The commenter states that the Fort Mojave Indian Tribe (FMIT) was present at the July 22, 2014, public meeting and that the Tribe will be providing written comments for the record for the Soil Investigation draft environmental impact report (DEIR). The comment is noted for the record. Also note that the FMIT written comment letter can be found in responses to letter T6. T1-002 The commenter notes their concerns about the sacred nature of the area and the impacts that construction and remediation may have on their traditional homeland, including property owned by the Tribe. The California Department of Toxic Substances Control (DTSC) thanks the commenter for expressing their concerns and appreciates the information that they have shared about the Pacific Gas and Electric Company (PG&E) Topock Compressor Station Soil Investigation Project (Project), and will continue to keep them informed throughout the Project. DTSC would like to clarify that the Project that is evaluated in the DEIR and that is the subject of DTSC approval is for soil investigation activities and does not include any remediation activities. Additionally, DTSC acknowledges that the Project Site is located partially on lands owned by the Tribe. Pursuant to the 2006 Settlement Agreement between the Tribe and DTSC, the Tribe agreed that the "Tribe will not object to DTSC and its authorized representatives otherwise exercising its authority to enter and move safely about the Former MWD Property at all reasonable times for purposes of ensuring compliance with laws, regulations and requirements." The soil investigation activities proposed for the Tribe's property are required by DTSC to ensure that PG&E complies with various laws, regulations, and requirements, including those imposed by Hazardous Waste Control Law and the California Environmental Quality Act (CEQA). DTSC believes that the Tribal involvement in the Topock investigation and remediation activities for more than a decade has resulted in a better Project that is increasingly sensitive to the environment and Tribal concerns. However, while the environmental impact report (EIR) attempts to document tribal values associated with the sacred site, the significant and unavoidable impacts conclusion reflects that the Project cannot fully avoid impacts to significant cultural resources while also meeting the Project objectives. T1-003 The commenter notes that while they understand the cleanup must occur, it should be done in a respectful manner that takes into account the impacts to their peoples and the land itself. DTSC thanks the commenter for expressing their concerns and acknowledges that the land is understood to be part of the Topock Traditional Cultural Property (TCP), as is reflected in the DEIR. DTSC believes that the Tribal involvement in the Topock investigation and remediation activities for more than a

decade has resulted in a better Project that is increasingly sensitive to the environment and Tribal concerns. DTSC would like to clarify that the Project that is evaluated in the DEIR and that is the subject of DTSC approval is for soil investigation activities and does not include any remediation activities. No long-term infrastructure or walls, as indicated by the commenter, are included in this Project. The commenter is also referred to the Cultural Resources analysis in Chapter 6, "Cumulative Analysis," which considers the collective impacts of past, current, and future projects at the Project Site.

T1-004 The commenter notes that the area is a spiritual pathway for their people and wants to make sure that the interest of the tribes are actively looked at and their concerns taken into account when devising work plans and carrying out work. DTSC thanks the commenter for expressing their concerns and acknowledges the value of the area to Tribes. The DEIR has attempted to incorporate these concerns into the analysis of impacts to the Topock TCP. DTSC also acknowledges receipt of the comment letter referenced by the commenter that was received on behalf of the FMIT (see comment letter T6).

Letter T2: Fort Mojave Indian Tribe

Letter T2

1	first speaker this evening will be Thomas Getz.
2	MR. GETZ: Want me to come up there?
3	MS. ISAACSON: Greg's going to come to you.
4	He's going to make it easy. He's going to hold the
5	microphone for you.
6	MR. GETZ: After about three years of living
7	in Topock, I found I was tested and found that I had
8	cancer, and, um, later on I contacted Erin Brockovich, and
9	Bob Bowcock came out and tested my water and said it was
10	very high in carcinogens. Okay. And I feel in my opinion
11	that that's what caused my cancer.
12	And it had a very strong impact on my life. I've
13	had two operations now, and I am having very expensive
14	treatments every month for it.
15	Other than that, I would just like to warn
16	everyone of those circumstances that I've seen in my
17	opinion, and I think it would be a good idea if anyone has
18	any information about what the water was like before this
19	spill and compare that to what the water is like now, that
20	that would be some concrete information to prove it so we
21	can do something more about it.
22	That's about it.
23	MS. ISAACSON: Thank you, Mr. Getz.
24	Our second speakers is Ron Vanfleet.
25	MR. VANFLEET: Ron Vanfleet, Fort Mohave

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Tribal member. I've been following along with the procedure
1
2
     here for the EIR for, gee, been a while. But, hey, it's
3
     good to see all your familiar faces with PG&E, the cleanup
      crew here, you know, they are always changing. It's good to
4
5
     have the same people back.
 6
                Um, I had a comment there. I -- as of the last
7
      two weeks they are having a cleanup in old Needles dump
                                                                      T2-001
8
      where there was some slush dumped from the old PG&E and GE.
      I'm talking about 25, 30 years ago. In the cleanup they
9
10
      didn't find anything, and, you know, there's -- I know that
11
      we have the plume there, but there are also other places
12
      where it's washed down west of the plume.
13
                Correct me if I'm wrong, they also dumped some --
14
      some toxic behind us here in the desert in the wash, right.
     So I don't see anything like that on the cleanup. You know,
15
16
      so I'm just wondering, you know, how much of it is toxic or
17
      what are the levels or how, you know, is it safe now, you
      know. Of course, I also have cancer.
18
19
                Thank you.
                    MS. ISAACSON: Thank you very much.
20
                Next is Eddie Rigdon.
21
22
                     MR. RIGDON: My name is Eddie Rigdon,
23
     E-d-d-i-e and middle initial A. Last name is Rigdon,
24
      R-i-g-d-o-n.
25
                I represent Metropolitan Water District of
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1
     hearing.
2
               And, um, again on behalf of DTSC, I want to thank
3
      you for being here and please take a look at the Draft EIR,
      submit your comments.
4
                Like Bobbette said, this public review period
5
 6
      where the public has a chance to comment on the conclusions
7
      of the EIR with something we missed, is there a conclusion
8
      that you might have a different prospective on than how it's
9
      stated in the Draft EIR. That's the kind of input that the
10
     project team needs right now.
11
                So your inputs are invaluable and is going to be
12
      important for creating that Final EIR document.
13
                DTSC will let you know when the Final EIR is
14
      completed so you can continue to stay updated on this
15
      project.
16
               And thank you. One more -- one more?
17
                    MR. VANFLEET: Ron Vanfleet. I didn't
18
     mention it on my -- on my comment card, but, um, the saline
      content. I remember the last time we were talking about
19
                                                                      T2-002
20
      pumping the water -- groundwater on the Arizona side, and
21
      the saline content was a little too high for California
22
      side. How is that reversed, or is it changed, or they
23
      changed the law?
                    MS. ISAACSON: Well, we'll go ahead and take
24
25
      that as comment on the Draft EIR.
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Letter T2 Response

Fort Mojave Indian Tribe Ron Vanfleet July 23, 2014

T2-001

The commenter describes an alleged dumping of contaminated materials by Pacific Gas and Electric Company (PG&E) in the "old Needles dump" and "behind us here in the desert wash." The California Department of Toxic Substances Control (DTSC) appreciates the commenter's involvement with the PG&E Topock Compressor Station Soil Investigation Project (Project). DTSC was made aware of the alleged dumping of hazardous materials by PG&E during the public scoping period for the draft environmental impact report. DTSC sent follow-up letters to members of the public who provided comments on this issue in order to obtain more information, and no response was received from commenters. DTSC also queried PG&E regarding the alleged dumping, and no record or information from current or former employees was provided to suggest PG&E disposed of materials in the Golden Shores area. Regarding any disposal of materials by PG&E in Needles Landfill, the commenter suggests that nothing was discovered. The Needles Landfill is under the jurisdiction of San Bernardino County, which should be contacted directly if additional information is needed. The purpose of the proposed Project as identified and evaluated in the Soil Investigation Project EIR is to evaluate the nature and extent of soil and sediment contamination at the Project Site (see Section 3.4, "Project Objectives"). No soil or sediment remediation activities are proposed at this time. Future soil remediation, if needed, would be evaluated in a future California Environmental Quality Act (CEQA) document, to be determined by DTSC as the lead agency (see Section 2.3, "Corrective Action Process," regarding remediation processes.

T2-002

The commenter questions the levels of salinity in water from Arizona. It is assumed that the commenter is speaking about the PG&E production wells in Arizona that have been evaluated for use as part of cleanup plans for the PG&E chromium groundwater plume in California that surrounds the PG&E Topock Compressor Station (Station). The commenter is referred to the final environmental impact report (FEIR) for the Topock Compressor Station Groundwater Remediation Project (Groundwater FEIR) (DTSC 2011) prepared and certified prior to identifying the preferred groundwater remedy for a discussion of water quality conditions. The water that will be imported from a production well in Arizona via pipeline to the Station area in California is planned to be injected into the California groundwater table along the west side of the plume so that it pushes the contaminated chromium groundwater through an in situ (underground) reactive cleanup zone located along National Trails Road near the California floodplain. The salt content of the Arizona water wells is quite good (low salt content) and generally lower than the salt content located in California wells. In general, the salinity of the groundwater increases with depth in both the California and Arizona

groundwater near the Station site. Two new groundwater production wells were recently installed by PG&E in Arizona (wells named Site B and HNWR-1A). The wells were constructed so they were not too deep and would therefore be less likely to capture the highly saline groundwater that occurs at depth. Well HNWR-1 has better water quality than the Site B well and is currently planned on being the main Arizona water supply well for the remedy. The proposed Soil Investigation Project would not result in any potential effects to existing water quality conditions.

Letter T3: Hualapai Indian Tribe



Letter	Hualapai Indian Tribe
T3	Dawn Hubbs
Response	July 29, 2014
T3-001	The commenter requests an extension to the Soil Investigation Project draft environmental impact report comment period. The California Department of Toxic Substances Control granted a 15-day extension of the comment period. The comment period closed September 5, 2014.

Letter T4: Cocopah Indian Tribe





THE COCOPAH INDIAN TRIBE Cultural Resource Department 14515 S. Veterans Drive Somerton, Arizona 85350 Telephone (928) 627-4849 Fax (928) 627-3173

CCR-032-06-001

September 3, 2014

VIA ELECTRONIC MAIL

Mr. Aaron Yue, Project Manager Department of Toxic Substances Control, 5796 Corporate Ave., Cypress, CA 90630

Karen Baker, CEG, CHG Department of Toxic Substances Control Chief, Geological Services Branch 5796 Corporate Avenue, Cypress, CA 90630

Re: <u>Cocopah tribal comments regarding the Draft Environmental Impact Report (EIR)</u> PG&E Topock Compressor Station Soil Investigation Project

Dear Mr. Yue and Ms. Baker

The Cocopah Indian Tribe, is providing comments regarding the Draft Environmental Impact Report (EIR) PG&E Topock Compressor Station Soil Investigation Project. Attached to this letter you will find a table with our comments.

Thank you for the opportunity to provide input on these important issues. If you have any questions feel free to contact me at: Cell: 928-287-5042 or Office: 928-722-7522, or by email at <u>CocopahTPM@gmail.com</u>

Sincerely,

alla Cochillo

Edgar Castillo Cocopah Indian Tribe Topock Project Manager Cc:

T4-001

Topock Comp	ressor Station S	oil Investigation Project Dra	ift EIR
Comment No.	Section/ Page	Reference Text	DEIR Comment (Please provide sufficient detail, include specifically what you are looking for)
Sections 1 & 2		a second and a finite of	
1	n/a	n/a	There is no evidence presented in the DEIR that documents that the DEIR incorporated the Soils Staging/Storage/Construction areas developed through discussions with the Tribes and the DOI/BLM/BOR and detailed in the 1/2014 CHMPM Meeting. Please provide information on whether this was done, and if not, why not and what will be done to incorporate this important information.
2	General	Cumulative Impacts	A primary objective of the DEIR is to evaluate cumulative impacts (past, present, and foreseeable future) of the soil sampling program; however, previously drilled soil-sample boreholes are not shown or even mentoned in the DEIR. This DEIR should describe previous soil sampling impacts, plus new proposed soil sampling impacts, in order to discuss cumulative impacts of the soil program.
3	General	Threat to groundwater	The objective is stated to assess the threat to groundwater; however, this threat and approach to assess it are not well described. For example, how does modeling fit into this assessment? Modeling has contributed to the increased number and depth of proposed boreholes; therefore, descriptions of modeling results are needed in the DEIR
	1.3 Summary of the Proposed Project – p. 1-1	The investigation of soil which is the subject of this DEIR, along with existing data at the Project Site will enable the evaluation and selection of corrective measures, if necessary, in a future Soil Corrective Measures Study/Feasibility Study (Soil CMS/FS).	Please be more specific to what existing data is referring to. Is it only limited to soils data or is it inclusive of all data collected as part of the groundwater and soil investigations/remediation.
5	Sect. 1.3,1 p. 1-2	Project Location	The terms "Project Area" and "Project Site" are used interchangeably throughout the report. Previous maps from the Soil Work Plan show the AOC boundaries; however, the DEIR maps show another area of gray shading around the AOC's. Why is space needed around the AOC's? Are these areas of anticipated impacts or disturbance?
6	1.3.2 Project Objectives p. 1-3	The primary and fundamental objective of the soil investigation activities is to gather sufficient soil samples to be able to reliably characterize the <i>nature and extent</i> of soil and sediment contamination within the Project Site.	As the driving force behind the soil sampling is to define nature and extent of the contamination, it is requested that the specific requirements used to determine if nature and extent has been adequately fulfilled be presented.

Comment No.	Section/ Page	Reference Text	DEIR Comment (Please provide sufficient detail, include specifically what you are looking for)
7	1.3.3.3 Bench Scale Tests and Pilot Studies, Pilot Studies p. 1-5	The in situ soil flushing pilot study would include the construction of either an infiltration gallery or four injection wells for the application of water	The Tribes had indicated during the 30% Groundwater BOD that an infiltration gallery within Bat Cave Wash is not an acceptable option. It was agreed as the project moved from 30% to 60% design that the Tribal perspective was to be respected and the infiltration gallery option was removed. The Tribes opinion on the inclusion of an infiltration gallery within the wash (whether short or long-term) has not changed. Please revise the EIR text.
B	1.3.3.3 Bench Scale Tests and Pilot Studies, Plant or Other Biota Sampling p. 1-5	Plant or other biota sampling may be conducted to evaluate the potential risk to herbivorous and invertivorous wildlife populations.	The inclusion of plant sampling to evaluate potential risk is inconsistent with the conclusions of exposure within the Groundwater risk assessment and the updated soils site conceptual models which indicate that this is an incomplete exposure pathway. Please indicate this within the EIR if this discussion is to continue to be included. Also please indicate what level of consistency is to be maintained between the soils EIR and the soils risk assessment.
9	2.2.1 Station History and Activities p. 2-3	Soil within the Station fence line and in the vicinity of the Station has also been affected by historical releases of COPCs, including Cr(VI) and other metals, acids, petroleum hydrocarbons (PAHs), polychlorinated biphenyls (PCBs), volatile organic compounds (VOCs), semivolatile organic compounds (SVOCs), dioxins and furans, pesticides, and asbestos (CH2M HILL 2013).	Please provide specific detail on which PAHs, PCBs, VOCs, semi volatile organic compounds (SVOCs), dloxins and furans, and pesticides have been detected above screening levels.
10	***********	This Section intentionally left blank>>>>	***********************

роск сотр	ressor Station S	oil investigation Project Dra	ITER	
Comment No.	Section/ Page	Reference Text	DEIR Comment (Please provide sufficient detail, include specifically what you are looking for)	
11	2.2.3 Groundwater Remediation – Page 2-5	The proposed soil investigation activities are therefore not an expansion of the Groundwater Remediation Project and should not change the nature or scope of the Groundwater Remediation Project. and In summary, potential soil contamination cleanup activities in the future may prove to be a key component of the overall cleanup efforts at the Station, but the proposed soil investigation effort is a separate project from the Groundwater Remediation Project and has independent utility.	Both the groundwater and the soils remediation projects have similar impacts within many of the same areas. Therefore it can be concluded that the two projects are intertwined and associated impacts should be considered together. Further evidence of the overlap of the Groundwater and Soils investigation can be found in the text which states "Many of the staging areas to be used for soil sampling activities have been used for staging during previous RFI/RI-related activities, and all are located in previously disturbed and existing operational areas with either existing natural topographic boundaries or fencing that defines the staging area boundaries."	T
oject Description	(Section 3)			
12	3.3 Project Location Figure 3-2		The actual area that is considered within the Soil Investigation Project Site is not clearly designated in the provided maps. For example it is indicated in the map key that the Soil Investigation Final Project Area is represented in pink, however the mouth of Bat Cave Wash is outlined in green and highlighted in brown. This doesn't make sense as this area is clearly included in the soil investigation. Please provide a map that clearly designates what is within the Soil Investigation Project Site.	T
13	Figure 3-3 p. 3-6	Investigation Detail Map 1	Site AOC-BWC7 is located within the same area identified as IM-3 Restoration Area in the <i>Draft Interim Measure No. 3 Decommissioning</i> <i>Report</i> of July 24, 2013. What is the relationship between the soil sampling and IM-3 decommissioning? Is there any overlap in order to reduce the number of samples for either effort?	Т

1.1

Comments on	the Pacific Gas	& Electric Company	FROM: Cocopah	
opock Comp	ressor Station	Soil Investigation Project Dra	aft EIR	
Comment No.	Section/ Page	Reference Text	DEIR Comment (Please provide sufficient detail, include specifically what you are looking for)	
14	Sect. 3.5.2.11 p. 3-29,	Investigation-derived waste (IDW)	At the request of the Hualapai Tribe, calculations were done by TRC indicating that about 2 cubic yards (one pickup truck) of soil sample material would be transported out of the project area for laboratory analyses. The DEIR shows 5 to 20 cubic yards of IDW will be produced; the difference is unclear, but the higher estimate might include drill cuttings, blading, and clearing. Can you be more specific regarding the types of IDW generated? Most of these other soils do not need to be stockpiled, but using XRF analysis could be returned immediately to the landscape, whether as borehole filler or land cover at selected locations. Are there any plans to reuse the clean IDW? How would they be used?	T4-0
15	p. 3-31	3.5.3.2 Pilot Studies	The Soil Flushing operations are minimally-described in the Soils Work Plan. Thus, the DEIR really has nothing to reference in that regard from the Soils Work Plan. The comment development in the Soils Work Plan references the CMS/FS for future development of the Soil Flushing. However, the DEIR seems to assume that Soil Flushing is part of the Soils Work Plan. This situation needs to be more completely addressed.	 T4-0
16	p. 3-13	3.5.3.2 In Situ Soil Flushing	In the DTSC comments during the 30% BOD response to comment process, it seemed that an infiltration gallery within Bat Cave Wash was removed from further consideration. However, it is included here again as a possible remedial option as part of a soil-washing pilot study. Regarding Exhibit 3-6 of the 30%, DTSC commented: "The note at the bottom of the exhibit indicates that the Infiltration Gallery in Bat Cave Wash option is deferred until after completion of the Soil RFI/FS and CMS/FS. First, DTSC and a Tribe commented on the Gallery was no longer being considered, and therefore, soil comments related to the Gallery were dropped from further consideration. [emphasis added]" Regardless if an infiltration gallery is proposed as disposal of treated water or as a remedial option, the Tribal preference against such a construction in Bat Cave Wash is the same and should be clearly stated in the EIR text.	T4-0
17	3.5.2.7 Staging Areas p. 3-23	For example, during the operation of IM-3 injection wells, the Native American Tribes expressed a preference for unobtrusive, low-visibility boundary markers, so straw wattles were used as the primary means of boundary marking, with other delineation devices used only in strategic locations.	This statement should be reworded to say "In some areas, wattles have been used as a means of boundary marking, as they were generally low- visibility and less obtrusive. Other delineation devices have been used only in strategic locations. The current project will follow this same general means of marking work boundaries.	_T4-0

Comments on	the Pacific Gas	& Electric Company	FROM: Cocopah]
Topock Comp	ressor Station S	Soil Investigation Project Dra	aft EIR	
Comment No.	Section/ Page	Reference Text	DEIR Comment (Please provide sufficient detail, include specifically what you are looking for)	
18	3.5.2.8 Work Area Exclusion Zone p.3-24	Figure of work zones	The figure indicates that the support zone will be located upwind of the exclusion zone. What happens when wind changes direction? Will the support zone be moved? Please discuss this and how this would increase the footprint of impact during soil investigation.	T4-018
19	3.5.2.9 Drilling or Excavation for Soil Samples p. 3-24	Efforts will be made to use the least intrusive method feasible depending on location	Please provide detail on how "least intrusive" will be quantified. Who will ensure that the least intrusive method is decided upon and implemented? Determination of "least intrusive" should be made in consultation with the Tribes	T4-019
20	3.5.2.11 Investigation- Derived Waste p. 3-29	After characterization, water generated from decontamination activities, estimated at up to 2,000 gallons, would likely be processed on-site at the existing IM-3 treatment facility and re-injected into the aquifer.	The IM3 facility is to be removed and therefore the inclusion of the facility for treatment of soil derived waste water needs to occur prior to the removal and should not in any way delay the scheduled removal of this facility. Please indicate the dates of IM3 removal and the anticipated dates that this groundwater facility would be used to process soils investigation derived waste water.	T4-020
21	p. 3-31	"Some of the more important Project Site- related parameters include variations in hydraulic conductivity, degree of heterogeneity and soil organic content. Soil permeability is a key factor in assessing the applicability of this technology. The site specificity of application of this technology necessitates extensive predesign data collection through pilot studies."	It's unclear what parameters are specifically needed – soil permeability? Why not saturated hydraulic conductivity? What about soil moisture retention characteristic and hydraulic conductivity relations for unsaturated zone?	T4-021
22	p. 3-32	"Contaminants would be transferred from soil to water, which would then be recovered via extraction wells."	Given the significant depth to ground water, especially in source areas, coupled with heterogeneities within the unsaturated zone, is there any potential that a portion of the flushed contaminants fluid may redistribute within the unsaturated zone, rather than assuming 100% is recoverable at extraction wells, that presumably extract from the saturated zone beneath the flushing? If so, how would this be recovered?	T4-022
23	p. 3-32	Paragraph 4	It appears 4 new injection and 4 new recovery wells (a total of 8 wells) would be installed, and then removed. Would these add to the total number of wells to be drilled? What would the approximate total depths and screened intervals be for each?	T4-023

Comments on t	he Pacific Gas	& Electric Company	FROM: Cocopah	
Topock Compre	essor Station S	oil Investigation Project Dra	aft EIR	
Comment No.	Section/ Page	Reference Text	DEIR Comment (Please provide sufficient detail, include specifically what you are looking for)	
24	p. 3-33	1 st complete paragraph	Up to 6 borings will be drilled. Please include a spreadsheet inventory, like that for the groundwater remedy, for tracking borings/drilling related to the soils investigations and testing. Table 3-3 should be developed into such an inventory.	T4-024
25	p. 3-34	3.5.4	Please include a spreadsheet inventory, like that for the groundwater remedy, for tracking borings/drilling related to the soils investigations and testing. Table 3-3 should be developed into such an inventory.	T4-025
26	3.5.5 Plant or Other Biota Samples p. 3-34		The inclusion of plant sampling to evaluate potential risk is inconsistent with the conclusions of exposure within the Groundwater risk assessment and the updated soils site conceptual models which indicate that this is an incomplete exposure pathway. Please indicate this within the EIR if this discussion is to continue to be included. Also please indicate what level of consistency is to be maintained between the soils EIR and the soils risk assessment.	T4-026
27	3.5.6 Work Area Restoration p. 3-36	If not paved, the area would be raked/brushed to remove tire tracks and restored to substantially the same condition(s) as prior to the soil investigation sampling.	Please describe how this will be quantitatively evaluated. How will this activity be monitored before, during and after to assist in the evaluation?	T4-027
28	3.5.8.1 Soil Sampling and Sample Analysis p.3-38	TABLE 3-4 SOIL SAMPLING FIELD IMPLEMENTATION SCHEDULE	When and if Pilot Studies in the Bottom of Bat Cave Wash are planned, Tribes should be involved in scheduling, monitoring, construction specifications and all phases of such studies.	T4-028
29	TABLE 3-3 SOIL INVESTIGATION AREAS – TOPOCK COMPRESSOR STATION PROJECT SITE, NEEDLES, CALIFORNIA p. 3-38		The table indicates that boreholes of significant depth will be part of the soils investigation. Specifically AOC1 (80ft), AOC11 (69ft), AOC 26 (75ft), Storm Drain System (50ft). It is not clear why these boreholes are considered independent of the borehole count considered within the Groundwater EIR. It is suggested that the groundwater remediation project, the soils investigation and the future soil remediation project all have similar and overlapping impacts that need to be considered together. These soil investigation boreholes will have a cumulative impact to the landscape and need to be considered within the borehole count addressed within the Groundwater EIR. Specifically these boreholes should be included in the borehole count which is to be capped at 168 boreholes.	T4-029

Comments on	the Pacific Gas	& Electric Company	FROM: Cocopah	
Comment No.	Section/ Page	OII Investigation Project Dra Reference Text	DEIR Comment (Please provide sufficient detail, include specifically what you are looking for)	
30	3.5.8.1 Soil Sampling and Sample Analysis p. 3-39	Anticipated vehicle use and trips are outlined in Table 3-5	Please indicate within the text how these numbers were calculated.	T4-
nvironmental Anal 31	ysis (Section 4) Sect 4.2.3.3 p. 4.2-15	Air Quality Impact Analysis	Unforeseen emissions might also arise from the project, such as trucking and transportation of laboratory samples, acid digestion of soil samples in laboratory fume hoods, and incineration or disposal of laboratory samples.	Т4
32	4.3.1.1 Project Setting - Lower Colorado River p. 4.3-1		Why is Davis Dam not included in the description of the Lower Colorado River?	T4
33	NPDES Construction General Permit 4.5.6		There needs to be development of necessary erosion control plan specifics for pilot-scale testing in Bat Cave Wash.	174
34	4.3.1.2 General Biological Resources p. 4.3-4		Why is the Instream Habitat Typing Survey Technical Memorandum not listed or discussed?	T4-
35	4.3.1.3 Jurisdictional Resources p. 4.3-14	It is assumed that the resources mapped within the Project Site in Figure 4.3-2 are considered jurisdictional under Section 404 of the Clean Water Act (CWA) and therefore also qualify for jurisdiction under Section 401 of the CWA administered by the RWQCB, and Section 1600 of the California Fish and Game Code administered by CDFW (CH2M Hill 2013).	Please be specific if ALL (i.e. all features indicated within the map key under Wetlands) of the resources included in Figure 4.3-2 are considered jurisdictional under Section 404 of the Clean Water Act (CWA).	T4-0

Comments on th	ne Pacific Gas	& Electric Company	FROM: Cocopah	
Topock Compre	ssor Station S	oil Investigation Project Dra	ft EIR	
Comment No.	Section/ Page	Reference Text	DEIR Comment (Please provide sufficient detail, include specifically what you are looking for)	
36	TABLE 4.3-3 SPECIAL-STATUS SPECIES POTENTIALLY OCCURRING IN THE PROJECT SITE p. 4.3-27		It is unclear why bird species which have been documented in riparian areas around the Project Site are listed as "could occur" and not "likely to occur". The level of Potential for Occurrence appears inconsistent within the evaluation "Could occur" has been assigned to species such as the desert tortoise and the Nelson's bighorn sheep both of which have never been sighted within the APE and is defined within the DEIR report as "Suitable habitat is available in the Project Site; however, there are few or no other indicators that the species might be present". Bird species such as the Southwestern Willow Fly Catcher are also listed as "could occur" even though the Project Site provides suitable nesting and foraging habitat within the large stands of salt cedar along the banks of the Colorado River. This species has been documented in riparian areas around the Project Site, primarily at Topock Marsh, and has been detected near Park Moabi Lagoon. It is suggested that bird species that have been sighted within the APE be listed as "likely to occur"	T4-036
37	4.3.1.6 Sensitive Biological Resources Special-Status Mammal Species p. 4.3-39	Nelson's bighorn sheep and signs thereof (tracks, scat, etc.) were not observed within or near the Project Site during the various biological surveys; however, according to the CNDDB (2013), Nelson's bighorn sheep have been documented in the mountains south of the Project Site (Figures 4.3-3, 4.3-4 and 4.3-4c). The species may use the foothill portions of the Project Site for foraging and movement, but no lambing habitat occurs within the Project Site.	The language in the DEIR suggests that only the foothill portions of the site may be used by the Nelson's bighorn sheep. This is inconsistent with the soils risk assessment which intends to evaluate risk for the bighorn sheep as if exposures in the floodplains and Bat Cave Wash are occurring. Please indicate what level of consistency is expected between soil documents as it appears the Soils EIR comes to very different conclusions on ecological site usage than is being developed within the soils risk assessment.	T4-037
38	4.3.2 Regulatory Background		The lack of discussion of the designated Area of Critical Environmental Concern (ACEC) which is a conservation ecology program in the western United States, managed by the Bureau of Land Management conceived in the 1976 Federal Lands Policy and Management Act (FLPMA), and established the first conservation ecology mandate for the BLM appears to be a significant oversight in this section of the document. Please include a discussion on the ACEC and the jurisdiction of the management plan developed under the ACEC program.	T4-038

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39	4.3.3.3 Impact Analysis Regulatory Requirements and Avoidance Measures p.4.3-52	However, PG&E must still comply with avoidance and minimization measures (AMMs) attached to the March 6, 2013, letter and any additional mitigation measures in this DEIR.	Please include the AMM attached to the March 6, 2013, letter as appendix to the DEIR.	T4-039
40	4.3.3.3 Impact Analysis Regulatory Requirements and Avoidance Measures p. 4.3-52	Project-related activities that could be hazardous to aquatic life or waters of the state, shall be prevented from contaminating the soil and/or entering the waters of the state and shall not be deposited within 150 feet of the high water mark, unless containerized.	Please provide a map of soil investigation activities and the 150ft above high watermark to ensure compliance with the Regulatory Requirements and Avoidance Measures.	T4-040
41	4.3.3.3 Impact Analysis Mitigation Measure BR-1: No net-Ioss of Wetland, Riparian or other Sensitive Habitat Function or Value p. 4.3-56	Before undertaking ground-disturbing activities within East Ravine and Bat Cave Wash, a qualified biologist shall coordinate with PG&E to ensure that the footprints of investigation activities, including drill pads, staging areas, and access routes, are designed to avoid disturbance to sensitive habitats to the extent feasible.	Please provide a more quantitative definition of "extent feasible". Who defines this and who ensures compliance? Any evaluation should include ethnobotanical uses by the Tribes.	T4-041
42	Mitigation Measure BR-4: Disturbance of Special-Status Birds p. 4.3-59	Where possible, vegetation trimming, pruning, or clearing and other activities shall be timed to avoid the nesting season for special-status bird species that may be present (March 15 through September 30)	Please provide a more quantitative definition of "Where possible". Who defines this and who ensures compliance? Ethnobotanical uses and gathering practices of the Tribes should be taken into consideration.	T4-042
43	Fish Mortality, Interference with Spawning Habitat, and Other Adverse Aquatic Effects Regional and Local Plans p. 4.3-65	No conflicts with BLM's management plan are anticipated with implementation of the proposed Project. The proposed Project is not considered a prohibited activity and the Project activities would not degrade the biological resources element of the ACEC.	Please provide reference to BLM's ACEC management plan and describe what the biological resource elements of the ACEC are. Prohibited activities are not the only activity of concern, nor the only kind of activities with potential impacts or land use inconsistencies. Please expand this discussion.	T4-043

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44	4.5.3.2 Thresholds of Significance p. 4.5-11	No new access roads would be built for the proposed Project and no increases in traffic volumes are anticipated that would conflict with an adopted emergency response plan or emergency evacuation plan.	It is not clear what this is intended to suggest. New access roads are planned for sampling efforts (e.g. access to the mouth of Bat Cave Wash) and increased traffic volumes will occur along National Trails Highway as well as other secondary dirt roads on the site during sampling activity. Please clarify why this is not considered within the impact analysis. In addition it appears that the impact analysis did not consider the potential spill of contaminated soils and waste water that are being transported off- site. Why is this possible occurrence omitted from discussion?	T4-044
45	Potential for Hazardous Materials Release p. 4.5-12	As a part of the grading and site preparation elements of the Project, PG&E will implement and conduct the following actions:	Is this intended to suggest that the Soils Risk Assessment which will be conducted after the soils investigation will be used to determine pollution prevention requirements? Sequentially this does not make sense.	T4-046
46	p. 4.5-17		A flood-induced washout of a pilot test site in Bat Cave Wash would be a significant impact, but this possibility has not been discussed or evaluated, and it needs to be.	T4-047
47	Sect. 4.6.1.2 p. 4.6-5	Surface Water	The DEIR states that the Colorado River is a losing reach at this location; however, it needs to be clarified that the IM-3 pumping might draw some water from the river, but the water is returned to the aquifer through injection wells. Topock modeling reports indicate that about 610 acre-feet per year exit the Mohave Valley. Regardless of the groundwater pumping and circulation established by IM-3, there would still be a net groundwater discharge from the basin.	T4-048
48	Sect. 4.6.3.2 Thresholds of significance p. 4.6-16	"Project site is not in an area that would be subject to inundation."	The project area is subject to frequent floods, especially Bat Cave Wash. Field workers, equipment, drill rigs, stockpiled soils, and sampling activities are at risk for flash floods in the project area. In an extreme case of dam failure, the Bureau of Reclamation (1993) indicated a flood elevation of 545 feet at the Topock site, which would inundate many areas of the soil investigation.	T4-049

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49	Surface Water quality – Colorado River p. 4.6-6	"As noted previously and discussed further in this document, the IM-3 extraction system prevents groundwater from entering the Colorado River."	This statement is not true and needs to be reworded to be factually correct, e.g., As noted previously and discussed further in this document, between river miles XX and YY, the IM-3 extraction system acts to significantly diminish groundwater flow into the Colorado River on the California side of the river."	T4-050
50	Ephemeral Drainages Section p. 4.6-6		Mo and Se concentration ranges are presented but not discussed. Please discuss the significance of these analytical results.	T4-051
51	Ephemeral Drainages Section p. 4.6-6	2 nd full paragraph, last 2 sentences	Please state the background concentrations and MCLs for TDS (as specific conductance), As, Mo, Se and Nitrate.	T4-052
52	NPDES Construction General Permit p. 4.6-12	First two (or more paragraphs)	This section of text appears to repeat verbatim content presented elsewhere in the Draft EIR (see page 4.5-6). Was this intentional?	T4-053
53	SOP-B4 (Boring Abandonment) p. 4.6-14	"The proposed Project will follow the SOPs in the Topock Program Sampling, Analysis, and Field Procedures Manual, PG&E Topock Compressor Station, Needles, California (CH2M HILL 2005b), which are included as Appendix G of the Work Plan."	As part of the GW remediation work, the Tribes have worked with PG&E and their consultants to prepare well and boring abandonment procedures. During this process, the Tribes have expressed a preference to avoid bentonite or other non-native materials as abandonment materials if possible. To the extent possible, these same preferences are valid for the soil sampling program. Where possible, natural materials should be used, at a minimum, to abandon the approximate top two feet of a boring. Note that the SOP-B4 does not match the language under p. 3-30, Section 3.5.2.12 – which <u>does</u> allow for: " <i>native soil would be used to fill the top 6 to 12 inches.</i> ". The soil sampling program needs to be flexible regarding the placement of filler material within boreholes on a case-by-case basis and incorporating Tribal preferences. In additional, the surface expression of any abandoned boring should not pose a hazard to animals or humans, consistent with well abandonment procedures developed for the GW remediation program. Care should be taken to restore surface soils and plants to ensure that long-term visual	T4-054

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54	p. 4.6-16 4 th bulleted item		It is stated that the failure of either Hoover Dam or Davis Dam would not inundate the Project Site area. While the inundation mapping for a catastrophic failure at Hoover Dam is highly classified information, and the probability of such an event is extremely low, the statement would seem to be untrue, especially for the river bank wells and IRZ area which are at the lower elevations for the project inundation might not be in the forecast. Generally speaking, there needs to be a straightforward and complete discussion in the EIR of Colorado River and Bat Cave Wash flood hydraulics and flooding potential which includes the very small risk of inundation from upstream dam failure. This discussion should address how a flood on the river is not the same as a flood on the wash. Please critically evaluate the validity of the referenced County General Plan Hazard Maps regarding inundation zones shown for a failure at Davis or Hoover Dams.	T4-056
55	p. 4.6-22	"Because the Project does not include the construction of impervious surfaces that would impede surface water infiltration into the subsurface, the Project will not impact the recharge of groundwater."	Does this suggest that none of the activities (i.e., compaction of soils in soil sampling/drilling/injection/extraction locations, or infiltration galleries) would affect recharge of groundwater in associated areas, unless the surface was paved? The literature suggests otherwise.	T4-057
56	p. 4.6-23	"These grading and ground disturbance activities could disturb soil and alter drainage patterns such that rain events could result in the discharge of polluted runoff to drainages and eventually to the Colorado River. These grading and ground disturbance activities could alter drainage patterns of localized areas such that rain events could exceed the capacity of existing or planned storm water drainage systems. The alteration of drainage patterns could also increase the potential for on-site or off-site flooding."	This statement seems to support the opposite conclusion cited in the previous Impact-Hydro1 statement in page 4.6-22, mentioned in previous comment. Though, the text then says that PG&E will implement SOPs and BMPs, will efforts be made to reduce the potential for creating areas of focused groundwater recharge (and unnecessary spread/transport of contaminants into undesired areas)? The text in this section suggests the focus would only be to prevent surface drainage routes to the Colorado River, or potential onsite/offsite flooding. Though SOPs and BMPs may reduce direct drainage to the Colorado River, they should also reduce the potential for concentrating any storm-water surface flows into non-impacted areas – to avoid expanding the current impacted soil/groundwater areas.	T4-058

pock comp	lessor station a	Son investigation Project Dia		
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57	p. 4.7-4 last paragraph	A typical ratio is 10, so that marks on the scale read: 1, 10, 100, 1,000, 10,000, etc., which doubles the variable plotted on the x-axis. The human ear perceives sound in a non-linear fashion, hence the decibel scale is based on logarithms, two noise sources do not combine in an additive fashion	Please modify to read; A typical ratio is 10, so that marks on the scale read; 1, 10, 100, 1,000, 10,000, etc. The human ear perceives sound in a non-linear fashion, hence the decibel scale was developed. Because the decibel scale is based on logarithms, sound pressure (noise) levels from two noise sources do not combine in a linear additive fashion	T4-05
58	Section 4.7.1.4 (Noise Attenuation)		Please include a sentence/paragraph addressing how noise attenuation can, in some circumstances, be diminished, leading to noise levels that are greater than would otherwise be expected or observed.	T4-06
59	Section 4.7.1.5 (Vibration)		This 1-pargraph section needs to include a sentence such as the following: Certain ground conditions, for example, caliche layers, can enhance vibration transmission (by agency of reduced attenuation), relative to conditions that would exist in the absence of such conditions. In rare situations, standing waves and other wave phenomena may result in amplification of vibration amplitude.	T4-06
60	Section 4.7 1.6 (Existing Noise Environment)		There needs to be a discussion of the fact that the "intervening mesas" do not block all noise from the Topock Compressor Station. For example, at the location of ST-1, an area of great relevance to Tribal members, the compressor station is quite possibly the most significant noise source, during either day or night.	T4-06
61	Section 4.7 1.8 (Existing Noise Environment) and Figure 4,7-2		Please provide an explanation as to why the 2013 ST-1, ST-2 & ST-3 (green symbol) measurement locations are not even close (especially for ST-2 and ST-3) for different epochs of measurements. The legend should indicate month and year of the data acquisition, as there were measurements in early 2013 by PG&E, and again in late 2013 by DTSC-contractors for the EIR development.	T4-06
62	Section 4 7.1 6 (Existing Noise Environment)		Please add a chronology for the 3 separate noise level measurement campaigns (2008, for the groundwater EIR; 12/2012-1/2013 for groundwater remedy design development; 12/2013 for soils EIR), rather than mixing them all together.	T4-06

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63	Section 4.7.1.6 (Existing Noise Environment)	Local roadway traffic, rail operations, aircraft overflights and wind gusts dominated the noise environment at each of the noise measurement sites.	This interpretation is not correct. For example, at the location of ST-1, Topock Compressor Station noise does at times dominate the noise environment, and, at LT-C, ST-4, ST-8 and LT-A, the compressor station noise is likely to be a significant or dominant component of measured noise.	T4-065
64	Section 4.7.1.6 (Existing Noise Environment)		Please include explanations of the rationale for noise measurement site selection for, at a minimum, the 12/2013 noise measurements made as part of the soils EIR development, identification of the equipment used, and provision of the measurement protocols followed.	T4-066
65	Table 4.7-1		Please consistently indicate the source of the data by month/year, e.g., 12/2013, or December, 2013. For sites 4 thru 9, a footnote should be added, indicating that a single 15-minute measurement was made at each location in December of 2013.	T4-067
66	p. 4.7-9 (Vibration-Sensitive Land Uses)		Please add a statement to the effect that Tribal uses at various locations across the TCP would also be considered vibration sensitive.	T4-068
67	p. 4.7-10 (State of California), 2 nd paragraph		In the second sentence, it is stated that "Caltrans recommends a more conservative threshold". Please clarify the meaning of more conservativei.e., conservative RELATIVE to what?	T4-069
68	p. 4.7-18 first complete paragraph	soil investigation sampling activities could lead to	Please modify to read:soil investigation sampling activities AT WHICH LOCATIONS could lead to	T4-070
69	p. 4.7-18 first complete paragraph	The nearest sensitive residence to the active soil sampling area	Please add a sentence to be more specific about the residence location and the soil sampling location.	T4-071
70	p. 4.7-19, second bulleted item	Pneumatic powered socketshielded.	Please modify to read: Pneumatic-powered socket wrenches shall be low- noise (<85 dBA when operating - such as pneumatic-powered air pulse wrenches), and all intake and exhaust ports on power equipment, such as engine driven air compressors, shall be muffled and shielded using best- available technology.	T4-072

Comment No.	Section/ Page	Reference Text	DEIR Comment (Please provide sufficient detail, include specifically what you are looking for)
71	p. 4.7-19, fourth bulleted item		Please modify to add: The PG&E Disturbance Coordinator will also verify and document (sub) contractor and (sub) consultant compliance with all EIR Noise and Vibration Mitigation Measures. For example, the Disturbance Coordinator will verify and document that (sub) contractors possess at the site and are using the required low-noise pneumatic wrenches, and that intake and exhaust ports on power equipment are muffled and shielded while such equipment is in operation.
72	Table 4.7-5 ρ. 4.7-20	VIBRATION VELOCITIES FOR CONSTRUCTION EQUIPMENT	Based on footnote <i>b</i> , this table appears to have been prepared with consideration only for adjoining residential land use. It needs to be modified to also take into consideration non-residential Tribal use locations, even hypothetical locations identified by the EIR authors, as those locations are highly relevant and they could be much closer to the source(s).
Other CEQA Section	s (Section 5)		
73	5.1.1 Cultural Resources Topock Traditional Cultural Property p. 5-2	The Project is being proposed notwithstanding these effects because the soil Investigation activities are necessary to gather sufficient information to reliably characterize the nature and extent of soil and sediment contamination within the Project Site, enabling completion of the Final RFI/RI Report Volume 3 (Soil) and risk assessment as required by the 1996 Consent Agreement as soon as practicable and consistent with applicable state laws and regulations.	We would like a better understanding of the validity of this statement. It is possible that there is enough soil data to adequately characterize risk? The PG&E risk assessment team has already acknowledged that they have determined that current dataset adequate. The additional step out sampling proposed under the soil investigation will only result in less conservative EPC values because these step-out samples will have lower contaminant concentrations. It is important that the requirements needed to reliably characterize the nature and extent of soil and sediment contamination within the Project Site be clearly defined and included in the DEIR document. If the assumption is true that additional sampling will only decrease the EPC values and the subsequent calculated risk then it would appear that a conservative alternative for reducing impacts would be less sampling and this must be evaluated in the DEIR as a reasonable alternative to achieve project goals.

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74	5.3.1 Agricultural Resources p. 5-6	The proposed Project Site is characterized by arid conditions and high temperatures. While there are agricultural uses north of the Project Site and in Needles along the Colorado River, the landscape at the Project Site consists of considerably eroded small to moderately sized terraces with very steep slopes. These conditions are not conducive to agriculture uses. The National Resource Conservation Service has not mapped soils in the Project Site; therefore, no soils in the area have been designated as agricultural soils (NRCS 2013).	The statement that the conditions of the area are not conducive to agriculture uses contradicts the inclusion of a sustenance farm scenario in the risk assessment. It is unclear what level of consistency is to be maintained within the numerous risk and impact documents developed for the soil remediation project. Please indicate why the soils EIR has determined that agriculture at the site is not likely while the soils risk assessment work plan has determined that this is a likely pathway of exposure that needs to be quantitatively evaluated.	T4-076
75	Sect. 5.3.10, and Appendix E p. 5-13	Transportation and Traffic	Traffic impact analysis does not describe the condition of current roads and whether the roads can handle the additional traffic.	T4-078
75	Sect. 5.3.10, and Appendix E p. 5-13	Transportation and Traffic	Few descriptions were provided for traffic on the historical Route 66 past the IM-3 facility and Park Moabi South road to the Compressor Station. Both of these roads pass through important cultural areas. How many vehicle trips would be added to these segments?	T4-079
77	Sect. 5.3.10, and Appendix E p. 5-13	Transportation and Traffic	The DEIR indicates that roads and access routes will be improved, graded, or cleared; where other sections of the report indicate that there will be no disturbance, or kept to a minimum. Is there a possibility that there will be no need for any grading or clearing?	T4-080
78	5.3.11.1 Soil Waste p. 5-17	The waste soil will be stored in U. S. Department of Transportation–compliant drums or lined, steel roll-off soil bins that would be temporarily staged in previously used staging areas to the extent practicable.	Please provide displaced soil volumes associated with all aspects of the soil sampling plan.	T4-081
79	5.3.11.1 Soil Waste p. 5-18	As shown in Table 5-3, the maximum projected waste stream of up to 20 cubic yards would not exceed the available capacity of relevant landfills.	Please provide more detail on the assumptions used to develop this quantity.	T4-082

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80	5.3.11.2 Water and Wastewater Soil Sampling Activities and Geotechnical Evaluation p. 5-19	It is expected that up to 2,000 gallons of wastewater would be generated from soil sampling (plus 500 additional gallons of wastewater for contingency sampling if required).	Please provide more detail on the assumptions used to develop this quantity.	T4-0
81	5.3.11.2 Water and Wastewater - Pilot Studies, In Situ Soil Flushing p. 5-20	The amount of water required for the flushing would range between 700,000 to 1,000,000 total gallons of water (approximately 8,000 gallons per day).	Please provide more detail on the assumptions used to develop this range.	T4-0
82	5.3.11.2 Water and Wastewater - Pilot Studies In Situ Soil Flushing p. 5-21	PG&E's existing Lower Colorado River Water Supply Project contracted entitlement is 422 AFY. Water at the Station is supplied by wells located on the Arizona side of the Colorado River, and these wells would also supply water needed for in situ soil flushing. Up to 1,000,000 gallons of water (approximately 3 AFY) generated from soil flushing is a fraction of the 70 to 100 AFY of water used at the Station.	Please discuss the elevated arsenic and fluoride levels associated with the Arizona groundwater and whether this would trigger any regulatory requirements for the use of this water for soil flushing and in situ soil treatment. Would one need to ensure that arsenic is not migrating to groundwater?	T4-0
83	5.3.11.2 Water and Wastewater - In Situ Stabilization/Chemic al Fixation p. 5-21	The in situ stabilization/chemical fixation pilot study would involve the application of water or additives containing water to soil to enhance contaminant solubility.	What are the additives and what level of assurance will be provided that these additives will not become a new soil contaminant?	T4-0
umulative Analysis	(Section 6)			1
84	Section 6.4.2 (List of Related Projects in the Vigitation		Prospective pipeline company (PG&E – other than remediation-related, Southern California Edison, Kinder-Morgan, and Southwest Gas), City of Needles electrical, and BNSF improvement projects are not included but should be considered in this section	T4-0

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85	Section 6.4.2 p. 6-6	Baseline/existing conditions: "The existing infrastructure within the Project Site, including roads, bridges, railroads, and utilities are not included in the Table 6-3, since these past projects in the vicinity of the proposed Project are part of the baseline/existing conditions"	Please explain how the EIR is differentiating between environmental baseline and past projects contributing to cumulative effects, particularly to soil. It is important to specifically mention large land usage/disturbances that have involved soil removal and/or expansion of the TCS foot print outside of the facility fence line when discussing what is included in this "baseline". Presumably, the term "baseline conditions" used herein incorporates major expansions of the facility foot print represented by the area used for the former evaporation ponds, the 1989 construction, on BLM land, of new evaporation ponds, and the "time-critical" soils removal action conducted in 2010 at AOC 4. Both generations of evaporation ponds utilized large tracts of previously open lands, and the soils removal action at AOC4 resulted in a large area of disturbance and soils removal. While each of these occurred prior to the initiation of this EIR document, they all constitute significant and permanent or long lasting damage of the landscape which significantly increased the impact to the area, and encroached upon the most sensitive of the cultural areas included in this EIR. Please include each of these past projects in the cumulative impact analysis evaluated within this document.	T4-088
86	6.4.2 List of Related Projects in the Vicinity p. 6-6	The soil characterization and investigation proposed as part of this DEIR will by nature be completed by the time the soil remedy is identified and implemented and therefore no temporal overlap between the soil investigation Project and the soil remediation would occur. As such, the potential effects of any future soil remediation are not included in this cumulative analysis.	The DEIR text states that: "This chapter presents an analysis of the cumulative effects of the proposed Pacific Gas and Electric Company (PG&E) Topock Compressor Station Soil Investigation Project (Project) in combination with other past, present, and reasonably foreseeable future projects within the Project Site and surrounding area that could cause related environmental impacts similar to those anticipated to occur under the proposed Project and discussed in this draft environmental impact report (DEIR)" It would appear that the final soils remedy would fall under the category of past, present, and reasonably foreseeable future projects and therefore it is not clear why it isn't being considered in the cumulative analysis. Please include the final soils remedy under the cumulative impact analysis evaluated within this document.	T4-089

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87	TABLE 6-3 LIST OF PROJECTS LOCATED AT OR WITHIN THE VICINITY OF THE PROPOSED PROJECT		Why is the development of the ACEC management plan not listed?	T4-090
88	TABLE 6-3 LIST OF PROJECTS LOCATED AT OR WITHIN THE VICINITY OF THE PROPOSED PROJECT		The time-critical removal action which resulted in significant soil excavation from AOC-4 should be included in this table.	T4-09 ⁴
89	6.4.2.1 PG&E Topock Compressor Station Projects Ongoing Operation of Interim Measure 3 Emergency Groundwater Extraction and Management (1B) p. 6-10		Why is removal of IM3 not considered as a PG&E project and subsequently discussed in the cumulative impact analysis??	T4-092
90	6.4.2.1 PG&E Topock Compressor Station Projects Groundwater Remediation Project at the Station (1C) p. 6-11	It is not anticipated that construction of the Groundwater Remediation Project would overlap with the proposed Project's soil investigation activities.	Groundwater activities currently and will be occurring at the site. For example current activities associated with freshwater source characterization are ongoing and will likely overlap with soil investigation work. Please correct this statement.	T4-093

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91	6.5.8 Hazards and Hazardous Materials p. 6-26	The PG&E projects are restricted to the area local to the Station, and would not be expected to be compounded by other projects in the area due to the physical separation.	Please confirm that the release of hazardous materials through transportation to waste disposal sites has this been considered.	T4
Iternatives to the P	roposed Project (Sect	ion 7)		
92	Section 7.5.1 p. 7-6 to 7-8	Rejection of Tribal Land Use Alternative	DTSC presents their basis for rejection of the Tribal Land Use Alternative with respect to the selection of soil screening levels to direct the soils sampling program. However, in order to reduce the drastic and ultimate potential for significant damage to the landscape due to soil remediation and/or removal activities, the various reasonable and realistic scenarios described in the Tribal Land Use Alternative should be fully considered during the evaluation and interpretation of the soils data collected in this program.	τ
93	Table 7-1 p. 7-5	"Impact CR-2""No known unique archaeological resource have been identified within the Project Site."	The assumption that areas outside of loci A, B, and C do not contain unique archaeological resources is incorrect. The participating Tribes submitted a TCVA amendment in April 2014 to address an area outside of the defined loci A, B and C that was designate highly sensitive for its elements of cultural patrimony and association with the Topock TCP. Because of the highly cultural, spiritual, and religious nature of this area it goes beyond archaeological manifestations and therefore cannot be addressed solely through archaeological methodology. The TCVA exclusion area has been adopted by BLM and activities within the exclusion area have been modified to reduce the project activity footprint in this area. Please clarify what constitutes a unique archaeological	Т
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Comment No.	Section/ Page	Reference Text	DEIR Comment (Please provide sufficient detail, include specifically what you are looking for)	
94	7.5.2 p. 7-10	"a commenter presented an alternative that would go beyond the proposed investigative and data collection activities, and would also incorporate cleanup actions into the proposed Project. Under this alternative, toxins and chemicals of concern would be removed when found, thereby expediting the cleanup process."	Practical experience has shown that soil removal actions that progress as the characterization samples are taken typically result in much greater soil removal than would have occurred with a more deliberate and considered course of action where sufficient time is allowed to fully study and understand the characterization data. A careful consideration of the data, and evaluation of whether or not removal is even necessitated, and if so how it may be controlled and minimized is preferred.	T4-097
95	7.6.1 Reduction of Project Footprint Alternative (Avoid Mouth of Bat Cave Wash) p. 7-11 to12	"If DTSC were to eliminate sampling in this area, the information necessary to fully evaluate the nature and extent of contamination known to be present in this area would not be collected and the fundamental objectives of the Project would not be met. "	The EIR argues that elimination of soil sampling at the mouth of Bat Cave Wash is unavoidable in order to achieve the goals of the project. However, every effort to avoid unnecessary sampling should be considered, given the wholesale impact that drilling and sampling at the planned 23 locations would have to this part of Bat Cave Wash. The seven samples that this additional sampling event was based upon only show nominal exceedances above background and/or threshold concentrations. It would seem logical to try to avoid unnecessary sampling in this area if data supported it. Therefore, if sampling were to occur in a phased manner, such as sampling at the northern most and southern most locations first, an evaluation of this data might indicate that the full 23 sample locations are not necessary.	T4-098
96	Section 4.4 Cultural Resources	2.2.4, 4.1-8, 4.4-5, 4.4-19, 4.4-22	This section does not do enough to discuss tribal views of the landscape (intangible) it is merely a rehash of previous general comments on the project area. No new information was included in this section such as the information provided in the TCVA. A more thorough discussion of tribal values should be included.	T4-099
97	Section 4.4 Cultural Resource Section	4.4.7	Missing intangible/spiritual/religious/cultural/ discussion throughout the section.	T4-100

Letter	Cocopah Indian Tribe Edgar Castillo	
T4 Response		
	September 3, 2014	
T4-001	The commenter states that the Cocopah Indian Tribe is providing comments on the draft environmental impact report (DEIR) as an attached table to the comment letter. The comment is noted for the record and the table is included in the final environmental impact report (FEIR) and addressed in these responses to comments.	
T4-002	The commenter states that there is no evidence presented in the DEIR that documents that the DEIR incorporated the Soil Staging/Storage/Construction areas developed through discussions between Interested Tribes and the U.S. Department of the Interior (DOI)/U.S. Bureau of Land Management (BLM)/U.S. Bureau of Reclamation (BOR) and detailed in the January 2014 Cultural and Historic Properties Management Plan (CHPMP) Meeting. It should be clarified that these discussions were held to specifically discuss staging/storage/construction areas related to the Groundwater Project. As described in Section 7.4 of the DEIR (see pag 7-4), prior to the publication of the draft <i>Soil RCRA Facility Investigation/Remedial Investigation Work Plan</i> (Soil Work Plan) and as part of the soil data gap evaluation process, the California Department of Toxic Substances Control (DTSC) held multiple coordination meetings and site walks with Native American representatives and stakeholders in an effort to coordinate on what would be included in the planned soil investigation activities. This included consideration of the staging areas to be used for soil investigation activities. DTSC did not receive comments requesting modifications to the proposed soil investigation 1.0 Introduction (see Appendix A to the DEIR). Prior to and since the publication of the initial draft Soil Work Plan (CH2M HILL 2011), DTSC and Pacific Gas and Electric Company (PG&E) worked with agency and Tribal stakeholders to minimize the footprint and impact of the proposed soil investigation activities. Specific examples of how PG&E, under the direction of DTSC, was able to refine the design of the investigation and limit the amount of ground disturbance or other intrusion can be found on page 4.4-49 and 7-4 of the DEIR. Further, based on the groundwater related discussions referred to by the commenter, DTSC has had follow-up conversations with PG&E regarding the use of certain staging areas for the Soil Investigation Project. PG&E has agreed to avoid using the following	

	concern to the Tribe is the Route 66 sign, no impacts to the sign are anticipated from use as a staging area. As described in the DEIR section 3.5.2.7, page 3-23, in areas where natural boundaries or fencing are not sufficient to define a staging area, PG&E would temporarily mark the boundaries of the staging areas with traffic cones, caution tape, or straw wattles. The sign would fall outside of this boundary and would not be affected by the Project.
T4-003	The commenter states that a primary objective of the DEIR is to evaluate cumulative impacts (past, present, and foreseeable future) of the soil sampling program; however, previously drilled soil-sample boreholes are not shown or even mentioned in the DEIR. The purpose of the environmental impact report (EIR) is to evaluate the Project-specific and cumulative impacts from the proposed Project, which is the implementation of the current (2011) Soil Work Plan as well as additional activities described in the DEIR. Past soil investigation activities are described in the DEIR to provide context for the baseline/existing conditions at the Project Site. As explained in Master Response Cumulative Project, past projects that involved soil-sample boreholes have been added to the discussion of cumulative impacts (see new cumulative project 1G).Historical soil investigations that occurred at the Project site, such as those carried out in 1988, are considered as part of the baseline. See Master Response Cumulative Projects for more information on the past projects included in the DEIR.
T4-004	The commenter states that the threat of soil contamination to groundwater and the approach to assess it as defined in the Project objective are not well described, and questions how modeling fits into the assessment. Appendices A and B (Data Quality Objectives) of the Soil Work Plan (which is provided as Appendix A to the DEIR) describes this item in detail. The use of vadose zone modeling is the third step in the multi-step evaluation process to evaluate the threat of soil contamination leaching into the underlying groundwater. Vadose zone modeling has not increased the number and depth of boreholes proposed in the Soil Work Plan (and correspondingly the Project Description presented in the DEIR). Modeling results are discussed in detail in Appendix C (sub-appendices) of Appendix A of the Soil Work Plan. Additional modeling and model refinement, if needed would be performed after results of the soil investigation activities are received.
T4-005	The commenter inquires as to what "existing data" is referred to regarding soil contamination, and questions whether it is limited to soil data or is it inclusive of all data collected as part of the groundwater and soil investigation/remediation. Chapter 1 of the DEIR (page 1-2) explains that the investigation of soil (i.e., the Project analyzed in the DEIR), along with existing data at the Project Site will enable the evaluation and selection of corrective measures, if necessary, in a future <i>Soil Corrective Measures Study/Feasibility Study</i> (Soil CMS/FS). The existing data referred to in the DEIR has been gathered from previous sampling

activities, including historic soil and groundwater-related sampling activities.

T4-006 The commenter seeks clarification regarding maps showing the extent of the project area that was analyzed in the DEIR, within which potential environmental impacts could occur (see in particular Figures 3-2 through 3-6 of the EIR). DTSC asserts that the DEIR is explicit in discussing and showing graphically where Project activities would occur. DTSC confirms that the "Project Site" is the term used throughout the DEIR to describe where Project activities would occur. However, Project graphics indicate "Project area" where "Project Site" should be used. Accordingly, all applicable figures have been updated in the FEIR. Additionally, there are a few instances where the term "Project area" is used in the DEIR. In response to the comment, the DEIR text in the following locations is revised in the FEIR:

DEIR text on page 4.1-10:

(Note that a contingency of up to 25 percent additional sampling locations is contemplated as part of this draft environmental impact report (DEIR) which could increase the level of activity in some portions of the Project <u>Site</u> area.

DEIR text on page 4.1-45:

As previously noted, a contingency of up to 25 percent additional sampling locations is contemplated as part of this DEIR, which could increase the level of activity in some portions of the Project <u>Site</u> area.

DEIR text in Table 4.4-1, page 4.4-30 (table title):

ARCHAEOLOGICAL AND HISTORIC-PERIOD BUILT RESOURCES WITHIN THE PROJECT <u>SITEAREA</u>

DEIR text on page 6-32:

The proposed Project does not include residential development and would not bring any new, fulltime employees to the Project <u>Site area</u> that would require the expansion of public facilities.

DTSC agrees with the commenter that maps provided in the Soil Work Plan show the historic Area of Concern (AOC)/ Solid Waste Management Unit (SWMU)/ Undesignated Area (UA) boundaries as well as soil investigation locations (which are in many specific situations extend outside of the original AOC/SWMU/UA boundaries). As part of the DEIR process, DTSC developed a larger "Project Site" within which all Projectrelated activities would occur. This is a larger area than that identified within the Soil Work Plan, in order to capture all work areas (including access to each investigation site, ample room for individual types of work equipment, etc.) and any direct environmental impacts. No Project

	activities would occur outside this larger Project Site boundary. As described on page 3-3 of the DEIR, the Project Site totals approximately 128.5 acres (shown in its entirety in gray) and includes equipment staging (in black hatching), access/haul routes (in yellow), and observation areas (in blue hatching), in addition to the AOCs (shown in green), SWMUs (shown in purple), and UAs (shown in orange). Using "layering" is a common way for presenting multiple types of geographic information, and DTSC considers the EIR Project maps to be a clear and concise way of presenting the otherwise complex and overlapping information.
T4-007	The commenter requests that DTSC define the specific requirement used to determine if the nature and extent of contamination has been adequately fulfilled. Appendices A and B (Data Quality Objectives) of the Soil Work Plan (see Appendix A of the DEIR) describe this item in detail. The following factors are, for example, considered in the assessment of nature and extent: data usability, potential fate and transport mechanisms, and screening values. Evaluation of nature and extent consists of identifying newly detected compounds, point-by-point comparison to screening values, assessing lateral and vertical extent and trends of detected compounds, and central tendency comparisons between site data and background data. DTSC, as the state lead agency tasked with overseeing the investigation and cleanup of hazardous substance release sites, has broad discretion when conducting remedial investigations as provided under the Resource Conservation and Recovery Act (RCRA) as well as the Hazardous Waste Control Laws.
T4-008	The commenter expresses an objection to the potential infiltration gallery in Bat Cave Wash that is described on page 1-5 of the DEIR (also see pages 3-31 through 3-34 for more detail). It should be clarified that the infiltration gallery as discussed in the DEIR is proposed as a pilot study (soil flushing) in the event that soil cleanup is needed based on the results of the soil investigation. This proposed pilot study also has the option of using injection wells instead of an infiltration gallery. DTSC acknowledges the commenter's opinion regarding this issue. It is premature to discount this alternative at this time as it may later be determined that this is a less intrusive option when compared to other options such as soil excavation. The advantages and disadvantages of different remedial alternatives will be evaluated during the corrective measures study. DTSC also notes that this potential remedial technology may also be applicable at other portions of site, and cannot at this stage discount this potential remedy. In the event that soil cleanup pilot studies are necessary, work plans will be made available to all interested parties for review and comment, at which time more details would be provided for stakeholder consideration.
T4-009	The commenter states that the inclusion of plant sampling to evaluate potential risk is inconsistent with the Groundwater Risk Assessment and updated soil site conceptual models, and further questions what level of consistency is to be maintained between the Groundwater Risk Assessment and the DEIR. The risk assessment would be performed after

the results of the soil investigation are received. If the risk assessment indicates that additional data may be required to verify its results, plant sampling may be an option instead of collecting more soil samples. It should be noted that the previous Groundwater Risk Assessment only focused on the contamination from groundwater, and did not include soil contamination data.
The commenter asks for specific detail on which polycyclic aromatic hydrocarbons (PAHs), polychlorinated biphenyls (PCBs), volatile organic compounds (VOCs), semivolatile organic compounds (SVOCs), dioxins and furans, and pesticides have been detected above screening levels. As shown in the DEIR Appendix A Soil Work Plan, Appendix C (sub-appendices) of Appendix A and Appendix B (sub-appendices), which contains the historic soil data that was used in the preparation of the Soil Work Plan, the following exceedances are provided:
 PAHs: Benzo (a) anthracene, Benzo (a) pyrene, Benzo (b) fluoranthene, PAH High Molecular weight, B(a)P Equivalent, Benzo (k) fluoranthene, Dibenzo (a,h) anthracene, Indeno (1,2,3- cd) pyrene
• PCBs: Aroclor 1254, Aroclor 1260
• Pesticides: 4,4-DDE, 4,4-DDT, Dieldrin
• Dioxin/Furans: 1,2,3,7,8- PeCDD, TEQ Avian, TEQ Human, TEQ Mammals
• SVOCs: Di-n-butyl phthalate
This comment states that the groundwater and soil remediation projects have similar impacts within similar areas; therefore, they should be considered together. While it is often a valid approach to consider two projects within the same project area within one project description and analysis in an EIR, it is not the case for the Topock Soil Investigation and Groundwater Remediation Projects. A discussion regarding the independent nature of the groundwater remediation and soil investigation projects is presented in Section 2.2.3, "Groundwater Remediation" of the DEIR. As described in that section, the soil investigation activities will not change the scope of the Groundwater Remediation Project. The proposed Soil Investigation Project is not an expansion of the Groundwater Remediation Project and will not change the nature or scope of the Groundwater Remediation Project. Nor are the two projects dependent on each other. The Groundwater Remediation Project is a separate project from the proposed Soil Investigation Project, in part, because one activity (e.g., groundwater remediation) does not cause the need for the other (e.g., soil remediation). The two projects have different purposes, soil investigation versus groundwater remediation. The two projects also have independent utility in that one does not cause the need for the other. That is the fundamental test regarding segmentation under the California Environmental Quality Act (CEQA). Therefore, the projects are properly considered separately for purposes of CEQA. Please also see Master Response Groundwater regarding the

	Remediation Project. Cumulative impacts associated with implementation of both the proposed Project and the Groundwater Remediation Project are disclosed in the EIR in Chapter 6, "Cumulative Projects." Specifically, refer to page 6-11 of the Soil Investigation Project DEIR for a description of the Groundwater Remediation Project (labeled as project 1C), and the supporting analysis that follows.
T4-012	The commenter seeks clarification regarding maps showing the extent of the Project area that was analyzed in the Soil Investigation Project DEIR, within which potential environmental impacts could occur. Please see response to comment T4-006 regarding maps showing the Project Site.
T4-013	The commenter questions Site AOC-BCW7 as it is near an identified IM-3 Restoration Area in the Draft IM-3 Decommissioning Report, and questions what the overlap and relationship are between IM-3 decommissioning and soil sampling. Appendix A Sub Appendix C2 (AOC 1) of the Soil Work Plan (see Appendix A to the DEIR) states that AOC1-BCW7 is proposed to resolve data gaps #5 (nature and extent of contamination within the impoundment areas near the railroad bridge culvert and IM-3 road crossing) and #6 (soil physical properties to support the <i>Corrective Measures Study/Feasibility Study</i> [CMS/FS]). It is not related to the decommissioning of IM-3. Decommissioning of IM-3 is tied to the successful implementation of the Groundwater Remediation Project. If this data is useful and relevant for the purposes of IM-3 decommissioning, however, it can be used to reduce the number of samples for that future effort if deemed appropriate.
T4-014	The commenter questions the estimates of soil sample material to be removed from the Project area for laboratory testing (5 to 20 cubic yards, as described on page 3-29 of the DEIR), and provides an estimate of 2 cubic yards based on their understanding. The commenter also questions whether x-ray fluorescence (XRF) can be used to reduce soil removal and whether there are plans to reuse the clean investigation- derived waste (IDW). The commenter is correct in suggesting that the IDW estimates in the DEIR include drill cuttings and would therefore be more than the volume calculated by the Technical Review Committee, which includes only the soil for laboratory analysis. IDW also includes decontamination water, incidental trash, disposable tools, and personal protective materials such as gloves (see page 3-29 of the DEIR). The use of XRF is limited to constituents such as metals, and other constituents, including organic analytes, cannot be analyzed using an XRF. Therefore, the use of an XRF to decide the immediate reuse of displaced soil may not be applicable. The Displaced Soil Protocol, which describes the handling and potential reuse of displaced soil generated from site investigations can be found in Appendix J of the Soil Work Plan (see Appendix A to the DEIR).
T4-015	The commenter states that the soil flushing operations as described in the DEIR are minimally described in the Soil Work Plan. The commenter is correct in that the in situ soil flushing pilot studies are not part of the Soil

	Work Plan. Please see Master Response Additional Testing and Sampling Activities for additional information on the inclusion of these activities in the Project Description.
T4-016	The commenter expresses that the Tribes oppose locating an infiltration basin within Bat Cave Wash. The Tribal preference against such a construction in Bat Cave Wash is noted. Please see response to comment T4-008.
T4-017	The commenter requests a revision to Section 3.5.2.7 Staging Areas regarding boundary marking in the DEIR. The DEIR text on page 3-23 is modified in this FEIR as follows:
	For example, during the operation of IM-3 injection wells, the Native American Tribes expressed a preference for unobtrusive, low-visibility boundary markers, so straw wattles were used as the primary means of boundary marking, with wattles were used as a means of boundary marking as they were generally low- visibility and less obtrusive. Θ ther delineation devices have been used only in strategic locations. The proposed Project would follow this same general means of marking work boundaries.
T4-018	The commenter requests clarification on whether the exclusion zones would be moved in the event that wind changes direction upwind of the exclusion zone, and whether or not this change would increase the footprint of the proposed Project. The exclusion zones would not be adjusted if the wind changes direction. However, as noted in Figure 3-9, ¹ a support zone would be established upwind of the exclusion zone and would be adjusted as needed. This is not expected to happen frequently, since the exclusion zone would be fairly small (i.e., around a boring location or trench) and temporary. The exclusion zones would only be needed for a short duration, from a few hours up to a few days. The footprint of the proposed Project, which constitutes 128.5 acres as identified in Figure 3-2, includes all exclusion zone boundaries and associated support zones. No additional work would occur outside of the Project boundaries.
T4-019	The commenter requests that details be provided on how "least intrusive" survey methods will be quantified, who will make this decision, how it will be implemented, and if consultation with Tribes will occur. The phrase "least intrusive," in this instance, refers to issues related to the health and safety protocols that PG&E, in coordination with DTSC, will undertake for sampling activities. Based on the presence of existing underground utilities, PG&E experts in the field may have to modify the preferred sampling technique to be less intrusive to account for underground utilities in a given location that may pose a health and safety concern. The Tribes would not be consulted on such adjustments.

¹ This figure has been added to Chapter 3, "Project Description," as Figure 3-9. Subsequently, the original Figure 3-9 is changed to 3-10.

The DEIR text in Section 3.5.2.9 of the DEIR on page 3-24 is revised in this FEIR to provide this clarification:

Soil samples would be taken using one or more of the following options: (1) small hand tools (trowel, shovel, slide-hammer, and hand auger); (2) a sonic or hollow-stem auger drilling rig; (3) a hydrovac truck in conjunction with hand tools; or (4) a backhoe or excavator. Because of potential health and safety concerns posed by underground utilities, Eefforts will be made to use the least intrusive method feasible depending on the conditions encountered on location. Hand tools would be used in areas of limited access, areas with topographic constraints, or areas with other constraints.

T4-020 The commenter states that use of the IM-3 facility for treatment of soil derived wastewater as described in the DEIR should not in any way delay scheduled removal of the facility, and questions the dates for IM-3 removal and the use of the facility to process wastewater related to soil investigation. Currently, the soil investigation activities are planned to occur prior to the decommissioning of IM-3. The field implementation for the proposed Project, which includes the use of IM-3, would occur for approximately 9 months beginning in Spring 2015. According to PG&E, once the groundwater remedy design is approved, contracting and construction will occur over 2.5 years before remedy startup. The IM-3 facility would be shut down with the startup of the groundwater remedy, even though full decommissioning would not occur until the remedy is determined to be operating properly and successfully. Regardless of the schedule, DTSC concurs that the decommissioning of IM-3 should not be delayed if IM-3 is used to treat investigation-derived wastewater from the Project.

- T4-021 The commenter requests clarification on what parameters will be evaluated under the bench scale test for In Situ Soil Flushing. At this time, it is not known whether bench scale tests would be conducted; therefore precise detail regarding parameters is not known. However, the following is a preliminary list of parameters that may be evaluated under bench-scale and/or pilot studies:
 - In situ (undisturbed) porosity and hydraulic conductivity
 - Permeability
 - Particle-size distribution
 - Total Organic Carbon
 - Cationic Exchange Capacity (measurement of soil-clay content)
 - pH/buffering capacity
 - Pre- and post-treatment concentrations of:
 - o Chromium
 - o Hexavalent Chromium

- o Viscosity
- o Density
- o pH
- o salinity
- o hardness
- o temperature water solubility
- o octanol/water partition coefficient
- Critical Micelle Concentration (measurement of solubility of surfactant by reducing the water interfacial tension)
- Toxicity characteristic leaching procedure metals
- Synthetic precipitation leaching procedure metals

Prior to implementation of any bench scale tests or pilot studies, PG&E would prepare a work plan(s) that describes the specific location, extent, configuration, parameters to be evaluated, and rationale for such activities. The work plan(s) would be provided to stakeholders for review and comment. See Master Response Additional Testing and Sampling Activities for more information.

The commenter requests clarification on whether the flushed T4-022 contaminant fluid may redistribute within the unsaturated zone, rather than assuming 100 percent of the fluid is recoverable at extraction wells. The soil flushing pilot test does not assume that 100 percent of the contaminants would necessarily migrate to groundwater and be captured and treated by the groundwater treatment system. The purpose of the flushing test would be to evaluate the effectiveness of the treatment method. The flushing test would be conducted in an area known to have soil contamination. The action of the flushing test is anticipated to flush some portion of the contaminants from the soil downward to groundwater, where groundwater flow would then transport the contaminants to the IM-3 groundwater treatment system. The soil at the site is largely sandy and gravelly, so the primary flow direction in the unsaturated zone is expected to be downward. The flushing of contaminants in the soil column would reduce the concentrations in the soil, resulting in a beneficial impact. As noted by the commenter, there is the possibility that heterogeneities in soil may result in some lateral spreading of contaminants within the soil unsaturated zone. The extent of lateral spreading, if any, is expected to be minimal because of the relatively high soil permeability. To further address this issue, the following text is added to the FEIR on page 3-31 of the Project Description as follows:

> The width of the infiltration gallery (i.e., the width perpendicular to the groundwater flow direction) will be limited to the center one-half of the known width of the contaminated area. Thus, if any lateral spreading were to occur, the extent of the spreading would be anticipated to be within the existing contaminated unsaturated zone.

T4-023

The commenter requests clarification on the number of injection and recovery wells that would be part of the pilot studies, and whether these wells would be added to the total number of wells that are drilled. The commenter also questions what the approximate total depths and screened intervals are for each well. DTSC would like to clarify that, as described in the DEIR on page 3-32, up to 10 injection and recovery wells would be required to conduct the In Situ Soil Flushing Pilot Study and up to 10 borings for the In Situ Stabilization/Chemical Fixation Study, if warranted. Additionally, up to eight geotechnical borings may be required. The potential effects from pilot studies and geotechnical investigations, to the extent they are reasonably foreseeable, are considered in the EIR on a programmatic level. The up to 28 borings would be in addition to the 292 investigation borings plus the 73 contingency borings required for soil sampling, should they be used. Depths and screened intervals of wells installed to support the In Situ Soil Flushing Pilot Study will depend upon the depth of contamination and the depth to groundwater at the location of the pilot study. As stated in the DEIR on page 3-32, injection wells will be screened within impacted soil zones that will be defined during the soil investigation. Extraction wells will be screened across the top of the shallow aquifer, with 10- to 20-foot screen intervals. The depths of the wells will depend upon the depth to water at the pilot study locations. For example, if a pilot study is performed in the area of the Bat Cave Wash adjacent to the PG&E Topock Compressor Station (Station), the depth to groundwater is approximately 70 to 80 feet bgs. Extraction wells would be installed to approximately 90 to 100 feet bgs, and screened from 70 to 80 feet bgs.

Prior to implementation of any pilot studies, PG&E would prepare a work plan(s) that describes the specific location, extent, configuration, parameters to be evaluated, and rationale for such activities, subject to DTSC review and approval. The work plan(s) would also be provided to stakeholders for review and comment. See Master Response Additional Testing and Sampling Activities for more information.

T4-024 The commenter requests that a specific inventory be provided for borings/drillings associated with the In Situ Soil Flushing pilot study. As explained in the DEIR on page 3-33, if it is determined necessary, up to 10 soil borings would be drilled for the In Situ Soil Flushing pilot study component of the Project. The exact locations of these borings is not known at this time; however, as described in the Master Response Additional Testing and Sampling Activities, the impact analysis and mitigation measures have been prepared to include, to the extent feasible, the potentially significant adverse environmental impacts that may result from such future actions should they be found necessary; thus, rendering the DEIR as useful of a document as possible for DTSC's ability to efficiently obtain an adequate characterization of the scope and extent of soil contamination within the Project Site.

T4-025

The commenter requests that a specific inventory is provided for borings/drillings associated with the geotechnical evaluations. As

	described in the DEIR on page 3-34, there may be eight geotechnical evaluations performed that would be drilled using a hollow-stem auger drill. For more information about the additional activities that may occur, please refer to the Master Response Additional Testing and Sampling Activities.
T4-026	The commenter states that the inclusion of plant sampling to evaluate potential risk is inconsistent with the Groundwater Risk Assessment and updated soil site conceptual models, and the commenter further questions what level of consistency is to be maintained between the Groundwater Risk Assessment and the DEIR. Please see response to comment T4-009.
T4-027	The commenter asks how site restoration would be quantified and evaluated and who would do the monitoring and verification of outcomes. The site restoration activities described on page 3-36 of DEIR will be evaluated by the DTSC as the lead agency. However, as described in that section, no complete vegetation removal is anticipated; therefore no revegetation would be required. DTSC will monitor work progress to ensure no vegetation removal is conducted. Restoration in the context provided on page 3-36 is geared toward removal of all equipment, raking/brushing of soil to remove tire tracks, and general cleaning of individual work areas. These restoration activities will ensure that there are no environmental impacts. The term "substantially similar" is used to indicate that the site conditions may not be identical before and after the described activities. DTSC will monitor natural vegetation regrowth following work activities.
T4-028	The commenter requests that when and if pilot studies in the bottom of Bat Cave Wash are planned, the Tribes should be involved in scheduling, monitoring, construction specifications and all phases of such studies. The Tribes will be involved in the scheduling, monitoring, construction specifications, and all phases of any future pilot studies in Bat Cave Wash. As described in Master Response Additional Testing and Sampling Activities, prior to implementation of any pilot studies, DTSC will prepare a work plan that describes the specific location, extent, and configuration of such activities, including any necessary resource management plans as requested in the comment. The work plan will be provided to stakeholders, including the Tribes, for review and comment.
T4-029	The commenter questions why several specific boreholes are considered separate from the Groundwater Remediation Project EIR borehole count, and suggests that the projects be considered together. The boreholes referenced by the commenter that are presented in Table 3-3 of the DEIR are taken directly from the Soil Investigation Work Plan (see Appendix A), which is a distinctly separate project from the Groundwater EIR, which was approved by DTSC in 2011. Please see response to comment T4-11 regarding the independent nature of the Groundwater Remediation Project and Soil Investigation Project (and also Section 2.2.3, "Groundwater Remediation" of the Soil Investigation Project DEIR), and how the

cumulative effects of the combined projects was considered (see page 6-11 of the DEIR).

T4-030 The commenter requests clarification on how the anticipated vehicle use and trips were calculated in Table 3-5. The following are the assumptions used to present the vehicle trip estimates in Table 3-5, and text has been added to clarify these assumptions on page 3-39 of the DEIR:

> Most of the trips to the Project Site are expected to occur either early morning or end of day; deliveries may occur throughout the day. Anticipated vehicle use and trips are outlined in **Table 3-5**. Duration of sampling via drilling, hydrovac, or backhoe was assumed to be 2 months. As shown in the table, it was assumed each piece of sampling equipment and associated support truck would be mobilized to the site 2 to 4 times during that period. The drill rig support truck would make 1 to 2 trips per week (for 7 to 14 total trips) of drill rig sampling. It was assumed waste would be picked up two to six times over the course of the investigation. The total duration of the field effort was assumed to be 5 months (100 work days). The total number of staff to be on-site each day is up to 13 to 15 staff. This results in 1,300 to 1,500 worker truck/car daily trips to the site over the life of the Project.

T4-031 The commenter expresses concern that unforeseen off-site emissions might arise from implementation of the proposed Project. Although some level of forecasting is often necessary, CEQA does not require analysis of unforeseen or speculative impacts. While it is possible that some unforeseen emissions may arise from the Project, this is speculative and out of the scope of this environmental analysis.

T4-032 The commenter questions why Davis Dam was not included in the description of the Lower Colorado River. In response to the comment, the DEIR text on pages 4.3-1 and 4.3-2 is revised in this FEIR as follows:

Starting in the 1930s, federal actions in the region consisted of the construction of several dams, including the Hoover Dam, <u>Davis Dam</u>, and Parker Dam. Construction of the Hoover Dam, located 108 miles upstream of Topock, was completed in 1936. <u>Completion of the Davis Dam, located 41 miles upstream of</u> <u>Topock, occurred in 1951.</u> Completion of the Parker Dam, located 42 miles downstream of Topock, occurred in 1938. The changes that resulted from dam construction to the natural river flows substantially altered available fish habitats and reduced the river's ability to meander and create or destroy backwaters and marshes. Alleviating the threat of floods also allowed for conversion of riparian areas to agricultural uses.

T4-033 The commenter states that there needs to be development of erosion control plan specifics for pilot-scale testing in Bat Cave Wash. As described in Master Response Additional Testing and Sampling Activities,

	prior to implementation of any pilot studies, DTSC will prepare a work plan that describes the specific location, extent, and configuration of such activities, including any necessary resource management plans as requested in the comment. The work plan will be provided to stakeholders, including Tribes, for review and comment. The need for an erosion control plan for pilot-scale testing will be determined in the future by DTSC and provided to stakeholders for review and input. Moreover, as discussed in Section 4.6.3.1 of the DEIR, the Soil Work Plan describes and references Standard Operating Procedures (SOPs) and Best Management Practices (BMPs) that have been developed during the previous investigations. Among other things, the SOPs and BMPs will reduce potential impacts to hydrology and water quality during the Project activities (see DEIR Section 4.6, "Hydrology and Water Quality"). In addition, PG&E will meet the substantive provisions of the state Construction General Permit (CGP) in accordance with the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) exemption (see DEIR Section 2.3), and prepare and implement an erosion control plan as part of the Project (see DEIR pages 4.6-12 through 4.6-13).
T4-034	The commenter questions why the Habitat Typing Survey Technical Memorandum is not listed or discussed in the DEIR. As discussed in the DEIR Section 4.3.1.5 on page 4.3-18 (and referenced in the bibliography), the results of the Habitat Typing Survey Technical Memorandum are incorporated into the discussion of aquatic wildlife potentially occurring within the Colorado River.
T4-035	The commenter asks whether all features indicated within the map key on Figure 4.3-2 are considered jurisdictional under Section 404 of the Clean Water Act (CWA) and states that the DEIR should be specific. All resources included on Figure 4.3-2 are considered jurisdictional under Section 404 of the CWA. The map key on Figure 4.3-2 in the FEIR has been updated for clarification.
T4-036	The commenter states that special-status bird species that have been documented in riparian areas around the Project Site (specifically southwestern willow flycatcher) be listed as "likely to occur" instead of "could occur." As stated on pages 4.3-34 and 4.3-35 of the DEIR, protocol U.S. Fish and Wildlife Service presence/absence surveys for southwestern willow flycatcher were conducted around the Project site from 2005 to 2012. Transient (not nesting) individuals were observed near the Project Site on multiple occasions; therefore, the potential for occurrence status does necessitate a change to "likely to occur." In response to the comment, the DEIR text in Table 4.3-3 on page 4.3-30 is revised in the FEIR as follows:
	Could Likely to occur; the Project Site provides suitable nesting and foraging habitat within the large stands of salt cedar along the banks of the Colorado River. This species has been documented in riparian areas around the Project Site, primarily at Topock Marsh, and has been detected near Park Moabi Lagoon

(GANDA 2009a: Figure 5, page 7, 2010, and 2012); however, no nests or nesting behaviors have been observed. All observed individuals have been transient.

This text change does not change the analysis or conclusions in the DEIR regarding special status bird species (see the DEIR pages 4.3-59 and 4.3-60).

T4-037 The commenter states that the DEIR suggests that only the foothill portions of the site may be used by Nelson's bighorn sheep, which is inconsistent with the Groundwater Risk Assessment. The text on Page 4.3-40 of the DEIR is revised in the FEIR as follows. These observations, and the additional discussion of Nelson's bighorn sheep in the FEIR, are consistent with the discussion in the Groundwater Risk Assessment.

Nelson's Bighorn Sheep

Habitat requirements for Nelson's bighorn sheep include mountainous terrain with areas of gentle terrain such as valley floors and alluvial fans that provide important linkages between adjacent mountainous regions. These gentle terrain areas also provide temporary access to resources such as forage and water. particularly in the drier summer months (PG&E 2015a). Steep, rugged terrain, also called escape terrain, is a crucial component of bighorn sheep habitat because bighorn sheep use running speed coupled with their climbing abilities to evade predators (PG&E 2015a). BLM research indicates that flight and cardiac response is activated within 50 to 100 meters (160 to 330 feet) of disturbance (BLM 2001). Males and females will also often occupy different habitats outside the breeding season. Females tend to choose steep, safe areas for bearing and initial rearing of lambs, while males occupy much flatter areas during the lambrearing season (BLM 2013). Nelson's bighorn sheep forages on a broad variety of plants species (at least 34 and up to 121 different species) including forbs, shrubs, new shoots from shrubs and trees, grasses, shrubs, and barrel cactus (PG&E 2015a).

Nelson's bighorn sheep have a potential are known to occur in the Project Site. <u>A family of six Nelson's bighorn sheep were</u> observed next to Maze Locus A during a FMIT annual prayer ceremony in June 2013. Also, a FMIT Tribal Monitor reported observances of sheep in monitoring logs during the Time Critical <u>Removal Action at AOC 4.</u> Bighorn sheep prefer visually open habitat that is steep and rocky in mountainous terrain above the desert floor. They use their eyesight as the primary sense for detecting predators at sufficient distances to ensure adequate time to reach safe terrain. Males and females will also often occupy different habitats outside the breeding season. Females tend to choose steep, safe areas for bearing and initial rearing of lambs, while males occupy much flatter areas during the lambrearing season (BLM 2013). Nelson's bighorn sheep and signs thereof (tracks, scat, etc.) were not observed within or near the Project Site during the various biological surveys; however, a <u>A</u>ccording to the CNDDB (2013), Nelson's bighorn sheep have been documented in the mountains south of the Project Site (Figures 4.3-3, 4.3-4 and 4.3-4c). The species may use the foothill portions of the Project Site for foraging and movement, but no lambing habitat occurs within the Project Site.

T4-038 The commenter notes the lack of discussion of the designated Area of Critical Environmental Concern (ACEC) in Section 4.3.2 of the DEIR. The commenter also asks about the management plan developed under the ACEC program. Reference to the Beale Slough Riparian and Cultural ACEC can be found on page 4.3-64 of the DEIR (in Biological Resources Impact BR-8, Regional and Local Plans). However, DTSC acknowledges the importance of this land management plan and the protection of the resources within in the ACEC, and in response to the comment the following text has been added to the DEIR Section 4.3.2.1, page 4.3-44, in this FEIR as follows:

> The Project Site is located within the Beale Slough Riparian and Cultural Area of Critical Environmental Concern (ACEC). This ACEC was designated through the BLM Lake Havasu Field Office Record of Decision and Approved Resource Management Plan (BLM 2007). ACEC designations highlight areas where special management attention is needed to protect, and prevent irreparable damage to important historical, cultural, and scenic values, fish, or wildlife resources or other natural systems or processes; or to protect human life and safety from natural hazards (Section 202I(3) of the Federal Land Policy and Management Act of 1976). The Beale Slough ACEC has been designated to protect both cultural and natural resources. This large ACEC contains regional rare riparian resources and wildlife habitat at Beale Slough to the north of the Project Site and a cultural element on the Project site (BLM 2007: 106, Map 28).

The BLM's 2007 Lake Havasu Resource Management Plan states that "ACEC management plans will be developed in the future with associated monitoring plans." According to the BLM Lake Havasu Field Office (Liebhauser 2014) at this time the BLM does not have the resources to pursue the development of a management plan for any of its ACECs. The BLM will continue to pursue funding opportunities to develop management plans for all of its ACECs in the future.

T4-039	The commenter requests inclusion of the avoidance and minimization measure attached to the March 6, 2013, letter as an Appendix to the DEIR. The referenced document is the "Confirmation of Application of the CERCLA 121(e)(1) Permit Exemption to Pacific Gas and Electric Company's Soil and Groundwater Investigation and Remediation Project" from the California Department of Fish and Wildlife (CDFW 2013). All of the measures presented in that letter that are applicable to the Soil Work Plan have been included in the DEIR, verbatim. The commenter is directed to the Project website, where the subject letter can be found in its entirety, at http://dtsc-topock.com/documents/other-and- environment-impact-review/sitewide/approval-letters-and- communications.
T4-040	The commenter requests a map illustrating the soil investigation activities relative to the high water mark to ensure compliance with regulatory requirements and avoidance measures, specifically, Mitigation Measure BR-7 on page 4.3-53 of the DEIR. In response to the comment, Figure 4.3-2 has been revised to include the soil investigation activities and Figures 4.3-2a through 4.3-2d have been added to the FEIR to include detailed exhibits at a smaller scale that illustrate the soil investigation activities relative to jurisdictional resources. The respective figure references and clarifying text in DEIR Section 4.3.1.3 on page 4.3- 14 has been modified in this FEIR as follows:
	Several jurisdictional wetlands and other waters under the jurisdiction of the U.S. Army Corps of Engineers (USACE), CDFW, and the Regional Water Quality Control Board (RWQCB) were identified along the Colorado River (Figures 4.3-2 <u>through 4.3-2d</u>) and throughout the Project Site. Jurisdictional wetlands identified during the delineation include palustrine scrub-shrub wetlands associated with ephemeral washes (PSSA); palustrine emergent, permanently flooded wetlands (PEMH); and palustrine emergent, seasonally flooded wetlands (PEMC). Other waters identified during the delineation include non-wetland riverine features such as the Colorado River itself and the ephemeral desert drainages that traverse the Project Site (riverine intermittent bed cobble-gravel, temporarily flooded) (CH2M Hill 2013).
	It is assumed that the resources mapped within the Project Site in Figures 4.3-2 through 4.3-2d are considered jurisdictional under Section 404 of the Clean Water Act (CWA) and therefore also qualify for jurisdiction under Section 401 of the CWA administered by the RWQCB, and Section 1600 of the California Fish and Game Code administered by CDFW (CH2M Hill

	along the fringes of these resources, which only fall under the jurisdiction of CDFW
	As previously discussed, wetland vegetation within the Project Site consists primarily of common reed. Several of these wetland patches are located at the confluence of Bat Cave Wash and below the I-40 overcrossing. A number of intermittent drainages mapped on-site were found to connect to the Colorado River (Figures 4.3-2 through 4.3-2d). Near their confluence with the Colorado River, these drainages include tamarisk, catclaw acacia, honey mesquite, and screwbean mesquite.
	The text on DEIR page 4.3-41 is revised in this FEIR as follows:
	A wetland delineation was completed in 2013 by CH2M Hill. The Colorado River is considered waters of the United States and subject to regulation under CWA Section 404. Other waters of the United States may also include ephemeral drainages if they are connected to waters of the United States (Colorado River), as shown in Figures 4.3-2 through 4.3-2d.
	While the high water mark is delineated on the figures, the 150 feet above high water mark is not shown on the figures as this will be delineated in the field prior to each investigation activity.
T4-041	The commenter requests a more quantitative definition of "extent feasible," and questions who defines this term, and who ensures compliance. The commenter also suggests that any evaluation should include ethnobotanical uses by the Tribes. In response to the comment, the following edits are made to the DEIR on page 4.3-56 in this FEIR as follows:
	Mitigation Measure BR-1: No-net-loss of Wetland, Riparian or other Sensitive Habitat Function or Value:
	The Project shall be implemented to avoid effects to the habitat values and functions of identified jurisdictional areas (i.e., floodplain and riparian areas, wetlands, and waters of the United States and habitats designated by CDFW as sensitive, including ephemeral washes and western honey mesquite bosque). Before undertaking ground-disturbing activities within East Ravine and Bat Cave Wash, a qualified biologist shall coordinate with PG&E to ensure that the footprints of investigation activities, including drill pads, staging areas, and access routes, are designed to avoid disturbance to sensitive habitats to the extent feasible. Where complete avoidance to sensitive habitat is not feasible DTSC shall be notified and Project activities shall be implemented to ensure no-net-loss of habitat value or function

avoidance measures shall be implemented when working in Bat Cave Wash and East Ravine:

- a. No plants or vegetation shall be completely removed only pruning, trimming, clearing, or similar approaches which allow the natural regrowth of the plant will be allowed;
- b. Vegetation pruning, trimming, or clearing shall only occur to access investigation sites and clear around the sample areas where absolutely necessary;
- c. The only vegetation to be cut off at the base (cleared rather than pruned or trimmed) will be salt cedar at the mouth of Bat Cave Wash. The roots of the salt cedar at the mouth of Bat Cave Wash will be left in place where possible to allow for natural, rapid regrowth of vegetation;
- No more than 20 percent of the crown on all native trees, such as palo verde, shall be trimmed, and no main branches shall be trimmed. This is consistent with what is recommended by the International Society of Arboriculture (ISA 2011);
- e. Complete removal of vegetation in any work area shall be prohibited; and
- f. Project equipment and materials from work areas shall be completely removed and, if the area is not paved, it shall be raked/brushed to remove tire tracks.

"No net loss" shall be achieved through any combination of the following, in descending order of desirability: (1) avoidance; (2) where avoidance is not possible, minimization of impacts on the resource (a – f above); or (3) 1:1 like kind habitat compensation, including use of a mitigation banking program that provides the opportunity to mitigate impacts to rare, threatened, and endangered species and /or the habitat which supports these species in wetland and riparian areas. A biological monitor shall be present for all vegetation trimming, pruning, and clearing to ensure the above measures are implemented and that vegetation is protected to the extent feasible.

Regarding ethnobotanical uses by the Tribes, a discussion of indigenous plants of biological and cultural significance (identified in the Ethnobotany Survey Report included as Appendix D-3 of the DEIR) can be found in Section 4.3 "Biological Resources" of the DEIR under "Disturbance of Special-Status Plant Species" (page 4.3-57) and proposed mitigation

	measures for these plants can be found in Section 4.4, "Cultural Resources" (Section 4.4.3.3), specifically, Mitigation Measure CR-1e-4.
T4-042	The commenter requests a more quantitative definition of "where possible," who defines this, and who ensures compliance. Also, ethnobotanical uses and gathering practices of the Tribes should be taken into consideration. In response to the comment, the following edits to the DEIR on page 4.3-59 have been made to Mitigation Measure BR-4: Disturbance of Special-Status Birds in the FEIR as follows:
	a. Where possible, v Vegetation trimming, pruning, or clearing and other activities shall be timed to avoid the nesting season for special-status bird species that may be present (March 15 through September 30) except as provided for in subdivision b, below.
	 b. If vegetation removal or other Project activities are necessary in vegetated areas between March 15 and September 30, <u>DTSC shall be notified and</u> focused surveys for active nests of special-status birds
	Regarding ethnobotanical uses and gathering practices of the Tribes, a discussion of indigenous plants of biological and cultural significance (identified in the Ethnobotany Survey Report included as Appendix D-3 of the DEIR) can be found in Section 4.3 "Biological Resources" of the DEIR under "Disturbance of Special-Status Plant Species" (page 4.3-57) and proposed mitigation measures for these plants can be found in Section 4.4, "Cultural Resources" (Section 4.4.3.3), specifically, Mitigation Measure CR-1e-4.
T4-043	The commenter requests that a reference to BLM's ACEC management plan and a description of its biological resource elements are included in the DEIR. The Beale Slough Riparian and Cultural ACEC is described in Section 4.3.3.3 of the DEIR under the heading "Regional and Local Plans" (page 4.3-65). The BLM's 2007 <i>Lake Havasu Resource Management Plan</i> states that "ACEC management plans will be developed in the future with associated monitoring plans." According to the BLM Lake Havasu Field Office, at this time the BLM does not have the resources to pursue the development of a management plan for any of its ACECs. There is, therefore, no adopted ACEC management plan. The BLM will continue to pursue funding opportunities to develop management plans for all of its ACECs in the future. The DEIR text on pages 4.3-64 and 4.3-65 has been edited in the FEIR as follows in response to the commenter's request to expand the discussion of land use consistency:
	BLM's <i>Lake Havasu Resource Land Management Plan</i> outlines guidance for managing habitat, fish, wildlife, and special-status species. The plan also requires BLM to protect water quality or other potentially harmful conditions for resident wildlife, fish, and human populations. The Project Site is located within an ACEC, designated the Beale Slough Riparian and Cultural

ACEC. This area is designated to protect both cultural and natural resources. This large ACEC contains regional rare riparian resources and wildlife habitat at Beale Slough to the north of the Project Site (BLM 2007:106, Map 28), but the Project Site contains the cultural element of the ACEC. <u>Per BLM's Lake Havasu Resource Management Plan</u>, the Beale Slough ACEC would be managed to protect and prevent irreparable damage to the relevant characteristics or important values:

Relevance

- <u>Regional rare riparian resources and wildlife habitat.</u>
- <u>Significant cultural resources, cultural sites within part</u> of a regional cultural complex.
- <u>Place of traditional Native American importance.</u>

Importance

- <u>The area has regional importance as it was set in reserve</u> to stop the gradual decline of aquatic and associated riparian and terrestrial habitat along the Colorado River.
- <u>The area's fragile and irreplaceable prehistoric sites are</u> <u>eligible for inclusion on the NRHP.</u>
- Ensure that the public will continue to have an opportunity to interact with the natural environment and cultural values of the area.
- <u>This area was part of mitigation for the channelization</u> by Reclamation in 1951 and identified by the <u>LCRMSCP for its fish and wildlife values.</u>

No conflicts with BLM's management plan or the ACEC management prescriptions described in the BLM's 2007 *Lake Havasu Resource Management Plan* are anticipated with implementation of the proposed Project. The proposed Project activities are is not considered a prohibited in the ACEC per the *Lake Havasu Resource Management Plan* and the Project activities would not cause irreparable damage to the ACEC's relevant characteristics or important values described above degrade the biological resources element of the ACEC. In addition, Aactions associated with cleanup of the contaminated soil would not conflict with management goals because these actions would reduce the potential for long-term adverse effects on sensitive resources in the ACEC.

T4-044

The commenter expresses concern that new access roads are planned for sampling efforts and that traffic would be impacted by the proposed Project. No new access roads would be constructed as a result of the proposed Project. Existing access roads may be improved to create

	access to certain locations (DEIR page 4.4-68). The commenter is referred to Section 5.3.10 "Transportation and Traffic" for a discussion of traffic impacts.
T4-045	The commenter states that the DEIR analysis did not consider spill of contaminated soil and wastewater that are being transported off-site. The potential for accidental spills is discussed in the DEIR on pages 4.5-12 through 4.5-15. The text discusses the procedures for handling waste that would reduce the potential for spills. Within this subsection is Spill Prevention and Control (WM-4), which requires that spills and releases of materials are cleaned up immediately and thoroughly. To further clarify procedures related to spills from contaminated soil and wastewater, the following DEIR text on page 4.5-14 is revised in the FEIR as follows:
	Ensure that spills and releases of materials are cleaned up immediately and thoroughly, including soil or water being transported off-site for disposal.
	Further, as discussed in the DEIR on page 3-29 and 3-30, the potential for spill of contaminated soil and wastewater that are being transported off-site will be limited because most waste water is anticipated to be disposed of on-site at the IM-3 treatment system. In addition, soil waste that meets reuse standards will be reused on-site.
T4-046	The commenter questions the timing of the risk assessment identified for preparing pollution prevention requirements listed in the DEIR on page 4.5-13. The commenter seems to be confusing the Soil Risk Assessment with specific requirements within Section 4.5, "Hazards and Hazardous Materials." The "risk assessment" described in the DEIR on page 4.5-13 is not the Soil Risk Assessment. Rather, the risk assessment described on page 4.5-13 will be prepared as part of the grading and site preparation elements of the Project to determine pollution prevention requirements pursuant to the three Risk Levels as established in the CGP and relevant for the proposed Project. For more information on the Soil Risk Assessment, please see Master Response Additional Testing and Sampling Activities.
T4-047	The commenter states that a flood-induced washout of a pilot study site in Bat Cave Wash would be a significant impact, and suggests further clarification in the DEIR. In response to the comment, the following DEIR text is added on page 4.5-17 to the FEIR as follows:
	Potential for Flood Damage In the event that a flood were to occur in Bat Cave Wash at the same time that a pilot study was being conducted, the flood waters would be expected to inundate the pilot study area. However, because the majority of infrastructure (infiltration galleries or trenches) for the pilot study (In Situ Soil Flushing or In Situ Soil Stabilization) would predominantly be flush with or

	buried below ground. Injection wells would have stovepipe well heads set in concrete well pads that would resist damage from floods. In the event that the surface area of an infiltration gallery or trench is scoured by the flood, the area would be reworked with a backhoe. In the event that a flood damages a well head, the damage would be repaired after the flood receded. This is consistent with current protocols practiced in Bat Cave Wash. Therefore, the potential for flood-induced damage is minimal and therefore less than significant.
T4-048	The commenter requests clarification that while pumping at IM-3 might draw water from the Colorado River, the water is returned to the aquifer through injection wells resulting in a net groundwater discharge from the basin. In response to the comment, the following DEIR text on page 4.6-5 is revised in the FEIR as follows:
	However, the groundwater extraction wells (that are part of Interim Measure 3 [IM-3] extraction system) located along the National Trails Highway (Route 66) from the railroad tracks north to near where Bat Cave Wash enters the Colorado River maintain losing stream conditions to prevent contaminated groundwater from entering the river. <u>The water pumped by the</u> <u>IM-3 treatment system is returned to the aquifer through</u> <u>injection wells.</u>
T4-049	The commenter expresses concern that the Project activities, including field workers, equipment, drill rigs, stockpiled soil, and sampling activities are at risk for flooding at the Project Site. In accordance with SOPs (see pages 3-36 through 3-38), and existing practice, in the event of a sudden rain storm, the field team would cease work in washes or low-lying areas. During times when rain storms are likely or have been predicted for the area, the field team would monitor one or more weather websites with radar on a computer or smartphone to track the potential rain storm. If a rain storm is expected during the time frame work is being conducted in washes and low-lying areas, the field team would try to avoid working in washes and low-lying areas (PG&E 2014a). As discussed in Section 4.6.3.2, Thresholds of Significance, the low probability event the commenter notes would originate from Davis Dam or Hoover Dam, located approximately 55 and 108 miles upstream of the Project Site, respectively. In the event of a catastrophic dam failure, the federal, state, and local agencies with emergency response responsibilities would implement emergency notifications that would provide sufficient time for field personnel to leave the site to areas outside of the potential flood zone.
T4-050	The commenter indicates that a statement in the DEIR is incorrect that IM-3 <i>prevents</i> (emphasis added) groundwater from entering the Colorado River, whereas it diminishes groundwater flow from entering the Colorado River at certain river miles. DTSC notes this and has made the following revision to the DEIR on page 4.6-6 in the FEIR as follows:

	As noted previously and discussed further in this document, the goal of the IM-3 extraction and treatment system prevents is to contain and reverse the flow of groundwater away from entering the Colorado River.
T4-051	The commenter requests clarification on the significance of the molybdenum and selenium concentration ranges presented in the EIR. In response to the comment, the DEIR text on page 4.6-6 FEIR is revised in the FEIR as follows:
	Molybdenum concentrations ranged from 1.0 to 5.6 ug/L. <u>Water</u> <u>quality standards have not been assigned for molybdenum</u> (Table 4.6-1 in the Groundwater Remediation Project FEIR, <u>Vol. II; DTSC 2011</u>). Selenium was detected in four of five samples at concentrations ranging from 1.7 to 3.4 ug/L, <u>all below</u> <u>the 50 ug/L water quality standard cited in the Groundwater</u> <u>Remediation Project FEIR (DTSC 2011)</u> .
T4-052	The commenter requests clarification on the background concentrations and maximum contaminant levels (MCLs) for total dissolved solids (TDS) (as specific conductance), arsenic, molybdenum, selenium, and nitrate. The Ephemeral Drainages section cited by the commenter discusses 2010 DTSC surface water data collected in low-lying depressions at the Station area. Sampling occurred after a storm event. Background samples were not taken from areas that fed the low-lying areas as water was not flowing into the depressions at the time of sampling. The January 2010 data was provided for informational purposes and was not being compared to groundwater MCLs. The commenter may be referring to the next page (Section 4.6.1.3, page 4.6-7, last paragraph) where TDS (as specific conductance), arsenic, molybdenum, selenium, and nitrate groundwater data are being compared to regional background concentrations and MCLs. This portion of the paragraph is simply summarizing elevated constituent concentrations other than chromium. More detailed information can be found in the 2009 RCRA Facility Investigation (RFI) Volume 2 and Volume 2 Addendum Reports included in the reference section of the DEIR.
T4-053	The commenter expresses concern that part of the Regulatory Setting language appears to be the same in the Hazards section as it is in the Hydrology section. The commenter is correct; both sections require consideration of the National Pollutant Discharge Elimination System CGP in the analysis.
T4-054	The commenter expresses that the Tribes' input into well and boring abandonment procedures that have been provided as part of the Groundwater Remediation Project should be used for the proposed Project, particularly in the use of natural materials as opposed to non-native materials (i.e., bentonite). The recently developed "Standard Operating Procedure for Well and Borehole Decommissioning" (PG&E 2014b) was developed primarily to support the Groundwater

Remediation Project; however, it was developed with the soil investigation in mind. The SOP would be applied to the proposed Project, and includes the preferential use of natural materials over bentonite, depending on the type of well or boring conditions and subsurface materials. This SOP was issued after the release of the DEIR. DEIR text is revised in the FEIR to incorporate this information as follows:

Section 3.5.2.12, page 3-30:

Standard well and boring decommissioning procedures required by San Bernardino County and the California Department of Water Resources (DWR) (DWR 1991) would be followed for the decommissioning of all borings. After sampling has been completed, boreholes would be grouted from the total depth to within 6 to 12 inches of the ground surface with a bentonitecement grout installed continuously in one operation to effectively seal the hole. Native soil would be used to fill the top 6 to 12 inches. In addition, guidance from the "Standard Operating Procedure for Well and Borehole Decommissioning" (PG&E 2014) would also be followed for the decommissioning of all wells and boreholes associated with the proposed Project. This document was developed in coordination with DTSC and the Tribes, and identified decommissioning requirements for various scenarios that may be encountered at the Project Site. The maximum area around a boring that may be disturbed for excavation and restoration activities is estimated to be a maximum of approximately 20 feet in diameter, excluding the access route used by the drilling rig that installed the borehole. The borehole abandonment rig would use that same access route.

Section 3.5.7, page 3-37:

Section 2.2.1 of the Soil Work Plan, Best Management Practices, provides a general description of BMPs associated with dust control, noise control, worker safety, access routes, general housekeeping practices, and other potentially undesirable effects associated with the investigation. Appendix J of the Soil Work Plan provides additional details for the management of displaced soil and hazardous waste. <u>The "Standard Operating Procedure for Well and Borehole Decommissioning" (PG&E 2014)</u> provides details regarding well and borehole decommissioning and can be found in SOP B-4 to the "Basis of Design Report/Pre-Final (90%) Design Submittal for the Final Groundwater Remedy" (PG&E 2014) (see Appendix B to the Operation & Maintenance Plan, Volume I).

T4-055

The commenter states that the surface expression of any abandoned boring should not pose a hazard to animals or humans and that care should be taken to ensure that long-term visual disturbance does not

	occur. As described in Section 3.5.7, "Standard Operating Procedures and Best Management Practices" (page 3-36), the soil investigation activities will adhere to SOPs and BMPs to ensure protection of health, safety, and the environment. Relevant BMPs and SOPs as defined in Section 2.2 of the Soil Work Plan (see Appendix A of the DEIR) will become conditions of Project approval.
T4-056	The commenter expresses concern over the potential of dam failure to impact the Project Site, as well as flooding potential from Bat Cave Wash. The potential for flooding due to the "very small risk" (as characterized by the commenter) of inundation from upstream dam failure is part of the existing environmental conditions and is therefore not a reasonably foreseeable significant impact of the Project requiring the additional detailed analysis requested by the commenter in the EIR. As explained in the EIR, the Project could be impacted by flooding (see page 4.6-2), as the site is today, but that does not warrant, for example, an evaluation of the validity of the referenced County General Plan Hazard Maps regarding inundation zones, or for DTSC to second guess those maps since flood control issues are not within the purview of DTSC's expertise or jurisdiction. The commenter is also referred to responses to comments T4-047 and T4-049 for information regarding potential impacts from flooding on the Project Site.
T4-057	The commenter requests clarification of the proposed Project's impact on recharge of groundwater in some areas (i.e., compaction of soil). In response to the comment, text has been added to the DEIR on page 4.6-22 in the FEIR as follows:
	Although some compaction of dirt roads and staging areas may occur and that compaction may reduce the permeability within the footprint, the extent of the roads and staging areas compared to the adjacent open desert areas is small in comparison. Rain falling on the dirt roads and staging areas would run off into adjacent unaffected areas and infiltrate downward to the aquifer.
T4-058	The commenter states that the analysis in Impact Hydro-2 "Groundwater" contradicts analysis presented in Impact Hydro-3 "Drainage, Runoff, and Erosion." Both analyses are correct: the Project does not include construction of any impervious surfaces (paved surfaces like roads, parking lots, etc.) that would prevent groundwater recharge, while the grading and ground disturbing activities could alter drainage patterns through the simple movement of dirt and vegetation. Each impact statement is addressing a different threshold and as such the discussion is not meant to be exactly the same. Further, grading and ground disturbing activities do not prevent groundwater recharge.
	The commenter also questions whether efforts will be made to reduce the potential for creating areas of focused groundwater recharge and unnecessary spread/transport of contaminants into undesired areas. The commenter further suggests that although the SOPs and BMPs may

reduce direct drainage to the Colorado River, they should also reduce the
potential for concentrating any stormwater surface flows into non-
impacted areas. To provide further clarification, additional BMPs will be
included in the list of BMPs presented in Section 4.6.3.3, "Impact
Analysis," in the subsection on Water Quality, under Grading and Site
Preparation Activities. Text is added on page 4.6-19 of the DEIR in this
FEIR as follows:

•	Fiber Rolls/Sediment Wattles (SE-5): A temporary erosion
	control method that consists of aspen wood excelsior, straw,
	flax, or other similar materials that are rolled and bound into
	tight tubular rolls and placed on the face of slopes at regular
	intervals depending on steepness of slopes to intercept runoff
	and reduce flow velocity.

• <u>Straw Bale Barriers (SE-9): A temporary erosion control</u> method that intercepts and slows down sheet flow runoff, causing temporary ponding. The temporary ponding provides quiescent conditions allowing sediment to settle. Straw bale barriers also interrupt the slope length and thereby reduce erosion by reducing the tendency of sheet flows to concentrate into rivulets (which erode rills) and ultimately gullies, into disturbed, sloped soil.

T4-059 The commenter suggests clarification regarding the description of the logarithmic scale presented in the DEIR. DTSC concurs with this description of the decibel scale, and modifications to the DEIR on page 4.7-4 are made in this FEIR as follows:

A typical ratio is 10, so that the marks on the scale read: 1, 10, 100, 1,000, 10,000, etc., which doubles the variable plotted on the x-axis. The human ear perceives sound in a nonlinear fashion; hence the decibel scale was developed. Because the decibel scale is based on logarithms, <u>sound pressure (noise)</u> <u>levels</u> from two noise sources do not combine in a <u>simple linear</u> additive fashion, rather they combine logarithmically.

T4-060 The commenter requests clarification regarding the possibility for noise attenuation to diminish, leading to greater noise levels than are expected or anticipated. In response to this comment, the following discussion under Existing Setting in the Noise section has been added on page 4.7-5 of the DEIR in the FEIR as follows:

Atmospheric effects can also result in noise level fluctuations, either increasing or decreasing noise levels relative to typical propagation and attenuation (Caltrans 2009). For instance, receivers located downwind from a source can be exposed to increased noise levels relative to calm conditions, whereas receivers upwind from the source can have lowered noise levels. In addition to these effects produced by wind, sound levels can

	increase at large distances from the source (e.g., more than 500 feet) as a result of atmospheric temperature inversions (i.e., increasing temperature with elevation) or can decrease with distance from the source at a higher rate than the typical spreading loss with distance rate as a result of a temperature lapse condition (i.e., decreasing temperature with elevation). Other factors such as air temperature, humidity, and turbulence can also have significant effects on sound propagation (Caltrans 2009).
T4-061	The commenter requests clarification regarding vibration and caliche layers in the Existing Setting discussion of the DEIR. DTSC has added the following information on page 4.7-6 of the DEIR to the FEIR as follows:
	Notably, soil and subsurface conditions can have a substantial influence on ground-borne vibration, with stiffness and internal damping (which is affected by soil type, moisture content, temperature, and the frequency of the vibration source) of the soil and the depth to bedrock being some of the most important factors (FTA 2006). According to the FTA, vibration levels do not attenuate as rapidly in stiff clay soil or rock, and vibration levels can thereby be greater and travel further in those materials than in other soil types, such as loose sandy soil (FTA 2006).
T4-062	The commenter requests clarification that intervening mesas on the Project Site do not block all noise from the Station. In response to the comment, the DEIR text on page 4.7-6 is revised in this FEIR as follows:
	Noise associated with the operation of the PG&E Topock Compressor Station (Station) is audible within the vicinity of the Station and the Interim Measure 3 (IM-3) Groundwater Extraction and Treatment Facility (IM-3 Facility); however, because of the existing topography (intervening mesas) noise- sensitive receptors in the Project Site vicinity do not have direct exposure to these noise sources. <u>The intervening mesas do not</u> <u>block all Station noise, but do result in some attenuation.</u>
T4-063	The commenter requests clarification on why the 2013 measurement locations are not even close for different epochs of measurements (specifically, ST ² -2 and ST-3) and suggests the legend presented in Figure 4.7-2 and Table 4.7-1 of the DEIR should indicate the month and year of the data acquisition. The noise measurement locations included in Figure 4.7-2 present noise monitoring results from 2008, 2012, and 2013. The 2008 and 2012 measurements taken at ST-3 (Locus C) and questioned by the commenter were taken approximately 450 feet away from each other. The 2008 and 2012 measurements taken at ST-3 (Park Moabi) and questioned by the commenter were taken approximately 120 feet away from each other. The 2008 and 2012 measurements recorded at ST-2

 $^{^2}$ ST refers to "short term" noise measurement site as depicted in the DEIR on Figure 4.7-2.

	(Locus C), and at ST-3 (Park Moabi), were taken in the general vicinity of one another. As such, the measurements are a reasonable representation of noise relevant to the Locus C and Park Moabi areas. Each of the long-term and short-term locations identified in Figure 4.7-2 of the DEIR correlates to the sites described in Table 4.7-1 of the DEIR. As noted in Table 4.7-1, sites ST-1, ST-2, and ST-3 were monitored multiple times in December 2008, August 2012, December 2012–January 2013. Separately, sites ST-4 through ST-9 were monitored in December 2013.
T4-064	The commenter requests clarification on the chronology for the noise monitoring events. In response to the comment, the DEIR text on page 4.7-6 is revised in this FEIR as follows:
	Ambient noise surveys were conducted in and around the Project Site in December 2008 (for the groundwater EIR), August 2012, December 2012 to January 2013 (for the groundwater remedy design development), and December 2013 for the analysis conducted for the Soil Investigation Project.
T4-065	The commenter disagrees with the existing noise environment in Section 4.7.1.6. In response to the comment, the following sentence in the DEIR on page 4.7-6 is deleted in this FEIR as follows:
	Local roadway traffic, rail operations, aircraft overflights, and wind gusts dominated the noise environment at each of the noise measurement sites. The results of the ambient noise survey are summarized in Table 4.7-1 .
T4-066	The commenter requests clarification regarding the noise monitoring survey completed in December 2013. DTSC's consultant Environmental Science Associates used Metrosonics dB-3080 noise meters, calibrated before and after the monitoring. The locations for short-term (15-minute) monitoring were determined with input from a qualified archaeologist to gather existing noise levels at culturally sensitive areas where known Project activities would occur. The following variables were considered for noise monitoring location selection: areas of high project activity, proximity to cultural resources, and locations where data previously had not been collected. The long-term (24-hour) measurement was conducted near the Station to describe day and night noise levels from Station operations. Data collected is processed and summarized in Table 4.7-1 in the DEIR.
T4-067	The commenter requests that the data in Table 4.7-1 be sourced appropriately. In response to the comment, a footnote is added to Table 4.7-1 on DEIR page 4.7-8 to this FEIR as follows:
	^b Single 15-minute measurements were collected at these locations in December 2013.
T4-068	The commenter requests that Tribal uses be considered vibration- sensitive. Tribal members were not specifically identified in the DEIR

	analysis as vibration-sensitive receptors because they would be on-site only temporarily and at unknown locations, in contrast to residences or residential uses which are permanently located. Therefore, specific assessment of vibration impacts to any individual Tribal members visiting the site would be speculative and does not require further evaluation. Please see also response to comment T4-074.
T4-069	The commenter requests clarification on why the DEIR states that California Department of Transportation (Caltrans) recommends a more conservative threshold. In response to the comment, the DEIR text on page 4.7-10 is revised in this FEIR as follows:
	Caltrans recommends a more conservative threshold of 0.2 inches/second PPV for normal residential buildings and 0.08 inches/second PPV for old or historically significant structures (Caltrans 2004).
T4-070	The commenter requests that location-specific information be included for the noise levels listed. In response to the comment, the DEIR text on page 4.7-18 is revised in this FEIR as follows:
	Using the Federal Highway Administration (FWHA) Roadway Construction Noise Model (RCNM) and conservatively assuming an attenuation of 6 dBA per doubling of distance and that a drill rig truck, backhoe, and vacuum truck would operate at the same site location concurrently (a conservative assumption since equipment use at a site would be staggered rather than used concurrently), the <u>nearest potential</u> soil investigation sampling activities <u>to Topock Maze Loci</u> could lead to noise levels of 78 dBA Leq at Topock Maze Loci B or C, 72 dBA Leq at Locus A.
T4-071	The commenter requests clarification on the particular residences identified as sensitive receptors in Table 4.7-5. As described in Table 4.7-5, the nearest sensitive residence to the active soil sampling area is a home located approximately 685 feet away across the Colorado River and south of Interstate 40 (I-40). For a discussion of nonresidential Tribal sensitive receptors, please see response to comment T4-074.
T4-072	The commenter suggests revisions to Mitigation Measure NOI-1, which is intended to reduce potential noise impacts. Edits have been made to the mitigation measure to respond to this comment. Though the revisions to the Mitigation Measure have been incorporated, the identified impact and the impact conclusion (Significant and Unavoidable) do not change. The DEIR text in Mitigation Measure NOI-1: Potential Impacts to Noise Levels and Noise Standards on page 4.7-19 is revised in the FEIR as follows:
	• Investigation equipment shall be properly maintained per manufacturer specifications and fitted with the best available noise suppression devices (e.g., mufflers, silencers, wraps).

Pneumatic powered socket wrenches shall be <u>low noise</u> (85 dBA or less measured at 75 feet) when operating, shrouded or shielded, and all intake and exhaust ports on power equipment, such as engine-driven air compressors, shall be muffled or shielded <u>using best available technology</u>.

The commenter suggests revisions to Mitigation Measure NOI-1, which is intended to reduce potential noise impacts. The suggested edits have been applied to the fourth bulleted item in order to further strengthen the measure to reduce noise levels from Project-related equipment. Though the revisions to the Mitigation Measure have been incorporated, the identified impact and the impact conclusion (Significant and Unavoidable) do not change. The DEIR text in Mitigation Measure NOI-1: Potential Impacts to Noise Levels and Noise Standards on page 4.7-19 is revised in the FEIR as follows:

> A disturbance coordinator shall be designated by PG&E, which will post contact information in a conspicuous location near investigation areas so that it is clearly visible to nearby noise-sensitive receptors as labeled in Figure 4.7-2. In addition, mailing of the same information will be sent to nearby noise-sensitive receptors as labeled in Figure 4.7-2 and Interested Native American Tribes (Chemehuevi Indian Tribe, Cocopah Indian Tribe, Colorado River Indian Tribes, Fort Mojave Indian Tribe, the Fort-Yuma Quechan Indian Tribe, and the Hualapai Indian Tribe). The coordinator will manage complaints resulting from the investigation noise. Reoccurring disturbances will be evaluated by a qualified acoustical consultant retained by PG&E to ensure compliance with applicable standards. The disturbance coordinator will contact nearby noise-sensitive receptors as labeled in Figure 4.7-2 and Interested Tribes, advising them of the investigation schedule. The disturbance coordinator will also consider the timing of soil investigation activities in relation to Tribal ceremonial events that are sensitive to noise, which will be accommodated by PG&E to the maximum extent practicable. The disturbance coordinator will also verify and document that all activities at the Project Site are in compliance with all items presented in Mitigation Measure NOI-1.

T4-074 The commenter expresses concern that Table 4.7-5 does not include nonresidential Tribal use locations. Specific nonresidential Tribal use locations were not included because they would be outside of the work area exclusion zone for all activities (see Section 3.5.2.8), resulting is a less than significant impact. Sampling activities at 50 feet or greater distance would result in vibration levels that would be below the Federal Transit Administration (FTA) threshold of human annoyance and would be a less than significant impact (see page 4.7-21). This conclusion does not negate the significant noise impact, which would still necessitate

T4-073

	implementation of Mitigation Measure NOI-1. However, ground-borne vibration impacts are much more localized than noise and drop off substantially with distance.
T4-075	The commenter questions whether there is enough soil data to adequately characterize risk, and states that PG&E has acknowledged that the current data set is adequate. They emphasize the importance that the requirements needed to reliably characterize the nature and extent of soil and sediment contamination within the Project Site be clearly defined and included in the DEIR. Please see response to comment T4-007 regarding evaluating the nature and extent of contamination. It should also be clarified that although PG&E's risk assessors have previously indicated that they have an adequate number of soil data to calculate a risk for that dataset, the current soil data set has data gaps, including not having defined the nature and extent of soil contamination, and more important, not having any soil data for some of the investigation areas. Therefore, any calculated risk from the current data set may not be completely accurate. These data gaps are planned to be filled by performing the activities proposed in the Soil Work Plan, as described in the DEIR.
T4-076	The commenter questions the level of consistency to be maintained with the risk assessment documents. The commenter also expresses concern that the conclusions reached in the DEIR for agricultural resources contradict the inclusion of a sustenance farm scenario in the risk assessment. The commenter is referred to the Master Response Future Land Use Scenario for details about the association between the risk assessment and the Soil Investigation EIR. DTSC has established specific thresholds for the analysis of this Project's effect on agricultural resources, which are derived from the CEQA Guidelines Appendix G. As stated in DEIR Section 5.3.1, "Agricultural Resources," the proposed Project would not convert farmland identified by the Farmland Mapping and Monitoring Program (FMMP) to non-agricultural use, conflict with a Williamson Act contract, or otherwise result in conversion of farmland to non-agricultural use, which are the established CEQA thresholds for agriculture. As a result, the DEIR finds that there would be no impact to agricultural resources resulting from Project implementation.
T4-077	The commenter questions the level of consistency to be maintained with the risk assessment documents. The commenter also expresses concern that the DEIR determines agriculture unlikely at the Project Site, while the soil risk assessment work plan has determined that agriculture is a likely pathway for exposure that needs to be quantitatively evaluated. The commenter is referred to the Master Response Future Land Use Scenario for details about the association between the risk assessment and the Soil Investigation EIR. The Human Health and Ecological Risk Assessment Work Plan Addendum 2 (May 2014) makes it clear that irrigation/agricultural related uses are being considered purely as part of a hypothetical "Unrestricted Future Use" scenario for purposes of conducting the health risk analysis (see Section 4.1.3.4). The CEQA

	Guidelines, Appendix G, Section II, "Agriculture and Forestry Resources," contains specific thresholds for analysis of agricultural resources. DTSC knows of no plans for the use of the Project Site for sustenance farming; therefore, it is future agricultural uses are speculative and the Project would not result in impacts. As stated in DEIR Section 5.3.1, "Agricultural Resources," the proposed Project would not convert farmland identified by the FMMP to non-agricultural use, conflict with a Williamson Act contract, or otherwise result in conversion of farmland to non-agricultural use, which are the established CEQA thresholds for agricultural resources due to Project implementation.
T4-078	The commenter expresses concern that the condition of current roads is not described in the DEIR and questions whether the roads can accommodate additional traffic. The condition of current roadways are presented in Table 5-1 on page 5-15, which includes the existing year roadway segment volumes, and Table 5-2 on page 5-15, which includes existing year 2014 LOS volumes. As discussed in Section 5.3.10 on pages 5-14 and 5-15, the existing condition represented by Average Daily Traffic (ADT) volumes on Park Moabi Road are well below San Bernardino County's threshold of 7,000 ADT. As described on page 5-14, the maximum amount of vehicle trips associated with Project implementation is 1,540 trips over the lifetime of the Project. As a result, the DEIR finds that impacts to traffic volumes would be less than significant.
T4-079	The commenter expresses concern that traffic impacts were not analyzed on historical Route 66 past the Interim Measure 3 Groundwater Extraction and Treatment Facility (IM-3 Facility) and Park Moabi Road south to the Station, and that traffic would pass through important areas for cultural resources. As described in Section 5.3.10, the study area for the traffic impact analysis includes Park Moabi Road, I-40, and National Trails Highway (also known as historic Route 66). The two intersections analyzed, Park Moabi Road and the east/west on/off ramps to the I-40, represent the main access points to the Project Site and surrounding roadways. To access historic Route 66 or Park Moabi Road south toward the Station from I-40, the studied intersections would be used. As such, the traffic impact analysis for intersections and roadway segments accounts for Project-related traffic on the Park Moabi Road south to the Station and historical Route 66 past the IM-3 facility. The traffic volumes on roadways surrounding the proposed Project presented in Section 5.3.10, page 5-14, include all trips associated with the proposed Project. In terms of impacts to cultural resources, Project-related vehicles and trucks would stay on established roads, haul routes, and access routes, limiting the impact to cultural resources. The commenter is referred to Section 4.4.3.3 for impacts related to cultural resources.
T4-080	The commenter requests clarification regarding access road improvements, specifically whether routes would be improved, graded, or cleared as a result of Project implementation, or whether no grading or clearing would occur. As discussed on DEIR page 3-16, the proposed sampling locations

	are accessible by the existing network of roads throughout the Project Site; however, access roads may need to be improved for access to certain locations and to protect subsurface utilities from heavy equipment needed for sampling activities. As discussed on page 3-16, unpaved access roads that cross over utilities may require additional cover material to be placed on the roadbed to protect the utilities. Clean fill material stored in or around the Station would be used for this purpose. In addition, some areas outside the Station fence line may require trimming, pruning, or clearing of vegetation or movement of boulders to access proposed sampling locations. After sampling activities are complete, all Project equipment and materials would be removed from the work area and, if the area is not paved, the area would be raked/brushed to remove tire tracks. The specific access road conditions and need for improvement are described in detail on pages 3-16 through 3-19.
T4-081	The commenter requests that the DEIR provide soil volumes associated with all aspects of the soil sampling plan on page 5-17. The DEIR Section 3.5.2.11 identifies the amount of IDW that would result from implementation of the proposed Project. IDW materials involve drill cuttings, sampling equipment wash water (decon water), personal protective equipment, and incidental trash. Approximately 5 to 20 cubic yards of IDW would be generated from the proposed Project, as identified on page 5-17. To further clarify the soil volumes associated with each component of the Soil Investigation Project, the DEIR text on page 5-17 is revised in this FEIR as follows:
	The estimated amount of solid waste that may be generated ranges from less than 5 cubic yards up to 20 cubic yards. <u>The soil</u> <u>sampling would produce between 7 to 10 cubic yards, the bench</u> <u>scale tests would produce between 9 to 15 5-gallon buckets, the In</u> <u>Situ Soil Flushing and In Situ Stabilization/Chemical Fixation</u> <u>would each produce 4 cubic yards, the Geotechnical Evaluations</u> <u>would produce 1 to 2 cubic yards, and the Plant and Biota</u> <u>Samples would not produce any IDW. All Project-related</u> <u>activities would produce no more than 20 cubic yards.</u>
T4-082	The commenter requests more detail on the assumptions used to develop displaced soil quantities. The volume of total IDW (5 to 20 cubic yards) was calculated based on the number of samples, sampling method, diameter of borings, and boring depths. The range reflects the variety of sampling methods that may be used in some locations. Note, the volume of total IDW is only for soil cuttings, personal protection equipment and trash would be disposed of separately. See also response to comment T4-081.
T4-083	The commenter requests clarification regarding how the 2,000-gallon and 500-gallon volumes were calculated. The 2,000-gallon volume of wastewater was estimated based on PG&E's experience regarding the amount of wastewater generated during previous soil sampling events at the Station. The 500-gallon volume for the 25 percent contingency reflects

25 percent of the total volume (2,000 gallons) of wastewater generated by the proposed soil sampling activities.

T4-084 The commenter requests clarification regarding the amount of water (between 700,000 and 1,000,000 gallons) required to conduct soil flushing. As discussed in the DEIR in Chapter 3, "Project Description," page 3-32, assuming an application rate of 1 to 1.5 gallons per minute per well, the amount of flush solution for a 120-day test would range between 700,000 to 1,000,000 total gallons of water (approximately 8,000 gallons per day).

T4-085 The commenter requests clarification on whether the elevated arsenic and fluoride levels associated with the Arizona groundwater would trigger any regulatory requirements for the use of this water for soil flushing and in situ soil treatment. As described in Section 3.5.3.1 of the DEIR, initial bench scale treatability tests (conducted off-site in a laboratory environment) for soil flushing and in situ soil fixation/stabilization would evaluate candidate reagents using representative PG&E site soil. While this comment is not directly related to the environmental analysis presented in the DEIR, the following technical information is provided for clarification and full disclosure. Testing would be performed using current water supply from Arizona to verify the effectiveness of the treatment and to assess the quantity and quality of the resulting flushed water. This information would be used to inform the management plan for the resulting flushed water and associated regulatory requirements.

> Soil flushing would involve leaching contaminants out of the soil and into the underlying groundwater. During the on-site pilot test, these contaminants would be pumped out through nearby wells and managed in accordance with applicable regulations. Aquifer conditions during the on-site soil flushing pilot test would remain aerobic; therefore, it is expected that much of the arsenic in the source water would be attenuated by adsorption to iron oxides and other minerals as it passed through the unsaturated zone, so the concentration reaching groundwater would likely not be above regulatory limits. Regardless, arsenic reaching the groundwater would be extracted via pumping along with other contaminants leached from the soil.

Arsenic management would be part of a fixation/stabilization pilot test regardless of whether or not arsenic was elevated in the source water. In an in situ soil fixation/stabilization, where geochemically reducing conditions were established in the unsaturated zone, there could be considerable amounts of arsenic liberated as a byproduct; therefore, the presence of elevated arsenic in the source water is not anticipated to trigger any additional regulatory requirements for the pilot test.

The fluoride concentration in Arizona groundwater is less than the fluoride concentration in groundwater in the anticipated area of soil flushing/stabilization pilot test (near MW-10). Fluoride has not been

identified as a concern for injection of Arizona groundwater into the aquifer during the operation of the groundwater remedy. It is not anticipated to be a concern or trigger any additional regulatory requirements for a soil flushing or in situ soil fixation/stabilization pilot test. Prior to implementation of any bench scale tests or pilot studies, PG&E would prepare a work plan(s) that describes the specific location, extent, configuration, reagents to be used, parameters to be evaluated, and rationale for such activities. The work plan(s) would be provided to stakeholders for review and comment. See Master Response Additional Testing and Sampling Activities for more information. T4-086 The commenter questions what additives will be used for the In Situ Stabilization/Chemical Fixation pilot study, and questions the level of assurance provided that these additives will not become a new soil contaminant. The potential reagents for investigation are described in DEIR Section 3.5.3.2 and include: reduction/oxidation solutions; sodium dithionite; calcium/sodium polysulfide; sodium metabisulfite; complexing solutions; diphenyl carbazide; and ECOBOND® solution. Selection will be made of the most effective reagents and their anticipated concentrations. One or more of these reagents may be used in the pilot studies. As described on page 3-33, the reagent selection and percent addition will be determined based on the bench scale tests. As described in Section 3.5.3.1, initial bench scale treatability tests (conducted off-site) for soil flushing and in situ soil fixation/stabilization will evaluate candidate reagents using representative PG&E site soil. Testing will be performed to verify the effectiveness of the treatment and to assess the quantity and quality of the resulting flushed water and stabilized soil. This information will be used to inform the management plan for the resulting flushed water and associated regulatory requirements. For the on-site soil flushing pilot test, reagents will be flushed and the underlying groundwater will be pumped until remaining concentrations of both the contaminants and the flushing reagents are removed to levels deemed acceptable by the regulatory agencies. Prior to implementation of any bench scale tests or pilot studies, PG&E would prepare a work plan(s) that describes the specific location, extent, configuration, reagents to be used, parameters to be evaluated, and rationale for such activities. The work plan(s) would be provided to stakeholders for review and comment. See Master Response Additional Testing and Sampling Activities for more information. T4-087 The commenter suggests other prospective projects, specifically pipeline projects from Southern California Edison, Kinder Morgan, and Southwest Gas, City of Needles electrical, and Burlington Northern Santa Fe Railway (BNSF) improvement projects, that should be included in the cumulative analysis. The DEIR made a concerted effort of

gathering information as it pertains to cumulative projects, including
past, present, and reasonably foreseeable projects. In response to the comment, DTSC contacted each of the parties suggested in the comment. Of these projects, only one – the Southwest Gas project – was a viable past project that should be considered in the cumulative analysis. See Master Response Cumulative Projects regarding the inclusion of this additional project. Kinder Morgan confirmed they do not have any pipelines in the Project area (the nearest being in Las Vegas). The City of Needles (who was previously contacted during preparation of the DEIR) confirmed that, although upgrades to the electrical system at Park Moabi are needed, there is no funding and they will not be replaced for another 20 years. The lead agency does not consider this to be reasonably foreseeable for purposes of having meaningful analysis in the EIR, and it was therefore was not included. BNSF was contacted (as they were for the preparation of the DEIR) and no specific response regarding potential projects was provided.

The commenter asks for an explanation of how the EIR is differentiating between environmental baseline and past projects contributing to cumulative effects, particularly to soil, and states that it is important to specifically mention large land usage/disturbances that have involved soil removal and/or expansion of the Station footprint outside of the facility fence line when discussing what is included in this "baseline." As explained in the DEIR and updated as part of this FEIR (see Master Response Cumulative Projects), a summary of the projects identified at or within the general vicinity of the Project Site were listed in Table 6-3 and considered in the cumulative impacts analysis as those that may have related environmental impacts similar to those of the proposed Project and are either: (1) recently completed; (2) currently under construction or implementation or beginning construction or implementation; (3) proposed and under environmental review; or (4) reasonably foreseeable, consistent with CEQA Guidelines Section 15130. (See DEIR, page 6-6, Table 6-3.) Historical soil investigation activities such as those that occurred in 1988. are considered to result in conditions that form the baseline. More recent soil investigation activities, such as those conducted in 2008 (see cumulative project 1G) are considered cumulative projects. Please see Master Response Cumulative Projects for more information.

The DEIR explains that some soil investigations have occurred on-site in the past, including, for example, those directed by DTSC as part of additional soil and groundwater characterization activities conducted during the East Ravine Groundwater Investigation Phase 2. During those Phase 2 activities, an addition of 20 groundwater monitoring wells (MWs) were installed and soil samples were also collected at six investigation sites in the area of the compressor and at one site in the East Ravine. This is explained in the Cumulative Impacts section of the DEIR (see DEIR page 6-12). The Soil Work Plan also includes a summary of past soil sampling at pages B2-2 through B2-3 (see Appendix A to the DEIR).

	The cumulative impacts analysis within the FEIR has been expanded to further describe the past soil sampling and investigation activities previously conducted within the Project area. As described in detail in Master Response Cumulative Projects, DTSC has decided based on comments received on the DEIR to include two of PG&E's past projects (Time Critical Removal of AOC 4 and the Part A Soil Investigation) to the extent such information is relevant to the understanding of the environmental impacts of the proposed Project considered cumulatively with other ongoing, pending, and reasonably foreseeable future projects.
	The additional information about past soil sampling does not result in a substantial increase in the significant and unavoidable cumulative impacts already found in the DEIR, nor does it result in a finding of any new cumulatively considerable impacts. It therefore does not change the EIR's impact conclusions but is nevertheless offered also within the context of the FEIR in the interest of full disclosure. (See <i>Environmental Protection Information Center v. Cal. Dept. of Forestry and Fire Protection</i> (2008) 44 Cal.4th 459, 524 [finding petitioner's argument that an EIR substantially understated the effects of past timber harvest practices on various species unpersuasive]; see also <i>City of Long Beach v. Long Beach Unified School Dist.</i> (2009) 176 Cal.App.4th 889, 910-911 [rejecting City's argument that the cumulative impacts analysis for a school construction project omitted "closely related past projects," including two already completed freeways, ports, petroleum refineries and chemical plants, in part, because it failed to show how the EIR's conclusion would have been different].)
T4-089	The commenter states the final soil remedy should fall under the category of past, present, and reasonably foreseeable future projects and be considered in the cumulative analysis. Please see Master Response Cumulative Projects.
T4-090	The commenter asks why the development of the Beale Slough Riparian and Cultural ACEC management plan are not listed in Table 6-3 "List of Projects Located At or Within the Vicinity of the Proposed Project." The BLM's 2007 <i>Lake Havasu Resource Management Plan</i> states that "ACEC management plans will be developed in the future with associated monitoring plans." According to the BLM Lake Havasu Field Office, at this time the BLM does not have the resources to pursue the development of a management plan for any of its ACECs. The timeline for development of an ACEC management plan for the Beale Slough Riparian and Cultural ACEC is uncertain. No ACEC-specific management plan or management projects currently exist for the Beale Slough Riparian and Cultural ACEC and it is therefore not included in Table 6-3.
T4-091	The commenter asks that the time-critical removal action which resulted in significant soil excavation from AOC-4 be included in this table. This project has been included in the cumulative analysis. Please see Master Response Cumulative Projects.

T4-092	The commenter asks why removal of IM-3 is not considered as a PG&E project in the cumulative impact analysis. Future removal of IM-3 is a component of the Groundwater Remediation Project at the Station. The description of Project 1C in Section 6.4.2.1 of the DEIR has been modified to clarify this (see Master Response Cumulative Projects). The cumulative analysis includes the Groundwater Remediation Project, and therefore considers removal of IM-3. For questions regarding what is included in the Groundwater Remediation Project, please refer to the Groundwater FEIR (DTSC 2011), which can be accessed on the project website at: http://dtsc-topock.com/groundwater-remedy-selection. No changes to the DEIR text are necessary.
T4-093	The commenter states that groundwater activities are currently occurring at the site (specifically refers to the freshwater source evaluation) and will likely overlap with soil investigation work, and that this statement in the DEIR should be corrected. The commenter is correct in that the freshwater source evaluation efforts, which were evaluated in Addendum No. 1 to the Groundwater FEIR, were completed with the drilling of a test well in Arizona in April 2014. The timing of this effort was necessary in order move forward with the Groundwater Remediation Project, and the environmental analysis, including a cumulative assessment, was conducted by DTSC as part of the Groundwater FEIR and the subsequent EIR Addendum No. 1. Please see Master Response Cumulative Projects regarding the timing of the overall Groundwater Remediation Project and the proposed Project.
T4-094	The commenter requests confirmation that the release of hazardous materials through transportation to waste disposal sites has been considered in the DEIR. The commenter is referred to Section 4.5, "Hazards and Hazardous Materials," pages 4.5-15 through 4.5-18 under the heading "Management of Waste Soil from Investigation Activities," where the handling, transport, and disposal of waste soil are described. All soil and IDW would be handled in accordance with applicable local, state, and federal laws, and in accordance with the <i>Management Protocol for Handling and Disposition of Displaced Site Material, Topock Remediation Project, Needles, CA</i> provided in Appendix J of the Soil Work Plan (CH2M HILL 2013). As a result, impacts would be less than significant related to the transport of soil waste. Regarding Cumulative Impacts, the DEIR text on page 6-26 identifies the fact that the Project, in combination with the other projects mentioned in the geographic scope for hazards and hazardous materials, would contribute incrementally to the cumulative baseline; however, adherence to applicable laws and the SOPs and BMPs mentioned previously would not result in a cumulatively considerable impact on hazards and hazardous materials.
T4-095	This commenter expresses that the Tribal Land Use Alternative should be considered fully by DTSC as a reasonable and realistic scenario. DTSC understands that there is interest from many of the Tribes to consider this alternative, which would require land use restrictions be put in place at the site, as described on page 7-7 of the DEIR. Because this

T4-096

Project addresses only the investigation stage of the remedial process, the Tribal Land Use Alternative does not meet the primary objective of the Project, which is to gather sufficient soil samples to be able to reliably characterize the nature and extent of soil and sediment contamination within the Project Site. After the gathering of information occurs through an investigation project, DTSC will then, and only then, consider remedial design options and alternatives. The soil investigation activities would not predetermine remedial design options or alternatives. Furthermore, considering land use restrictions at the investigation stage of a remediation planning effort is premature. DTSC will evaluate different remedial options, including land use restrictions, as part of the CMS/FS phase of the remedial process, which will occur after DTSC has characterized the nature and extent of soil and sediment contamination at the Project Site.

The commenter indicates that the assumption that areas outside of Topock Maze loci A, B, and C do not contain unique archaeological resources is incorrect and asks for clarification on what constitutes a unique archaeological resource. The commenter also indicates that the Tribal Cultural Values Assessment (TCVA) exclusion area had been adopted by the BLM. The commenter is referred to Public Resources Code (PRC) Section 21083.2(g) for the definition of what constitutes a unique archaeological resource, which is described in detail on page 4.4-61 of the DEIR. The DEIR does not assert that areas outside of the Topock Maze do not contain unique archaeological resources, as stated by the commenter. Page 4.4-79 of the DEIR states that "None of the 14 known archaeological resources have been assessed for qualification as unique archaeological resources under CEQA Section 15064.5 and PRC Section 21083." These resources were not assessed for qualification as unique archaeological resources because, as historical resources, they are already afforded protection under the law as prescribed by CEQA. Additionally, in an email dated September 23, 2014, DTSC has confirmed with BLM that, in contrast to the commenter's assertion, the TCVA exclusion area has not been adopted by the BLM (BLM 2014). The TCVA was prepared by the Tribes to document the boundaries of the Topock Maze Loci (CA-SBR-219/H) as they are viewed by the Tribes. The TCVA was submitted to BLM for their review and approval; however, to date the BLM has not adopted the TCVA findings. To DTSC's knowledge, the California Department of Parks and Recreation (DPR) 523 form and site boundary for CA-SBR-219/H have not been updated or revised through the California Historical Resources Information System (CHRIS). Therefore, DTSC has relied on the formally-established boundary for site CA-SBR-219/H as it is currently documented at the CHRIS San Bernardino Archaeological Information Center during the preparation of the DEIR.

T4-097 The commenter is concerned that soil removal actions that occur during characterization activities could result in much greater soil removal than might occur if a more deliberate course of action is considered. The commenter does not specify a particular course of action; however, the commenter is referring to Section 7.5.2 of the DEIR, which addresses an

alternative that would incorporate cleanup actions. This alternative was rejected by DTSC as being a viable project alternative for several reasons, as specified on pages 7-10 and 7-11 of the DEIR. DTSC is proposing the characterization of the soil conditions at the site through implementation of the Soil Investigation Project; remediation and cleanup activities are not proposed as part of the soil investigation activities. Soil remediation activities, if determined to be warranted, would only be proposed after consideration of the data that would be obtained through the implementation of the Soil Investigation Project. Those soil cleanup activities would also be subject to CEQA.
The commenter suggests that the Reduction of Project Footprint Alternative (Avoid Mouth of Bat Cave Wash) would avoid sampling and that it would seem logical to try to implement this alternative if data supported the presumption that this sampling was unnecessary. DTSC agrees that unnecessary sampling should not occur. The soil sample data that is currently available for this area is limited to areas <i>adjacent</i> to the Mouth of Bat Cave Wash. As noted on page 7-12 of the DEIR, the sample results that currently exist for this area indicate that surface soil and sediment in and adjacent to the heavily vegetated area is known to have chemical concentrations above background and action levels. If soil sampling was limited to the areas surrounding this vegetated area, as suggested in the Reduction of Project Footprint Alternative, the conditions of soil or sediment contamination within the vegetated areas would remain unknown. Furthermore, if sampling was conducted only in a portion of the Mouth of Bat Cave Wash area (e.g., the northern most and southern most locations) full characterization would not be possible and there would not be comprehensive data upon which to determine potential remedial alternatives. The primary objective of the of the Soil Investigation Project is to gather sufficient soil samples to be able to reliably characterize the nature and extent of soil and sediment contamination within the Project Site to support the preparation of the future CMS/FS. The Reduction of Project Footprint Alternative would not movide anough information for this area to most that objective
The commenter asserts that the Cultural Resources section does not do enough to discuss Tribal views and is merely a rehash of previous

enough to discuss Tribal views and is merely a rehash of previous general comments, and that no new information was included that was provided in the TCVA. DTSC thanks the commenter for expressing their concerns. The Tribal Perspectives section is a synthesis of information provided to DTSC over the past 5 years, including information obtained as a direct result of outreach efforts for the current EIR. Additional new information was incorporated into the DEIR as a result of Project-related site visits, field surveys, and meetings. If a Tribe did not provide specific comments on the current EIR, DTSC attempted to include as much information from previous outreach as possible so as not to exclude any Tribal viewpoints. In addition, Tribes were given the opportunity to review and provide input on their respective part of the Tribal Perspectives section. As noted, the BLM has not adopted the TCVA

T4-098

T4-099

findings. DTSC reviewed the TCVA in its entirety and extracted relevant information where appropriate for use in the DEIR (see page 4.4-19).

T4-100 The commenter indicates that the DEIR is missing an intangible/spiritual/religious/cultural issues discussion. DTSC understands that the Topock area is very sacred to the Cocopah Indian Tribe and that any physical disturbances and alterations to the landscape are hurtful and disruptive to the Cocopah Indian Tribe's belief system, values, way of life, and afterlife and are seen as a desecration of the "spirituality" of the place. As the FMIT noted in the Ahamakav Cultural Society memo, the Cocopah Indian Tribe sees the environment as a whole, and disruption to one part affects the entire area, which is a different perspective from the "Western Scientific approach" that tends to compartmentalize the environment into subsets that can be analyzed independently of one another. DTSC attempted to include the Cocopah Indian Tribe's perspective throughout the DEIR, particularly in the Introduction (see Section 2.2.4), Aesthetics Section (see pages 4.1-8, 4.1-9, 4.1-20, 4.1-44), and Noise Section (see pages 4.7-7, 4.7-19, and 4.7-20), in addition to the Cultural Resources Section. However, CEOA does not provide an avenue to analyze impacts to personal or group belief systems, such as intangible, spiritual, or religious beliefs. CEQA requires an agency to consider the effects of a project on the environment, which is defined as "the physical conditions that exist within the area" (see PRC Section 21060.5). Nevertheless, DTSC attempted to recognize Tribal views of the Topock area and the intangible aspects of the Topock Traditional Cultural Property (TCP) in its analysis of impacts to the TCP, which found that the Project would result in a Significant & Unavoidable impact to the Topock TCP.

Letter T5: Chemehuevi Indian Tribe



Chemehuevi Indian Environmental P.O. Box 1976 Havasu Lake, California 92363 Phone: 760 858-1140 Fax: 760 858-1189

Mr.Aaron Yue, Project Manager Department of Toxic Substances Control 5796 Corporate Ave, Cypress CA 90630

RE: Chemehuevi Tribal comments regarding the Draft Environmental impact Report (EIR) PG&E Topock Compressor Station Investigation project.

Dear Mr. Yue

The Chemehuevi Tribal Reps do not have any comments at this time regarding The Draft Environmental Impact Report (EIR) PG&E Topock Compressor Station Soil Investigation Project. The Chemehuevi Tribal Reps have reviewed The Draft (EIR) and comments and concerns expressed by the other tribes and TRC. The Chemehuevi Tribal reps have no additional comments to add to what has already been expressed by the other tribes and TRC. The Chemehuevi tribal reps concur with all comments.

T5-001

Thank you for the opportunity to provide input on these important issues. If you have a any questions or comments please feel free to contact me at: (760)858-1140 or email me at Chem.waterquality@gmail.com

Sincerely,

Raymond Mejia, Water Quality Technician Chemehuevi Indian Tribe 2000 Chemehuevi Indian Trail Havasu Lake, CA 92363 CC: Karen Baker, CHG, CEG, Chief, Geological Services Branch Nora McDowell, Fort Mojave Indian Tribe Linda Otero, Fort Mojave Indian Tribe Leo Leonhart, FMIT Consultant H. Jill McCormick, Cocopah India Tribe Doug Bonamici, CRIT Indian Tribe Steven Escobar, Chemehuevi Indian Tribe

LetterChemehuevi Indian TribeT5Raymond MejiaResponseSeptember 5, 2014

T5-001

The commenter states that the Chemehuevi Tribal Representatives do not have any further comments on the draft environmental impact report, other than those expressed by other Tribes and the Technical Review Committee. The comment is noted for the record.

Additionally, as a result of the response to comments process, DTSC has revised the DEIR on page 4.4-47 to account for the Chemehuevi's presence at the mitigation measure meeting held on December 16, 2013.

Letter T6: Fort Mojave Indian Tribe



Fort Mojave Indian Tribe TIMOTHY WILLIAMS - Chairman SHAN LEWIS - Vice Chairman COLLEEN GARCIA - Secretary MARTHA McCORD - Council Member • NICHOLE GARCIA - Council Member NORVIN McCORD SR. - Council Member • JOHNNY HEMMERS - Council Member 500 Merriman Avenue • Needles, CA 92363 (760) 629-4591 • FAX (760) 629-5767

Letter T6

T6-001

T6-002

T6-003

September 5, 2014

Mr. Aaron Yue Topock Project Manager DEPARTMENT OF TOXIC SUBSTANCES CONTROL 5796 Corporate Avenue Cypress, California 90630

Re: Fort Mojave Indian Tribe Comments on the July 2014 Draft Environmental Impact Report for the Pacific Gas and Electric Company, *Topock Compressor Station, Soil Investigation Project*, prepared for the California Department of Toxic Substance Control

Dear Mr. Yue:

Pursuant to your notification of August 4, 2014, the Fort Mojave Indian Tribe, ("FMIT" or "the Tribe") with the assistance of our Tribal experts and technical consultants as well as the resources of the Topock Technical Review Committee ("TRC"), has completed its review of the above-referenced document ("the DEIR"). At this time, we offer the comments presented herein for your consideration. Our comments comprise four parts as follows. We respectfully request that responses be made to the comments in each part:

- 1. General comments presented in this letter.
- 2. Comments from FMIT outside counsel.
- 3. Comments from FMIT technical consultants.
- 4. Comments from the TRC.

We recognize that there may be some overlap among the comments from these various sources, but consider that the comments are important enough to be recognized by multiple reviewers, especially the regulatory agency, who must consider the direct, indirect, and cumulative impacts of this whole undertaking under the California Environmental Quality Act ("CEQA), specifically, on affected communities associated with the area.

In particular, we would like to highlight some general concerns with the impact analysis identified in our review.

Cumulative Impacts Related to Ongoing Groundwater Remedy

In completing our review, the Tribe noted instances where the potential for cumulative impacts arising from concurrent implementation of the groundwater remedy and the soils characterization activities, among others, may arise. For example, both projects will result in impacts related to noise and lighting from field activities as well as changes to the viewshed. However, these were not properly addressed. More generally, the EIR also must make an effort to better analyze and consider cumulative impacts.

Lack of Consistency between Project Documents

In some cases assumptions differ across individual project documents. Consistency of assumptions is important, as a change in assumptions without discussion or analysis, T6-004 undercuts the validity of the project description and analysis. For example, the DEIR states that conditions in the area are not conducive to agriculture; while the soils risk assessment work plan has determined that this is a likely pathway of exposure that T6-005 needs to be qualitatively evaluated. Also, the DEIR assumes no residential use, while the soils risk assessment work plan assumes residential use. The assumptions should T6-006 be reasonable and consistent, and if there are differences, they should be explained. **Coordination with Other Project Protocols** It is essential that consistent procedures and protocols be developed across the remediation efforts. The Tribe points out that in its January 17, 2013, comment letter on T6-007 the NOP, the Tribe specifically asked that the negotiated protocols be applied to the soil investigation. DTSC should carefully review related procedures in the groundwater vs. soils programs. For example, considerable effort has been expended by the agencies and tribes in regard to developing standard operating procedures ("SOPs") that address borehole T6-008 decommissioning in the context of the groundwater investigation and remedy activities. The Tribes have been active participants in this discussion, and their concerns and preferences were documented. While Appendix J of the DEIR addresses the relevant discussion related to "displaced" soil handling, it does not reference or analyze the relevance of borehole decommissioning procedures, which is anticipated to be addressed in the context of the T6-009 forthcoming 90 percent basis of design document. Because the soil investigation will involve similarly intrusive borings and trenches across the site, the essential measures and provisions proposed for borehole decommissioning should be considered with regard to abandonment of soil borings and trenches. **Potential Bench-Scale and Pilot Testing** The NOP for this project did not include bench-scale and pilot testing, and the soils T6-010 investigation described in the NOP was limited to sampling. The Tribe understands that after remedy selection further testing at the bench and/or pilot scales to ascertain their potential effectiveness and feasibility could reasonably occur. However, only after a decision regarding the need for remedial action(s) is rendered as a part of risk T6-011 management by DTSC and DOI would there be a need for such testing. Thus, the significant environmental impacts of such testing could be completely avoided by awaiting the risk management decision that might completely obviate the need for such testing.

The purpose of adding on the bench-scale and pilot testing is not made clear in the DEIR. Deviation from the accepted DTSC and DOI processes of first investigating the scope of contamination followed by the identification of alternative remedial strategies assessed in the Corrective Measures Study/Remedial Investigation ("CMS/FS") must be justified. It is inappropriate at this stage, particularly with inadequate notice, information

2

and public comment, to assume that the any of the three remedial strategies discussed in the soils investigation DEIR would be appropriate technologies. The additional sampling and intrusions, and the attendant environmental effects, necessary to evaluate remedial technologies is premature and must be avoided.

Viewsheds

As explained in a Technical Memo from the AhaMakav Cultural Society ("ACS")¹, "It is important to describe both the visual and *perceptual* impacts of any site activities in the Soils Investigation EIR." [Italics added.] This ACS Technical Memo is not even referenced in the DEIR's Aesthetics section, although it was submitted over a year ago. The DEIR does not adequately address the viewshed issues, as presented in that memo, and addresses only visual impacts. The DEIR incorrectly concludes that "... the Project's incremental contribution to aesthetic impacts would not be cumulatively considerable (less than significant)." The potentially significant adverse impacts, both visual and perceptual, must be recognized, discussed and analyzed.

The ACS memo further cited the following explanation as a means of understanding the difference between Native American and Western scientific perspectives:

"[The Indians'] assessment is synecological – observing the whole environment (e.g., water, shoreline, vegetation, marine and land animals) as part of a vast network of interrelationships in which an abnormal observation in one part indicates the ill health of the whole. In contrast, the Western Scientific approach selects samples of specific subsets of the environment for scrutiny, according to a prescribed design, draws specific conclusions based upon the analysis of those samples, then makes carefully bounded extrapolations of their conclusions to other parts of the environment."²

This quotation aptly reflects the perspective of the FMIT, and perhaps other affected tribes, in regard to the basis for concern over the proposed soil characterization activities. This perspective needs to be brought into the discussion of the impacts throughout the DEIR. And, perhaps most importantly, the Tribal experts' views must be considered substantial evidence of an impact, and be analyzed across the DEIR's substantive analyses, not just be relegated to an introductory part of the DEIR's Cultural Resources section. Tribal concerns relate to more than cultural resources.

Failure to Analyze the Tribal Land Use Alternative

The Tribe is very concerned and disappointed that the "Tribal Land Use Alternative" ("TLU") was "considered and rejected" for full evaluation. Instead, Section 7.5.1 of the DEIR summarily presents arguments as to why the TLU alternative should not receive a more complete evaluation in the DEIR. Those arguments focus on the fact that a risk management decision will be made in the future, but fails to recognize that the scope

T6-012 Cont.

T6-013

T6-014

T6-015

¹ Fort Mojave Indian Tribe, AhaMakav Cultural Society, (2013) Key Views & Aesthetic Impacts, FMIT Technical Memo dated June 28, 2013. See attached.

² Rogers, W.H., ND. "The Indian approach: holistic, empirical, grounded in local knowledge, adaptive and applied." In *Environmental Law in Indian Country*. V. 1, p. 353.

and adverse environmental effects of soil sampling is being increased by DTSC's decision to include a hypothetical land use considerations, e.g., residential, without any analysis of the reasonableness of that land use in the context of this location. The DEIR needs to compare how differing assumptions of land use alternatives affect the impacts to important tribal values and other benefits to tribal religious and cultural matters.

Where, as here, there are greater significant environmental effects that result from the varying assumptions as to potential land use, the reasonableness of those various assumptions must be considered as project alternatives to allow an analysis and determination of the environmentally superior alternative. Only with that information in hand can DTSC then decide which project alternative to select given the differing environmental impacts. If DTSC were to then choose not to select the environmentally superior alternative, or to override significant and unmitigable environmental effects, it would justify that choice in its decision document.

As the DEIR now stands, DTSC would be making a decision in the context of the EIR itself without the benefit of discussion or analysis, thus undercutting the fundamental purpose of the EIR to provide the information on which to base informed decisions.

The DEIR evaluation of the TLU is both incomplete and also incorrect. The Tribe understands that the TLU is not a stand-alone evaluation but would be part of a comprehensive risk evaluation that would include other human exposures and ecological exposures. Yet, the DEIR presents and evaluates the TLU as if it were stand alone. The DEIR fails to correctly present and evaluate the TLU and fully evaluate how the alternative might reduce impacts to important tribal values and other benefits to tribal religious and cultural matters. The Tribe requests that a more correct and comprehensive evaluation be presented, and considered by the agency.

Consideration of the Impacts on the Topock Landscape throughout the EIR

The 2012 settlement of the CEQA action brought by the Tribe provides, in relevant part:

Nothing in this [DTSC Settlement] Agreement prevents the Tribe from submitting written and verbal comments regarding the soils and groundwater remediation for the Topock Site. **DTSC will consider and respond to the Tribe's comments on such issues at least to the minimum extent required by law**. (Para. 10.c.)(Emphasis added.)

The Tribe has clearly set forth, and both DTSC and DOI have recognized, that the Topock Cultural Property ("TCP") landscape is of critical value and importance to the Tribe and its members. In short, that TCP is a vital element of the lifeways of the Tribe, and alteration of that landscape has a significant adverse impact upon the Tribe and its members through desecration of the "spirituality" of the place.³

This "spirituality" is also recognized and respected by a number of tribes and should be clearly and directly considered and responded to throughout the document's analysis -

T6-016 Cont.

T6-017

T6-018

T6-019

³ The Tribe has more fully articulated elsewhere the importance of this landscape and the adverse effects of the past and proposed actions. The word "spirituality" is used here to denominate that value and importance, although there is no direct translation from the Mojave language of the impacts of the proposed actions on the land, the Tribe and tribal members.

not just as part of the description of the ethnographic setting. This "spirituality" is not only a part of Tribal culture, but also embedded in tribal religious practice and embedded on the landscape.

Although the cultural value and importance of the landscape was noted in several sections of the DEIR, overall, the proposed soil characterization activities pose a serious impact on the spiritual integrity of the landscape. Every effort must be made to fully consider, avoid and minimize those significant and irreversible effects. This should be addressed in the DEIR, perhaps including in the "Areas of Controversy" or "Issues to be Resolved" sections.

Failure to Address Federal Indian Laws

In reaching a decision in regard to the proposed soil investigation activities despite conclusions that their implementation would result in impacts that are "significant and unavoidable," the DEIR concludes that the activities must be carried out as justified by the "... 1996 Consent Agreement and consistent with applicable state laws and regulations." (See Section 7.3, p. 7-3).

While it is agreed that these items must be addressed, it is important to recognize that this action is regulated both by Federal and State agencies. The justification as presented in the DEIR therefore merely describes some authorities in a boilerplate "Regulatory Background" section (DEIR, 4.4.2) and overlooks other applicable Federal laws and regulations that apply to Indian rights and religious practice.⁴ These indeed represent *applicable or relevant and appropriate requirements* ("ARARs") for this action. Why were these statutes not considered and analyzed in the context of their applicability? At the very least, even if those ARARs do not command or prohibit a specific action, they establish thresholds of significance of adverse impacts that must be considered and analyzed. Additionally, the State of California has recently enacted an Executive Order and the California Environmental Protection Agency has a policy for consultation with Tribal governments. These should also be referenced in the EIR.

If these ARARs are to be applied through DOI project review, how and where will that analysis be conducted? Additionally, the DEIR or some other document must specifically explain why a decision was rendered to override these significant and unavoidable adverse impacts, including a specific analysis of the need for an override. A blanket statement to the effect that "an action is necessary to protect public health and the environment" is insufficient without a discussion and analysis of how and the extent to which the public health and the environment, i.e., the overriding consideration, would be affected so as to be a reasonable basis for overriding the significant adverse impact.

Conclusion

T6-020 Cont.

T6-021

T6-023

T6-022

T6-024

⁴ For example, the Native American Graves Protection and Repatriation Act ("NAGPRA", Public Law 101-601, 25 USC 3001-3013); Religious Freedom Restoration Act ("RFRA", Public Law 103-1410); and American Indian Religious Freedom Act ("AIRFA"), Public Law No. 95-341. Additionally, the Secretary of the Interior has issued Order No. 3335 addressing "Reaffirmation of the Federal Trust Responsibility to Federally Recognized Indian Tribes and Individual Indian Beneficiaries."

T6-026

T6-028

The DEIR has made efforts to improve the description of the value of the Topock Area to the Tribe and include mechanisms for continued Tribal participation in the remediation process. However, there are other areas where the document's approach still requires improvements. In particular, the Tribe is concerned with "mission creep." As discussed above, this is apparent for example in the effort to include geotechnical, bench, pilot testing and tissue sampling within the scope of the soil investigation when, in fact, these items were not addressed in the NOP. The Tribe believes that it is important to adhere to the original scope of the investigation so as to assure that the environmental analysis focuses on the level and stage of knowledge representative of the issues under consideration.

The Tribe remains available to work with DTSC and other stakeholders to see that Tribal concerns are fully considered and impacts are avoided or minimized.

Please provide future versions of the EIR in redline to facilitate our review of changes. Also, the Tribe requests that all environmental documents, appendices and responses to comments be provided in hard copy to the AhaMakav Cultural Society and to outside counsel Courtney Coyle. Also, please provide discs to them and make downloads available to technical consultants Dr. Leo Leonhart and Dr. Michael Sullivan and outside counsel Steve McDonald. Also, we request that DTSC provide all the comment letters it receives to the Tribe as soon as they become available.

Finally, the Tribe would like to meet and consult with DTSC on clarifications to our comments and revisions to the EIR responsive to our comments.

Sincerely,

Timothy, Williams, Chairman Fort Mojave Indian Tribe

Enclosures:

- A. Letter from FMIT outside Counsel.
- B. Comment table from FMIT technical consultant.
- C. Curriculum vitae of FMIT technical consultant.
- D. Comment table from TRC.
- E. FMIT tech memo & transmittal on "Key Views & Aesthetic Impacts."

cc. w/ encl. K. Baker, DTSC

C. Coyle, Esq. P. Innis, DOI L. Leonhart, H+A K. Liebhauser, BLM C. Marr, USFWS A. Mataka, Cal EPA

Y Meeks, PG&E N. McDowell, FMIT S. McDonald, Esq. L. Otero, ACS R. Purdue, RWQCB M. Rodriquez, Cal EPA J. Smith, BOR K. Sullivan, PG&E

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Aaron Yue, Project Manager California Dept. of Toxic Substances Control 5796 Corporate Avenue Cypress, CA 90630 aaron.yue@dtsc.ca.gov

September 5, 2014

<u>Re: Topock Compressor Station Soil Investigation Project, Draft EIR, SCH#201211179,</u> July 2014

Dear Mr. Yue:

This letter is to provide comments of the Fort Mojave Indian Tribe ("FMIT" or "Tribe") on the Soils Investigation Draft Environmental Impact Report ("DEIR"), dated July 2014. These comments are submitted in accordance with CEQA and the settlement agreements entered into with the Department of Toxic Substances Control ("DTSC") and Pacific Gas and Electric Company ("PG&E") in the case *Fort Mojave Indian Tribe v. DTSC*, Sacramento Superior Ct. Case No. 34-2011-80000802-CU-WM-GDS.

Specifically, the settlement with PG&E provides:

The Tribe may continue to consult, comment and participate in the consideration by DTSC and federal agencies on remedy plans and documents, including any interim or final remedies.

(Settlement Agreement between PG&E and FMIT, dated December 19, 2012, Section VI. B.)

Separately, the DTSC settlement provides:

Nothing in this [DTSC Settlement] Agreement prevents the Tribe from submitting written and verbal comments regarding the soils and groundwater remediation for the Topock Site. DTSC will consider and respond to the Tribe's comments on such issues at least to the minimum extent required by law.

(Settlement Agreement between DTSC and FMIT, dated December 19, 2012, Section 10.c.)

In addition, these comments must be interpreted and considered within the context of both DTSC's and PG&E's formal recognition of the importance of the area impacted by this Project:

ENCLOSURE A

1

DTSC understands that members of the Fort Mojave Tribe view the development of the IM-3 Site as a desecration of the cultural and spiritual nature of the larger area. DTSC regrets the spiritual consequences to the Tribe that have occurred in association with regulatory actions to avoid contamination of the Colorado River. Although DTSC relied in good faith on the counsel and expertise of other government agencies with specific responsibilities and authorities for protecting the Tribe's sacred sites, DTSC now recognizes that it should have taken a more active role in these matters regarding the cultural and spiritual beliefs of the Tribe. DTSC commits to communicate and plan its future actions in a manner that will respect those beliefs as it continues to work with the Tribe to protect the Colorado River and its spiritual resources.	T6-030 Cont.
(DTSC-FMIT 2006 Settlement Agreement executed December 28, 2005, Section III. E.)	
Similarly, PG&E has recognized the cultural and spiritual importance of this area:	
PG&E understands that members of the Fort Mojave Tribe have grave concerns that the development of the IM-3 Site, located in an area sacred to the Tribe, desecrates the cultural and spiritual nature of the larger area. PG&E regrets the spiritual consequences to the Tribe that occurred with the development of the IM-3 Site to avoid contamination of the Colorado River. PG&E regrets our failure to sufficiently understand the Tribe's beliefs, and apologizes. PG&E respects the cultural and spiritual beliefs of the Tribe and has committed to communicate and plan its future actions in a manner that will respect and accommodate those beliefs, as we continue to protect the Colorado River and its spiritual resources in our effort to remediate the environmental conditions associated with historical plant operations.	T6-031
(PG&E-FMIT Settlement Agreement, executed November 6, 2006, Section X.C.)	
Future CEQA Review	
If soil remediation were to be determined necessary, the remedial alternatives will be evaluated in a separate environmental review under CEQA. (DEIR, page 1-2.) The soil investigation activities do not pre-determine remedial design options or alternatives. (DEIR, page 1-3.)	T6-032
Project Description 1	
The DEIR states that the proposed Project includes the collection of soil and pore water samples at 292 locations using a variety of methods up to and including drill rigs as well as an up to 25 percent contingency of up to 73 additional locations, bringing the total up to 365 locations. (DEIR, pages 4.5-11 to 4.5-12.) The Soil Work Plan proposed at least 876 individual samples. (DEIR, page 4.3-49.)	T6-033
Some of the soil sampling activities are anticipated to occur in areas that qualify for United States Army Corps of Engineers ("USACE") jurisdiction and are protected under Sections 401 and 404 of the Clean Water Act ("CWA"). (DEIR, page 4.3-49.) Other proposed Project elements may also impact these areas. (DEIR, page 4.3-50.)	

The DEIR also states the Project soils investigation sites are very close to the three Topock Maze locations, Locus A, Locus B and Locus C, which are approximately 160 feet, 80 feet and 80 feet, respectively, from the nearest investigation areas. (DEIR, page 4.7-9.) ¹ The DEIR states that some areas outside of the Station fence line may require clearing of vegetation or movement of boulders to access proposed sampling locations. (DEIR, page 3-16.) In addition to raking/brushing, the return to approximate original location for boulders and other ground materials should be required to reduce visual and other impacts to the Topock Traditional Cultural Property ("TCP")/Topock Cultural Area ("TCA"). The DEIR also states that a prior storm event deposited a large amount of cobbles in the southern reaches of Bat Cave Wash and that this area may need to be "cleared" prior to sampling. (DEIR, page 3-17.) Such materials, if their removal cannot be avoided, should be stockpiled to be used for appropriate restoration at the same location or elsewhere in the Project area in consultation with the Tribe.	T6-033 Cont.
The DEIR states that more than one work area exclusion zone ("EZ") may be established. However, specific EZ locations are not stated in the text or shown in diagrams. Please clarify if these EZs would be within proposed Staging Areas? If not, please provide diagrams with EZ locations, boundaries and access routes. Would EZs increase the total proposed Project area impact?	T6-034
The proposed Project includes soil sampling and analysis as described in the Soil Work Plan. The DEIR states that the Project also includes geotechnical evaluations to support a future Soil CMS/FS and potential plant or other biota sampling activities to support ecological risk assessment. (DEIR, page 1-3.) It goes on to state that bench scale tests and pilot studies also may be implemented after soil sampling analysis is complete to evaluate potential soil remedy options if remedial action is necessary.	T6-035
The Tribe is concerned that these latter Project elements were not a part of the Notice of Preparation ("NOP"). When and why were they added? Why was the NOP not re-issued with the revised Project description? The Tribe also observes that DEIR, Appendix B includes the NOP itself, but not any letters received in response to the NOP. Were no letters received? ² Typically, responsive letters are included in the Appendix. Please provide the Tribe those letters and include them in the final EIR.	T6-036
Also, the Tribe is concerned the DEIR does not define these Project elements with sufficient specificity to allow them to be authorized in the discretion of DTSC without additional CEQA review:	T6-037
¹ The Tribe is concerned the soil investigation locations may be even closer to the Maze lobes if the DEIR were to consider the additional cultural resource locations identified and documented in the Tribal Cultural Values Assessment ("TCVA") Report.	Footnote to T6-033
² The DEIR mentions in its Individual Tribal Perspectives section that an NOP comment letter dated January 17, 2013, was received from FMIT legal counsel. (DEIR, page 4.4-21.) But there is no substantive discussion in relevant sections of the DEIR about how those comments informed the DEIR or the proposed Project.	Footnote to T6-036

Soil Sampling and Sample Analysis

The DEIR states that the Project's chemical analysis of soil samples will be based on previous soil investigations. (DEIR, page 1-4.) Please describe the CEQA review that may have occurred relative to those previous soil investigations so that the Tribe, agencies and other stakeholders can better understand cumulative impacts and how those impacts have been previously addressed.

Geotechnical Evaluations

The Tribe does not recall these evaluations being previously discussed with the Tribe. Please explain. The DEIR states that some areas would be investigated using geophysical methods to identify the presence of subsurface objects or obstructions. (DEIR, page 1-4.) What specific geophysical methods might be used? What specific areas does this refer to? If it refers to UA-2 please say so and provide diagrams of location and boundaries.

Bench Scale Tests

The DEIR states that a total of three bench scale tests may be proposed that would evaluate: soil washing, in situ soil flushing, and in situ fixation/chemical reduction/stabilization. (DEIR, page 1-5.) Soil used for this testing would be disposed of by the laboratory and would not be reused onsite. Where specifically would this soil come from and in what quantities? What criteria would be used to decide whether and when such testing would be conducted? Please explain why the bench scale tests should be considered as part of the Soil Investigation EIR versus the future Soil Remedy environmental review, should one occur? The DEIR does not address this issue except to briefly assert they may help evaluate their potential for effective and economical remediation techniques. (DEIR, page 3-31.)

Pilot Studies

The DEIR considers the impact of In Situ Soil Flushing and In Situ Stabilization/Chemical Fixation, (DEIR, page 1-5.)

The DEIR states that the exact location for the soil flushing has yet to be determined. The Tribe is concerned that without knowing the specific location and scope of this action, how can the Tribe effectively comment and how can DTSC determine the potential adverse effects of this action? When would the exact location be known? How would the Tribe be consulted on this location if it is not part of this DEIR? How large would the area for soil flushing be? The DEIR states that it could include an infiltration gallery or four injection wells and six extraction wells. (DEIR, page 1-5.) Please describe what is envisioned by the infiltration gallery. Please explain why the pilot studies should be considered as part of the Soil Investigation EIR versus a future Soil Remedy environmental review beyond providing a further evaluation of its effectiveness and economics?

The DEIR also states that recovered water would then be treated, using "an existing on-site treatment facility" or trucked offsite. (DEIR, page 1-5.) Is the referenced on site facility the IM3 Facility? (DEIR page 3-33 states that the IM3 Facility is being viewed as an option; DEIR page 5-19 states that the IM3 Facility would be "likely" used.) If so, how is this potential project component consistent with the settlement agreements between the Tribe and DTSC and the Tribe

T6-038

T6-039

T6-040

T6-041

and PG&E regarding not incorporating the IM3 Facility into any final remedy and the decommissioning criteria for that facility? The IM3 Facility was implemented as an emergency remedial action, and it would change the scope of that action for it to be used for anything other than the Interim Measures action. The Tribe believes that any form of intensification of use of that facility or "mission creep" would be contrary to those settlement agreements and not otherwise be in compliance with applicable law. The Tribe wishes that DTSC would have consulted with it prior to including this potential use in the DEIR. The DEIR should strike such references to use of the IM3 Facility and must describe in sufficient detail how recovered water (including post-characterization and in situ soil flushing) would be handled without using the IM3 Facility.	T6-042 Cont. T6-043
The DEIR states that In Situ Stabilization/Chemical Fixation would include construction of a small-scale on-site treatment delivery system (infiltration gallery or four injection wells). (DEIR, page 1-5.) The Tribe is concerned that without knowing the specific location and scope of this action, how can the Tribe effectively comment and how can DTSC determine the potential adverse effects of this action? When would the exact location be known? Would it be limited to Bat Cave Wash and within the Station as referenced at DEIR, page 3-33? How would the Tribe be consulted on this location if it is not part of the DEIR? How large would the area for this pilot test be?	T6-044
Key questions for the Tribe on whether to include these elements in this Project and its EIR are: 1) whether including them here, while potentially convenient and cost-saving relative to environmental review for the lead agency, could create an irreversible momentum towards implementing the Project elements because they are already "studied"; and 2) whether the ultimate impacts from using either method as a final remedy for soils would be so great that it would become unfeasible as a remedy, including because of its potential significant impacts to cultural resources/historic properties? These methods appear to require quite a bit of soil handling and manipulation that the Tribe may find inappropriate and offensive, and would constitute significant unmitigable adverse impacts. These elements should be removed from this Project description and this EIR and be considered at a later time if necessary.	T6-045
Plant or Other Biota Sampling (Plant, Invertebrate and Small Mammals)	
Please explain in plain English, i.e., layman's terms, what "herbivorous and invertivorous wildlife populations" means (DEIR, page 1-5) and explain what the specific target species for tissue sampling would be.	T6-046
Would such sampling result in mortality of the target plant or animal? Where would the specific locations for such sampling be located? The DEIR describes using pit traps (DEIR, page 3-35); is this a humane method of collection?	T6-047
The DEIR also states that small mammal tissue may also be collected. (DEIR, page 3-35.) What are the target species for that activity? Are the referenced Sherman live or similar traps a humane method of collection? Are there other options that would not result in mortality, such as fur, feather or other sampling?	T6-048
How would the Tribe be consulted on the specifics of these activities if they are not fully discussed in the DEIR?	T6-049

DTSC needs to meet with the Tribe to discuss these sampling methods, as consultation has not occurred. After the Tribe has more specific information about what, why and how many samples T6-050 would take place and what species might be affected, the Tribe then would need to determine whether it should participate in such samplings and whether traditional ceremony may be required at some point during that activity. It seems that this sampling should be removed from the Project at this time as it is not part of the NOP and may not be directly related to the Soil Investigation, is not fully developed, has not T6-051 been previously discussed with the Tribe, and raises potentially significant issues. **Project Alternatives** The Alternatives section of an EIR is supposed to be "the core of an EIR." (Citizens of Goleta Valley v. Board of Supervisors (1990) 52 Cal.3d 553, 564.) The DEIR states that the Project T6-052 reflects the outcome of a multiyear collaboration among DTSC, DOI and its bureaus, PG&E, Tribes and stakeholders. (DEIR, page 7-1.) The way this is written could be misconstrued that the Tribe agrees with how the Project is described and how the Alternatives are handled in the DEIR, which would be incorrect. While the Tribe appreciates the effort that went into the removal of approximately 50 sample locations from the Project (DEIR, page 7-4), the Tribe is still of the opinion that the Project's impacts outweigh the need for some of the data to be collected. Please revise this section to indicate that the Tribe participated in meetings in a collaborative fashion, and provided alternative suggestions for consideration, but was not involved in the drafting of the DEIR or the selection or evaluation of alternatives, and does not agree with all of the analysis in the DEIR. In fact, the Tribe would like to know who came up with the Alternatives that were studied in the DEIR? The Tribe believes that potential significant Land Use and Planning issues are triggered by the Project and that each Alternative should be evaluated for its consistency with local, state and T6-053 federal management plans. Reduction of Project Footprint Alternative This Alternative, by omitting investigation activities in the mouth of Bat Cave Wash, would result in the elimination of 23 borehole locations and elimination of additional potential boreholes that are part of the 25 percent contingency, reduce impacts to riparian (jurisdictional) T6-054 habitat by 50 percent and reduce the extent of impacts to the Topock TCP. (DEIR, pages 1-6, 7-14.) It would also reduce significant biological impacts (including to nesting riparian birds) and visual impacts compared to the Project, visual effects of which the Tribe has determined are significant. (See below Discussion of Visual Resources/Aesthetics.) Given these impact reductions, the Tribe supports reducing the footprint of the Project and urges DTSC to consider the potential environmental benefits of this Alternative in more detail. Reduction of Project Noise Alternative This Alternative involves a Project restriction such that only one piece of equipment would be allowed to be in operation at any given time. (DEIR, page 1-6.) This Alternative would reduce the potential for upper noise level impacts at any given point in time, including to the Topock T6-055 TCP, while increasing the Project schedule by just one month. (DEIR, pages 1-6, 7-16.) The additive noise from multiple pieces of equipment operating simultaneously would be eliminated.

(DEIR, page 7-18 to 7-19.) The DEIR also states that the primary Project objective could potentially be attained with this Alternative. (DEIR, page 7-17.) While this "Alternative" really appears to be more of a Project condition or operational measure, the Tribe supports this measure as one way to reduce impacts to Tribal Cultural Resources.	T6-055 Cont.
No Project Alternative	
The description of the environmental baseline for the Soil Investigation is misplaced. (DEIR, page 7-19.) The baseline is not always at the time of NOP publication. (Kostka & Zischke, Practice Under the Environmental Quality Act, Second Edition, March 2014 update, section 13.7, " Lead Agencies may elect to use a different baseline if there is a reasonable basis for doing so".) This is especially appropriate where, as here, the Lead Agency has bifurcated a project the study of groundwater and soil remedies. The baseline should be the time bifurcation was decided, i.e., April 2010 when the Groundwater Remedy DEIR was issued, otherwise impermissible piecemealing of the environmental impacts would occur. ³ (The effect of remedy bifurcation was one of the issues raised in the Tribe's attached comment letter, dated January 17, 2013, page 3.) Alternatively, if the baseline is to be the time of the NOP, then the impacts of the groundwater remedial actions must be fully identified and considered as cumulative impacts along with those of the soils investigation, which the DEIR has not done.	T6-056
Also, the way the description is worded, it assumes that risks to human health and the environment are posed by the current soil conditions and could bias the reader. (DEIR, page 7-20.) Please revise the description to "Potentially contaminated soil could continue to exist at undocumented and unexplored capacities and may pose a potential risk to human health and the environment"	T6-057
Alternatives Considered But Rejected From Further Consideration	
Tribal Land Use Scenario Alternative	
The DEIR acknowledges that the Tribe discussed this Alternative with DTSC on many occasions and presented DTSC with a detailed Tribal Land Use ("TLU") Scenario Alternative specifically to be studied in the DEIR. The Tribe was led to believe that this Alternative would be fully studied in the DEIR. This Alternative would reduce the amount of sampling and ground- disturbing activities associated with the Soil Investigation. (DEIR, pages 7-6 through 7-7.) As shown in the Tribe's correspondence, in its view, this Alternative is reasonable as it would feasibly obtain most of the Project's objectives, and avoid or substantially lessen significant	T6-058
³ The 2011 Groundwater FEIR "does not consider future soil remediation activities as part of the proposed project; however, for the purposes of full disclosure soil remediation activities are considered a reasonably foreseeable future project and considered as part of the cumulative impacts analysis in Chapter 6 of this DEIR." (Groundwater FEIR at p. 1-12.) Now at the time of considering the potentially significant adverse effects of the soil investigation, both the actual and now presently foreseeable impacts of the Groundwater Remedy and soil remediation activities must be considered as part of the cumulative impacts analysis.	Footnote to T6-056

effects from the proposed Project through decreasing soil sampling locations for site characterization and for CMS/FS data needs. The DEIR does not disagree that impacts would be avoided or lessened, but rather states that this Alternative is rejected because it does not meet the Project objectives and is not feasible since it would not meet "DTSC's policy" to always include a characterization of the site to levels of residential/unrestricted land use as the point of departure for evaluation of risk and potential alternatives at the site. (DEIR, page 7-8.) The DEIR therefore appears to improperly use a circular argument to justify its rejection. If this is a written policy, please provide it to the Tribe. If there is no codified policy, perhaps the EIR should more correctly characterize it as DTSC's practice? Are there no exceptions to this policy/practice?	T6-058 Cont.
Project Objectives	
The DEIR states that "[c]onsidering land use restrictions at the investigation stage of a remediation planning effort would be premature." (DEIR, page 7-9.) Please explain that statement in more detail, as DTSC and DOI are in fact considering future land use now and their decision to not use the TLU Scenario and to instead use less restrictive land use has an actual adverse impact by requiring more sampling. For these reasons, and those discussed below, the Tribe disagrees with the DEIR's assertion that Land Use and Planning environmental effects were found not to be significant and without controversy. (DEIR, pages 5-10 and 5-11.)	T6-059
The DEIR also observes that Dr. Sullivan's letter did not address how land use restrictions would be implemented or enforced. (DEIR, page 7-7.) In the many discussions referenced above, the agencies did not inquire about this aspect of the TLU Scenario. However, the issue is readily addressable and land use restrictions could be imposed by the agencies. In fact, there are already land use restrictions in place for the Topock and surrounding area as described in BLM's RMP. The agencies should describe the full range of restrictions available to them.	T6-060
Feasibility	
The DEIR appears to summarily reject studying this Alternative because it allegedly would not meet the objectives of evaluating remedies that protect human health and the environment. (DEIR, page 7-10.) But this conclusion is a <i>non sequitur</i> : How does DTSC know that this Alternative cannot meet these objectives without studying it? Because this Alterative was not fully studied in the DEIR, and instead merely rejected on a "policy" basis, the DEIR did not meaningful evaluate, analyze and compare it with the proposed Project in violation of CEQA.	T6-061
Future Study as Part of Remedy Analysis	
Subsequent to the release of the DEIR, DTSC stated that residential/unrestricted levels were selected for characterization but other future land use scenarios may be considered in the soil remedy environmental review. Please confirm this and confirm that the TLU Scenario may be fully studied and considered as part of that review.	T6-062
Environmentally Superior Alternative(s)	
The DEIR correctly states that CEQA requires that an EIR identify the environmentally superior alternative for a project. (DEIR, page 7-22.) The DEIR concludes that the Reduction of Footprint Alternative is the Environmentally Superior Alternative. However, CEQA allows for more than one Environmentally Superior Alternative. (Kostka & Zischke, Practice Under the	T6-063
8	

Environmental Quality Act, Second Edition, March 2014 update, section 15.37, "An EIR must identify the environmentally superior alternatives".) The Tribe believes the DEIR must be revised to clearly identify each of the Environmentally Superior Alternatives for stakeholders, decision makers and the public as well as explain the environmental advantages and disadvantages of each Alternative in comparison with the Project. Also, there is no restriction in CEQA for combining elements of Alternatives to develop a project with fewer impacts.	T6-063 Cont.
Regarding the Environmentally Superior Alternative, it should be noted that the Tribe was not consulted on any of the Alternatives or their comparative impacts to Tribal Cultural Resources or practices. Any statements in the DEIR dismissing an Alternative on that basis such as those on DEIR page 7-22, are not supported by substantial evidence. The Tribe believes the Reduced Noise Alternative is also an Environmentally Superior Alternative and should be more fully studied in this section.	T6-064
Finally, the Tribe requests that the TLU Scenario Alternative be fully studied and considered as one of the Environmentally Superior Alternatives.	T6-065
Summary of Known Controversial Issues	
The second bulleted issue summarizing issues of controversy relates to impacts to Native American cultural and archaeological resources including Noise but should also include Visual Impacts/Aesthetics and Land Use and Planning.	T6-066
The Tribe's proposed TLU Scenario Alternative would meet basic Project objectives and reduce significant impacts. That the DEIR proposes to not even study this alternative is a known area of controversy and should be placed on the List of Controversial issues.	T6-067
Specific Resource/Impact Areas	
In general, the Tribe disagrees with some aspects of Table 7-1, "Summary of Significant Effects of the proposed project." (DEIR, pages 7-5 through 7-6.) Specifically those related to Biological Resources, that the Tribe finds are Significant and Unavoidable, even with the mitigation measures offered in the DEIR. The Tribe also disagrees with the DEIR regarding its conclusions of Insignificant Impacts to Visual Resources/Aesthetics and Land Use and Planning and Cumulative Impacts to Biology, Cultural Resources, Land Use and Planning, Noise, Public Services and Visual Impacts/Aesthetics, as will be discussed below. The Tribe agrees with the DEIR regarding Significant and Unmitigable Impacts to Cultural Resources and Noise and makes additional comments regarding these resources/impacts.	T6-068 T6-069
Aesthetic/Visual Resources/Setting	
The Tribe appreciates the DEIR's depiction of panoramas, and labeling of culturally important places, of Tribal concern at Figures 4.1-2a through Figure 4.1-c. These indicate the power and breadth of the viewsheds relative to the tribal cultural resource matrix. The depiction is a helpful way to try and convey the "visual context" of how Tribal members can experience the site, its setting and beyond. Moreover, the Generalized Viewshed Maps at DEIR Figures 4.1-3a to Figure 4.1-3f show the large areas that can potentially view the sample locations. The DEIR also states that some activities could be seen from Tribal land. (DEIR, page 4.1-9.)	T6-070

Yet, Table 1-1 (Summary of Environmental Impacts and Mitigation Measures) states that all five identified potential impacts ⁴ to aesthetics are "Less than Significant." ⁵ The Tribe disagrees for the reasons stated below and in comments from its other consultants. The DEIR's vague and nonspecific references to potential "vegetative screening" and "viewing distance" lessening the visual impacts presumably to insignificance are unpersuasive.	T6-070 Cont.
Likewise, the DEIR's assertions that the impacts may not be visible to a "casual observer" are not applicable or persuasive to the Tribe, whose viewers are not casual, but informed, experienced and highly sensitive. (DEIR, page 4.1-20.)	T6-071
Further, impact duration from machinery and activity may be in the eye of the beholder: if this was your last view to or from the area before transitioning to the afterlife, it could be extremely impactful.	T6-072
Finally, how does the DEIR define "daytime"? The hours of light between 7:00 a.m. and 7:00 p.m. or simply that total 12 hour window? If the latter, then the Project could be introducing lighting and glare to the area in the early morning and late afternoon as the seasons shift. Please clarify.	T6-073
There is also insufficient support for the assertion that the potential contrast between disturbed areas and the surrounding landscape would be minimal. (DEIR, page 4.1-70.) Regarding vegetated areas, is there a visual simulation showing the full anticipated impacts of all 23 sampling locations at Bat Cave Wash versus just one sampling location as shown at DEIR, Figure 4.1-8b?	T6-074
Is the estimate of the time it would take for the area to revegetate of one to two growing seasons (DEIR, page 3-36) equivalent to regrowth to pre-Project visual conditions? If the vegetation is not regrown within that projected timeframe, how will that impact be documented and compared to pre-existing conditions? What steps can be taken to assist in revegetating the area or offset the unexpected reduction in visual quality?	T6-075
Regarding areas without vegetation, what effort has been made to understand the short, mid- and long- term expected visual contrast? Where is the support for the assertion that the ground surface following project completion would "closely resemble pre-investigation" conditions and would not leave a permanent visual impact on the landscape? (DEIR, page 4.4-70.) How will the actual condition of the ground surfaces after Project completion be documented and compared to pre-existing conditions? What if visual effects remain? What is the plan for remedying such effects? Without this analysis, the DEIR's conclusions are unsubstantiated.	T6-076
⁴ These five are: Scenic Vistas (Maze Locus A), Scenic Highways, Visual Character and Quality, Substantial Light or Glare, and Consistency with Plans and Policies.	Footnote to T6-070
⁵ There may be a typo in Table 1-1, IMPACT AES-3: for the impact description to match the significance column, it should read, "The proposed Project would <i>not</i> introduce incremental change;" however, it is the Tribe's view that the descriptor is correct and that the significance column should be revised to state Significant. Please clarify.	

assist in determining the significance of physical changes to the environment. Sensitivity of setting also can heighten impacts. An agency, accordingly, may implement project-specific thresholds and not rely solely on the floor set by Appendix G of CEQA. (Kostka & Zischke, Practice Under the Environmental Quality Act, Second Edition, March 2014 update, section 13.10, "The significance threshold that is used may be tailored to the project reviewed in the EIR and need not be based on the significance questions set forth in CEQA Guidelines Appendix G".) This allows an agency to develop thresholds that best meet the circumstances of the situation, including the nature of the Project, the setting and sensitivity of viewers. The DEIR itself acknowledges that, "the degree of visual impact tends to be more substantial where the sensitivity of affected viewers is highest." (DEIR, page 4.1-20.) The DEIR also states that it considered the sensitivity of viewers are not reflected in the significance determinations. (DEIR, page 4.1-55.)	T6-077
The DEIR text analysis appears to focus mainly (if not exclusively) on the impact to key "public" views and not key Tribal views. (DEIR, page 4.1-45.) It also does not appear that tribes were consulted on the Project-Related Visual Effects at Key Viewpoints conclusions which appear to form the basis for the impact level determinations, despite several meetings between DTSC, ESA, and the Tribe to develop the view locations for the DEIR. (DEIR, Table 4.1-2.) The lack of Tribal involvement in the effect determinations seems particularly strange since view locations were determined through consultation precisely because of heightened Tribal sensitivity about views to and from certain locations, including the culturally-sensitive area in and around the IM3 Facility. ⁶	T6-078
It is perplexing to us as to why DTSC has still not accepted the Tribe's views regarding the Project's impact levels or stated them in the DEIR, despite DTSC's presumably substantial investment in expanded impact methodology for this resource in the DEIR. Please explain why the agencies have not accepted the Tribe's substantial evidence, or at least acknowledged those perspectives in the DEIR, and why the physical changes to the environment, e.g., digging holes, constructing access ways, destruction of soil, physical intrusions into the area and changing the	T6-079
⁶ The Tribe provided its disappointment to DTSC at a meeting to discuss DTSC's original proposal which was based on a visual impact treatment in the Groundwater Remedy EIR. The Tribe and DTSC met again and did a site visit, which resulted in the Technical Memo from the	Footnote to

On the other hand, Tribal views regarding visual impacts to their sacred area are relevant, material, credible and reliable and constitute substantial evidence. Moreover, pursuant to CEQA Guidelines section 15131(b), a project's economic and social effects may be taken into account to

⁶ The Tribe provided its disappointment to DTSC at a meeting to discuss DTSC's original proposal which was based on a visual impact treatment in the Groundwater Remedy EIR. The Tribe and DTSC met again and did a site visit, which resulted in the Technical Memo from the Tribe to DTSC regarding the viewshed concept versus the key viewpoints approach. The Tribe was informed at the time of that meeting that PG&E had provided the key viewpoint locations. There was no input from the tribes. At the meeting, the Tribe provided other view locations such as the old pond area, well site B in Arizona, Maze Loci B and C, and the water tank area at Park Moabi. Not all of these locations are considered in the DEIR, however.

landscape, all of which have a direct and long lasting impact on the TCP ⁷ and the Tribe's beliefs, are not considered significant effects to aesthetics, setting and visual quality.	T6-079 Cont.
Assuming <i>arguendo</i> that the DEIR's insignificance determination could be justified on a Project basis by DTSC, there is even less support for not finding the Project's admitted "incremental" impacts to aesthetics to be cumulatively significant, as acknowledged in the DEIR (page 6-5) ⁸ and discussed below.	T6-080
Biological Resources	
Table 1-1 (Summary of Environmental Impacts and Mitigation Measures) states that no more than 20 percent of the crown on all native trees shall be trimmed. (IMPACT BR-1.) What does the applicant plan on doing with these cuttings? (The DEIR states that vegetation cleared from the mouth of Bat Cave Wash would be chipped and left in place or used as bedding for access routes within the tamarisk area. (DEIR, page 3-30.).) Please clarify.	T6-081
IMPACT BR-4 states that the temporary loss of foraging habitat would not substantially affect any special status birds due to the abundance of foraging habitat in the vicinity of the Project site. Please clarify whether the habitat is fungible, meaning of the same quality and value to these species.	T6-082
IMPACT BR-5 states that 1) a qualified biologist shall conduct monitoring on a spot basis (1-2 days for a 2-week period) or as a result of a change in investigation boundaries or limits. Will the spot check be done randomly and without notice, or will PG&E have notice of when the monitoring will occur? Please describe and cite the basis for the effectiveness of this spot check protocol; and 2) that PG&E must identify a field contact representative who will be responsible for overseeing compliance with the mitigation measures, who may be a project manager, PG&E representative or biologist. Is it not DTSC as the Lead Agency who has responsibility for overseeing compliance with the mitigation measures? Please rephrase the measure to be in compliance with CEQA.	T6-083
Table 4.3-3, Special-Status Species Potentially Occurring in the Project Site, does not reference the sitings of bighorn sheep near the proposed Project. (See also, DEIR, page 4.3-40.) Both Tribal members and PG&E staff have made such observations, which would move the sheep to	T6-084
$\frac{1}{7}$ The definition of TCP at DEIP, page 4.1.1, should be changed from traditional subtract place to $\frac{1}{7}$	
traditional cultural property.	Footnote to T6-079

⁸ Even if a Project's proposed individual impact is less than significant, its contribution to a significant cumulative impact could also be deemed cumulatively considerable depending on the nature of the impact and the existing environmental setting.
Footnote to T6-080

"known to occur" under the Table's Potential for Occurrence Definitions. ⁹ Sitings are listed for other species (e.g., ringtail cat), why not for the bighorn sheep?	T6-084
How would the Other Biota Sampling (Invertebrate and Small Mammals), discussed above, be conducted so as not to trap or otherwise harm any of the biologically-sensitive species? How would the equipment for trapping discriminate against (avoid) such impacts? These issues relative to invertebrates is only briefly mentioned in the DEIR. (DEIR, page 4.3-58.) Moreover, issues related to mammals do not appear to be discussed at all. How is this consistent with California Department of Fish & Wildlife's ("CDFW's") avoidance and minimization measure number 3 (no direct or indirect impacts shall occur to any State or federally-listed threatened, endangered or candidate species) (DEIR, page 4.3-53)? Did the Project's Programmatic Biological Agreement consider such takes?	T6-085
Please explain why bat surveys were not conducted as part of the Project and no documented surveys have been conducted in the HNWR. (DEIR, page 4.3-9.)	T6-086
The DEIR's discussion of Regulatory Requirements and Avoidance Measures should state that the Tribe was not consulted by USACE regarding the application of CERCLA when USACE made its determinations in 2008 and 2013. (DEIR, page 4.3-52.)	T6-087
Would the many localized areas of disturbance from the Project contribute to invasive colonization? What steps will be taken to reduce the potential for this type of habitat degradation?	T6-088
Cultural Resources	
The Tribe appreciates DTSC's efforts to improve the discussion of the cultural value of the area to the Tribe (e.g. Tribal Perspectives). The Tribe understands that it can be difficult to talk about culturally-significant places and unfamiliar to some EIR preparers to integrate them across an EIR's analyses.	T6-089
The Tribe has two general suggestions for process improvement. First, the DEIR states that the tribes did not respond to letters sent by DTSC requesting input regarding the Project's cultural resource impacts and potential mitigation measures. (DEIR, page 4.4-46.) It is the Tribe's understanding that it did respond to the DTSC's requests verbally in meetings. Perhaps DTSC should make it clear in the future if it is seeking written comments.	T6-090
Second, because of the religious/spiritual value of the area, future environmental documents should start off the Cultural Resources section with a discussion of Ethnographic Views and Individual Tribal Perspectives, and then follow with a discussion of the Archaeological Setting	T6-091
⁹ Tribal members saw two adult and two juvenile sheep next to Maze Loci A during the annual prayer ceremony in June 2013. (A female coyote was also seen at that same location and date.) Chris Smith, a PG&E employee was present and also saw the animals. Also, Felton Bricker, Tribal Monitor, has reported observances of sheep (and burros) in his monitoring logs during the AOC cleanup. A female coyote also showed up at one of the meetings at the Station.	Footnote to T6-084

and Historical Setting. This order would put the reader in a mindset more appropriate and respectful to Tribes. Also, the section on FMIT's perspectives should reference the Tribe's concerns about the cumulative effects that have occurred and are proposed to occur in and around the Topock TCP. (Cumulative impact analysis was one of the issues raised in the Tribe's attached NOP comment letter, dated January 17, 2013, page 2.)	T6-091 Cont.
Table 1-1 (Summary of Environmental Impacts and Mitigation Measures) states that prehistoric archaeological resources may be directly and adversely affected by the Project's ground disturbing activity. (IMPACT CR-1.) This statement does not appear consistent with the Groundwater Remedy EIR which stated that all such resources would be avoided? (See, e.g., Groundwater FEIR, Mitigation Measure CUL-1a-10 (PG&E is prohibited from creating any direct physical impact on the Topock Maze, as it is manifested archaeologically).) Is DTSC intending or proposing a different level of avoidance with this Project?	T6-092
CR-1a-2: Tribal Access, 1) should reference that the Tribe also retains the ability to manage access on the parcel it owns in fee; 2) DEIR Figure 3, et al, Soil Investigation Detail Maps, reference "Potential Observation Locations." Please describe in the EIR text in more detail the intent of how these locations would be used. (DEIR, page 3-39.) The Tribe requests the maximum access possible during the Project so it can fully perform its tribal monitoring duties.	T6-093
CR-1b: Worker Education Program, should have a time window for when new personnel receive training instead of leaving it open-ended. The Tribe's preference is that at least some level of sensitivity training occur <i>prior to the first day</i> that personnel enter the field. If there are workers who have been identified as being in reserve to being used on-site, those workers should receive training even if they are not yet assigned to an on-site activity. Without such requirements, mistakes or offenses could occur which might otherwise be avoidable.	T6-094
CR-1c-2: Pre-Investigation Historical Resources Field Check, 1) is required at all sampling locations etc. but only "where topography allows." When would topography allow for sampling, but not allow for pre-investigation? What does this limitation mean? Are there criteria? Would cultural resources be missed?; and 2) the paragraph regarding documenting resources should also reference intangible elements of traditional cultural value and be revised to not "substantially" impede the fundamental Project objective.	T6-095
CR-1-d: Cultural Resources Monitoring Program, references only archaeological monitoring. What efforts will be made to perform a more complete cultural resources monitoring, including tribal cultural values. How does this interrelate with the concerns expressed by the tribes in the TCVA Report they submitted? The paragraph regarding working with tribes to prepare the DPR forms for <i>newly identified</i> resources should also make a provision for tribal input when updating <i>existing</i> DPR forms including during site condition assessment, field visit, or other monitoring efforts. (See also CR-2c comments below.) ¹⁰	T6-096
¹⁰ See, for example, "The identification and evaluation of TCPs can be conducted only by consultation with members of the relevant group of people that ascribe value to the resource, or through other forms of ethnographic research." (DEIR, page 4.4-53.)	Footnote to T6-096

CR-1e-8: Technical Review Committee, describes the use and duration of the TRC. The Tribe believes the following clarifications should be made to this measure 1) that the TRC shall continue through to a reasonable time <u>into Soil and Groundwater Remedies implementation</u> (e.g., such as 5 years after remedy is fully operational); and 2) that necessity and dollar value of the TRC shall be assessed by PG&E, DTSC <u>and the tribes</u> .	T6-097
CR-1e-9: Open Grant Funding ("OGF"), described the purpose and duration of the OGF. The Tribe believes the following clarifications should be made to this measure: 1) that the OGF shall continue through to a reasonable time <u>into Soil and Groundwater Remedies implementation</u> (e.g., such as 5 years after remedy is fully operational); and 2) that necessity and dollar value of the TRC shall be assessed by PG&E, DTSC <u>and the tribes</u> .	T6-098
IMPACT CR-2, states that no known unique archaeological resources have been identified in the Project site. Please explain why the Maze and other features do not meet this description. A resource may be both a Tribal Cultural Resource and a unique archaeological resource.	T6-099
CR-2c: Annual Historical Resources Monitoring Program, the paragraph regarding DPR form updates must make provision for tribal review and input when updating those forms. (See also, CR-1d comments above.) This is particularly relevant as it appears that three new sites were recorded, two site boundaries expanded and one artifact concentration expanded during the 2013 site condition assessment field visit alone. (DEIR, pages 4.4-31 through 4.4-36.) ¹¹ Given that prehistoric components of these sites are considered contributing elements of the Topock TCP, the Tribe must be consulted on the form updates.	T6-100
CR-2d: Inadvertent Discovery, 1) because this area is a sacred place to the Tribe and has been designated by DTSC as the TCA and by BLM/DOI as a TCP, the use of the term "inadvertent" is offensive to the Tribe and should not be used, or if it has to be used, should be qualified: from the Tribe's point of view, discovery of additional artifacts and cultural features within such an area, a Cultural Landscape, should not be a surprise to anyone or the impacts deemed inadvertent when the activity that encountered them is intentional; we suggest striking the word "inadvertent"; 2) the Tribe supports avoidance, not data recovery for encountered resources.	T6-101
The Tribe disagrees with the DEIR's conclusion that the Topock Maze will not be affected by the Project. (DEIR, page 5-1.) What is the basis for that conclusion? Does this conclusion take into account the TCVA Report? Indirect and cumulative impacts? The Tribe also disagrees with the DEIR's conclusion that Topock animals will not be affected by the Project. (DEIR, page 5-1.) What is the basis for this conclusion? Does this conclusion take into account the proposed collection and mortality for tissue sampling?	T6-102
The DEIR acknowledges that many contributing elements to the Topock TCP could be adversely affected by the Project. (DEIR, page 5-1.) To reduce those impacts, Mitigation Measures CR-1a, CR-1b, CR-1c, CR-1d and CR-1e shall be implemented. (DEIR, page 5-2.) The DEIR further	T6-103
¹¹ Recordation of additional and expanded sites appears to be a trend at the site. Earlier surveys have also identified many previously unrecorded sites. See, for example, Technical Memorandum, "Updated Archaeological Survey for the Evaluation of Alternative Freshwater Sources in the Topock Remediation Area," Applied Earthworks, dated 12-20-12.	Footnote to T6-100

acknowledges that because prehistoric archaeological resources are considered contributing elements to the Topock TCP that such discoveries would be significant. (DEIR, page 5-2.) To reduce those impacts, Mitigation Measures CR-2a, CR-2b, CR-2c and CR-2d shall be implemented. (DEIR, page 5-2.) The DEIR also acknowledges that impacts to ancestral human remains, if encountered, would remain significant and unmitigable. (DEIR, page 5-3.) To reduce this impact, Mitigation Measure CR-4 shall be implemented. (DEIR, page 5-3.) What other mitigation measures were considered by the agency to try to further reduce each of these identified significant and unmitigable effects? Were tribes consulted on the specific measures included in the DEIR prior to publication of the DEIR?	T6-103 Cont.
The DEIR states that the Topock Compressor Station (19 buildings and structures) has been evaluated and recommended eligible for listing in the National Register. (DEIR, 4.4-38.) The Tribe does not recall being consulted on that determination. Please provide the Tribe with a copy of the referenced Smallwood Report (2013) prepared for PG&E by Applied Earthworks. Has an agency determined the property eligible, or was it merely PG&E's consultant? Was this performed as part of the remedial action or for some other purpose? Was this evaluation and its recommendation ever made public? The Tribe is concerned about such a designation if that designation would support keeping the Station or the structures in this sensitive location even if alternative locations become available. Why wasn't the Tribe consulted during this assessment especially since PG&E knows how much the Tribe values the area culturally?	T6-104
The Tribe appreciates the DEIR's recognition of Resource P-36-021491, a so-called "isolate," as a contributing element to the Topock TCP. (DEIR, page 4.4-38.) Given the context of the area, it is highly unlikely that tribal cultural resources or features would be deemed "isolates" by the Tribe, and therefore they should be considered as contributing features to the TCP/TCA, Cultural Landscape and sacred area.	T6-105
Hydrology	
The DEIR states that the IM3 extraction system prevented groundwater from entering the Colorado River. (DEIR, page 4.6-6.) While understanding that hydraulics prevent flow, shouldn't the naturally-reducing rind also be referenced here as protecting the River?	T6-106
Land Use and Planning	
The DEIR asserts that Land Use and Planning effects were found not to be significant. (DEIR, pages 5-10 and 5-11.) The FMIT is a landowner in the proposed Project's area, ¹² has reverence	T6-107
¹² DEIR page 4.1-41 references this ownership. However, this description should be revised to more accurately convey the terms of the easement. Pursuant to the terms of a recorded easement granted by the Tribe to PG&E, PG&E must consult the Tribe in connection the PG&E's use of the property including, without limitation, its implementation and conduct of all remediation activities. PG&E's use of the property is generally limited to only those activities <i>legally required, i.e.</i> , "actions ordered by DTSC and/or other agencies or governmental bodies with jurisdiction over the property."	Footnote to T6-107

for the sacred value of the area, has been participating in the overall land management efforts of this area for many years, and, as such, disagrees with this conclusion.	f T6-107 Cont.
While this section of the DEIR mentions by name relevant plans, such as the Lake Havasu Field Office Resource Management Plan and USFWS Lower Colorado River National Wildlife Refuge Comprehensive Management Plan, it fails to comprehensively consider relevant portion of those plans, such as BLM's designation of part of this area as an Area of Critical Environmental Concern ("ACEC") ¹³ and the Topock-Needles Special Cultural Resource Management Area ("SCRMA"), ¹⁴ and other guidance for land use management. Why were thes specific aspects of the plans not comprehensively discussed across the DEIR (apart from a brief mention regarding IMPACT BR-8) (DEIR, page 4.3-65)? Is the DEIR's statement that the Project would not conflict with the plans' resource goals, the same as the Project being consiste with these plans? The DEIR must contain a <i>full</i> , not selective, analysis of relevant land use plan and place this discussion in all appropriate sections of the DEIR.	d T6-108
The DEIR also acknowledges that the proposed Project "would result in noise levels that confli- with the use of this area." (DEIR, page 4.7-10.) Please explain how this is not a significant land use and planning effect?	ct T6-109
Moreover, as stated above, the DEIR does not discuss that the characterization assumptions for future land use are inconsistent with the land use decisions, designations and compatibilities in these land use plans and DEIR analysis particularly relative to agricultural resources and residential uses/population and housing. Please explain.	T6-110
Noise/Aural Environment/Setting/Vibration	
The Tribe appreciates that DTSC has acknowledged that the proposed Project would exceed Sa Bernardino County noise standards for a place of worship and could result in a temporary substantial increase in ambient noise levels. (DEIR, page 5-4.) The Tribe also appreciates the DEIR's conclusion that, "The unique values associated with the Topock TCP cannot be reconciled with additional Project-related noise." (DEIR, page 5-5.)	n T6-111
However, because the Tribe's practices are <i>outdoors</i> , and the County standards reference <i>indoor</i> standards, is it not accurate to say that the proposed impacts would be even more impactful to tribal practices than indicated in the DEIR? As noted above, DTSC may implement project-specific significance thresholds to take into account the proposed Project and the nature of site use.	T6-112
¹³ The BLM RMP requires that the ACEC "will be managed to protect and prevent irreparable damage to the relevant characteristics and important values." (DEIR, page 4.4-59.) How does the proposed Project meet this standard?	ne Footnote to T6-108

¹⁴ The plan categorizes the area as allocated for Traditional Use and Conservation for Future Use. (DEIR, page 4.4-59.) How does the proposed Project meet these standards?

Will DTSC develop appropriate Project-specific thresholds for noise through consultation with the Tribe, taking into account the use of the area for outdoor worship? This would seem appropriate given the DEIR's recognition that, "There is no completely satisfactory way to measure the subjective effects of noise, or the corresponding reactions of annoyance and dissatisfaction." And, that, "A wide variation in individual thresholds of annoyance exists, and different tolerances to noise tend to develop based on an individual's past experiences with noise." (DEIR, page 4.7-4.)		T6-112 Cont.
How did DTSC determine that daytime hours are "less noise-sensitive?" (DEIR, page 5-4.) What is the basis for this conclusion? Was this determined through tribal consultation? How does the DEIR define "daytime"? The hours of light between 7:00 a.m. and 7:00 p.m. or simply that total 12 hour window?	t	T6-113
Does Figure 4.7-3 use the general California guidelines for evaluating the compatibility of land uses as a function of noise exposure or the more conservative threshold used by Caltrans for the protection of fragile, historic and residential structures from ground borne vibration? (DEIR, page 4.7-10.) The DEIR does not appear to clearly state which standard better considers tribal land uses.		T6-114
The DEIR briefly discussed noise attenuation and lists several factors that in general can reduce the effect of noise. (DEIR, page 4.7-5.) Yet, there is no discussion of these factors relative to actual site conditions. What support is there for the assertion at DEIR, page 4.7-6, that noise- sensitive receptors do not have "direct exposure" to Station and IM3 Facility noise? In fact, the Tribe's members have been affected by noise at culturally-significant locations near both facilities. Please explain.		T6-115
Were any or all of the five ambient noise studies referenced in the DEIR at page 4.7-6, the noise studies that, upon the Tribe's inquiry, DTSC said that PG&E was independently undertaking an would not be used as part of the CEQA process? Why are they being used now "to establish baseline ambient noise levels for the existing setting" as part of the CEQA process? (Please also see discussion of baseline issues described elsewhere in the letter.) An issue is that the Tribe wanot included in the development of protocols for the studies, even though those Tribal concerns, presumably, are one of the targets of the studies.	d s	T6-116
Moreover, DEIR Figure 4.7-2, Noise Measurement Locations, shows that not all areas requested by the Tribe were included (e.g., former ponds and well site B) and the other areas were include but only measured in short-term noise measurements versus the earlier long-term measurement. Please provide measurements and conduct full studies for all the locations requested by the Tribe.	d	T6-117
IMPACT NOI-1: 1) The Tribe repeats its concerns that it is DTSC as the Lead Agency that must ensure compliance with applicable noise standards. The Disturbance Coordinator and qualified acoustical consultant perform other duties; and 2) the Tribe believes the final measure should be revised to state that PG&E will accommodate Tribal ceremonial events to the "maximum" exter practicable.	t t	T6-118
Regarding vibration, the DEIR acknowledges that sensitive receptors include people. (DEIR, page 4.7-5.) Will vibration affect Tribal uses within the Project area and the religious/cultural		T6-119

practices? Was the Tribe consulted on the DEIR's conclusion regarding less than significant impacts?	T6-119 Cont.
Moreover, the DEIR does not discuss whether vibration may impact cultural resources, particularly those most vulnerable on slopes or on pedestals. What efforts were made to identify thresholds of significance for such resources, including those close to the proposed project, and those identified in the TCVA? ¹⁵ Without such analysis, the DEIR's conclusion of less than significant for vibration impacts is unsubstantiated.	T6-120
The DEIR states that the TCP is considered a noise-sensitive land use and that the Project's changes could adversely affect the significant values ascribed to the area by tribes. (DEIR, page 4.7-6.) Please discuss this in more detail as such noise and vibration effects can be relevant to California and National Register criteria and cumulative impacts.	T6-121
The DEIR recognizes that the Project's noise levels, especially at the Topock Maze locations, "would be substantially greater than ambient noise levels." (DEIR, page 4.7-18.) What other mitigation measures were considered by the agency to try and further reduce and offset the identified significant and unmitigable effects of noise?	T6-122
Cumulative Impacts	
The Tribe does not understand why the DEIR treats PG&E's maintenance, investigation and decommissioning projects for the last 10 years, including tests and studies to evaluate technologies to reduce groundwater contamination, as part of the existing/baseline conditions and not within the list of cumulative projects at Table 6-3. (DEIR, page 6-6.) The DEIR acknowledges that project locations and the extent of soils sampling have been determined through data collection and analysis over the last 30 years. (DEIR, page 7-3.) This indicates that a substantial degree of remediation-related work has already been done in and around the Topock area. This exclusion from analysis seems peculiar as the project area, lead agencies, applicants, target contamination, etc. appear the same.	T6-123
Similarly, the Tribe does not understand why potential effects of any future soil remediation are not included in the cumulative analysis here (DEIR, page 6-6), just as DTSC considered the soil remediation in the cumulative analysis in the 2011 Groundwater Remedy FEIR. ¹⁶ Again, this seems peculiar for the reasons stated above and also because the Project components directly	T6-124
¹⁵ The DEIR quotes the TCVA in the DEIR's Tribal perspectives section, but does not appear to substantively consider the TCVA in other sections of the DEIR. (DEIR, page 4.4-19.)	Footnote to T6-120
¹⁶ See footnote 3 and accompanying text above. See, also, Groundwater Remedy FEIR, pages 6-	

Footnote to

¹⁷ See footnote 3 and accompanying text above. See, also, Groundwater Remedy FEIR, pages 6-10 through 6-21 for discussion of cumulative impacts from Soil Investigation and Remediation. Please note that the Tribe and its consultants commented at that time, however, that the Groundwater Remedy EIR failed to fully analyze or consider cumulative impacts See, e.g., Comment Letter from Dr. Tom King, FEIR, page 4-29 through 4-30.

relate to and inform the potential soil remedies. Further, that the soil investigation and remedy projects would not overlap in time, does not mean that the physical impacts from each would not be cumulative.		T6-124 Cont.
In short, the DEIR appears to be selectively removing some of the most cumulatively significant projects from the cumulative analysis. Please revise the DEIR cumulative analysis to include full sets of past, current and potential future projects, to include both the 10 years of PG&E projects as well as the soil remedy. Failure of the DEIR to include this analysis results in an underestimation of cumulative impacts. ¹⁷		T6-125
Aesthetics/Visual Resources/Setting		
The DEIR discusses the geographic scope for potential cumulative impacts to aesthetics to include the foreground (0.25 to 0.5 miles from the Project site) and middleground (3 to 5 miles from the Project site). (DEIR, page 6-17.) The DEIR then states that background viewing distances extend from 3 to 5 miles into infinity and that visible detail includes landscape patterns or visual contrasts. (DEIR, page 6-17.) As the Tribe has expressed in prior meetings and correspondences with DTSC and ESA, including its January 17, 2013, NOP comment letter (page 3), because the area is easily scarred and slow to heal, it is concerned that visual contrasts visible from <i>all three</i> perspectives - foreground, middleground and background, could result from the Project and would be intensified through the cumulative impacts.		T6-126
The one-paragraph cumulative analysis does not include a discussion of the inability to mitigate the view of machinery and equipment during the Project particularly from sensitive locations like the Maze (as shown in DEIR, Figures 4.1-10b; 4.1-11b; 4.1-11c and 4.1-12b) or the ground scarring and visual contrasts that would likely remain after the Project combined with other projects, given the scarring from prior activities that still can be seen on the landscape. (DEIR, page 6-8.) The Tribe has reviewed the cited DEIR visual simulations and relevant text and believes such impacts are significant and are additive to other projects. Tribal members are frustrated in that they feel they have to repeat their concerns over and over again, and still their concerns are not fully reflected in the environmental documents.		T6-127
One way to reduce such impacts may be to assess visual contrasts at a certain time from Project completion, make an assessment with tribal input, then develop restoration measures to reduce those impacts remaining from the proposed Project as well as try to reduce some of the cumulative prior impacts in an effort to restore/improve the overall visual quality of the area/setting.		T6-128
Biological Resources		
The cumulative analysis (DEIR, pages 6-20 through 6-22) does not discuss the effects to tribes and tribal cultural values from the listed biological impacts. Such impacts include the potential loss of culturally sensitive plants, the mortality of invertebrates and animals, and the overall		T6-129
¹⁷ Please explain what the asserted "leasing issues" are that have held up the construction of facilities at Pirate Cove. (DEIR, page 6-15.)	Ī	Footnote to T6-125
20		
umulative degradation of the setting from the development-oriented projects mentioned. To the	T6-129	
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Fribe, this is a cumulatively significant impact.	Cont.	
Further, the DEIR makes no effort to quantify or otherwise compare the potential cumulative adverse environmental impacts of development versus the asserted cumulative beneficial impacts of restoration and habitat projects. Thus, the DEIR's conclusion that the Project's incremental contribution to impacts to biological resources is not cumulatively considerable lacks aubstantiation.	T6-130	
Cultural Resources		
The DEIR acknowledges that the proposed Project's impacts to cultural resources, when considered in combination with other past, present, and future projects at a regional scale, could contribute to a cumulatively significant impact to historical resources (including the TCP), archaeological resources and human remains. (DEIR, pages 5-3 and 6-23.) The Tribe concurs.	T6-131	
The DEIR states that the geographic scope for cumulative impacts to cultural resources consists of the Lower Colorado River Valley. (DEIR, page 6-22.) It claims that this scope is appropriate because the cultural resources within this Valley are "expected to be similar" to those that occur on the Project site. (DEIR, page 6-22.) The Tribe appreciates the DEIR's more regional approach in assessing cumulative impacts to cultural resources. However, the Tribe believes such an approach is warranted not because the resources are similar, but because many of the resources are culturally and spiritually connected and interdependent. The DEIR must make an effort to recognize such connections and the Tribal view about the energies that link them. A statement of 'similarity" of resources may mislead a reader into believing that these resources may be 'ungible, so it might not matter if some are destroyed, when in reality they may have their own functions as well as value to the overall cultural matrix. Moreover, some of these resources have connections beyond the Valley. ¹⁸ The DEIR also states that the Project may also result in visual, auditory and other environmental impacts that may adversely affect the Topock TCP. (DEIR, bage 5-4.)	T6-132	
n spite of this, the Tribe observes that the DEIR does not provide cumulative impact-specific nitigation for Cultural Resources. Please explain why DTSC was unable to identify any	T6-133	
⁸ "The concept of landscape scale must include the understanding that a specific ethnographic landscape may be significant because it operates simultaneously on several scales – local, regional, and trans-regional 'regional-scale ethnographic landscape' lenote(s) an area that has geographic unity in terms of its natural and cultural environment While a local-scale landscape might entail a particular valley or mountain ange and vary in size up to a few hundred square miles, a regional scale landscape might encompass several mountain ranges and valleys and range up to an area of a few thousand equare miles" Cleland, James H., 2008, Ethnographic Trail Systems as Large-Scale Cultural Landscapes: Preservation and Management Issues. In <i>Preserving the Boundaries of</i> <i>Historic Landscape Preservation</i> , edited by Cari Goetcheus and Eric MacDonald (Clemson, SC: Clemson University Digital Press, 2005), [6]+208.	Footnote to T6-132	

cumulative impact-specific measures, and instead, refers only to Project-specific mitigation T6-133 measures, to reduce both Project and cumulative effects to cultural resources. Cont. Land Use and Planning The Geographic Scope of cumulative impacts analysis for Land Use and Planning should include a regional scope. CEQA Guidelines section 15125(c) (knowledge of the regional setting is T6-134 essential to the assessment of environmental impacts). No explanation is made in the DEIR for the geographic scope as being limited to only San Bernardino County (DEIR, page 6-29), particularly in light of the discussions of regional and federal land use and planning elsewhere in the document and inherent to the Project's objectives (e.g. characterization goals). Please revise to include such discussions. Noise The DEIR states that work at the Station, in particular, could result in increased cumulative noise for activities that occur simultaneously and within 500 feet of the Project site. (DEIR, page 6-T6-135 30.) For reasons stated here and in the Tribe's other submissions, the Tribe disagrees that relative distances and timing of noise will make the Project's incremental contribution to noise impacts not cumulatively considerable. What efforts can be made to reduce the potential for activities at the Station during the Project implementation to reduce the potential for increased cumulative noise? **Public Services** Given the increase in personnel, machinery and activity into the sensitive Topock area associated with the proposed and cumulative Projects, will this pose a necessity for increased police, ranger and/or security presence? Just because a project is an "infrastructure project," does not mean that T6-136 the presence of these activities will not induce other people into the area. Such indirect effects and induced access are not addressed in the DEIR for the Project or cumulatively, despite being raised in the Tribe's NOP comment letter dated January 17, 2013, page 3. In fact, the DEIR states that the 2013 site condition assessment field visit shows that at least one archaeological site had been disturbed by recreational users and other visitors who have used the T6-137 lower portion for parking vehicles. (DEIR, page 4.4-32.) Might such impacts be anticipated from Project activities inducing more recreational and other users into the area? How might increased patrols reduce the potential for such impacts? The DEIR does not discuss this potential impact. Significant Irreversible Environmental Changes CEQA Guidelines section 15126.2(c) requires irretrievable commitments of resources to be evaluated in an EIR to ensure that such commitments are justified. The DEIR currently concludes that the proposed Project would constitute an irreversible commitment of resources, T6-138 particularly with respect to cultural resources. (DEIR, page 5-6.) However, the Tribe does not understand the DEIR's assertion that the use of resources is considered "temporary" for this discussion. (DEIR, page 5-5.) Please explain the relevancy of this assertion when the physical change to resources of concern from the proposed Project would be permanent (e.g., up to 365

holes filled with concrete across the landscape). Moreover, this section of the DEIR does not

contain the required discussion of the justification for this irretrievable and irreversible commitment of resources. Finally, the Tribe believes that for reasons already stated, the DEIR should also include a discussion of the irretrievable commitments of resources relative to visual quality and setting.	T6-138 Cont.
CEQA Guidelines sections 15002(h), 15123(b)(3), 15270	
Overall, the DEIR concludes that significant and unavoidable Project and cumulative impacts would occur to the historic resource identified as the Topock TCP, other historical resources and unique archaeological resources, ancestral human remains (if encountered), as well as significant and unavoidable Project impacts to noise levels and noise standards.	
The Tribe acknowledges that the DEIR tries to address tribal participation in the Project and its processes, but it "does not consider and respond to the Tribe's comments on such issues at least to the minimum extent required by law," to include consideration of all feasible mitigation measures, as is required by CEQA, to reduce the acknowledged significant and unavoidable impacts. (The Tribe also believes there are significant and unmitigated Project impacts to Biological Resources, Visual Resources/Aesthetics and Land Use and Planning and Cumulative Impacts to Biology, Cultural Resources, Land Use and Planning, Noise, Public Services and Visual Impacts/Aesthetics that have not been fully addressed in the DEIR.)	T6-139
CEQA Guidelines section 15002(h), enumerates methods for protecting the environment. When an EIR shows that a project would cause substantial adverse changes in the environment, the governmental agency must respond by one or more of the following methods:	
 Changing the proposed project Imposing conditions on the approval of the project Adopting plans or ordinances to control the broader class of projects Choosing an alternative way of meeting the same need Disapproving the project Finding that changing the project is not feasible Finding the unavoidable significant environmental damage is acceptable by adoption of statement of Overriding Considerations 	T6-140
CEQA Guidelines section 15370, enumerates a definition of mitigation for CEQA purposes:	
 Avoiding the impact by not taking the action or part of the action Minimizing impacts by limiting the degree or magnitude of the action and its implementation Rectifying the impact by repairing, rehabilitating, or restoring the impacted environment Reducing or eliminating the impact over time by preservation and maintenance over the life of the project Compensating for the impact by replacing or providing substitute resources or environments 	
CEQA Guidelines section 15123(b)(3), states that issues to be resolved including the choice among alternatives and whether or how to mitigate the significant effects shall be identified.	

Please explain why a discussion of all applicable methods to protect the environment, feasible mitigation measures, and issues to be resolved, is omitted from the DEIR for Project and cumulative impacts.	T6-140 Cont.
Given the scope and complexity of the Project, combined with its significant and additive impacts, why is there no programmatic mitigation approach being undertaken relative to the Groundwater and Soil Characterization and Remedies under CEQA?	T6-141
Environmental Justice	
The identified impacts - to biological and cultural resources, and the environmental setting, - and the unidentified impacts to aesthetics, land use and planning and visual resources - pose unique impacts to the Tribe.	T6-142
Once again, the Tribe feels as though it is bearing the brunt of the impacts of the proposed soil investigation with little to show for it apart from being invited to witness or otherwise participate in the destruction process.	
It is this disproportionate impact that sits with the tribes alone and reflects the Tribe's continuing Environmental Justice concerns about the Project and its unique impacts to the Tribe, which remain insufficiently considered or responded to.	T6-143
Pursuant to CEQA Guidelines section 15124(d)(1)(c), an EIR shall contain a list of related environmental review and consultation requirements required by federal, state or local laws, regulations or policies. To the extent possible, the lead agency should integrate CEQA review with those related environmental review and consultation requirements. These concerns and impacts are to be considered in both State and federal processes regarding the proposed clean up, but have not been squarely addressed to date. At the State level, please see: Kamala Harris, Attorney General, "Environmental Justice at the Local and Regional Level, Legal Background," Updated 05/08/12, http://oag.ca.gov/sites/all/files/agweb/pdfs/environment/ej_fact_sheet.pdf At the federal level, please see, for example, the United States Environmental Protection Agency website: http://www.epa.gov/Compliance/nepa/nepaej/index.html .	T6-144
The Tribe raised this issue in it January 17, 2013, NOP scoping letter (page 5). But the issue remains unaddressed in the DEIR. How will the EIR address environmental justice issues?	
Procedural Issues	
The Tribe understands from DTSC that the responsible party, PG&E, was not provided copies of the screen check EIRs. In its NOP comment letter, dated January 17, 2013, the Tribe raised issues surrounding prior and future access to the screen check EIR (pages 7-9). Last Fall, the Tribe also provided DTSC with information about the <i>CERES</i> decision which generally held that draft documents shared with the project applicant become a public record to be shared with other requesting parties. <i>Citizens for Ceres v. The Superior Court of Stanislaus County et al</i> (2013) 217 Cal.App.4th 889. Please confirm that PG&E was not provided with the screen check EIR for the Soil Investigation, in whole or in part, including the project description, for this Project. If they were given access, please describe what that was and the rationale for it.	T6-145

T6-146

Conclusion

It is our hope that these comments are taken in the spirit intended: in an effort to find the way to adequately characterize soil contamination with the minimal amount of adverse impacts to resources of concern to the Tribe.

Should you have questions or require clarification of these comments, please do not hesitate to contact me directly.

Very truly yours,

Courtney Ann Coyle ~

Attorney at Law

Copies: Hon. Timothy Williams, Chairman Nora McDowell, Topock Tribal Project Manager Linda Otero, AhaMakav Cultural Society, Director Steven P. McDonald, Esq., Co-counsel

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Mr. Aaron Yue, Project Manager DTSC 5796 Corporate Avenue Cypress, CA 90630 aaron.yue@dtsc.ca.gov

January 17, 2013

RE: FMIT COMMENTS ON NOP FOR SOIL INVESTIGATION EIR

Dear Mr. Yue,

This comment letter on the Notice of Preparation (NOP) for a Draft Environmental Impact Report (DEIR) for the Pacific Gas & Electric (PG&E) Topock Compressor Station Soil Investigation Project Environmental Impact Report (project or Soil Investigation EIR) is respectfully and timely submitted on behalf of the Fort Mojave Indian Tribe (FMIT or Tribe).¹

Clarification Needed on Kind of EIR DTSC is Proposing

In communication with stakeholders in late 2012, DTSC stated it intended to prepare a Soil Focused EIR (See, for example, Aaron Yue email to Stakeholders, November 26, 2012, "PG&E: DTSC decisions on CEQA path for upcoming activities" and CWG Action Item Tracking updated October 17, 2012, 10/17/12.6). However, the NOP only references a DEIR and says nothing about a "Focused" EIR.

FMIT is concerned because "Focused EIR" is a term of art under CEQA. See, for example, information on Focused EIRs at http://ceres.ca.gov/ceqa/guidelines/art11.html. It appears that the intent of DTSC might have been to use the word "focused" in a layman's sense that it would be limited to that portion of remedial investigation addressing only soils, as opposed to groundwater or other media.

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ATTACHMENT TO ENCL A (COYLE LTR OF 09/05/2014)

¹ Please reference email from Karen Baker to Tribe dated January 14, 2013, extending the NOP comment period for the Tribe until January 18, 2013. The Tribe requested the extension in an effort to receive certain scoping related materials from DTSC to better inform its comments.

While the Tribe feels the preparation of an EIR for soils investigation activities is appropriate, a Focused EIR does not appear to be the correct CEQA document. A Focused EIR assumes that the cumulative and irreversible significant effects as studied in the original EIR (here, presumably the Groundwater EIR) are adequate for the subsequent project (here, the soil investigation), therefore review and reduction of those classes of impacts would be unnecessary.

If DTSC were in fact proposing a Focused EIR, its NOP would need to be rewritten to reflect that. The NOP would also need to clearly state the environmental effects it intends to focus on and why. It would need to explain the prior history of CEQA review for soil investigations, if any, and the document off of which it was specifically tiering. The revised notice must then be publicly circulated and a new round of public hearings properly noticed.

On the other hand, it is widely known that the cumulative effects of past, present and reasonably foreseeable activities in this sacred area are already significant and only worsen with each new project, incursion, well, test area, sample taken, etc. Moreover, while the impacts from groundwater and soils activities may share some of the same characteristics, they are not necessarily the same impacts across the board. In the end, soil sampling and removal is an irreversible impact that has not been studied in the Groundwater EIR or other environmental documents in accordance with CEQA. However, even if soil investigations had been considered within the Groundwater EIR, the magnitude of the soil investigation estimates has expanded four-fold by some estimates since the Groundwater EIR was developed, and cannot be said to have been fully considered within that document.

In sum, it is our opinion that DTSC should be preparing a full, stand-alone EIR for the project. DTSC and its consultant at the January Consultative Working Group (CWG) meeting clarified that the document to be prepared was in fact a full, stand alone EIR and that a Focused EIR as defined under CEQA was not its intention. Please confirm.

Need for Complete Evaluation of Cumulative Impacts, Including All Soils Activities

FMIT does not believe the cumulative impacts for each new successive activity can somehow be waived or left unaddressed. Included in the Soil Investigation EIR should be a discussion of all the past, current and foreseeable soil projects/activities (even for those actions that may have been determined previously exempt from CEQA) and what CEQA documents were prepared, and are anticipated to be prepared, for each anticipated action.

Hundreds of samples have already been collected at the Topock project site. Each of these samples represents a significant and irreversible change to the land and contributes an impact or adverse effect to the cultural and sacred value of the land to the Tribe. The CEQA evaluation must consider not only those proposed samples in the soils characterization work plan but also the cumulative impact from all the soil samples that have already been, or are planned to be, collected.

Explanation of Groundwater versus Soil Actions and Future Soil Activities

Based on the apparent confusion by the public as shown in the NOP hearing transcripts, the EIR should clearly explain why the groundwater and soils studies were bifurcated by DTSC, the criteria being used by DTSC to determine which activity and impact go into which category of study (groundwater versus soil), and describe the potential interplay between the soil investigation environmental document and the environmental document for the anticipated soil remedy. Please confirm, as stated in the January CWG and TWG Handouts, that a future environmental analysis will be conducted for the soils clean up remedy, should such clean up be necessary, once the extent and type of contamination is known.

Project Description Lacking Necessary Detail

The description for the project tries to *list* the anticipated project components; however, no effort was made in the NOP to *quantify* the potential impacts from these components. Without additional detail, it is difficult to make informed comments at this time about the potential impacts, apart from stating that virtually any additional land disturbance in this sacred area is a significant, irreversible impact and adverse effect. The lack of detail was a concern voiced also by members of the public providing comments during the NOP scoping meetings.

The EIR must make an effort to provide meaningful quantification for acreage disturbance, cubic yards of soil to be disturbed and/or displaced, etc., to allow tribes and the public to more fully understand the nature and scope of the proposed activities. Data Quality Objectives must be clearly set forth so that the environmental impacts of having increased or decreased sampling – either aerially or numerically – can be evaluated in the context of impacts on decision-making. Having more data is not necessarily better, and having less data, which may or may not show a statistically significant difference in levels of confidence, does not necessarily have a significant impact in the ability or quality of decision-making.

Moreover, can any estimates regarding the potential scope of the soil remedy options be made at this time? If so, this may help inform the current cumulative impacts analysis.

Environmental Effects to be Examined in the Soil Investigation EIR

The Tribe is concerned about any and all potential impacts to the sacred area. Aesthetics (visual impacts, soil discoloration), soils (erosion), land use and planning (relationship to the Area of Critical Environmental Concern; effects of employees (sanitary, car trips, trash), noise (temporary), induced access (including site damage) and cultural resources (direct, indirect and cumulative to archaeological, heritage and sacred resources) are of particular concern at this time.

The sentence in the NOP section regarding Cultural Resources is also of concern to the Tribe. It states: "With respect to Cultural Resources, the Topock site and adjacent lands are contained within a larger geographic area that is considered sacred by the Fort Mojave Indian Tribe and by other Native American tribes."

While the Topock site is indeed connected to, and is part of, a larger sacred area, the area within which the project is proposed, is also sacred and culturally valuable within its own right, including the current and prior physical locations of the Topock Maze, current and prior geoglyph locations, other cultural site components and their setting, feeling and association. We believe that that was partly why DTSC designated that area of the landscape as the Topock Cultural Area in the Groundwater EIR and why DOI recognized a Topock Traditional Cultural Property (TCP) in its groundwater decision documents. The NOP description should be restated to more accurately reflect the environmental setting and layers of cultural values at issue.

More specifically, will DTSC be carrying forward the Topock Cultural Area designation and significance determination from the Groundwater EIR to the Soil Investigation EIR? How will DTSC consider the additional archaeological surveys that have been completed, for example, relative to freshwater sources, as to the cultural setting for the soil investigation?² This information appears to further corroborate the Tribe's views of there being a larger, connected, tribal cultural landscape that must be considered within the CEQA processes. How will DTSC meet its obligations under state law (and DOI meet its obligations under federal law) regarding impacts that might fall outside the currently established project boundary or Area of Potential Effect (APE)? Recent guidance from the Advisory Council on Historic Preservation, "Traditional Cultural Landscapes in the Section 106 Review Process," 03-19-12, and "Native American Traditional Cultural Landscapes and the Section 106 Review Process: Questions and Answers," 07-11-12, may be of assistance to DTSC in addressing these concerns in the EIR.³

An emphasis of this guidance is that full cultural resources reports and analyses look at more than simply physical archaeology as defined by archaeologists and look beyond the immediate direct physical effects to effects on the whole of the historic property or landscape. The Tribe requests the Cultural Resources section in the EIR be conducted by qualified and experienced professionals and consider more than physical archaeology and direct impacts to those sites or the Tribe's cultural values translated into scientific archaeological terms.

² Please reference, Technical Memorandum, "Updated Archaeological Survey for the Evaluation of Alternative Freshwater Sources in the Topock Remediation Area," Applied Earthworks, 12-20-12, which identified thirty-three previously unrecorded archaeological and historical sites. This document was recently sent to the Tribe for review. FMIT intends to send in written comments on that memo to DTSC and DOI by January 31, 2013.

³ Attached and found at: http://www.achp.gov/background_landscapes.pdf (Attachment 1); http://www.achp.gov/natl-qa.pdf (Attachment 2). (While directed towards the NHPA Section 106 process, the guidance is still relevant for projects undergoing CEQA analysis, particularly those projects involving properties listed on the National Register of Historic Places such as the Topock Maze.)

The EIR should also analyze the potential impacts to affiliated tribal people regarding the project. Pursuant to CEQA, a social change related to a physical change may be considered in determining whether the physical change is significant. See, CEQA Guidelines section 15382 and California Attorney General's Office, "Environmental Justice at the Local and Regional Level, Legal Background," updated 07-10-12.⁴

Analysis of the role of social change has been largely absent in prior CEQA analyses relative to Topock and has resulted in the minimization of certain potential impacts to the Tribe and its members, such as those related to noise, visual and aesthetics, among others, and a failure to seek out, consider and analyze tribal views of significance and impacts for specific resources and impacts.

DTSC, ESA and the Tribe should actively discuss how to meet these criteria in the EIR.

Alternatives

The Tribe respectfully requests a Tribal Land Use Scenario alternative be studied in the EIR. This alternative could both meet the characterization goals for the study while minimizing the impacts to the sacred area. This alternative is also feasible as it would be more reflective of the ultimate actual future use of this area. This request is consistent with the Tribe's previous correspondence to DTSC on this issue, which we incorporate here by reference.⁵

This alternative is environmentally preferred, as a sacred site, once desecrated, cannot be un-desecrated. There is no ceremony or amount or type of mitigation that can undo the impact. There are no offsets that can fully compensate for the impact. It is the Tribe's view that each soil sample represents a significant and irreversible change to the cultural and spiritual value of the project area and surrounding land and serves as a catalyst for likely future impacts. Therefore, the Tribe requests that the CEQA evaluation prioritize and seriously consider modifications to the soil investigation scope to reduce the impacts, i.e., the number of samples and sample locations.

There is a process available to DTSC that would decrease the significant and irreversible changes to the land by decreasing the number of samples and sample locations. This process is making the basis for the scope of the soil characterization plan a future-tribal-land-use-risk-based evaluation. This process change, which may require an update of the project Data Quality Objectives (DQOs), would result in fewer needed samples and sampling locations. This, coupled with an *in-situ* evaluation of ecological impacts (*i.e.*, are there areas of visible or measurable impacts to ecological receptors in areas of soil contamination?), would reduce the significant and irreversible

⁴ Attached and found at: http://oag.ca.gov/sites/all/files/pdfs/environment/ej_fact_sheet.pdf (Attachment 3).

⁵ This includes previous correspondence to and from DTSC and DOI related to the following: tribal land use scenario, soil risk assessment work plan, soils characterization work plan and displaced soils handling policy.

changes to the land due to sampling. The Tribe requests that the EIR include a quantitative evaluation as an alternative which meets project objectives and decreases project impacts.⁶

There is a second process available to DTSC that would decrease the "significant and irreversible changes" to the land also by decreasing the number of samples and sample locations. This process is to minimize further step-out samples and sample locations in areas where soil remediation (i.e., removal) would occur because the soil concentrations are above the tribal-land-use target cleanup concentrations. Once an area is identified for corrective measures (i.e., the highest concentrations have already been identified and only further step-out samples are needed) then during the remediation of the soil, when such intrusive activities are being performed, those step-out samples can be collected as the excavation is proceeding. The Tribe requests that the CEQA evaluation include this quantitative evaluation as an acceptable alternative which meets project objectives and decreases project impacts.

Proposed Project Map

Please explain the activities anticipated at AOC 29 and AOC 30 on this map. The blue coding at these areas on the map does not appear to match that of the legend. It also appears, according to the map, that equipment staging and storage is proposed at AOC 29. Please explain. Any activities on or near the parcel now owned by the FMIT is of concern to the Tribe and the Tribe needs to understand what is specifically being considered and why, and what alternative siting options may be available to reduce impacts and effects.

Specific Protocols and Measures

The Tribe expects that protocols and measures negotiated elsewhere during the groundwater remediation or prior soil investigations will equally apply here. For example, the requirements to have tribal monitors present during archaeological surveys and work that could disturb soil, and the displaced soils protocol, should apply to this proposed action as well. Please confirm.

The Cultural Resources Programmatic Agreement, particularly Section IV "Characterizing, Remediating, and Mitigating Soils Contamination," should also be considered in full including regarding any potential change to the project boundary or the APE. This is particularly necessary from the Tribe's perspective given the joint action by DTSC and DOI in the remediation and to reduce confusion and foster consistency, including through the DTSC/DOI MOU.

⁶ The Tribe is moving forward with the development of a tribal land use scenario and offers to meet with DTSC and ESA to present and explain the resulting clean up concentrations. Please inform the Tribe of the schedule benchmarks for the Draft EIR so that tribal input may be timely submitted and considered.

Prior Correspondence and CEQA Process

FMIT appreciates the NOP's statement that prior comments by stakeholders will be considered in scoping the EIR. These include comments previously submitted by the Tribe to DTSC on the soil investigation work plan.

The Tribe reiterates that it respectfully requests to be fully involved in the CEQA process for this project, and any other proposed project, in this sensitive area. The Tribe's involvement is supported by the Governor's Executive Order B-10-11, 09-19-11, ordering all state agencies to communicate and consult with California Indian Tribes,⁷ Cal/EPA Policy Memorandum, "Cal/EPA Policy for Working with California Indian Tribes," 10-19-09,⁸ and the terms of the settlement agreements between DTSC and the Tribe from 2005 and 2012.

More specifically, the Tribe believes that its participation relative to the EIR should include DTSC: meeting with the Tribe regarding the cultural resources, alternatives and mitigation sections of the DEIR prior their public release; accommodating other meeting requests by the Tribe; providing all technical appendices in both hard copy and electronic format at the time of initial release of the DEIR to the Tribe; providing the FEIR in redline form to facilitate efficient review; and providing the FEIR to the Tribe and others at least 30 days prior to project approval. The Tribe believes that managing the CEQA process in this manner should reduce misunderstandings, create a more meaningful EIR and thereby reduce the potential for avoidable delay in reaching project approval and ultimately project implementation.

Further, the manner in which the cultural and spiritual aspects of the project area and surrounding lands are presented in the CEQA evaluation are a concern to the Tribe. Descriptions must be accurate yet sensitive to the manner in which the Tribe shares this information with individuals outside the Tribe. Therefore, the Tribe reiterates its request that draft language relative to cultural issues proposed for inclusion in the EIR be provided to the Tribe and that face-to-face meetings between DTSC and their CEQA contractor (ESA) take place to review the draft language prior to the publication and release of a draft document. It should also be noted that the <u>discussion</u> of sacred areas itself, even if handled with sensitivity and respect for Tribal spiritual beliefs, is an impact to the Tribe and therefore the inclusion of the Tribe in drafting and verifying the accuracy of the environmental document can help ameliorate that and prevent inappropriate and insensitive presentations.

Additionally, the Tribe would like to understand the specific role, if any, PG&E will have in the drafting and review of the screen check EIRs. At the January 2013 CWG meeting, DTSC confirmed that PG&E would be reviewing not just project descriptions but also

⁷ Attached and found at: http://gov.ca.gov/news.php?id=17223 (Attachment 4).

⁸ Attached and found at: http://www.calepa.ca.gov/tribal/Documents/CIT01Policy.pdf (Attachment 5). (We understand Cal EPA is also currently working on adopting a consultation policy responsive to Governor Brown's Executive Order.)

significance conclusions and mitigation measures. The Tribe notes that PG&E previously requested that it be provided a screen check version of the DEIR during the Groundwater EIR review.⁹ During scoping, the Tribe made a request to review a screen check version of the Soil Investigation DEIR as it relates to Cultural Resources. DTSC has apparently accepted PG&E's request relative to both groundwater and soils,¹⁰ but has not accepted the Tribe's request at this time. The Tribe reiterates its request to be provided a screen check version of the DEIR, at least to the extent those sections relate to or impact Cultural Resources. As is set forth below, review by the Tribe as to the description and analysis of Cultural Resources is needed both to ensure accuracy and to maintain legally required confidentiality.¹¹ Moreover, PG&E's views on cultural resource analysis, as expressed to DTSC during the Groundwater EIR, are of concern to the Tribe.¹²

The Tribe also notes that PG&E's 2009 Letter requesting a screen check EIR for groundwater is not supported by any cited reference to statute, regulations or case law. The Tribe further notes that PG&E is not a voluntary proponent of a private project, but is the respondent to a clean-up order from DTSC and, as a defendant in a federal Superfund action, will soon be performing actions under a federally enforceable consent decree. Thus, PG&E is being directed under compulsion of law to implement these projects and is a legal adversary to DTSC and the federal government. The Tribe is unaware of any exemption from public release under the California Public Records Act or the Freedom of Information Act for any such "draft" documents as a screen check DEIR once it is shared with PG&E by DTSC, including deliberative privilege.

If DTSC plans to provide such documents to the respondent of its cleanup order, but not the Tribe, DTSC must provide a clear, defensible legal basis for doing so,¹³ should justify any such legal exercise of any discretion to do so and inform the Tribe and other concerned stakeholders of the specific steps DTSC intends to take to ensure the

¹¹ It should be noted that the reasons argued by PG&E in its letter in support of its screen check review could apply equally to the Tribe relative to commitment of significant resources, provision of data and reports, review for legal sufficiency, and delay reduction.

⁹ See attached letter from PG&E (Bob Howard) to DTSC (Maziar Movassaghi), dated July 30, 2009 (PG&E 2009 Letter) (Attachment 6), requesting reconsideration by DTSC of DTSC's denial of access of PG&E to the screen check EIR. While the Tribe was not copied on this letter, it became aware of it during its review in 2012 of the Administrative Record produced relative to the Tribe's litigation of the Groundwater EIR.

¹⁰ The Rainbow Schedule was recently modified by DTSC to add line items under environmental documents for PG&E review of screen check documents. Please reference CWG Handout 5A, January 2013.

¹² See attached, PG&E 2009 Letter, stating its fear that once a DEIR is published, the cat cannot be put back into the bag, setting a dangerous precedent for how certain cultural resource issues may be handled and evaluated by the federal agencies. Cultural resources was the only specific CEQA topic area with which PG&E expressed concern in its letter.

¹³ It was stated by DTSC at the January CWG meeting that the EIR contract services agreement, presumably between DTSC and PG&E, obligates screen check review by PG&E. Accordingly, please provide a signed and dated copy of the contract between DTSC and PG&E relative to the EIR.

document reflects the agency's independent review. If PG&E continues to be granted pre-review privileges, the Tribe respectfully requests to be provided any materials or comments submitted by PG&E relative to its review at the time they are submitted to DTSC. This would provide a measure of assurance to the Tribe of the independence of DTSC in the CEQA process.

Finally, there is material the Tribe needed for providing complete scoping comments that has not been made available to it: It is now the Tribe's understanding that transcripts of the full scoping hearings are not available even though a court reporter was present at each of the public hearings. This is different from the process used by DTSC for the Groundwater EIR scoping meetings in which full transcripts - not just transcripts of public comments - were made available. (See, Scoping Report, August 2008, Appendix I.) No notice was provided to the Tribe of a change in protocol. We understand from DTSC's response to our concern expressed at the January CWG meeting, that for future CEQA documents, it will return to providing full transcripts. Please confirm.

Confidentiality about Sacred Places

State and federal statutes provide authority for nondisclosure to the public of confidential historical resource information.

California Public Records Act, Government Code section 6254(r) provides:

"Except as provided in Sections 6254.7 and 6254.13, nothing in this chapter shall be construed to require disclosure of records that are any of the following: ... Records of Native American graves, cemeteries, and sacred places and records of Native American places, features, and objects described in Sections 5097.9 and 5097.993 of the Public Resources Code maintained by, or in the possession of, the Native American Heritage Commission, another state agency or a local agency."

CEQA Guidelines section 15120(d) provides:

"No document prepared pursuant to this article that is available for public examination shall include a "trade secret" as defined in Section 6254.7 of the Government Code, information about the location of the archaeological sites and sacred lands, or any other information that is subject to the disclosure restrictions of Section 6254 of the Government Code."

The explanatory note in the Guidelines states, "Limiting disclosure of archaeological sites and sacred lands is particularly important in order to reduce the chances that they might be damaged or destroyed by looters."

National Historic Preservation Act section 304 states:

"The head of a Federal agency or other public official receiving grant assistance pursuant to this Act, after consultation with the Secretary, shall withhold from disclosure to the public, information about the location, character or ownership of a historic resource if the Secretary and the agency determine that disclosure may (1) cause a significant invasion of privacy; (2) risk harm to the historic resources; or (3) impede the use of a traditional religious site by practitioners ..."

Case law also applies State authority to local agency public hearings and allows the hearing managers to review confidential records *in camera* without disclosing those records to the public. *Clover Valley Foundation v. City of Rocklin* (2011) 197 Cal.App.4th 200 (Governor's Office of Planning & Research (OPR) counsels local governments to avoid including any specific cultural place information within CEQA documents or staff reports which are required to be available at a public hearing; in such cases, confidential cultural resource inventories or reports should be maintained under separate cover and shall not be available to the public.)

Particularly relevant to the ongoing CEQA processes at Topock, the California Public Records Act, Government Code section 6254.10 provides:

"Nothing in this chapter requires disclosure of records that relate to archaeological site information and reports maintained by, or in the possession of, the Department of Parks and Recreation, the State Historical Resources Commission, the State Lands Commissions, the Native American Heritage Commission, another state agency, or a local agency, including the records that the agency obtains through a consultation process between a California Native American tribe and a state or local agency."

In sum, maintaining the confidentiality of tribal historic resources' location, cultural significance and use - including that information gained by agencies during confidential discussions or consultations on the project or its environmental documents - is a cornerstone of tribal participation in CEQA and other processes and must be respected and accommodated here.

The Tribe expects that confidentiality will be maintained and is happy to continue to work with DTSC to maintain both an open discourse and develop appropriate measures to maintain confidentiality of sensitive cultural information during the CEQA process. Should DTSC believe it cannot ensure confidentiality of any particular record, the Tribe respectfully requests DTSC provide notice to the Tribe in advance of the Tribe providing the record or a means to return the record to the Tribe if it has already been provided to the agency.

Conclusion

The purpose of CEQA is to inform decisionmaking and avoid or minimize impacts to the environment. The Tribe believes that an effective CEQA process can result in revisions to the project that will reduce impacts to the sensitive environment, cultural area and setting that is Topock. The Tribe intends to continue to participate in the process in a collaborative manner to achieve these goals.

Please include my office and that of Nora McDowell-Antone, Topock Project Manager, in the list of persons to receive all notices of public hearings and hard and electronic copies of the draft and final EIRs and any related documents.

Should DTSC have any questions or concerns about these comments, please contact me at 858-454-8687 or at CourtCoyle@aol.com. Thank you for your courtesy and consideration.

Very truly yours, Country Ann Coylo

Courtney Ann Coyle Attorney at Law

Attachs.

Copies:

Hon. Timothy Williams, Chairman, FMIT Nora McDowell-Antone, Project Manager, FMIT Linda Otero, Director, Ahamakav Cultural Society Carol Roland-Nawi, CA SHPO Cynthia Gomez, NAHC/Tribal Advisor Wayne Donaldson, ACHP Pam Innis, DOI Ann Howard, AZ SHPO Kim Liebhauser, Field Manager, LHFO Roxie Trost, BLM District Manager, Colorado River District Matthew Rodriguez, Secretary, CALEPA Leo Leonhart, Hargis + Associates Michael Sullivan, FMIT Consultant **Technical Review Committee** Tribal Government Chairmen/Chairwomen Karen Baker, DTSC Jose Marcos, DTSC



TRADITIONAL CULTURAL LANDSCAPES IN THE SECTION 106 REVIEW PROCESS

Background. Since 1992, when Congress amended the National Historic Preservation Act to clarify that historic properties of religious and cultural significance to Indian tribes and Native Hawaiian organizations (NHOs) may be eligible for the National Register of Historic Places (National Register), the ACHP has seen a steady increase in the number of Section 106 reviews involving such historic properties. Improvements in federal agency consultation with Indian tribes and NHOs and greater recognition of their expertise in identifying historic properties of significance to them have likely contributed to this increase. It is equally likely that there have also been increasing development pressures in places not previously developed. An early 2011 Tribal Summit co-hosted by the ACHP in Palm Springs, California, underscored the fact that the nation's renewed emphasis on the development and transmission of renewable energy, as well as the continued focus on conventional energy, is placing additional pressures on landscapes throughout the country, and particularly in the west.

There have also been an increasing number of Section 106 reviews involving large scale historic properties which have included multiple, linked features that form a cohesive landscape of significance to a tribe or tribes or NHOs. The recognition and understanding of such places can often be a struggle for the non-tribal or non-Native Hawaiian participants in the process, partly due to the lack of experience in addressing such places and partly due to the lack of a vocabulary for identifying and evaluating these properties. Likewise, these expansive landscapes pose challenges for consulting parties in assessing and effectively addressing the impacts of federal actions on them.

There are numerous places of this nature either listed in the National Register or determined eligible for inclusion in the National Register as a result of the Section 106 process, including Zuni Salt Lake in New Mexico, Bighorn Medicine Wheel/Medicine Mountain in Wyoming, Nantucket Sound in Massachusetts, Mauna Kea in Hawaii, and Mount Graham in Arizona. While the formal recognition process addresses some of the questions of significance and extent, the tribes or NHOs to whom they are significant often indicate that these expansive landscapes are part of a larger whole that is often not fully recognized or understood by those considering them through the Section 106 process. For example, although the area included in the Bighorn Medicine Wheel National Historic Landmark has just been expanded to approximately 4,000 acres, an area many times that size is of significance to the tribes. Likewise, the National Park Service acknowledged in its eligibility determination for Nantucket Sound that the recognized area was part of a larger significant landscape. Significant mountains such as Mount Taylor in New Mexico and Mount Graham, too, are often considered to be components of an even broader cultural landscape that retains significance for many tribes.

With the growing recognition that there are large scale historic properties of significance to Indian tribes and NHOs and that such places are increasingly being threatened by development, the ACHP initiated informal discussions with Indian tribes in 2009 about how to address these issues. The ACHP began by advancing the idea that these large scale properties might be best addressed as landscapes and looked to the field of landscape architecture for both a methodology and a vocabulary to apply to properties of

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religious and cultural significance. While these discussions continue, most have agreed that such properties warrant the attention of the preservation community. Pressing Section 106 issues, such as energy development across the country, also underscore the need to address these issues now.

Recognizing the importance of this issue, the ACHP and the National Park Service (NPS) co-hosted a forum on August 10, 2011, to introduce to the ACHP members the range of issues and challenges regarding the identification and treatment of traditional cultural landscapes. While the ACHP staff have for many years been involved these issues, the increasing pressures on tribal and Native Hawaiian cultural resources warranted elevating the dialogue to the policy level within the ACHP and the broader preservation community.

The forum included brief presentations from a federal agency that has experience in considering tribal landscapes through the Section 106 process, as well as representatives from the ACHP, NPS, Indian tribes, and the National Conference of State Historic Preservation Officers who have addressed these issues for many years. These presentations helped to identify the broad range of issues related to the recognition, evaluation, and treatment of such places through the Section 106 process.

In response to the forum, the ACHP members endorsed the *Native American Traditional Cultural Landscapes Action Plan* at the business meeting on November 10, 2011. The plan calls for the ACHP and DOI to promote the recognition and protection of Native American traditional cultural landscapes both within the federal government and the historic preservation community as well as at the state and local levels and to address the challenges of the consideration of Native American traditional cultural andscapes in the Section 106 review process as well as in NEPA reviews. The plan includes specific actions to meet these goals through partnerships with other federal agencies, State Historic Preservation Officers, intertribal organizations, Indian tribes, and Native Hawaiian organizations.

The ACHP's Office of Native American Affairs oversees the action plan in conjunction with staff from the Office of Federal Agency Programs. For more information about the action plan, send an email to landscapes@achp.gov.

March 19, 2012

2.1



Preserving America's Heritage

Native American Traditional Cultural Landscapes and the Section 106 Review Process: Questions and Answers

The consideration of Native American traditional cultural landscapes in Section 106 reviews has challenged federal agencies, Indian tribes, and Native Hawaiian organizations for some time. There has been confusion regarding what makes a place a traditional cultural landscape, whether they can be considered historic properties, and whether the size of such places influences their consideration under the National Historic Preservation Act. While these are all critical issues worthy of much thought and deliberation among federal agencies, Indian tribes, and Native Hawaiian organizations, the Advisory Council on Historic Preservation (ACHP) wishes to advance this dialogue by first addressing common questions about how such historic properties should be considered in the Section 106 process. While we anticipate that further dialogue will be necessary to resolve these and other issues, this Q and A is offered to move the dialogue forward and improve the consideration of these places in the Section 106 process.

This guidance assumes that readers have a basic understanding of the Section 106 review process. For more information, go to www.achp.gov.

Since this is not an exhaustive list of the issues related to Native American traditional cultural landscapes that one might encounter in a Section 106 review process, we would welcome suggestions for additional questions the ACHP should consider addressing. Further, please send us additional information or sources regarding Native American traditional cultural landscapes that you believe would be helpful for others.

1) What is a traditional cultural landscape?

The term "traditional cultural landscape" has not yet been formally defined by the National Park Service, the agency responsible for defining historic properties and maintaining the National Register of Historic Places (NRHP). While there is currently no formal NRHP definition of a traditional cultural landscape, the recent interest in these places has led the National Park Service to launch an initiative regarding updating National Register (NR) Program guidance for identifying, evaluating, and documenting properties that are historically significant as Traditional Cultural Properties (TCPs) and/or Native American landscapes. NPS will be soliciting written comments and suggestions through October 31, 2012, and may be submitted to <u>nr info@nps.gov</u>. Respondents should identify their submission(s) as a "TCP/NAL Comment" in their e-mail "subject" box. Responses submitted via email will be posted on an ongoing basis beginning the first week of June 2012 on the NR website located at: <u>http://www.nps.gov/historv/nr/publications/guidance/TCP comments.htm</u>. Respondents who do not want their names and/or e-mail addresses posted on the NR website along with their comments, or do not want their comments published at all, should clearly indicate that preference in their e-mail.

ADVISORY COUNCIL ON HISTORIC PRESERVATION 1100 Pennsylvania Avenue NW, Suite 803 • Washington, DC 20004 Prone, 202-606-8503 • Fax, 202 605 8647 • achp@achp.gov • www.achp.gov 2) Can traditional cultural landscapes be considered historic properties under Section 106 of the National Historic Preservation Act?

2

Traditional cultural landscapes are considered by the NRHP to be a type of significance rather than a property type. Property types are limited to those specified in the NHPA and the NRHP regulations and include districts, buildings, structures, sites, and objects. Traditional cultural landscapes can and often do embrace one or more of these property types. It is important to note that the size of such properties or the potential challenges in the management of them should not be considerations in the evaluation of their significance. Any questions regarding eligibility for listing in the National Register of Historic Places should be referred to the National Register of Historic Places. Information about the National Register can be found at <u>www.nps.gov/nr</u>. See question 8 for additional resources.

3) How are traditional cultural landscapes identified in the Section 106 review process?

Traditional cultural landscapes, because they are often a property type such as a district or site, are identified in the same manner in the Section 106 process as other types of historic properties of religious and cultural significance to Indian tribes or Native Hawaiian organizations. The regulations at 36 CFR Section 800.4 outline several steps a federal agency must take to identify historic properties. In summary, to determine the scope of identification efforts, a federal agency, in consultation with the State Historic Preservation Officers (SHPO)/Tribal Historic Preservation Officer (THPO), must:

- 1. Determine and document the area of potential effect for its undertaking;
- 2. Review existing information: and,

 Seek information from consulting parties including Indian tribes or Native Hawaiian organizations.

Based on the information gathered through these efforts, the federal agency, in consultation with the SHPO and any Indian tribe or Native Hawaiian organization that attaches religious and cultural significance to historic properties that may be affected by the undertaking, develops and implements a strategy to identify historic properties within the area of potential effects. Identification efforts may include background research, oral history interviews, scientific analysis, and field investigations.

A federal agency's consultation with Indian tribes or Native Hawaiian organizations is intended to ensure historic properties that may be of religious and cultural significance to them are both identified and appropriately considered in the Section 106 review process. In fact, the Section 106 regulations at Section 800.4(c)(1) require federal agencies to acknowledge the special expertise of Indian tribes and Native Hawaiian organizations in assessing the eligibility of historic properties that may be of religious and eultural significance to them.

4) Why is it important for federal agencies to consult with Indian tribes or Native Hawaiian organizations regarding traditional cultural landscapes?

Many assume that archaeologists can identify, through archaeological surveys, those properties that are of significance to Indian tribes or Native Hawaiian organizations. However, unless an archaeologist has been specifically authorized or permitted by an Indian tribe or Native Hawaiian organization to speak on its behalf, or has been determined by that entity to be qualified to conduct such surveys, it should not be assumed that the archaeologist possesses the appropriate expertise to determine what properties are or are not of religious and cultural significance to an Indian tribe or Native Hawaiian organization. The appropriate individual to make such a determination is the representative designated by the tribe or Native Hawaiian organization for this purpose. Efforts to identify these types of properties may include site visits and interviews with tribal elders or cultural experts.

Additionally, unless such traditional cultural landscapes have already been publicly identified, frequently the only entities aware of these landscapes are either an Indian tribe or a Native Hawaiian organization. Since such places are often comprised of related locations across some distance and for which the connections may not be obvious to those outside of the culture that holds them significant, it stands to reason that the most appropriate entity to inform such identifications and evaluations are either Indian tribes or Native Hawaiian organizations.

3

5) How can issues of confidentiality be addressed when traditional cultural landscapes may be affected by an undertaking?

Many Indian tribes or Native Hawaiian organizations have belief systems that require the location and even the existence of properties of traditional religious and cultural significance, including traditional cultural landscapes, not be divulged. Therefore, it is vital that the federal agency work with tribes or Native Hawaiian organizations to identify sensitive locations while respecting desires to withhold specific information about such sites. The Section 106 regulations at 36 CFR Section 800.4(b)(1) state, in part, that "[t]he agency official shall take into account any confidentiality concerns raised by Indian tribes or Native Hawaiian organizations during the identification process."

The NHPA and the Section 106 regulations also provide a vehicle for protecting information that an Indian tribe or Native Hawaiian organization has disclosed for the purpose of identification and evaluation of historic properties in the Section 106 process. Section 304 of the NHPA (16 U.S.C. 470w-3(a)) and the regulations at 36 CFR Section 800.11(c)(1) provide that the head of an agency, after consultation with the Secretary of the Interior, "shall withhold from disclosure to the public" information about the location, character, or ownership of a historic property when the agency head determines that the disclosure of such information may cause a significant invasion of privacy; risk harm to the historic property, or, impede the use of a traditional religious site by practitioners. After such a determination, the Secretary of the Interior, in consultation with the relevant agency, will determine who, if anyone, may have access to the information for purposes of the NHPA. When the information in question has been developed in the course of an agency's compliance with Section 106, the Secretary shall consult with the ACHP in reaching determinations on the withholding and release of information.

One important caveat: the Section 304 confidentiality provisions only apply to properties that are listed or eligible for listing in the NRHP. Thus, it is possible that information disclosed prior to an eligibility determination may not be protected. Therefore, the ACHP suggests that agencies and Indian tribes or Native Hawaiian organizations contact NR staff for guidance regarding the amount of information and detail needed to make a determination of eligibility when such information may be at risk of disclosure. It may be possible for a tribe or Native Hawaiian organization to share just enough information for the agency to identify the existence of a site and make a determination of eligibility without compromising the site or the beliefs associated with it. Such information might include general aspects of the historic property's attributes, i.e., that an important yearly ceremony takes place in a certain general location, that quiet is required in the area, that visual impacts will impede the ability to properly perform a required ritual, or that important ceremonial harvesting activities must occur at a particular place, time, or under certain conditions, as well as basic information about the relationship of the property to the project area. However, if there are questions about the adequacy of such information in making determinations of eligibility, the NR staff should be consulted.

Issues of confidentiality and sensitivity of information require flexibility and cooperation among the consulting parties. There may be situations where a tribe or Native Hawaiian organization is only willing to share information with the federal agency and not with the other non-federal consulting parties. This can challenge the traditional Section 106 process where the federal agency also consults with the SHPO to determine eligibility of properties. In such cases, it is recommended that the agency promptly talk with the ACHP or the NR staff about how to resolve such a situation.

4

6) What types of features may be part of a traditional cultural landscape?

There is no single defining feature or set of features that comprise a traditional cultural landscape. Such places could be comprised of natural features such as mountains, caves, plateaus, and outcroppings; water courses and bodies such as rivers, streams, lakes, bays, and inlets; views and view sheds from them, including the overlook or similar locations ; vegetation that contributes to its significance; and, manmade features including archaeological sites; buildings and structures; circulation features such as trails; land use patterns; evidence of cultural traditions, such as petroglyphs and evidence of burial practices; and markers or monuments, such as cairns, sleeping circles, and geoglyphs.

7) What is the role of the Advisory Council on Historic Preservation in the consideration and protection of traditional cultural landscapes in the Section 106 process?

A federal agency must afford the ACHP an opportunity to participate in consultation regarding the resolution of adverse effects to any historic property, including a traditional cultural landscape, if the property is listed or determined eligible for listing on the NRHP. The ACHP can also offer its advisory opinion on the substance of any finding, determination, or decision regarding the adequacy of an agency's compliance with the Section 106 regulations at any time at the request of any individual, agency, or organization. The ACHP cannot, however, comment on the eligibility of a property for listing on the NRHP. Therefore, an Indian tribe or Native Hawaiian organization can request that the ACHP review an agency's finding, determination, or decision regarding the potential effects of its undertaking and the resolution of effects to historic properties of significance to them.

8) Where can I get more information on cultural landscapes in general?

The U.S. National Park Service (NPS) provides additional information on cultural landscapes at:

http://www.nps.gov/history/hps/hli/landscape_guidelines/index.htm http://www.mps.gov/history/hps/hli/landscape_guidelines/using.htm

NPS also provides additional information on traditional cultural properties, which can also be landscapes at:

http://www.nps.gov/nr/publications/bulletins/pdfs/nrb38.pdf

International sources of information:

http://unesdoc.unesco.org/images/0013/001331/133121e.pdf http://www.international.icomos.org/centre_documentation/bib/culturallandscapes.pdf http://whc.unesco.org/en/news/588

Issued on July 11, 2012

ATTACHMENT 3

KAMALA D. HARRIS Attorney General



State of California DEPARTMENT OF JUSTICE

Environmental Justice at the Local and Regional Level Legal Background

Cities, counties, and other local governmental entities have an important role to play in ensuring environmental justice for all of California's residents. Under state law:

"[E]nvironmental justice" means the fair treatment of people of all races, cultures, and incomes with respect to the development, adoption, implementation, and enforcement of environmental laws, regulations, and policies.

(Gov. Code, § 65040.12, subd. (e).) Fairness in this context means that the *benefits* of a healthy environment should be available to everyone, and the *burdens* of pollution should not be focused on sensitive populations or on communities that already are experiencing its adverse effects.

Many local governments recognize the advantages of environmental justice; these include healthier children, fewer school days lost to illness and asthma, a more productive workforce, and a cleaner and more sustainable environment. Environmental justice cannot be achieved, however, simply by adopting generalized policies and goals. Instead, environmental justice requires an ongoing commitment to identifying existing and potential problems, and to finding and applying solutions, both in approving specific projects and planning for future development.

There are a number of state laws and programs relating to environmental justice. This document explains two sources of environmental justice-related responsibilities for local governments, which are contained in the Government Code and in the California Environmental Quality Act (CEQA).

Government Code

Government Code section 11135, subdivision (a) provides in relevant part:

No person in the State of California shall, on the basis of race, national origin, ethnic group identification, religion, age, sex, sexual orientation, color, or disability, be unlawfully denied full and equal access to the benefits of, or be unlawfully subjected to discrimination under, any program or activity that is conducted, operated, or administered by the state or by any state agency, is funded directly by the state, or receives any financial assistance from the state....

While this provision does not include the words "environmental justice," in certain circumstances, it can require local agencies to undertake the same consideration of fairness in the distribution of environmental benefits and burdens discussed above. Where, for example, a general plan update is funded by or receives financial assistance from the state or a state agency, the local government should take special care to ensure that the plan's goals, objectives, policies

and implementation measures (a) foster equal access to a clean environment and public health benefits (such as parks, sidewalks, and public transportation); and (b) do not result in the unmitigated concentration of polluting activities near communities that fall into the categories defined in Government Code section 11135.¹ In addition, in formulating its public outreach for the general plan update, the local agency should evaluate whether regulations governing equal "opportunity to participate" and requiring "alternative communication services" (*e.g.*, translations) apply. (See Cal. Code Regs., tit. 22, §§ 98101, 98211.)

Government Code section 11136 provides for an administrative hearing by a state agency to decide whether a violation of Government Code section 11135 has occurred. If the state agency determines that the local government has violated the statute, it is required to take action to "curtail" state funding in whole or in part to the local agency. (Gov. Code, § 11137.) In addition, a civil action may be brought in state court to enforce section 11135. (Gov. Code, § 11139.)

California Environmental Quality Act (CEQA)

Under CEQA, "public agencies should not approve projects as proposed if there are feasible alternatives or feasible mitigation measures available which would substantially lessen the significant environmental effects of such projects" (Pub. Res. Code, § 21002.) Human beings are an integral part of the "environment." An agency is required to find that a "project may have a 'significant effect on the environment" if, among other things, "[t]he environmental effects of a project will cause substantial adverse effects on human beings, either directly or indirectly[.]" (Pub. Res. Code, § 21083, subd. (b)(3); see also CEQA Guidelines,² § 15126.2 [noting that a project may cause a significant effect by bringing people to hazards].)

CEQA does not use the terms "fair treatment" or "environmental justice." Rather, CEQA centers on whether a project may have a significant effect on the physical environment. Still, as set out below, by following well-established CEQA principles, local governments can further environmental justice.

CEQA's Purposes

The importance of a healthy environment for all of California's residents is reflected in CEQA's purposes. In passing CEQA, the Legislature determined:

- "The maintenance of a quality environment for the people of this state now and in the future is a matter of statewide concern." (Pub. Res. Code, § 21000, subd. (a).)
- We must "identify any critical thresholds for the health and safety of the people of the state and take all coordinated actions necessary to prevent such thresholds from being reached." (*Id.* at subd. (d).)

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¹ To support a finding that such concentration will not occur, the local government likely will need to identity candidate communities and assess their current burdens.
² The CEQA Guidelines (Cal. Code Regs., tit. 14, §§ 15000, et seq.) are available at http://ceres.ca.gov/ceqa/.

- "[M]ajor consideration [must be] given to preventing environmental damage, while providing a decent home and satisfying living environment for every Californian." (Id. at subd. (g).)
- We must "[t]ake all action necessary to provide the people of this state with clean air and water, enjoyment of aesthetic, natural, scenic, and historic environmental qualities, and freedom from excessive noise." (Pub. Res. Code, § 21001, subd. (b).)

Specific provisions of CEQA and its Guidelines require that local lead agencies consider how the environmental and public health burdens of a project might specially affect certain communities. Several examples follow.

Environmental Setting and Cumulative Impacts

There are a number of different types of projects that have the potential to cause physical impacts to low-income communities and communities of color. One example is a project that will emit pollution. Where a project will cause pollution, the relevant question under CEQA is whether the environmental effect of the pollution is significant. In making this determination, two long-standing CEQA considerations that may relate to environmental justice are relevant – setting and cumulative impacts.

It is well established that "[t]he significance of an activity depends upon the setting." (*Kings County Farm Bureau v, City of Hanford* (1990) 221 Cal.App.3d 692, 718 [citing CEQA Guidelines, § 15064, subd. (b)]; see also *id.* at 721; CEQA Guidelines, § 15300.2, subd. (a) [noting that availability of listed CEQA exceptions "are qualified by consideration of where the project is to be located – a project that is ordinarily insignificant in its impact on the environment may in a particularly sensitive environment be significant."]) For example, a proposed project's particulate emissions might not be significant if the project will be located far from populated areas, but may be significant if the project will be located in the air shed of a community whose residents may be particularly sensitive to this type of pollution, or already are experiencing higher-than-average asthma rates. A lead agency therefore should take special care to determine whether the project will expose "sensitive receptors" to pollution (see, e.g., CEQA Guidelines, App. G); if it will, the impacts of that pollution are more likely to be significant.³

In addition, CEQA requires a lead agency to consider whether a project's effects, while they might appear limited on their own, are "cumulatively considerable" and therefore significant. (Pub. Res. Code, § 21083, subd. (b)(3).) "[C]umulatively considerable' means that the incremental effects of an individual project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future

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⁵ "[A] number of studies have reported increased sensitivity to pollution, for communities with low income levels, low education levels, and other biological and social factors. This combination of multiple pollutants and increased sensitivity in these communities can result in a higher cumulative pollution impact." Office of Environmental Health Hazard Assessment, *Cumulative Impacts: Building a Scientific Foundation* (Dec, 2010), Exec. Summary, p. ix, available at http://oehha.ca.gov/ej/cipa123110.html.

projects." (*Id.*) This requires a local lead agency to determine whether pollution from a proposed project will have significant effects on any nearby communities, when considered together with any pollution burdens those communities already are bearing, or may bear from probable future projects. Accordingly, the fact that an area already is polluted makes it *more likely* that any additional, unmitigated pollution will be significant. Where there already is a high pollution burden on a community, the "relevant question" is "whether any additional amount" of pollution "should be considered significant in light of the serious nature" of the existing problem. (*Hanford, supra*, 221 Cal.App.3d at 661; see also *Los Angeles Unified School Dist. v. City of Los Angeles* (1997) 58 Cal.App.4th 1019, 1025 [holding that "the relevant issue ... is not the relative amount of traffic noise resulting from the project when compared to existing traffic noise, but whether any additional amount of traffic noise should be considered significant in light of the serious nature of the traffic noise problem already existing around the schools."])

The Role of Social and Economic Impacts Under CEQA

Although CEQA focuses on impacts to the physical environment, economic and social effects may be relevant in determining significance under CEQA in two ways. (See CEQA Guidelines, §§ 15064, subd. (e), 15131.) First, as the CEQA Guidelines note, social or economic impacts may lead to physical changes to the environment that are significant. (*Id.* at §§ 15064, subd. (e), 15131, subd. (a).) To illustrate, if a proposed development project may cause economic harm to a community's existing businesses, and if that could in turn "result in business closures and physical deterioration" of that community, then the agency "should consider these problems to the extent that potential is demonstrated to be an indirect environmental effect of the proposed project." (See *Citizens for Quality Growth v. City of Mt. Shasta* (1988) 198 Cal.App.3d 433, 446.)

Second, the economic and social effects of a physical change to the environment may be considered in determining whether that physical change is significant. (*Id.* at §§ 15064, subd. (e), 15131, subd. (b).) The CEQA Guidelines illustrate: "For example, if the construction of a new freeway or rail line divides an existing community, the construction would be the physical change, but the social effect on the community would be the basis for determining that the effect would be significant." (*Id.* at § 15131, subd. (b); see also *id.* at § 15382 ["A social or economic change related to a physical change may be considered in determining whether the physical change is significant."])

Alternatives and Mitigation

CEQA's "substantive mandate" prohibits agencies from approving projects with significant environmental effects if there are feasible alternatives or mitigation measures that would substantially lessen or avoid those effects. (Mountain Lion Foundation v. Fish and Game Commission (1997) 16 Cal.4th 105, 134.) Where a local agency has determined that a project may cause significant impacts to a particular community or sensitive subgroup, the alternative and mitigation analyses should address ways to reduce or eliminate the project's impacts to that community or subgroup. (See CEQA Guidelines, § 15041, subd. (a) [noting need for "nexus" between required changes and project's impacts].)

Depending on the circumstances of the project, the local agency may be required to consider alternative project locations (see Laurel Heights Improvement Assn. v. Regents of University of

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California (1988) 47 Cal.3d 376, 404) or alternative project designs (see Citizens of Goleta Valley v. Board of Supervisors (1988) 197 Cal.App.3d 1167, 1183) that could reduce or eliminate the effects of the project on the affected community.

The lead agency should discuss and develop mitigation in a process that is accessible to the public and the affected community. "Fundamentally, the development of mitigation measures, as envisioned by CEQA, is not meant to be a bilateral negotiation between a project proponent and the lead agency after project approval; but rather, an open process that also involves other interested agencies and the public." (*Communities for a Better Environment v. City of Richmond* (2010) 184 Cal.App.4th 70, 93.) Further, "[m]itigation measures must be fully enforceable through permit conditions, agreements, or other legally binding instruments." (CEQA Guidelines, § 15126.4, subd. (a)(2).)

As part of the enforcement process, "[i]n order to ensure that the mitigation measures and project revisions identified in the EIR or negative declaration are implemented," the local agency must also adopt a program for mitigation monitoring or reporting. (CEQA Guidelines, § 15097, subd. (a).) "The purpose of these [monitoring and reporting] requirements is to ensure that feasible mitigation measures will actually be implemented as a condition of development, and not merely adopted and then neglected or disregarded." (*Federation of Hillside and Canyon Assns. v. City of Los Angeles* (2000) 83 Cal.App.4th 1252, 1261.) Where a local agency adopts a monitoring or reporting program related to the mitigation of impacts to a particular community or sensitive subgroup, its monitoring and reporting necessarily should focus on data from that community or subgroup.

Transparency in Statements of Overriding Consideration

Under CEQA, a local government is charged with the important task of "determining whether and how a project should be approved," and must exercise its own best judgment to "balance a variety of public objectives, including economic, environmental, and social factors and in particular the goal of providing a decent home and satisfying living environment for every Californian." (CEQA Guidelines, § 15021, subd. (d).) A local agency has discretion to approve a project even where, after application of all feasible mitigation, the project will have unavoidable adverse environmental impacts. (*Id.* at § 15093.) When the agency does so, however, it must be clear and transparent about the balance it has struck.

To satisfy CEQA's public information and informed decision making purposes, in making a statement of overriding considerations, the agency should clearly state not only the "specific economic, legal, social, technological, or other benefits, including region-wide or statewide environmental benefits" that, in its view, warrant approval of the project, but also the project's "unavoidable adverse environmental effects[.]" (*Id.* at subd. (a).) If, for example, the benefits of the project will be enjoyed widely, but the environmental burdens of a project will be felt particularly by the neighboring communities, this should be set out plainly in the statement of overriding considerations.

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The Attorney General's Office appreciates the leadership role that local governments have played, and will continue to play, in ensuring that environmental justice is achieved for all of California's residents. Additional information about environmental justice may be found on the Attorney General's website at http://oag.ca.gov/environment.

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ATTACHMENT 4 1/17/13 Office of Governor Edmund G. Brown Jr. - Newsroom umber Wert 1 - Save our Water 1 - Energy Djourous Listonima e of Govern Q) Edmund G. Brown Jr. Search NEWSROOM HOME ABOUT MULTIMEDIA CONTACT **APPOINTMENTS** ISSUES Latest News EXECUTIVE ORDER B-10-11 **Governor Brown Announces Appointments** 9-19-2011 01-17-2013 WHEREAS California is home to many Native American Tribes with whom the State of California has an important relationship, as set forth and affirmed in state and federal law, and WHEREAS the State of California recognizes and reaffirms the inherent right of these Tribes to exercise sovereign authority over their members and territory; and Governor Brown to Attend University of California Regents Meeting Tomorrow 01-18-2013 WHEREAS the State and the Tribes are better able to adopt and implement mutually-beneficial policies when they cooperate and engage in meaningful consultation; and WHEREAS the State is committed to strengthening and sustaining effective government to government relationships between the State and the Tribes by identifying areas of mutual concern and working to **Governor Brown Announces Appointments** 01-16-2013 develop partnerships and consensus; and WHEREAS tribal people, as both citizens of California and their respective sovereign nations, have a shared interest in creating increased opportunities for all California citizens. Governor Brown Issues Statement on Death of Galt Police Department Officer 01-16-2013 NOW, THEREFORE, I, EDMUND G, BROWN JR., Governor of the State of California, by virtue of the power vested in me by the Constitution and the statutes of the State of California, do whee difference of the statutes of the State of California, do hereby issue the following orders to become effective immediately: IT IS ORDERED that the position of Governor's Tribal Advisor shall exist within the Office of the Governor, Governor Brown to Attend University of California Regents Meeting Tomorrow 01-15-IT IS FURTHER ORDERED that the Governor's Tribal Advisor shall oversee and implement effective government-to-government consultation between my Administration and Tribes on policies that affect California tribal communifies, and shall: Serve as a direct link between the Tribes and the Governor of the State of California.
 Facilitate communication and consultations between the Tribes, the Office of the Governor, state agencies, and agency thick lisisons
 Review state legislation and regulations affecting Tribes and make recommendations on these Governor Brown Announces Appointments 01-15-2013 proposals IT IS FUTHER ORDERED that the Office of the Governor shall meet regularly with the elected officials of California Indian Tribes to discuss state policies that may affect tribal communities. Governor Brown Issues Proclamation Declaring Dr. Martin Luther King Jr. Day 01-IT IS FURTHER ORDERED that it is the policy of this Administration that every state agency and 15-2013 department subject to my executive control shall encourage communication and consultation with California Indian Tribes. Agencies and departments shall permit elected officials and other representatives of tribal governments to provide meaningful input into the development of legislation, regulations, rules, and policies on matters that may affect tribal communities. Governor Brown Announces Appointment 01-For purposes of this Order, the terms "Tribe," "California Indian Tribe", and "tribal" include all Federally Recognized Tribes and other California Native Americans. 15-2013 This Executive Order is not intended to create, and does not create, any rights or benefits, whether substantive or procedural, or enforceable at law or in equity, against the State of California or its agencies, departments, entitles, officers, employees, or any other person. Governor Brown to Speak at San Jose State University Tomorrow 01-14-2013 I FURTHER DIRECT that as soon as hereafter possible, this Order shall be filed with the Office of the Secretary of State and that it be given widespread publicity and notice. IN WITNESS WHEREOF I have bereunto set m Governor Brown Announces Appointments 01-14-2013 hand and caused the Great Seal of the State of California to be affixed this 19th day of September 2011 EDMUND G. BROWN JR Governor of California ATTEST DEBRA BOWEN Secretary of State ### gov.ca.gov/news.php?id=17223

ATTACHMENT 5

State of California California Environmental Protection Agency Cal/EPA-019 (New 05/18/05)

CAL/EPA POLICY MEMORANDUM	NUMBER: CIT-09-01
SUBJECT:	DATE ISSUED:
CAL/EPA POLICY FOR WORKING WITH CALIFORNIA INDIAN	10/19/09
TRIBES	EXPIRES:
	UNTIL RESCINDED
REFERENCES:	CATEGORY:
	CALIFORNIA INDIAN
	TRIBES

STATEMENT OF PURPOSE

The mission of the California Environmental Protection Agency (Cal/EPA) is to restore, protect and enhance the environment, to ensure public health, environmental quality and economic vitality.

This policy provides a framework for Cal/EPA and its Boards, Departments and Offices (BDOs) to improve and maintain communication and collaboration between Cal/EPA, its BDOs, and California Indian Tribes to further the mission of Cal/EPA.

This policy also provides a commitment to educate appropriate staff, to become informed about the cultural setting of California Indians, their environmental issues and tribal histories, for the purpose of improving Cal/EPA's understanding of and connection to California Indian Tribes.

DEFINITIONS

For purposes of this policy, the following terms shall have the meanings defined below:

California Indian Tribe: A federally-recognized California Indian Tribe (as listed on the Federal Register). With respect to cultural resources, a federally-recognized Indian Tribe and a non-federally recognized California Native American Tribe that is on the California Tribal Consultation List maintained by the Native American Heritage Commission (NAHC).

Tribal Sovereignty: Refers to the unique political status of federally-recognized Indian tribes. Federally-recognized Indian tribes exercise certain jurisdiction and governmental powers over activities and Tribal members within its territory. Some of these powers are inherent, some have been delegated by the United States, and all are subject to limitations by the United States. Existing limitations are defined through acts of Congress, treaties, and federal court decisions.

Indian Country [or Tribal Lands]: Have the same meaning as the term "Indian country" in title 18 United States Code section 1151 (see Statutory References).

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Collaboration: Refers to California Indian Tribes and Cal/EPA and its BDOs communicating and working together to resolve respective issues of concern and/or mutual interest. This exchange is conducted by respecting the protocols each respective tribe has established for contacting its governing body or its delegated official. This exchange is also conducted through the Governor's appointed Agency Secretary, BDO Chairperson or Executive Director, or their delegated representatives.

BACKGROUND

The Office of the Secretary of Cal/EPA oversees and coordinates the activities of the following six BDOs: the Air Resources Board; the Department of Pesticide Regulation; the Department of Toxic Substances Control; the Integrated Waste Management Board; the Office of Environmental Health Hazard Assessment; and the State Water Resources Control Board.

Cal/EPA and its BDOs understand that protecting California's environment is a major undertaking that involves not only communicating and collaborating with federal and state agencies, local governments, and non-governmental organizations but also communicating and collaborating with California Indian Tribes.

California's environmental regulatory system is a complex framework, with training, compliance assistance, inspection, permitting and enforcement activities carried out by a number of federal, state and local government agencies. In order to fulfill Cal/EPA's mission, it is essential to understand the unique history of California Indian Tribes. By learning about tribal history, environmental issues, and cultural places, we can begin to put into context how the laws, programs and processes that Cal/EPA and its BDO's administer relate to California Indian Tribes.

California has the second largest number of federally-recognized¹ tribes and, according to the 2000 U.S. Census, the largest Native American population in the United States. In California, there are 109 tribes that are recognized by the federal government. There are also indigenous communities which, although they existed prior to the formation of the United States, are not currently recognized as sovereigns by the federal government. At this time, there are 89 non-federally recognized California Indian Tribes of which 72 are engaged in seeking federal recognition. All California Indian Tribes, whether officially recognized by the federal government or not, may have environmental, economic, and public health concerns that are different from the concerns of other Tribes or from the general public. These differences may exist due to subsistence lifestyles, unique cultural beliefs and traditions, and/or specific connections to areas of California that are their ancestral homelands.

Cal/EPA recognizes that actions outside Indian Country may affect the environment, public health or economic well being of California Indian Tribes and its residents, just as the actions within Indian Country may affect the environment, public health or the economy outside those

¹ Federal recognition refers to acknowledgement by the federal government that a tribal government and tribal members constitute a triba with a government-to-government relationship with the United States, and eligibility for the programs, services, and other relationships established for the United States for Indians, because of their status as Indians. (See 25 C.F.R. § 83.2.)

borders. Cal/EPA also recognizes that federally-recognized tribes may enact tribal civil regulations that affect natural resources, public health and environmental protection, and that they may assume treatment in the same manner as a state under certain federal environmental laws such as the Clean Water Act and the Clean Air Act.

In addition to working with other federal, state, local governments, and non-governmental organizations, Cal/EPA has an interest in working in collaboration with California Indian Tribes to pursue its mission.

GUIDING PRINCIPLES

To improve communication and collaboration, Cal/EPA and its BDOs should, to the extent feasible and legally allowable, be guided by the following principles and best practices. Nothing in this policy shall be construed to prevent Cal/EPA or its BDOs from taking timely action to fulfill their legal obligations to protect the public health and safety, or the environment; or to carry out federally-mandated duties under delegated federal programs. Cal/EPA and its BDOs shall:

- 1. Acknowledge and respect tribal sovereignty, as defined in this policy.
- Understand that federally-recognized tribes have a unique relationship with the federal government.
- Understand the importance of communication and collaboration with California Indian Tribes.
- Communicate with California Indian Tribes in a manner that is respectful and considerate.
- Seek to identify and include federally-recognized California Indian Tribes in decision-making processes that affect tribal lands.
- Seek to identify and include federally-recognized and non-federally recognized California Indian Tribes in decision-making processes that affect cultural resources.
- Recognize and respect the cultural resources of California Indian Tribes, whether or not on tribal lands.
- Where appropriate, consider the potential impact of our activities or programs on tribal lands and cultural resources.
- Encourage collaborative efforts between the California Indian Tribes and federal, state, and local government entities to resolve issues of mutual concern.
 - Promote efforts of California Indian Tribes to develop and expand environmental programs, and to achieve compliance with environmental laws.

ACTION PLAN

Cal/EPA and its BDOs will work together to implement the following actions to achieve its guiding principles, to the extent legal and practicable:

- Establish a Tribal Stakeholder Group (with rotating membership) to discuss environmental issues and projects involving California Indian Tribes. The Tribal Stakeholder Group will include representatives from federally-recognized and nonfederally recognized California Indian Tribes. The Tribal Stakeholder Group will meet with the Secretary of Cal/EPA and the heads of each BDO, or their designees, at least once each calendar year.
- Designate a tribal liaison within Cal/EPA and within each BDO as a central point of contact for California Indian Tribes.
- Develop a communication protocol that will be followed by Cal/EPA and its BDOs, and that will promote appropriate collaboration with California Indian Tribes.
- 4. Establish a process to disseminate public documents, notices and information to California Indian Tribes, and make these documents readily accessible to tribes that may not have electronic capabilities.
- Establish a process to conduct meetings, outreach and workshops at times and in locations that facilitate tribal participation.
- Provide training to appropriate executive staff, managers, supervisors, and employees on how to implement this policy.
- Establish a mechanism to obtain relevant and available information, studies and data from California Indian Tribes when conducting research or environmental studies that relate to, or could impact, tribal lands or cultural resources.
- Assess eligibility of California Indian Tribes for Cal/EPA financial assistance programs such as grants, loans and scholarships.
- Upon request by a California Indian Tribe, provide training and technical assistance, and share data, where appropriate.
- Develop Memorandums of Understanding (MOUs), Memorandums of Agreement (MOAs), or other cooperative agreements with California Indian Tribes on specific projects or subject matters, as appropriate.

DISCLAIMER

This policy is intended solely for the guidance of employees of Cal/EPA and its BDOs and does not extend to other governmental entities. This policy is not intended, and should not be

construed, to define the legal relationship between Cal/EPA or its BDOs and the California Indian Tribes. This policy is not a regulation, and it does not create, expand, limit, waive, or interpret any legal rights or obligations.

STATUTORY REFERENCES

Federal

<u>Title 18 United States Code section 1151</u>: "Except as otherwise provided in sections 1154 and 1156 of this title, the term 'Indian country', as used in this chapter, means (a) all land within the limits of any Indian reservation under the jurisdiction of the United States Government, notwithstanding the issuance of any patent, and, including rights-of-way running through the reservation, (b) all dependent Indian communities within the borders of the United States whether within the original or subsequently acquired territory thereof, and whether within or without the limits of a state, and (c) all Indian allotments, the Indian titles to which have not been extinguished, including rights-of-way running through the same."

State

Government Code section 11019.8: "All state agencies, as defined in Government Code section 11000, are encouraged and authorized to cooperate with federally recognized California Indian tribes on matters of economic development and improvement for the tribes."

<u>Government Code section 65040.12(e)</u>: Provides a definition of environmental justice with regard to the Office of Planning and Research as the coordinating agency for environmental justice as: "the fair treatment of people of all races, cultures, and incomes with respect to the development, adoption, implementation, and enforcement of environmental laws, regulations, and policies."

<u>Public Resources Code section 5024.1</u>; Establishes a California Register of Historical Resources as an authoritative guide in California to be used by state and local agencies, private groups, and citizens to identify the state's historical resources and to indicate what properties are to be protected, to the extent prudent and feasible, from substantial adverse change.

<u>Public Resources Code section 5097.9 et seq.</u>: "Non-Interference With Native American Religious Expression: No public agency, and no private party using or occupying public property, or operating on public property, under a public license, permit, grant, lease, or contract made on or after July 1, 1977, shall in any manner whatsoever interfere with the free expression or exercise of Native American religion as provided in the United States Constitution and the California Constitution; nor shall any such agency or party cause severe or irreparable damage to any Native American sanctified cemetery, place of worship, religious or ceremonial site, or sacred shrine located on public property, except on a clear and convincing showing that the public interest and necessity so require." This chapter establishes the Native American Heritage Commission, and specifies its powers and duties.

<u>Public Resources Code section 21000 et seq.</u>: California Environmental Quality Act of 1970 (CEQA) declares that it is state policy to "take all action necessary to provide the people of this state with...historic environmental qualities." It further states that public or private projects financed or approved by the state are subject to environmental review by the state. All such projects, unless entitled to an exemption, may proceed only after this requirement has been satisfied. CEQA requires detailed studies that analyze the environmental effects of a proposed project. In the event that a project is determined to have a potential significant environmental effect, the act requires that alternative plans and mitigation measures be considered. CEQA includes historic and archaeological resources as integral features of the environment

Public Resources Code section 71110: "The California Environmental Protection Agency, in designing its mission for programs, policies, and standards, shall do all of the following: (a) Conduct its programs, policies, and activities that substantially affect human health or the environment in a manner that ensures the fair treatment of people of all races, cultures, and income levels, including minority populations and low-income populations of the state. (b) Promote enforcement of all health and environmental statutes within its jurisdiction in a manner that ensures the fair treatment of people of all races, cultures, and income levels, including minority populations and low-income populations in the state. (c) Ensure greater public participation in the agency's development, adoption, and implementation of environmental regulations and policies. (d) Improve research and data collection for programs within the agency relating to the health of, and environment of, people of all races, cultures, and income levels, including minority populations and low-income populations of the state. (e) Coordinate its efforts and share information with the United States Environmental Protection Agency. (f) Identify differential patterns of consumption of natural resources among people of different socioeconomic classifications for programs within the agency."

Questions

Please direct all questions regarding this policy to Cynthia Gomez, the Assistant Secretary of Environmental Justice and Tribal Governmental Affairs, at <u>cgomez@calepa.ca.gov</u> or (916) 323-2559.

_____(Original Signed By)_____ LINDA S. ADAMS Secretary for Environmental Protection

ATTACHMENT 6

Robert T. Howard Vice President

Gas Transmission and Distribution



Electric Company®

July 30, 2009

Mr. Maziar Movassaghi, Director California Department of Toxic Substances Control 1001 I Street Sacramento, CA 95814

Re: PG&E Review of the Topock Project Administrative Draft EIR

Dear Maziar:

As you and I recently discussed, the Topock Remediation Project is a top priority for PG&E, and, as such, we have committed significant resources to assisting DTSC with the preparation of the Corrective Measures Study/ Feasibility Study for cleanup of groundwater and soil contamination at the Topock site. A large part of that effort has involved providing information, data and expert reports to DTSC to facilitate its preparation of the Project's Environmental Impact Report, The EIR is a central document to the Topock Remediation Project. Bluntly put, without a strong and accurate EIR, the Project cannot move forward.

The administrative draft of the EIR (the precursor to the Draft EIR, which DTSC anticipates publishing for public review sometime in early spring 2010) has recently been completed. PG&E has requested that it be allowed access to review the administrative draft for legal adequacy, but requests have been refused. There are several key reasons why providing us with access would greatly benefit the Project. I also understand that providing PG&E such access is entirely consistent with CEQA's rules concerning the preparation and publication of EIRs.

PG&E's review of the administrative draft will help ensure the technical accuracy of the EIR prior to its publication. For example, PG&E can confirm and ensure that the Remediation Project proposed is accurately described and evaluated. Its review will also assist DTSC with determining the legal sufficiency of the document. Once published, if the Draft EIR does not contain the information that is legally required to include, DSTC could be required to recirculate the Draft EIR, a process that could delay the certification of the Final EIR, and thus the Project, by several months, or perhaps as much as a year. PG&E wants to do everything possible to prevent this significant delay from occurring.

Also, as you know, the Topock Project is also subject to review by a variety of federal agencies, which will include a Section 106 consultation on cultural resource issues. As a practical matter, conclusions in the Draft EIR may be argued to set a precedent regarding how certain cultural resource issues are handled and evaluated by federal agencies. This adds further urgency to allowing PG&E to consult with DTSC regarding administrative draft's approach to cultural resources. Once the Draft EIR is published, DTSC will not be able to "put the cat back in the bag" so to speak. DTSC, PG&E, and the Department of the Interior/Bureau of Land Management will be forced, to a great extent, to live with the consequences of the Draft EIR's statements and conclusions, whether or not they are correct or whether or not a different conclusion might be more legally defensible.

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Mr. Maziar Movassaghi July 30, 2009 Page 2

Having made this request for access, let me assure you that CEQA permits a project applicant to review an administrative draft EIR. In fact, CEQA authorizes applicant involvement in preparing an EIR, so long as the lead agency independently reviews and analyzes an EIR to ensure that it reflects the agency's independent judgment. In fact, it is even permissible for a project applicant to *prepare* an EIR, as long as the EIR is independently reviewed by the agency. here, PG&E is seeking a much more limited involvement. PG&E seeks only to review the administrative draft EIR, and to meet with DTSC's EIR consultant to discuss the approach to issues in the EIR which are almost certain to be litigated.

We are aware that DTSC is already allowing third party stakeholders to review certain limited parts of the administrative draft. We note that it is highly unusual to allow third party stakeholders, and particularly third party stakeholders who are potential adverse litigants, to review portions of an EIR, without allowing the applicant who is funding the EIR, and who will be defending the EIR, to also review it.

Further, because PG&E and DTSC will be defending any action challenging the Remediation Project together, DTSC and its legal counsel can share documents or information relating to the administrative draft with PG&E and its legal counsel, without waiving any legal privileges which may attach to such documents or information.

I am hopeful that you will allow PG&E to have the requested access to the administrative draft EIR. Given the importance of the Topock Remediation Project, we want to make sure we have done everything we can to minimize or eliminate avoidable delays, and ensure that the Rroject's remediation efforts get underway as soon as possible.

Robert T. Howard

AR00052169

Comments on the Pa	acific Gas & Electr r Station Soil Invest	ic Company FROM	1: <u>Sullivan, Michael J.</u>	
Comment No.	Section/ Page	Reference Text	DEIR Comment (Please provide sufficient detail, include specifically what you are looking for)	-
General Comments	on Soil Investigatio	on Project		1
1	Page 1-2, footnote	The description of the screening levels is incomplete because it does not include a description of the conservative nature of these levels. In addition, it is the risk assessment, not the screening levels that determine whether cleanup may be necessary.	Edit this footnote to include: "screening levels are based on conservative future land use, i.e., residential, and are designed to result in the greatest amount of sampling for characterization" And, delete the phrase "and possible remediation" as this is both incorrect and is not relevant to soil characterization.	T6-14
2	Page 1-3, para. 2	The stated objective of the soils characterization is to "reliably characterize the nature and extent" This statement is vague in that the target characterization criteria are the conservative soil screening levels.	Edit this objective to include reference to the soil screening levels as the objective of the soil sampling. This is important because the DTSC and DOI have set these soil criteria as the characterization endpoint which defines nature and extent.	T6-14
3	Page 1-4, last bullet	IDW includes displaced soils that will be handled according to procedures developed in consultation with the Tribe.	Mention that displaced soils will be managed according to the process developed with the Tribe and other stakeholders and cite the document in the text.	T6-149
4	Page 1-4, last para.	The phrase " where remediation is deemed necessary." is contrary to the evaluation process used in this project where risk assessment results will be considered in a risk management process to make a final recommendation.	Remove this phrase	T6-150

ENCLOSURE B

Comments on the P	acific Gas & Electr	ic Company FROM	A: Sullivan, Michael J.	.]
Comment No.	Section/ Page	Reference Text	DEIR Comment (Please provide sufficient detail, include specifically what you are looking for)	
5	Page 1-5	Pilot studies would be performed in areas that will undergo remediation. This decision will not be made until after the risk assessment and scope of any soil remediation determined.	Recommend that the text state that any pilot soil remediation tests will be performed after the risk assessment and determination of remediation areas and will not be performed during the soil characterization work.	T6-151
6	Page 1-6	The evaluation of alternatives is incomplete as it does not include alternatives proposed by the Tribe to reduce the number of sample locations.	At a minimum, this section should note that there were other proposed alternatives that were not evaluated.	T6-152
7	Page 1-6, para. 4	The limitation of only using one piece of soil sampling equipment at a time to decrease total noise considers the soils characterization project but what about noise from groundwater monitoring and remediation activities that may be ongoing? The evaluation fails to perform a cumulative impacts evaluation since there are other project-related activities that are ongoing. In addition, there may be specific times of day or specific days where the Tribe plans to be at the Topock site. Have plans been made for decreasing noise impacts during these times?	Update the noise evaluation to consider cumulative impacts and additional project noise restrictions to accommodate Tribal activities.	T6-153

Comments on the Pa	acific Gas & Electri r Station Soil Invest	ic Company FRON	1: <u>Sullivan, Michael J.</u>	
Comment No.	Section/ Page	Reference Text	DEIR Comment (Please provide sufficient detail, include specifically what you are looking for)	
8	Page 1-7, para. 6	The Tribe provided two alternatives to reduce the project's impacts but these were not fully evaluated: use of less conservative soil screening criteria and the collection of CMS- needed data after remediation decisions were made. This section of the summary does not describe the Tribe's concerns correctly.	The Tribe requests a full, fair and thorough evaluation of the alternatives that they proposed.	T6-154
9	Page 2-1, para. 2	The DEIR cites pilot testing as part of the 2008 CMS/FS Work Plan. However, the DEIR Scoping materials sent out (NOP 11/2012) cites soil sampling information that will "inform" a "future CMS/FS" document.	This is a change in the scope of the activities evaluated in this DEIR. The Tribe has not evaluated the Soils Work Plan with an understanding that CMS/FS activities would also be performed. The DEIR NOP did not include these pilot tests in the description of the proposed project for review. In addition, it would appear that the sequence of project steps is out-of-order in that the characterization, then evaluation (risk assessment) and then CMS/FS performed in this order would provide assurance that only those areas which are subject to cleanup have any CMS/FS activities. Without knowing which areas are recommended for cleanup, it is likely that there would be additional and unnecessary impacts to the site from these pilot studies. [See bullet list on DEIR page 2-8 that shows the proper sequence of RCRA activities.] If these pilot studies are to be done, then the DEIR must evaluate the impacts of performing these pilot studies before the project	T6-155

pock Compresso	or Station Soil Invest	igation Project Draft EIR	
Comment No.	Section/ Page	Reference Text	DEIR Comment (Please provide sufficient detail, include specifically what you are looking for)
10	Page 2-5, para. 1	The text here gives a history of the meetings between the Tribe and the agencies regarding the soils investigation work plan.	The text does not reference two key positions that the Tribe has consistently taken in all these meetings: 1) acknowledgement that each soil sample location represents a significant and irreversible impact to the site and 2) request for a reduced number of samples as a way to reduce the significant impacts of soil sampling. The DEIR must document these Tribal positions and evaluate the provided alternatives to reduce the impacts from sampling.
ņ	Page 2-6, para. 3	The text here attempts to show the separateness of the groundwater and soil remediation projects. The text also states that these two aspects of the project will "employ different technologies".	This text gives the misimpression that the projects are separate and therefore so are the impacts. This is not true. There are several impacts that are similar (and additive) between these two aspects of the project. These include noise, viewscapes, soil disturbance and impacts to cultural resources. The basis for the DEIR evaluation should not be that different technologies are used but instead the cumulative impacts of the groundwater and soil cleanup. The text should be edited to reflect the presence of cumulative impacts and that these should be evaluated in the DEIR.
12	Page 2-6, para. 4	The text here attempts to support a focus on soil characterization activities only in this DEIR while ignoring the cumulative impacts of the entire project.	The text must acknowledge that there are impacts beyond the soil characterization activities and that cumulative impacts from all past, present and future site activities must be evaluated in this DEIR.
13	Page 2-8, para. 1	The text here cites the CERCLA exemption for project activities that occur "completely onsite".	The Tribe requests an explanation of this CERCLA exemption for "completely onsite" and how it relates to soil characterization that is being performed at areas distant from the project site (i.e., compressor station).

Comments on the Pa	acific Gas & Electri Station Soil Invost	ic Company FROM	A: <u>Sullivan, Michael J.</u>]
Comment No.	Section/ Page	Reference Text	DEIR Comment (Please provide sufficient detail, include specifically what you are looking for)	
14	Page 2-11, para. 1	The text here lists "housing" as a non-impact (presumably due to the fact that there is and will not be housing in the project area).	Please explain the inconsistency of eliminating the need to evaluate "housing" in the EIR and the DOI requirement of evaluating a residential "house" in Bat Cave Wash. If it is indeed possible to build such a house, then the EIR should evaluate the impacts of sampling on this future house. If it is not necessary to evaluate housing because residential structures are not a reasonable use of the land, then this conclusion should carry over to the RAWP. All aspects of the project should exhibit consistency.	T6-162
Project Description				
15	Page 3-1, pp 1	The text lists the 2008 CMS/FS work plan as containing a description of certain soil treatment activities.	While the Tribe objects to any CMS/FS activities being performed prior to the completion of the soil characterization and risk assessment, the DEIR should have the 2008 CMS/FS as an attachment to the DEIR so the activities can be reviewed.	T6-163
16	Page 3-12, bullet list	The project objectives do not mention any CMS/FS activities and are therefore vague.	While the Tribe objects to any CMS/FS activities being performed prior to the completion of the soil characterization and associated risk assessments, the DEIR should be clear about all the activities that are evaluated for potential impacts, including any CMS/FS activities. The project objectives should be edited to be clear and more specific. If these pilot study activities are to be completed prior to the formal CMS/FS phase, then the DEIR must evaluate this deviation from typical schedule.	T6-164

Comments on the Pa Topock Compressor	acific Gas & Electri Station Soil Invest	ic Company FROM igation Project Draft EIR	M: <u>Sullivan, Michael J.</u>	
Comment No.	Section/ Page	Reference Text	DEIR Comment (Please provide sufficient detail, include specifically what you are looking for)	
17	Page 3-13, table	The table lists an additional 25% contingency borings.	There must be some justification for these additional borings along with specific criteria that must be met to trigger the use of these contingency borings. These contingency borings have not been part of the discussion with the Tribe during field activities where soil boring locations were discussed and therefore represent a new aspect of this soil characterization project. The Tribe objects to this contingency and therefore requests that they be eliminated from the project.	T6-165
18	Page 3-13, table	The table lists the characteristics of the three proposed "pilot tests".	These listed characteristics are incomplete since they only provide a size of the area impacted. There is no mention of borings, drill rigs, wells, etc. that are part of these studies and may result in permanent changes to the land. While the Tribe objects to the performing of CMS/FS activities as part of this soil characterization project, this table must be accurate and complete in characterizing these activities. In addition, the scope of these activities must be discussed with the Tribes so specific input from them can be considered by the agencies.	T6-166
19	Page 3-14, para. 1	The text here mentions the contingency boring locations.	There must be some justification for these additional borings along with specific criteria that must be met to trigger the use of these contingency borings. These contingency borings have not been part of the discussion with the Tribe during field activities where soil boring locations were discussed and therefore represent a new aspect of this soil characterization project. The Tribe objects to this contingency and therefore requests that they be eliminated from the project.	т6-168

Comments on the H Topock Compresso	acific Gas & Electr or Station Soil Invest	ic Company FROM ligation Project Draft EIR	M: <u>Sullivan, Michael J.</u>	
Comment No.	Section/ Page	Reference Text	DEIR Comment (Please provide sufficient detail, include specifically what you are looking for)	
20	Page 3-15, bullet list	The text here lists the process for the collection of soil samples.	The process is incomplete because there is no mention of Tribal monitoring and contingency actions in the event of the discovery of cultural resources during sampling. The text must be edited to include these components.	T6-10
21	Page 3-16, para. 2	The text here describes actions to be taken when plants or boulders need to be altered in order to take a sample.	Two issues are relevant here: 1-the spatial exactness of the sampling should allow the movement of a sample so that plants and boulders are not impacted by the sampling. 2-If there is an impact to plants or boulders, there is no mention of site restoration activities. The text should be edited to include these two issues.	T6-1
22	Page 3-20	The text here describes the identification of subsurface utilities and structures.	The text does not mention how identified structures will be identified to the soil sampling team. The Tribe requests that removable flags be used rather than the use of ground painting.	Т6-1
23	Page 3-23, para.	The text here lists "previously disturbed areas" as a criterion for the selection of staging areas.	The Tribe objects to the criterion of "previous disturbance" as a justification to use an area. The project has already disturbed areas within the Maze (e.g., IM3) and the Tribe requests that staging areas not be placed in or adjacent to the Maze, even if the area may have been previously disturbed. Placing staging areas near culturally important site features	Т6-1
			Increases the impact of the sampling activities. Also, Table 1-1 [see CR-1e-3] on page 1-16 of the DEIR lists additional criteria that will be used in the decision on the use of an area for project-related activities. A full description of these criteria should be in the text. In addition, the Tribe also requests minimal use of the FMIT property.	T6-1

Comments on the H Topock Compresso	Pacific Gas & Electri or Station Soil Invest	ic Company FROM	A: Sullivan, Michael J.	
Comment No.	Section/ Page	Reference Text	DEIR Comment (Please provide sufficient detail, include specifically what you are looking for)	
24	Page 3-24, figure	Unnumbered Figure within text	This figure should be removed from the text and placed with other report figures.	T6-17
25	Page 3-24, para.	The text here states that the "least intrusive method feasible" will be used for soil sampling.	This is a vague statement. A more rigorous process should be described that first considers hand sampling (i.e., no motorized equipment) for each sampling location. Then, if it is not possible to use hand sampling, then the least intrusive motorized equipment will be used.	T6-17
26	Page 3-30, para. 3	The text here describes the handling of non-hazardous soils.	The text must specifically cite the Memorandum that has been developed in consultation with the Tribe regarding the handling of investigation –derived soils. Since this memo may be updated, it is the authoritative document, not the work plan.	Т6-17
27	Page 3-23	The text here gives a general evaluation of soil flushing, but does not provide sufficient detail for full evaluation.	While the Tribe does not support the addition of soil remediation pilot studies to this phase of the project, additional details are needed to support such activities, both for a complete Tribal evaluation and EIR evaluation, specifically addressing the chemicals to be added to the soil and/or groundwater, the fate of those chemicals, whether the groundwater remediation system will be used for extraction or if local extraction will be used, the number of extraction wells that will be installed, and potential impacts of any soil flushing on the groundwater remediation system. Without this level of detail, the DEIR evaluation is incomplete.	T6-178
28	Page 3-23 to page 3-33	The text describing pilot testing uses the phrase "If [pilot test technology] is considered a viable remedial option"	This phrase is vague since it does not provide the criteria by which this decision will be made nor the process for making such a decision. The DEIR must provide clear decision criteria by which potential pilot testing may be implemented.	T6-17

Comments on the Pa Topock Compresso	acific Gas & Electr r Station Soil Inves	ic Company FROM tigation Project Draft EIR	A: Sullivan, Michael J.]
Comment No.	Section/ Page	Reference Text	DEIR Comment (Please provide sufficient detail, include specifically what you are looking for)	
29	Page 3-34, para.	The text here describes the purpose of geotechnical soil sampling.	The DEIR is unclear related to the purpose and need of geotechnical sampling. Are these samples being collected for the CMS/FS phase of the project? The collection of geotechnical samples were not listed in the NOP for the DEIR nor included in the count of total borings. (Even though these are geotechnical samples, they have the same significant and irreversible impact as the soil samples for chemical analysis.) The text states that hollow-stem augurs, advanced using a drill rig, will be used to collect slope soil for geotechnical testing. The stated purpose is to determine the slope strength for soil sampling. If a slope is sufficiently stable for the above-mentioned geotechnical sampling, then it is stable for characterization sampling, which should be hand-held sampling equipment to reduce impacts. The Tribe is of the opinion that this geotechnical sampling is not needed at this time and should be postponed until after characterization sampling and risk assessment to determine if remediation is necessary. The geotechnical sampling represents additional and unnecessary site impacts.	т6-180
30	Page 3-35	The text here describes biota sampling activities.	There are no criteria provided that would trigger biota sampling. There are common strategies available for interpreting Ecological Risk Assessment results that include LOAEL-based TRVs, reviewing exposure assumptions and considering ranges of acceptable Hazard Indices that should be employed first before the collection of biota samples. The DEIR must consider these alternatives to reduce site impacts and also present these criteria for triggering the biota sampling.	T6-182

omments on the Pa opock Compressor	cific Gas & Electri Station Soil Invest	ic Company FROM igation Project Draft EIR	A: <u>Sullivan, Michael J.</u>	
Comment No.	Section/ Page	Reference Text	DEIR Comment (Please provide sufficient detail, include specifically what you are looking for)	
31	Page 3-35	The text here describes the collection of small mammal tissue samples through trapping as "minimally invasive".	The Tribe objects to the phrase "minimally invasive". First, the text seems to describe only the soil area where the traps will be set as areas where sampling has already occurred. This is an example where the DEIR presents a lack of understanding of the Tribal position regarding impacts. The impacts of the sampling have both physical and spiritual components. Each small mammal that is trapped and killed for tissue samples represents an impact that cannot be mitigated. It is neither "minimally invasive" to the Tribe nor to those small mammals killed within the TCP, which is a spiritual and religious place to the Tribe. The DEIR must expand the description of impacts to include those that are of concern to the Tribe in the project description and then evaluate those impacts.	

Comments on the Pa	acific Gas & Electri Station Soil Invost	ic Company FROM	A: Sullivan, Michael J.	
Comment No.	Section/ Page	Reference Text	DEIR Comment (Please provide sufficient detail, include specifically what you are looking for)	
DEIR Methodology-	- Methodology Con	ments are in the above section, com	ments #16-32	
DEIR Analysis – (Cl	hapter 4 of the DEI	R)		
32	Page 4.1-8, para.	The text here contrasts the size of the surrounding mountains against the smaller aspects of the site and seems to infer that the size of the mountains define the visual aspects of the landscape (viewshed).	While it is true that the Tribe values the viewshed of the surrounding mountains, their size does not make smaller aspects of the viewshed less important to the tribe. View shed impacts should be evaluated, as requested by the Tribe in previous comments, as the area where impacts can be viewed and then understand the cumulative nature of those impacts. The text here seems to discount impacts due to their relative size compared to the surrounding mountains. The Tribe does not agree with this type of comparison and the text must be edited to remove. The DEIR must review and then cite in references the FMIT Tech Memo dated June 28, 2013, regarding "Key Views & Aesthetic Impacts," which addresses assessment of impacts to aesthetics and Tribal cultural and religious values as well as comments provided by the Tribe at the October 28, 2013 meetings on visual impacts.	T6-184
33	Page 4.1-19, para. 3	The text here describes areas of potential visual impacts. Most of these areas are off-site and refer to the general public.	While certainly the Tribe is concerned about visual impacts from off-site areas, there is also a particular concern about those areas of the site (e.g., Maze) where the Tribe visits and conducts ceremonies that are within the impacted view scape. The DEIR must include the evaluation of these visual impacts to on-site Tribal activities during the over 1 year duration of soil characterization activities.	T6-186

Comments on the Pa Topock Compressor	acific Gas & Electri Station Soil Invest	ic Company FROM ligation Project Draft EIR	1: <u>Sullivan, Michael J.</u>	
Comment No.	Section/ Page	Reference Text	DEIR Comment (Please provide sufficient detail, include specifically what you are looking for)	
34	Page 4.1-46, Table 4.1-2	The table lists visual impacts in areas of the Maze. These include viewshed points #7, 8 and 9.	The DEIR has already described Tribal members as "sensitive" observers of the viewshed. Yet, this table minimizes the impact of the visual impacts in areas of the Maze as there is no consideration of viewer sensitivity addressed in this evaluation. The Tribe disagrees with the conclusion that these impacts would "not substantially change the visual character" when "sensitive" viewers would be present and notice these visual impacts. The table has under- estimated the visual impacts in on-site areas important to the Tribe and this evaluation must be updated with input from the Tribe.	T6-187
35	Page 4.1-69, para. 2	The text here describes the presence of a drill rig in the distance as not impacting the vista. This evaluation is then used as the basis for concluding that there are no visual impacts from the project.	The Tribe objects to this conclusion. The DEIR described Tribal uses as "sensitive viewers." And these Tribal viewers will be focused on both the distant (vista) and closer (adjacent) viewsheds. The presence of a drill rig within the viewshed is a disturbance to both the vista and closer viewsheds. The DEIR has drawn an incorrect conclusion on visual impacts. This evaluation must be updated with input from the Tribe.	T6-188
36	Page 4.1-70	The text here incorporates the criterion of "permanent" changes in the viewshed as a threshold criterion for significance.	The Tribe disagrees with the inclusion of the "permanent" criterion for the categorization of visual impacts. The duration of the soil characterization is around 1 year, during which time there would be impacts to both the vista and adjacent viewsheds during Tribal visits to the Maze area. These impacts must be characterized as significant.	T6-189

Comments on the Pa Topock Compressor	acific Gas & Electri Station Soil Invest	ic Company FROM	A: <u>Sullivan, Michael J.</u>	
Comment No.	Section/ Page	Reference Text	DEIR Comment (Please provide sufficient detail, include specifically what you are looking for)	
37	Page 4.1-76, para. 3	The evaluation here of glare is based on the assumption of work only occurring during daylight hours when no vehicle or project area lights are needed.	For the DEIR analysis to be accurate, this assumption must become one of the operating conditions for the soil characterization phase of the project. Vehicles entering or leaving the sampling areas must do so during daylight hours only, and without the use of lights and equipment must not have lighting that is turned on in order to work in either early morning or later afternoon time periods.	T6-190
38	Page 4.3-51	The text here describes the collection of small mammal tissue samples through trapping as occurring on a small area of land, 1' x 1' x 1'. This gives the impression that since the area is small and will be backfilled with native soil therefore there is not an impact.	The Tribe objects to the characterization of areas of the soil where the traps will be set as small areas. This is not an apt criterion for determining significance. This is an example where the DEIR presents a lack of understanding of the Tribal perception of impacts. The impacts of sampling have spiritual as well as physical components. In the Tribal view, each small mammal that is trapped and killed for tissue samples represents an impact that cannot be mitigated. Animal collection is significant to both the Tribe and to those killed small mammals. The DEIR must expand the description of impacts that are of concern to the Tribe in the project description and then evaluate those impacts. For example, what are the observed number of small mammals within a sampling area and how many individuals would be "taken" for tissue sampling? This evaluation has not been performed so the impact of the biota sampling and the impact to resources of Tribal concern have not been fully evaluated.	T6-19 ⁻

Comments on the Pa	cific Gas & Electri	ic Company FROM	1: Sullivan, Michael J.	
Comment No.	Section/ Page	Reference Text	DEIR Comment (Please provide sufficient detail, include specifically what you are looking for)	
39	Page 4.4-2, para. 4	The document cited as authoritative in the text is from 2011. Tribal representatives have spent significant time surveying the project area for evidence of Tribal activities.	The finding of these recent Tribal surveys, which have expanded the areas previously assigned to Tribal historical activities, must be presented (documented) and considered in this DEIR. Specifically, the Tribes have prepared a document titled "Tribal Cultural Values Assessment," which should be cited.	T6-192
40	Page 4.4-49, para. 1	The text here describes meetings between the Tribe and the agencies to discuss the scope of the soils investigation. The text also provides the agency's resolutions of the issue regarding number of samples and associated site impacts.	At each of the meetings and in written comments, the Tribe has consistently requested reduced sampling and associated site impacts through 1) use of different soil screening criteria and 2) the use of a phased sampling approach to ensure that only needed samples are collected. The current position of the Tribe remains that the proposed sampling is excessive in number of samples and site impacts and that these can be reduced. The text should not give the impression that the result of these meetings between the agencies and the Tribe was Tribal agreement with the scope of the soil sampling.	T6-193

Comment No.	Section/ Page	Reference Text	DEIR Comment (Please provide sufficient detail, include specifically what you are looking for)
41	Page 4.4-59, para. 4	The text here describes the BLM's RMP for the Topock area. The RMP identifies the need to protect this land for Tribal and cultural resources.	The citation of the BLM RMP as authoritative for the Topock site in terms of protecting the area for cultural and Tribal resources is juxtaposed with the DOI position to evaluate residential structures in the project site. This land-use assumption leads to increased soil sampling and potential remediation, which are unnecessary and which have significant impacts on the land. The BLM RMP reflects DOI's mandate to protect Tribal interests, yet the DOI has instead adopted a non-mandated position which results in destroying Tribal resources. The DOI position on soil characterization to residential criteria, and the inclusion of the residential scenario in the risk assessment are contrary to their legal requirement to protect Tribal resources. Other areas addressed by the BLM RMP have identified land-use restrictions (e.g., no residential, no ATV use, limited hiking, no open fires) and so similar restrictions should be considered and applied to protect the Topock TCP from both inappropriate future use and the DOI-mandated residential- based characterization and risk assessment.
42	Page 4.4-69, para. 2	The text here discounts impacts to animals from the implementation of the soil characterization study and biota sampling.	The biota sampling includes the 'taking' of small mammals in various areas of the TCP where contamination occurs. This collection of small mammals must be fully disclosed and evaluated in the DEIR and not dismissed.
43	Page 4.7-4, bullet list	The text here describes the perception of various noise levels.	Please provide literature references for these presented information on noise and noise perception.

Comments on the P Topock Compresso	acific Gas & Electri r Station Soil Invest	ic Company FROM igation Project Draft EIR	A: <u>Sullivan, Michael J.</u>	
Comment No.	Section/ Page	Reference Text	DEIR Comment (Please provide sufficient detail, include specifically what you are looking for)	
44	Page 4.7-18, para. 2	The text here provides an attenuation rate of 6-7 dB per doubling of the distance from the source whereas the previously cited value is 3dB on page 4.7-5.	The modeling should use the 3dB sound attenuation factor instead of the 6-7 dB. The use of the higher attenuation rate inappropriately decreases the impacts of project-related noise. Therefore, the noise evaluations on page 4.7-18 are incorrect. Also, do not use the word "conservatively" in the document. It is incorrect in its use here because it can be misinterpreted to mean that impacts have been over-estimated when indeed they have been underestimated.	T6-197
45	Page 4.7-18	The evaluation only compares attenuated project noise (incorrectly using the 6dB attenuation factor) with site noise.	The DEIR should compare cumulative or combined noise (source plus background) to determine if there is a significant increase. The Tribe does not support just using the comparison to existing noise levels.	T6-19
46	Page 4.7-19, first bullet	The bullet list cites hours of operation as 7am to 7pm.	The late hours of operation during the winter months will likely be later than sunset and therefore will require vehicle and equipment lighting. This is inconsistent with the lighting restriction presented earlier in the DEIR.	T6-200
47	Page 5-2, para. 2	The list of corrective measures states that these will decrease the impacts to cultural resources.	Many of these corrective measures do not decrease the impact, but serve only to communicate them to the Tribe. The language of the DEIR must be more accurate and specific regarding which effects are reduced and which are not.	T6-20 ⁻
48	Page 5-2, para. 3	The text states that some of the impacts to cultural resources are unavoidable.	The Tribe has in both verbal and written comments provided two alternatives in detail (which were not evaluated in the DEIR) which would indeed decrease the impacts. These are 1) the use of less restrictive soil screening levels and 2) a temporally incremental process of data collection. Since these alternatives reduce impacts, they must be fully evaluated.	Т6-202

Comments on the Pa Topock Compresso	acific Gas & Electr r Station Soil Invest	ic Company FROM tigation Project Draft EIR	M: <u>Sullivan, Michael J.</u>]
Comment No.	Section/ Page	Reference Text	DEIR Comment (Please provide sufficient detail, include specifically what you are looking for)	
49	Page 5-5, pp 7	The text here states that the daytime is "less noise sensitive"	There is no evaluation to support the conclusion that daytime hours are "less noise sensitive". When Tribal activities are considered (were the Tribes consulted on this conclusion?) the daytime hours (when site visits do occur) are indeed a concern to the Tribe. The DEIR must either provide supporting documentation for this claim or remove the claim and state that daytime hours are of particular concern to the Tribe. Noise during either daytime or nighttime is a concern to the Tribe.	T6-20
50	Page 5.5, bullet list	The bullet list provides significant and irreversible impacts.	The list is not clear regarding impacts that are of a concern to the Tribe. The disturbance of the ground at each sampling location is considered a significant impact to the land which is irreversible. This has been communicated to the agencies multiple times in both verbal and written comments, yet the DEIR is not clear in describing each of these sample locations as significant and irreversible impacts which are a major concern to the Tribe. It is for this reason that the Tribe has proposed alternatives which can substantially decrease these impacts.	Т6-20

Comments on the Pa Topock Compressor	acific Gas & Electr Station Soil Invest	ic Company FROM	A: Sullivan, Michael J.]
Comment No.	Section/ Page	Reference Text	DEIR Comment (Please provide sufficient detail, include specifically what you are looking for)	
51	Page 5-10, para.	The text on this page discusses land use and planning.	According to the BLM RMP for the Topock area, there is an over-riding responsibility of the agency to protect the cultural and Tribal resources of the project area. Yet, DOI is imposing evaluation criteria (i.e., residential-based soil criteria and residential risk assessment evaluation) which the Tribe believes would cause impacts to the site which could be reduced through the use of more realistic assumptions. The Tribe requests that DOI implement land use assumptions for the project site that are more in-line with land uses specified in the BLM RMP which would result in reducing the impacts of the soil characterization program.	T6-20
Cumulative Analysi	s	•		1
52	Page 6-6	The text here and the following table list other projects to be considered in the cumulative evaluation.	The Tribe considers the list and the cumulative evaluation to be incomplete because 1) it does not include all of the past soil sampling and related impacts, 2) the total groundwater remediation project and 3) future activities (e.g., soil remediation. The known and anticipated impacts from the total remediation program (soil + groundwater) must be considered in the cumulative evaluation.	Т6-200

Comments on the Pa Topock Compressor	acific Gas & Electr Station Soil Inves	ic Company FROM tigation Project Draft EIR	M: <u>Sullivan, Michael J.</u>	
Comment No.	Section/ Page	Reference Text	DEIR Comment (Please provide sufficient detail, include specifically what you are looking for)	
53	Page 6-6, para. 3	The text here lists the criteria as "temporal overlap" for the consideration of which projects shall be considered in the cumulative evaluation.	The Tribe objects to the use of "temporal overlap" as a criterion for selecting projects for cumulative impacts. While some of the impacts do have temporal characteristics (e.g., air emissions, noise) there are other impacts which are permanent (e.g., the installation of a soil boring and collection of a soil sample). Therefore, the Tribe considers this cumulative evaluation incomplete because it has not evaluated the cumulative effects of soil sampling plus the full groundwater remediation project (which is currently at 90% design so there is sufficient knowledge of its impacts), groundwater monitoring and well repair and maintenance. These activities have ground disturbing, visual, noise and cultural impacts which must be considered cumulatively with the soil investigation.	T6-2
54	Page 6-17	The text here describes the cumulative impacts to aesthetics.	The cumulative evaluation of impacts to aesthetics is incomplete because the DEIR fails to consider relevant projects that cause a cumulative impact. See comment 53.	Т6-2
55	Page 6-22	The text here describes the cumulative impacts to cultural resources.	The cumulative evaluation of impacts to cultural resources is incomplete because the DEIR fails to consider relevant projects that cause a cumulative impact. See comment 53.	Т6-2

Comments on the Pa Topock Compressor	acific Gas & Electri Station Soil Invest	ic Company FROM ligation Project Draft EIR	A: <u>Sullivan, Michael J.</u>	
Comment No.	Section/ Page	Reference Text	DEIR Comment (Please provide sufficient detail, include specifically what you are looking for)	
56	Page 6-23, para. 3	The text here describes mitigation measures for cultural resources and concludes that there are no other means to achieve project objectives without these impacts.	First, the description of cultural resource mitigation measures as reducing the significance of the impacts is untrue. These mitigation measures may address (important) issues such as communication, notification and tribal participation, but they do not decrease the impacts themselves. The text of the DEIR must be more specific and accurate in its description of these mitigation measures.	T6-21
			Second, the Tribe has consistently provided both verbally and in writing two options which would indeed decrease the impacts of the project to cultural resources. These must be fully evaluated in this DEIR and may be environmentally superior alternatives.	T6-21
57	Page 6-30, para. 1	The text here describes the cumulative impacts from noise.	The cumulative evaluation with respect to noise impacts in incomplete as it does not consider either 1) multiple soil- related activities occurring at the same time and 2) other ongoing remediation projects.	T6-21:

Comments on the Pa Topock Compressor	acific Gas & Electri Station Soil Invest	ic Company FROM tigation Project Draft EIR	A: <u>Sullivan, Michael J.</u>	
Comment No.	Section/ Page	Reference Text	DEIR Comment (Please provide sufficient detail, include specifically what you are looking for)	
Alternatives Analysi	is	•	•	
58	Page 7-4, first bullet	The text here reports that soil sampling locations were removed at the request of the Tribe.	This text is misleading and incomplete. While indeed there have been reductions in the number of sample locations from the initial proposed scope after meeting with the Tribes, the overall scope has more samples and locations than the original proposal that was the subject of meetings with the Tribe. In addition, the Tribe's current position is that the scope is more than is needed and consideration of the Tribe's alternatives would reduce the impact and still meet project objectives. The DEIR must provide an accurate account of the Tribal position on the soil characterization scope.	T6-21
59	Page 7-7, para. 4	The text here notes that in the Tribe's letters to the agencies regarding future Tribal Land Use no enforcement recommendations were provided.	While this statement is true, the agencies are familiar with other authoritative documents that address land use. The Tribe is not in a position to impose land-use restrictions on property that it does not own. But it is believed that other agencies do have such authority. The DEIR itself cites the BLM RMP as defining land uses in the land area that includes the Topock site. These documents are known and available to the agency and could be used to define and restrict future land use as has been done in other nearby areas.	T6-214

Comments on the P Topock Compresso	acific Gas & Electr r Station Soil Inves	ic Company FROM tigation Project Draft EIR	M: <u>Sullivan, Michael J.</u>	
Comment No.	Section/ Page	Reference Text	DEIR Comment (Please provide sufficient detail, include specifically what you are looking for)	
60	Page 7-8	The text here cites regulatory documents which have the stated purpose the protection of human health.	These regulatory documents do not impose the requirement of evaluating the residential scenario. The selection of the residential scenario for characterization is discretionary decision that has been made by the agencies. Since future land use will be recreational and Tribal (and not residential), then public health is protected if these land uses are the focus of the characterization, risk assessment and remediation. Further, the project risk assessment staff have publically stated that no further site data is needed in order to complete the risk assessment. Due to the typical nature of biased sampling plans where the highest concentrations are targeted first followed by step-out samples to lower concentrations, the use of these higher initial concentrations would result in higher estimated risks and are therefore more protective of human health.	T6-2'
61	Page 7-9, para. 1	Mr. Sullivan	Dr. Sullivan has a Ph.D. in toxicology and should be referenced in the text appropriately. His resume is attached.	Т6-2

Comments on the Pa Topock Compresso	acific Gas & Electri r Station Soil Invest	ic Company FROM	M: <u>Sullivan, Michael J.</u>	
Comment No.	Section/ Page	Reference Text	DEIR Comment (Please provide sufficient detail, include specifically what you are looking for)	
62	Page 7-9, para. 2	The use of premature land-use restrictions.	It is true that at more typical RCRA/CERCLA sites, land use restrictions are considered in the later stages of the project. However, the Topock site is not a typical site. The collection of each soil sample represents a significant and irreversible impact to cultural resources and to the Tribe. Therefore, the Tribe has suggested alternatives that still allow the collection of needed characterization information while minimizing site impacts. BLM, DOI and DTSC (as per Executive Order) have the legal responsibility to fully consider and protect Tribal interests. Adapting the Tribal Land Use scenario as an upfront selected land use alternative would still result in meeting project objectives and also minimize impacts to the site. There is no restriction on making land-use decisions early in the project. This is a discretionary decision that the agencies could, but have chosen, not to make.	Τ6-218
63	Page 7-9, para. 3	The proposed Tribal alternative does not provide sufficient data to inform the CMS/FS.	In general, the Tribe does not object to the collection of data needed for the CMS/FS. However, the Tribe prefers a temporally-phased approach where first those areas that are to be remediated are identified and then the data needed for the CMS/FS is collected. In this manner, all objectives of the project are achieved. The trade-off of a potentially slightly longer project schedule for fewer impacts is reasonable to the Tribe.	T6-219
64	Page 7-9, pp 5	DTSC is required to first consider residential.	The Tribe requests that the referenced California State Policy (not guidance, which is discretionary) that specifically requires DTSC to consider residential land use be cited in the DEIR and provided to the Tribe.	Т6-220

Comments on the P	acific Gas & Electr r Station Soil Inves	ic Company FROM	M: <u>Sullivan, Michael J.</u>]
Comment No.	Section/ Page	Reference Text	DEIR Comment (Please provide sufficient detail, include specifically what you are looking for)	
General Comments	on DEIR Appendie	ces		1
Appendix A – Soil V	Work Plan and Err	ata]
65	Entire Errata/Work Plan	All text	The Soils Work Plan does not provide any mention or detail for potential 'additional' or 'contingency' soil sample locations. Therefore, the Tribes have had no opportunity to review or discuss the criteria for these additional samples or the locations where they are likely to be. The Soils Work Plan was to be a complete and stand-alone document that was the result of many meetings and field visits. At no time were 'contingency' samples mentioned or discussed, and it seems that this issue was added in after discussions on the Soils Work Plan had taken place. The Tribe objects to PG&E and the agencies adding in additional scope (i.e., sample locations) that were not the subject of prior discussions on scope. These 'contingency' samples should be removed from the DEIR.	т6-2
66	Errata, page 1	The reference to previously- disturbed areas as a justification for further activities.	The Tribe has consistently rejected the criterion of "previously disturbed" for deciding whether an area is acceptable for additional activities. Each area subject to soil- related activities should be reviewed and approved by the Tribe. It is unacceptable to continue to use the 'previously disturbed' criteria because it is not consistent with how the Tribe views the various areas at the site.	т6-2

Comments on the Pa	acific Gas & Electr	ic Company	FROM: Sullivan, Michael J.	
Topock Compressor	r Station Soil Inves	tigation Project Draft EIR		
Comment No.	Section/ Page	Reference Text	DEIR Comment (Please provide sufficient detail, include specifically what you are looking for)	
Appendix B – EIR N	NOP	•		
67	all	All text	The NOP is vague and incomplete in its notification regarding the pilot studies that are proposed and discussed in the DEIR. The term 'pilot studies' is not used in the NOP. There is no mention of any of the specifics of these pilot studies. The text references the draft Soils Characterization Work Plan and the evaluation of impacts from the implementation of that work plan. The lack of clear reference to these CMS/RI soil cleaning activities invalidates their inclusion in this phase of the project. The Tribe requests that these activities be removed and proposed in later phases of the project where they can be fully discussed and evaluated.	6-223
Appendix C – Air Q	uality	•		
68	all	All text	One of the assumptions regarding the evaluation of dust generation is that up to 20 acres (referenced in the text as a conservative estimate) would be disturbed by activities that would result in dust generation. This is an assumption that serves as the basis for a finding of no impact. Therefore, the project must be managed in such a manner that less than 20 acres are disturbed. The Tribe requests that the project management for the soil characterization keep a running sum of the total number of acres where dust is being generated during the project (including road access, sampling areas, trails, etc.).	>-224

Comments on the Pa Topock Compressor	cific Gas & Electr Station Soil Invest	ic Company tigation Project Draft EIR	FROM: Sullivan, Michael J.
Comment No.	Section/ Page	Reference Text	DEIR Comment (Please provide sufficient detail, include specifically what you are looking for)
Appendix D-3 – Ethn	obotany Survey		
69	all	All text	The ethnobotany survey that is attached as an appendix to the DEIR was created for, and based upon, the groundwater remediation system project scope. Therefore, the areas investigated and reported in this appendix do not cover all the areas of the Soil Characterization activities. The DEIR must acknowledge that no specific survey was performed for the Soils Characterization and identify any areas where soil sampling will be performed that are outside the groundwater characterization project area evaluated in the GW EIR. Once these areas are identified, then the Tribes want to review these areas with the agencies to ensure that there are no additional ethnobotanical characteristics that need to be evaluated in the DEIR.

Comments on the Pacific Gas & Electric Company			FROM: Sullivan, Michael J.	
Topock Compressor	Station Soil Invest	igation Project Draft EIR		
Comment No.	Section/ Page	Reference Text	DEIR Comment (Please provide sufficient detail, include specifically what you are looking for)	
Appendix E - Traffic	Impact Analysis	•		
70	all	All text	The traffic impact analysis was performed based on the proposed Soil Characterization Work Plan scope and proposed CMS/FS soil remediation pilot studies. This study is deficient in several respects. First, there does not seem to be any inclusion of the 25% contingency sampling that is included in the DEIR. This increase sampling would increase the traffic impacts. This leaves this contingency sampling un- evaluated in the DEIR. Second, the evaluation fails to consider project cumulative impacts from both the soils and groundwater portions of the project. Since the duration of the soils project can be up to 18 months, there would be simultaneous impacts from ongoing groundwater treatment and monitoring activities and potential cumulative impacts from any groundwater remediation construction activities. The lack of a cumulative evaluation of traffic impacts renders the DEIR incomplete.	T6-22 T6-227

MICHAEL J. SULLIVAN, Ph.D., CIH, REA 816 Capitan St. Newbury Park, California 91320 (805) 728-5317 michael.sullivan@csun.edu

<u>Summary</u>

Professor, toxicologist, Certified Industrial Hygienist, human and ecological risk assessor, risk communicator, manager: performs technical projects, manages multidisciplinary teams, develops project strategies, negotiates, communicates with workers and public, and teaches environmental and occupational sciences.

Experience

California State University at Northridge, Northridge, California. Department of Environmental and Occupational Health

August 2007 to present, Professor

1992 to 2007, Adjunct Professor and Guest lecturer

Courses include Risk Analysis, Industrial Hygiene, Epidemiology, Toxicology, Environmental Standards, Hazardous Waste Management, Business Administration, Research Design, Graduate Seminar on Sustainability and Introduction to the Global Environment.

Independent Consulting in Toxicology, Risk Assessment, Community Outreach and Industrial Hygiene

April 2007 to present

Providing consulting in the areas of risk assessment, community outreach, industrial hygiene, toxicology and strategic project management for environmental projects in Superfund, RCRA and State/County regulatory programs. Addressing contaminants that include:

- Petroleum hydrocarbons
- Metals
- Polynuclear Aromatic Hydrocarbons
- · Dioxins and Polychlorinated Biphenyls
- Solvents
- Chlorinated volatile organics
- Pesticides
- explosives
- mold

Other projects include expert testimony in the area of dose-reconstruction and exposure evaluation.

7/12/2013

ENCLOSURE C

Certifications

Certified Industrial Hygienist #8010 40-Hour OSHA (Registered Environmental Assessor, State of California, #00955 – State Program ceased)

Education

Post-Doctoral Appointment, Fellow at the Albert Einstein College of Medicine, Bronx, New York. 1986 to 1987. Ototoxicity of lead in developing mice.

Ph.D. in Toxicology, Toxicology Program, School of Public Health, University of Michigan, March 1986. Thesis: Ototoxicity of Toluene In Rats

Masters of Science in Toxicology, Toxicology Program, School of Public Health, University of Michigan, June 1983. GPA: 3.8/4.0 Thesis: *Neurotoxicity of 1,2-diacetyl-hydrazine*

Bachelors of Science in Environmental Toxicology, Department of Environmental Toxicology, University of California at Davis, June 1980. GPA: 3.6/4.0

Recent Publications and Presentations

Sullivan, M.J. <u>The Use of Electronic Communication in Community Outreach.</u> Manuscript in preparation.

Sullivan, M.J. <u>The Precautionary Principle: Managing Environmental Issues</u>. Manuscript in preparation

Sullivan, M.J. <u>Developing Parameters for Uncommon Exposure Scenarios</u>. Journal of Human and Ecological Risk Assessment, 19:2, pp 374-384. March 2013.

Sullivan M.J. and S. Leavey. <u>Heavy Metals in Bottled Natural Spring Water</u>. Journal of Environmental Health, 73:10, pp 8-13. June 2011

Sullivan, M.J. <u>Critical Evaluation of California Public Health Goals</u>. California Journal of Environmental Health, Fall 2009, pp 18-20.

Sullivan, M.J. <u>Regulating Tap Water and Bottled Water in California</u>. California Journal of Environmental Health, Spring 2009, pp 15-19.

Sullivan, M.J. <u>Risk Analysis for the Industrial Hygienist</u>. December 2012. Presented at the 2012 California Industrial Hygiene Council Conference in San Diego, CA.

Sullivan, M.J. <u>The Use of Electronic Communication in Community Outreach</u>. October 2012. Presented at the 2012 Joint Technical Symposium, SCAIHA/OCAIHA, Long Beach, CA.

> Sullivan, M.J. <u>Developing Parameters for Uncommon Exposure Scenarios.</u> June 2012 American Industrial Hygiene Conference and Expo, Indianapolis, IN.

Sullivan, M.J. <u>Risk Assessment Overview, Hazard Identification and Dose-Response</u> <u>Assessment</u>. Professional Development Course offered at the June 2012 American Industrial Hygiene Conference and Expo, Indianapolis, IN.

Sullivan, M.J. <u>Evaluating Risks to Children Using the USEPA Assessment Paradigm</u>. March 2012. Presented at the 2012 Environmental Health Information partnership Meeting at the National Library of Medicine, Bethesda, MD.

Sullivan, M.J. <u>Application of the Precautionary Principle to the Workplace</u>. December 2011. Presented at the 2011 California Industrial Hygiene Council Conference in San Francisco, CA.

Sullivan, M.J. Course titled <u>Statistical-Based Sampling Strategies</u>. May 2011 Southern California Regional Section American Industrial Hygiene Association, Northridge, CA. (ABIH CE credit of 0.5 points.)

Sullivan, M.J. and Sjoblom, C. <u>Using Statistics to Plan Sampling and Interpret</u> <u>Environmental Data</u>. Presented at the 60th Annual Educational Symposium of the California Environmental Health Association, Ventura, CA.

Sullivan, M.J. and Newman, J. <u>The Importance of Selecting Appropriate Background in</u> <u>Environmental Sampling Projects</u>. Presented at the 60th Annual Educational Symposium of the California Environmental Health Association, Ventura, CA,

Sullivan, M.J. <u>The Application of the USEPA Risk Assessment Process to Setting</u> <u>Occupational Exposure Standards</u>. December 2010. Presented at the 2010 California Industrial Hygiene Council Conference in San Diego, CA.

Sullivan, M.J. <u>The Importance of Selecting the Appropriate Background Samples in</u> <u>Characterization Studies</u>. October 2010. Presented at the 2010 Joint Technical Symposium, SCAIHA/OCAIHA, Long Beach, CA.

Sullivan, M.J. <u>Use of Monte Carlo Techniques in Evaluating Occupational Exposures:</u> <u>Understanding the Effect of Variation</u>, May 2010. Presented at the 2010 American Industrial Hygiene Conference in Denver, CO.

Sullivan, M.J., J. Newman, C. Kao and M. Ansari. <u>Using Statistical-Based Sampling</u> <u>Strategies to Address Environmental and Occupational Exposures</u>. May 2010. Presented at the May 2010 Southern California Regional Section American Industrial Hygiene Association, Northridge, CA.

Sullivan, M.J. <u>Critical Evaluation of AIHA's A Strategy for Assessing and Managing</u> <u>Occupational Exposures:</u> Understanding the Effect of Variation. October 2009. Presented at the 2009 Joint Technical Symposium, SCAIHA/OCAIHA, Long Beach, CA.

Sullivan, M.J. <u>Understanding Variability in Occupational Sampling</u>. October 2008. Presented at the 2008 Joint Technical Symposium, SCAIHA/OCAIHA, Long Beach, CA.

Additional Professional Experience

McDaniel Lambert, Inc.

Venice, California February 2003 to April 2007

Principal

Responsible for providing services in the areas of risk assessment, community outreach, industrial hygiene, toxicology and strategic project management for environmental projects in the following regulatory programs:

Superfund

· RCRA

State and County oversight

Addressing contaminants that include:

- Petroleum hydrocarbons
- Metals
- Polynuclear Aromatic Hydrocarbons
- Dioxins
- Polychlorinated Biphenyls
- Solvents
- Chlorinated volatile organics
- pesticides

The Boeing Company, Canoga Park, California Rocketdyne Propulsion and Power, Safety, Health & Environmental Affairs (SHEA)

July 1994 to January 2003

Toxicologist and Senior Member of Chemical Remediation Team, Worker Safety Team, Hazardous Materials and Employee Health Team, Strategic Planning Team, SHEA Reorganization Team, Leadership Council in Safety, Health & Environmental Affairs

Responsibilities included:

- Team Leader Chemical Remediation Team (8 members), responsible for interface with management and other SHEA Team Leaders; development of team vision statement, process definition and metrics.
- Senior member of Worker Safety Team and Hazardous Materials and Employee Health Team evaluating chemical and physical workplace hazards, implementing solutions, communicating with affected workers.
- Project Manager for 2 CERCLA sites including overseeing Remedial Investigation (RI), Health Risk Assessment (HRA), and Engineering Evaluation/Cost Assessment (EECA) with USEPA as lead agency.
- Project Manager for 2 groundwater and soil investigation/remediation projects including site characterization, health risk assessment, site-wide cleanup levels

> and remediation feasibility study with Los Angeles Regional Water Control Board as lead agency.

- Project Manager for RCRA SWMU closure including characterization study, health risk assessment, and interim measures workplan with DTSC Region 3 as lead agency.
- Project Manager for human and ecological risk assessment for RCRA project involving over 50 SWMUs/AOCs.
- Supporting SHEA risk communication activities including public presentations, written material, interface with the press, communication program strategy, planning and implementation.
- Provide SHEA support in areas of toxicology and toxic tort litigation.

Boeing Recognition/Honors:

- Associate Boeing Technical Fellowship 2001
- 2000 SHEA Gold Individual Achievement Award
- 2000 SHEA Gold Team Achievement Award
- 1999 Bias for Action Award

McLaren/Hart Environmental Engineering Corporation, Irvine, California. January 1992 to June 1994

Principal Health Scientist/Principal Toxicologist

Manager of Southern California Operations of ChemRisk, the risk assessment division ωf McLaren/Hart.

Responsibilities included:

- Technical direction of 15 health science professionals in areas of toxicology, risk assessment, environmental investigation and assessment, toxic tort litigation, and product and worker safety.
- Managing day-to-day operations of 15 health science professionals and administrative staff.
- Professional development planning and mentoring of 15 health science professionals
- Marketing of all aspects of environmental services, especially toxicology and risk assessment.
- Strategy development and regulatory negotiation on environmental projects.
- Risk communication, planning public meetings, publishing printed materials
- Interpret results of environmental fate and transport modeling for use in risk assessment.
- Leader in integrating disciplines of toxicology, risk assessment, geology, hydrogeology, engineering, and regulatory science.

Groundwater Technology, Incorporated, Ventura. California May 1988 to January 1992 Principal Health Scientist/Principal Toxicologist Director for Western Regional Operations of Envirologic Data, the risk assessment

division of Groundwater Technology.

Responsibilities and experience similar to that at McLaren/Hart. Staff of 20 health science professionals.

National Council of the Paper Industry for Air and stream Improvement, Incorporated. New York, New York.

November 1986 to May 1988 Toxicology Program Manager

Responsibilities included:

- managing and technical oversight of paper industry risk assessments
- coordinated paper industry risk assessment program on dioxin in products, effluents, sludge, and the workplace.
- represented paper industry in regulatory negotiations
- developed research and development programs on dioxin-related issues
- addressed worker and product safety issues for the paper industry served as toxicologist to the paper industry

Albert Einstein College of Medicine, Department of Otolaryngology, Bronx, New York.

March 1986 to January 1987 Postdoctoral Research Fellow

Research included:

- toxicological effects of heavy metals on the developing mouse otocyst
- characterization of the developing mouse otocyst in vitro
- neurotoxicology

The University of Michigan School of Medicine, Kresge Hearing Research Institute, Department of Otolaryngology 1983-1984

Research Assistant

Southern California Edison, Rosemead, California. June 1980 to September 1981 Toxicologist

Professional Affiliations

> American Industrial Hygiene Association Southern California Chapter American Industrial Hygiene Association. Offices held: secretary-elect, secretary, vice President/President-elect, President.

Additional Teaching Experience

University of California at Irvine, Irvine, California Guest lecturer in Course on Environmental Toxicology, 2003

California State University at San Diego, San Diego, California Guest lecturer in Course on Risk Assessment, 1993 – 1994

Albert Einstein College of Medicine, Bronx, New York Visiting Assistant Professor of Otolaryngology, 1986

La Guardia Community College, New York City, New York Adjunct Assistant Professor of Biology, 1986

University of Michigan, Ann Arbor, Michigan Graduate Teaching Assistant, Department of Chemistry, 1981-1986

Additional Publications

Sullivan, M.J., McDaniel, MF, and R. Siegel. <u>Using Metrics to Track Community</u> <u>Outreach Progress</u>. Chemical Engineering Progress, December 2004, pp 34-38.

Sullivan, M.J. Ototoxicity. Encyclopedia of Toxicology. Academic Press. 2004.

Sullivan, M.J. Lubricating Oil. Encyclopedia of Toxicology. Academic Press. 2004.

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Key Project Experience

- CERCLA site in mid-west, managed Remedial Investigation, Health Risk Assessment, and Engineering Evaluation/Cost Assessment with USEPA as lead agency. Site soil and groundwater contaminated with chlorinated solvents, aromatic solvents, pesticides, polynuclear aromatic hydrocarbons and heavy metals.
- Manufacturing site in Los Angeles, managed site characterization, health risk assessment, site-wide cleanup levels and remediation feasibility study with Los Angeles Regional Water Control Board as lead agency. Site soils and groundwater contaminated with chlorinated solvents, petroleum hydrocarbons and heavy metals.
- Rocket engine test facility, managed human and ecological risk assessment for RCRA project involving over 50 SWMUs/AOCs with DTSC Region 3 as lead agency. Site soils and groundwater contaminated with chlorinated solvents, aromatic solvents, petroleum hydrocarbons, polynuclear aromatic hydrocarbons, dioxin compounds, heavy metals, and explosives.
- Performed national and international risk assessments on hydrocarbon contamination in soil and groundwater.
- Used human health risk assessments to set remedial cleanup levels for sites contaminated with heavy metals, chlorinated solvents, and pesticides and petroleum hydrocarbons.
- Evaluated the toxicity of complex petroleum mixtures, i.e. diesel fuel, mineral spirits, jet fuel, and established criteria for exposure to these mixtures.
- Evaluated the toxicity of crude oil and utilized mathematical modeling to estimate both oral and dermal cancer slope factors from animal data.
- Conducted and guided the completion of a Superfund Public Health and Environment Evaluation for a CERCLA site contaminated with chlorinated pesticides. Contaminated matrices included soil, groundwater, sediment, and surface water.
- Conducted and guided a risk assessment to set closure guidelines for a RCRA site closure of organic chemicals in soil and groundwater.
- Performed a toxicological evaluation of a substituted furan compound and established human exposure criteria based on quantitative structure-activity relationships.
- Completed numerous air toxics risk assessments to comply with California AB2588. Projects included meetings and negotiations with regulatory authorities and community presentations. Chemicals evaluated include chlorinated solvents, aromatic and aliphatic hydrocarbons, metals, and inorganic compounds.

- Completed numerous risk assessments to comply with California Proposition 65, Matrices evaluated include air and water emissions, worker exposures, consumer products and food products. Chemicals evaluated include dioxin, heavy metals, solvents, and aromatic hydrocarbons.
- Conducted and guided a risk-based closure of a property adjacent to a pesticide formulating site and negotiated with California Department of Health Services acceptance of property development plans for the owner. Chemicals evaluated included ethylene dibromide, dichlorobromopropane, dichloropropane in soil and groundwater.
- Completed risk-based regulatory closure of several BTEX-contaminated sites through the use of risk assessments on potential exposures and extensive environmental fate and transport modeling.
- Negotiated regulatory acceptance of no-action alternative for a metal recycling yard contaminated with PCBs, heavy metals, and chlorinated solvents. Exposures included both on-site worker exposures and off-site residential exposures.
- Developed a pharmacokinetic model for the uptake and transfer of large organic compounds from environmental matrices through human breast milk to infants. The model was subsequently used in risk assessments on dioxin-contaminated land.
- Developed methodology for the setting of risk-based remedial cleanup levels for sites which have multiple chemical exposures through multiple pathways.
- Developed methodology for the estimation of incidental ingestion rates of soil through dermal soil contact based on transfer-events rather than default daily uptake rates. The method was used in a Superfund risk assessment to establish baseline risk and set risk-based cleanup levels.
- Developed methodology for the screening of both chemicals and exposure pathways in a risk assessment for a site contaminated with multiple chemicals and having multiple potential exposure pathways.
- Conducted and guided a risk assessment on dioxin in effluent from several pulp and paper mills. The contaminated environmental matrices included effluent discharge into major California rivers (fish and sediment), land application of effluent (soil, crops, feed and wildlife), land application of sludge (crops, feed, home garden use) groundwater, and airborne emissions.
- Completed a risk assessment on a residential development built on soil contaminated with crude oil. The assessment developed toxicological criteria for exposure to crude oil and established a cleanup level. The neighborhood was remediated to the proposed levels to the satisfaction of both the regulatory authority and the property owners.

- Completed a risk assessment on crude oil contamination at a former storage facility. The site was slated for development and had crude oil contamination in both the surface, Vadose, and saturated zones. Risk-based cleanup levels that were protective of future receptors were developed.
- Completed a risk assessment on crude oil contamination beneath a residential intersection. Evaluated both migration of chemicals to groundwater and vapor migration to the surface. The risk assessment supported the no-action alternative.
- Completed a risk assessment on diesel contamination of a drinking water aquifer. The assessment evaluated the toxicity of diesel and established safe exposure levels. The assessment also evaluated initial release estimates of over 150,000 gallons and rejected those estimates based on environmental fate modeling resulting in revised estimates of 38,000 gallons. The risk assessment supported the closure of the site and turning off remediation equipment.
- Completed a risk assessment on benzene-contaminated soil which was unsuccessfully remediated. The site was slated for hotel development and the property transfer was dependent on the on-site use of the contaminated soil. The risk assessment supporting the on-site use of the benzene-contaminated soil received regulatory approval and construction proceeded on schedule.
- Completed a risk assessment on BTEX contaminated soil and groundwater which
 received regulatory approval for site closure with monitoring even though BTEX
 levels in groundwater were hundreds of times higher than MCLs. The risk
 assessment also evaluated indoor vapor levels and concluded that contaminated
 soil from beneath the building may remain in place.
- Provided risk communication support in the form of a public meeting regarding sulfur dioxide emissions from a refinery. The meeting consisted of discussion on both the toxicity of sulfur dioxide and exposure levels and fielding questions from the public regarding alleged health effects. The meeting resulted in the community fears being addressed and improvement in relations between the refinery and the public.
- Provided negotiation and toxicological support to a manufacturing client in a suit between the State Attorney General and a manufacturer regarding warning requirements under California Proposition 65.
- Completed numerous risk assessments on potential exposure to dioxin in personal care products, food products, sludge, and effluents. These assessments estimated both baseline risk and set allowable "safe" dioxin levels.
- Completed a risk assessment for fiberboard and woodboard manufactures regarding offgassing of formaldehyde from the use of formaldehyde-based adhesives. The risk assessment addressed whether warning requirements, as specified under California Proposition 65, should be attached to these products. The assessment included the evaluation of formaldehyde pharmacokinetic and

biochemical data to estimate a cancer slope factor. The assessment supported the conclusion that no warning was necessary for this product.

 Provided support in the design of a site investigation of acidic sludge deposits at a refinery. The number of borings was based on the evaluation of the relationship between the size of the sludge deposit and potential groundwater contamination.

References

Available Upon Request.

Comments on	the Pacific Gas	& Electric Company	FROM: TRC	
Topock Comp	ressor Station S	Soil Investigation Project Dra	aft EIR	
Comment No.	Section/ Page	Reference Text	DEIR Comment (Please provide sufficient detail, include specifically what you are looking for)	
Sections 1 & 2				
1	in/a	n/a	There is no evidence presented in the DEIR that documents that the DEIR incorporated the Soils Staging/Storage/Construction areas developed through discussions with the Tribes and the DOI/BLM/BOR and detailed in the 1/2014 CHPMP Meeting. Please provide information on whether this was done, and if not, why not and what will be done to incorporate this important information.	Тб
2	General	Cumulative Impacts	A primary objective of the DEIR is to evaluate cumulative impacts (past, present, and foreseeable future) of the soil sampling program; however, previously drilled soil-sample boreholes are not shown or even mentioned in the DEIR. This DEIR should describe previous soil sampling impacts, plus new proposed soil sampling impacts, in order to discuss cumulative impacts of the soil program.	Те
3	General	Threat to groundwater	The objective is stated to assess the threat to groundwater; however, this threat and approach to assess it are not well described. For example, how does modeling fit into this assessment? Modeling has contributed to the increased number and depth of proposed boreholes; therefore, descriptions of modeling results are needed in the DEIR.	Тб
4	1.3 Summary of the Proposed Project – p. 1-1	The Investigation of soil which is the subject of this DEIR, along with existing data at the Project Site will enable the evaluation and selection of corrective measures, if necessary, in a future Soil Corrective Measures Study/Feasibility Study (Soil CMS/FS).	Please be more specific to what existing data is referring to. Is it only limited to soils data or is it inclusive of all data collected as part of the groundwater and soil investigations/remediation.	Те
5	Sect. 1.3.1 p. 1-2	Project Location	The terms "Project Area" and "Project Site" are used interchangeably throughout the report. Previous maps from the Soil Work Plan show the AOC boundaries: however, the DEIR maps show another area of gray shading around the AOC's. Why is space needed around the AOC's? Are these areas of anticipated impacts or disturbance?	Тб
6	1.3.2 Project Objectives p. 1-3	The primary and fundamental objective of the soil investigation activities is to gather sufficient soil samples to be able to reliably characterize the <i>nature and extent</i> of soil and sediment contamination within the Project Site.	As the driving force behind the soil sampling is to define nature and extent of the contamination, it is requested that the specific requirements used to determine if nature and extent has been adequately fulfilled be presented.	T6

ENCLOSURE D

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Comment No.	Section/ Page	Reference Text	DEIR Comment (Please provide sufficient detail, include specifically what you are looking for)
7	1.3.3.3 Bench Scale Tests and Pilot Studies, Pilot Studies p. 1-5	The in situ soil flushing pilot study would include the construction of either an infiltration gallery or four injection wells for the application of water	The Tribes had indicated during the 30% Groundwater BOD that an infiltration gallery within Bat Cave Wash is not an acceptable option. It was agreed as the project moved from 30% to 60% design that the Tribal perspective was to be respected and the infiltration gallery option was removed. The Tribes opinion on the inclusion of an infiltration gallery within the wash (whether short or long-term) has not changed. Please revise the EIR text.
8	1.3.3.3 Bench Scale Tests and Pilot Studies, Plant or Other Biota Sampling p. 1–5	Plant or other blota sampling may be conducted to evaluate the potential risk to herbivorous and invertivorous wildlife populations.	The inclusion of plant sampling to evaluate potential risk is inconsistent with the conclusions of exposure within the Groundwater risk assessment and the updated soils site conceptual models which indicate that this is an incomplete exposure pathway. Please indicate this within the EIR if this discussion is to continue to be included. Also please indicate what level of consistency is to be maintained between the soils EIR and the soils risk assessment.
Ð	2.2.1 Station History and Activitles p. 2-3	Soil within the Station fence line and in the vicinity of the Station has also been affected by historical releases of COPCs, including Cr(VI) and other metals, acids, petroleum hydrocarbons, polycyclic aromatic hydrocarbons (PAHs), polychlorinated biphenyls (PCBs), volatile organic compounds (VOCs), semivolatile organic compounds (SVOCs), dioxins and furans, pesticides, and asbestos (CH2M HILL 2013).	Please provide specific detail on which PAHs. PCBs. VOCs. semivolatile organic compounds (SVOCs), dioxins and furans, and pesticides have been detected above screening levels.
10	********	*********	This row intentionally left blank.

pock Comp	ressor Station S	ioil Investigation Project Dra	aft EIR
Comment No.	Section/ Page	Reference Text	DEIR Comment (Please provide sufficient detail, include specifically what you are looking for)
11	2.2.3 Groundwater Remediation – Page 2-5	The proposed soil investigation activities are therefore not an expansion of the Groundwater Remediation Project and should not change the nature or scope of the Groundwater Remediation Project. and In summary, potential soil contamination cleanup activities in the future may prove to be a key component of the overall cleanup efforts at the Station, but the proposed soil investigation effort is a separate project from the Groundwater Remediation Project and has independent utility.	Both the groundwater and the soils remediation projects have similar impacts within many of the same areas. Therefore it can be concluded that the two projects are intertwined and associated impacts should be considered together. Further evidence of the overlap of the Groundwater and Soils investigation can be found in the text which states "Many of the staging areas to be used for soil sampling activities have been used for staging during previous RFIIRI-related activities, and all are located in previously disturbed and existing operational areas with either existing natural topographic boundaries or fencing that defines the staging area boundaries."
ject Description	(Section 3)		
12	3.3 Project Location Figure 3-2		The actual area that is considered within the Soil Investigation Project Site is not clearly designated in the provided maps. For example it is indicated in the map key that the Soil Investigation Final Project Area is represented in pink, however the mouth of Bat Cave Wash is outlined in green and highlighted in brown. This doesn't make sense as this area is clearly included in the soil investigation. Please provide a map that clearly designates what is within the Soil Investigation Project Site.
13	Figure 3-3 p. 3-6	Investigation Detail Map 1	Site AOC-BWC7 is located within the same area identified as IM-3 Restoration Area in the <i>Draft Interim Measure No. 3 Decommissioning</i> <i>Report</i> of July 24, 2013. What is the relationship between the soil sampling and IM-3 decommissioning? Is there any overlap in order to

роск сотр	ressor Station	Soli Investigation Project Dra	IT EIR	
Comment No.	Section/ Page	Reference Text	DEIR Comment (Please provide sufficient detail, include specifically what you are looking for)	
14	Sect. 3.5.2,11 p. 3-29,	Investigation-derived waste (IDW)	At the request of the Hualapai Tribe, calculations were done by TRC indicating that about 2 cubic yards (one pickup truck) of soil sample material would be transported out of the project area for laboratory analyses. The DEIR shows 5 to 20 cubic yards of IDW will be produced, the difference is unclear, but the higher estimate might include drill cuttings, blading, and clearing. Can you be more specific regarding the types of IDW generated? Most of these other soils do not need to be stockpiled, but using XRF analysis could be returned immediately to the landscape, whether as borehole filler or land cover at selected locations. Are there any plans to reuse the clean IDW? How would they be used?	т
15	p. 3-31	3.5.3.2 Pilot Studies	The Soil Flushing operations are minimally-described in the Soils Work. Plan. Thus, the DEIR really has nothing to reference in that regard from the Soils Work Plan. The comment development in the Soils Work Plan references the CMS/FS for future development of the Soil Flushing. However, the DEIR seems to assume that Soil Flushing is part of the Soils Work Plan. This situation needs to be more completely addressed.	Тб
16	p. 3-13	3,5.3,2 In Situ Soil Flushing	In the DTSC comments during the 30% BOD response to comment process, it seemed that an infiltration gallery within Bat Cave Wash was removed from further consideration. However, it is included here again as a possible remedial option as part of a soil-washing pilot study. Regarding Exhibit 3-6 of the 30%, DTSC commented: "The note at the bottom of the exhibit indicates that the Infiltration Gallery in Bat Cave Wash option is deferred until after completion of the Soil RFI/FS and CMS/FS First, DTSC and a Tribe commented on the Gallery as it affected the soil work plan. PG&E indicated that the Gallery was no longer being considered , and therefore, soil comments related to the Gallery were dropped from further consideration. [emphasis added]" Regardless if an infiltration gallery is proposed as disposal of treated water or as a remedial option, the Tribal preference against such a construction in Bat Cave Wash is the same and should be clearly stated in the EIR text.	TĢ
17	3.5.2.7 Staging Areas p. 3-23	For example, during the operation of IM-3 injection wells, the Native American Tribes expressed a preference for unobtrusive, low-visibility boundary markers, so straw wattles were used as the primary means of boundary marking, with other delineation devices used only in other cellineation.	This statement should be reworded to say "In some areas, wattles have been used as a means of boundary marking, as they were generally low- visibility and less obtrusive. Other delineation devices have been used only in strategic locations. The current project will follow this same general means of marking work boundaries.	τ

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18	3.5.2.8 Work Area Exclusion Zone p.3-24	Figure of work zones	The figure indicates that the support zone will be located upwind of the exclusion zone. What happens when wind changes direction? Will the support zone be moved? Please discuss this and how this would increase the footprint of impact during soil investigation.	T6-244
19	3.5.2.9 Drilling or Excavation for Soil Samples p. 3-24	Efforts will be made to use the least intrusive method feasible depending on location	Please provide detail on how "least intrusive" will be quantified. Who will ensure that the least intrusive method is decided upon and implemented? Determination of "least intrusive" should be made in consultation with the Tribes	T6-245
20	3.5.2.11 Investigation- Derived Waste p. 3-29	After characterization, water generated from decontamination activities, estimated at up to 2,000 gallons, would likely be processed on-site at the existing IM-3 treatment facility and re-injected into the aquifer.	The IM3 facility is to be removed and therefore the inclusion of the facility for treatment of soil derived waste water needs to occur prior to the removal and should not in any way delay the scheduled removal of this facility. Please indicate the dates of IM3 removal and the anticipated dates that this groundwater facility would be used to process soils investigation derived waste water.	T6-246
21	p. 3-31	"Some of the more important Project Site- related parameters include variations in hydraulic conductivity, degree of heterogeneity and soil organic content. Soil permeability is a key factor in assessing the applicability of this technology. The site specificity of application of this technology necessitates extensive predesign data collection through pilot studies."	It's unclear what parameters are specifically needed – soil permeability? Why not saturated hydraulic conductivity? What about soil moisture retention characteristic and hydraulic conductivity relations for unsaturated zone?	T6-247
22	p. 3-32	"Contaminants would be transferred from soil to water, which would then be recovered via extraction wells."	Given the significant depth to ground water, especially in source areas, coupled with heterogeneities within the unsaturated zone, is there any potential that a portion of the flushed contaminants fluid may redistribute within the unsaturated zone, rather than assuming 100% is recoverable at extraction wells, that presumably extract from the saturated zone beneath the flushing? If so, how would this be recovered?	T6-248
23	p. 3-32	Paragraph 4	It appears 4 new injection and 4 new recovery wells (a total of 8 wells) would be installed, and then removed. Would these add to the total number of wells to be drilled? What would the approximate total depths and screened intervals be for each?	T6-249

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24	p. 3-33	1 st complete paragraph	Up to 6 borings will be drilled. Please include a spreadsheet inventory, like that for the groundwater remedy, for tracking borings/drilling related to the soils investigations and testing. Table 3-3 should be developed into such an inventory.	T6-25
25	p. 3-34	3.5.4	Please include a spreadsheet inventory, like that for the groundwater remedy, for tracking borings/drilling related to the soils investigations and testing. Table 3-3 should be developed into such an inventory.	Т6-25
26	3.5.5 Plant or Other Biota Samples p. 3-34		The inclusion of plant sampling to evaluate potential risk is inconsistent with the conclusions of exposure within the Groundwater risk assessment and the updated soils site conceptual models which indicate that this is an incomplete exposure pathway. Please indicate this within the EIR if this discussion is to continue to be included. Also please indicate what level of consistency is to be maintained between the soils EIR and the soils risk assessment.	Т6-252
27	3.5.6 Work Area Restoration p. 3-36	If not paved, the area would be raked/brushed to remove tire tracks and restored to substantially the same condition(s) as prior to the soil investigation sampling.	Please describe how this will be quantitatively evaluated. How will this activity be monitored before, during and after to assist in the evaluation?	Т6-25
28	3.5.8.1 Soil Sampling and Sample Analysis p.3-38	TABLE 3-4 SOIL SAMPLING FIELD IMPLEMENTATION SCHEDULE	When and if Pilot Studies in the Bottom of Bat Cave Wash are planned, Tribes should be involved in scheduling, monitoring, construction specifications and all phases of such studies.	Т6-25
29	TABLE 3-3 SOIL INVESTIGATION AREAS – TOPOCK COMPRESSOR STATION PROJECT SITE, NEEDLES, CALIFORNIA p. 3-38		The table indicates that boreholes of significant depth will be part of the soils investigation. Specifically AOC1 (80ft), AOC11 (69ft), AOC 26 (75ft), Storm Drain System (50ft). It is not clear why these boreholes are considered independent of the borehole count considered within the Groundwater EIR. It is suggested that the groundwater remediation project, the soils investigation and the future soil remediation project, the soil investigation boreholes will have a cumulative impact to the landscape and need to be considered within the Groundwater EIR. Specifically these borehole count addressed within the Groundwater EIR. Specifically these boreholes are to be considered to be context to the landscape and need to be considered within the borehole count addressed within the Groundwater EIR. Specifically these boreholes should be included in the borehole count which is to be capped at 168 boreholes.	Т6-25

Comment No.	Section/ Page	Reference Text	DEIR Comment (Please provide sufficient detail, include specifically what you are looking for)	
30	3.5.8.1 Soil Sampling and Sample Analysis p. 3-39	Anticipated vehicle use and trips are outlined in Table 3-5.	Please indicate within the text how these numbers were calculated.	Te
vironmental Anal	ysis (Section 4)			
31	Sect. 4.2.3.3 p. 4.2-15	Air Quality Impact Analysis	Unforeseen emissions might also arise from the project, such as trucking and transportation of laboratory samples, acid digestion of soil samples in laboratory fume hoods, and incineration or disposal of laboratory samples. These may occur off site, but are impacts of the project nonetheless.	T
32	4.3.1.1 Project Setting - Lower Colorado River p. 4.3-1		Why is Davis Dam not included in the description of the Lower Colorado River?	T
33	NPDES Construction General Permit 4.5.6		There needs to be development of necessary erosion control plan specifics for pilot-scale testing in Bat Cave Wash.	10
34	4.3.1.2 General Biological Resources p. 4.3-4		Why is the Instream Habitat Typing Survey Technical Memorandum not listed or discussed?	Te
35	4.3.1.3 Jurisdictional Resources p. 4.3-14	It is assumed that the resources mapped within the Project Site in Figure 4.3-2 are considered jurisdictional under Section 404 of the Clean Water Act (CWA) and therefore also qualify for jurisdiction under Section 401 of the CWA administered by the RWQCB, and Section 1600 of the California Fish and Game Code administered by CDFW (CH2M Hill 2013).	Please be specific if ALL (i.e. all features indicated within the map key under Wetlands) of the resources included in Figure 4.3-2 are considered jurisdictional under Section 404 of the Clean Water Act (CWA).	T

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Comment No.	Section/ Page	Reference Text	DEIR Comment (Please provide sufficient detail, include specifically what you are looking for)
36	TABLE 4.3-3 SPECIAL-STATUS SPECIES POTENTIALLY OCCURRING IN THE PROJECT SITE p. 4.3-27		It is unclear why bird species which have been documented in riparian areas around the Project Site are listed as "could occur" and not "likely to occur". The level of Potential for Occurrence appears inconsistent within the evaluation "Could occur" has been assigned to species such as the desert tortoise and the Nelson's bighorn sheep both of which have never been sighted within the APE and is defined within the DEIR report as "Suitable habitat is available in the Project Site; however, there are few or no other indicators that the species might be present". Bird species such as the Southwestern Willow FIy Catcher are also listed as "could occur" even though the Project Site provides suitable nesting and foraging habitat within the large stands of salt cedar along the banks of the Colorado River. This species has been documented in riparian areas around the Project Site, primarily at Topock Marsh, and has been detected near Park Moabi Lagoon. It is suggested that bird species that have been sighted within the APE be listed as "likely to occur"
37	4.3.1.6 Sensitive Biological Resources Special-Status Mammal Species p. 4.3-39	Nelson's bighorn sheep and signs thereof (tracks, scat, etc.) were not observed within or near the Project Site during the various biological surveys, however, according to the CNDDB (2013), Nelson's bighorn sheep have been documented in the mountains south of the Project Site (Figures 4.3-3, 4.3-4 and 4.3-4c). The species may use the foothill portions of the Project Site for foraging and movement, but no lambing habitat occurs within the Project Site.	The language in the DEIR suggests that only the foothill portions of the site may be used by the Nelson's bighorn sheep. This is inconsistent with the soils risk assessment work plan, which intends to evaluate risk for the bighorn sheep as if exposures in the floodplains and Bat Cave Wash are occurring. The assumptions in the RAWP and the EIR and any other related documents must be made consistent
38	4,3.2 Regulatory Background		The lack of discussion of the designated Area of Critical Environmental Concern (ACEC) which is a conservation ecology program in the western United States, managed by the Bureau of Land Management conceived in the 1976 Federal Lands Policy and Management Act (FLPMA), and established the first conservation ecology mandate for the BLM appears to be a significant oversight in this section of the document. Please include a discussion on the ACEC and the jurisdiction of the management plan developed under the ACEC program.

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39	4.3.3.3 Impact Analysis Regulatory Requirements and Avoidance Measures p.4.3-52	However, PG&E must still comply with avoidance and minimization measures (AMMs) attached to the March 6, 2013, letter and any additional mitigation measures in this DEIR.	Please include the AMM attached to the March 6, 2013, letter as appendix to the DEIR.
40	4.3.3.3 Impact Analysis Regulatory Requirements and Avoidance Measures p. 4.3-52	Project-related activities that could be hazardous to aquatic life or waters of the state, shall be prevented from contaminating the soil and/or entering the waters of the state and shall not be deposited within 150 feet of the high water mark, unless containerized.	Please provide a map of soil investigation activities and the 150ft above high watermark to ensure compliance with the Regulatory Requirements and Avoidance Measures.
41	4.3.3.3 Impact Analysis Mitigation Measure BR-1: No net-loss of Wetland, Riparian or other Sensitive Habitat Function or Value p. 4.3-56	Before undertaking ground-disturbing activities within East Ravine and Bat Cave Wash. a qualified biologist shall coordinate with PG&E to ensure that the footprints of investigation activities, including drill pads, staging areas, and access routes, are designed to avoid disturbance to sensitive habitats to the extent feasible.	Please provide a more quantitative definition of "extent feasible" Who defines this and who ensures compliance? Any evaluation should include ethnobotanical uses by the Tribes.
42	Mitigation Measure BR-4: Disturbance of Special-Status Birds p. 4.3-59	Where possible, vegetation trimming, pruning, or clearing and other activities shall be timed to avoid the nesting season for special-status bird species that may be present (March 15 through September 30)	Please provide a more quantitative definition of "Where possible", Who defines this and who ensures compliance? Ethnobotanical uses and gathering practices of the Tribes should be taken into consideration.
43	Fish Mortality. Interference with Spawning Habitat, and Other Adverse Aquatic Effects Regional and Local Plans D 4 3-65	No conflicts with BLM's management plan are anticipated with implementation of the proposed Project. The proposed Project is not considered a prohibited activity and the Project activities would not degrade the biological resources element of the ACEC.	Please provide reference to BLM's ACEC management plan and describe what are the biological resource elements of the ACEC. Prohibited activities are not the only activity of concern, nor the only kind of activities with potential impacts or land use inconsistencies. Please expand this discussion.

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44	4.5.3.2 Thresholds of Significance p. 4.5-11	No new access roads would be built for the proposed Project and no increases in traffic volumes are anticipated that would conflict with an adopted emergency response plan or emergency evacuation plan.	It is not clear what this is intended to suggest. New access roads are planned for sampling efforts (e.g. access to the mouth of Bat Cave Wash) and increased traffic volumes will occur along National Trails Highway as well as other secondary dirt roads on the site during sampling activity. Please clarify why this is not considered within the impact analysis. In addition it appears that the impact analysis did not consider the potential spill of contaminated soils and waste water that are being transported off- site. Why is this possible occurrence omitted from discussion?	T6-27
45	Potential for Hazardous Materials Release p. 4.5-12	As a part of the grading and site preparation elements of the Project, PG&E will implement and conduct the following actions: Complete a Risk Assessment to determine pollution prevention requirements pursuant to the three Risk Levels as established in the CGP and relevant for the proposed Project.	Is this intended to suggest that the Soils Risk Assessment which will be conducted after the soils investigation will be used to determine pollution prevention requirements? Sequentially this does not make sense.	Т6-2
46	p. 4.5-17		A flood-induced washout of a pilot test site in Bat Cave Wash would be a significant impact, but this possibility has not been discussed or evaluated, and it needs to be.	T6-2
47	Sect. 4.6.1.2 p. 4.6-5	Surface Water	The DEIR states that the Colorado River is a losing reach at this location; however, it needs to be clarified that the IM-3 pumping might draw some water from the river, but the water is returned to the aquifer through injection wells. Topock modeling reports indicate that about 610 acre-feet per year exit the Mohave Valley. Regardless of the groundwater pumping and circulation established by IM-3, there would still be a net groundwater discharge from the basin.	T6-2
48	Sect. 4.6.3.2 Thresholds of significance p. 4.6-16	"Project site is not in an area that would be subject to inundation."	The project area is subject to frequent floods, especially Bat Cave Wash. Field workers, equipment, drill rigs, stockpiled soils, and sampling activities are at risk for flash floods in the project area. In an extreme case of dam failure, the Bureau of Reclamation (1993) indicated a flood elevation of 545 feet at the Topock site, which would inundate many areas of the soil investigation.	T6-2

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Comment No.	Section/ Page	Reference Text	DEIR Comment (Please provide sufficient detail, include specifically what you are looking for)	
49	Surface Water quality – Colorado River p. 4.6-6	"As noted previously and discussed further in this document, the IM-3 extraction system prevents groundwater from entering the Colorado River."	This statement is not true and needs to be reworded to be factually correct, e.g., As noted previously and discussed further in this document, between river miles XX and YY, the IM-3 extraction system acts to significantly diminish groundwater flow into the Colorado River on the California side of the river."	T
50	Ephemeral Drainages Section p. 4.6-6		Mo and Se concentration ranges are presented but not discussed. Please discuss the significance of these analytical results.	T
51	Ephemeral Drainages Section p. 4,6-6	2 ^{res} full paragraph, last 2 sentences	Please state the background concentrations and MCLs for TDS (as specific conductance), As. Mo. Se and Nitrate.	τ
52	NPDES Construction General Permit p. 4.6-12	First two (or more paragraphs)	This section of text appears to repeat verbatim content presented elsewhere in the Draft EIR (see page 4.5-6), Was this intentional?	Įτ
53	SOP-B4 (Boring Abandonment) p. 4.6-14	"The proposed Project will follow the SOPs In the Topock Program Sampling, Analysis, and Field Procedures Manual, PG&E Topock Compressor Station, Needles, California (CH2M HILL 2005b), which are included as Appendix G of the Work Plan."	As part of the GW remediation work, the Tribes have worked with PG&E and their consultants to prepare well and boring abandonment procedures. During this process, the Tribes have expressed a preference to avoid bentonite or other non-native materials as abandonment materials if possible. To the extent possible, these same preferences are valid for the soil sampling program. Where possible, natural materials should be used, at a minimum, to abandon the approximate top two feet of a boring. Note that the SOP-B4 does not match the language under p. 3-30, Section 3,5,2,12 – which <u>does</u> allow for: " <i>native soil would be used to fill the top 6 to 12 inches</i> ". The soil sampling program needs to be flexible regarding the placement of filler material within boreholes on a case-by-case basis and incorporating Tribal preferences.	τ
			In additional, the surface expression of any abandoned boring should not pose a hazard to animals or humans, consistent with well abandonment procedures developed for the GW remediation program. Care should be taken to restore surface soils and plants to ensure that long-term visual disturbance does not occur.	Te

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Comment No.	Section/ Page	Reference Text	DEIR Comment (Please provide sufficient detail, include specifically what you are looking for)
54	p. 4.6-16 4 th bulleted item		It is stated that the failure of either Hoover Dam or Davis Dam would not inundate the Project Site area. While the inundation mapping for a catastrophic failure at Hoover Dam is highly classified information, and the probability of such an event is extremely low, the statement would seem to be untrue, especially for the river bank wells and IRZ area which are at the lower elevations for the project inundation might not be in the forecast. Generally speaking, there needs to be a straightforward and complete discussion in the EIR of Colorado River and Bat Cave Wash flood hydraulics and flooding potential which includes the very small nsk of inundation from upstream dam failure. This discussion should address how a flood on the river is not the same as a flood on the wash. Please critically evaluate the validity of the referenced County General Plan Hazard Maps regarding inundation zones shown for a failure at Davis or Hoover Dams.
55	p. 4.6-22	"Because the Project does not include the construction of impervious surfaces that would impede surface water infiltration into the subsurface, the Project will not impact the recharge of groundwater."	Does this suggest that none of the activities (i.e., compaction of soils in soil sampling/drilling/injection/extraction locations, or infiltration galleries) would affect recharge of groundwater in associated areas, unless the surface was paved? The literature suggests otherwise.
56	p. 4.6-23	"These grading and ground disturbance activities could disturb soil and alter drainage patterns such that rain events could result in the discharge of polluted runoff to drainages and eventually to the Colorado River. These grading and ground disturbance activities could alter drainage patterns of localized areas such that rain events could exceed the capacity of existing or planned stormwater drainage systems. The alteration of drainage patterns could also increase the potential for on-site or off-site flooding."	This statement seems to support the opposite conclusion cited in the previous Impact-Hydro1 statement in page 4.6-22, mentioned in previous comment: Though, the text then says that PG&E will implement SOPs and BMPs , will efforts be made to reduce the potential for creating areas of focused groundwater recharge (and unnecessary spread/transport of contaminants into undesired areas)? The text in this section suggests the focus would only be to prevent surface drainage routes to the Colorado River, or potential onsite/offsite flooding. Though SOPs and BMPs may reduce direct drainage to the Colorado River, they should also reduce the potential for concentrating any storm-water surface flows into non-impacted areas – to avoid expanding the current impacted sol/groundwater areas.

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Comment No.	Section/ Page	Reference Text	DEIR Comment (Please provide sufficient detail, include specifically what you are looking for)
57	p. 4.7-4 last paragraph	A typical ratio is 10, so that marks on the scale read: 1, 10, 100, 1,000, 10,000, etc., which doubles the variable plotted on the x-axis. The human ear perceives sound in a non-linear fashion, hence the decibel scale was developed. Because the decibel scale is based on logarithms, two noise sources do not combine in an additive fashion,	Please modify to read: A typical ratio is 10, so that marks on the scale read: 1, 10, 100, 1,000, 10,000, etc. The human ear perceives sound in a non-linear fashion, hence the decibel scale was developed. Because the decibel scale is based on logarithms, sound pressure (noise) levels from two noise sources do not combine in a linear additive fashion.
58	Section 4.7.1.4 (Noise Attenuation)		Please include a sentence/paragraph addressing how noise attenuation can, in some circumstances, be diminished, leading to noise levels that are greater than would otherwise be expected or observed.
59	Section 4.7.1.5. (Vibration)		This 1-pargraph section needs to include a sentence such as the following: Certain ground conditions, for example, caliche layers, can enhance vibration transmission (by agency of reduced attenuation), relative to conditions that would exist in the absence of such conditions. In rare situations, standing waves and other wave phenomena may result in amplification of vibration amplitude.
60	Section 4.7 1.6 (Existing Noise Environment)		There needs to be a discussion of the fact that the "intervening mesas" do not block all noise from the Topock Compressor Station. For example, all the location of ST-1, an area of great relevance to Tribal members, the compressor station is quite possibly the most significant noise source, during either day or night.
61	Section 4.7 1.6. (Existing Noise Environment) and Figure 4.7-2		Please provide an explanation as to why the 2013 ST-1, ST-2 & ST-3 (green symbol) measurement locations are not even close (especially for ST-2 and ST-3) for different epochs of measurements. The legend should indicate month and year of the data acquisition, as there were measurements in early 2013 by PG&E, and again in late 2013 by DTSC contractors for the EIR development.
62	Section 4.7.1.6 (Existing Noise Environment)		Please add a chronology for the 3 separate noise level measurement campaigns (2008, for the groundwater EIR; 12/2012-1/2013 for groundwater remedy design development; 12/2013 for soils EIR), rather than mixing them all together.

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Comment No.	Section/ Page	Reference Text	(Please provide sufficient detail, include specifically what you are looking for)	
63	Section 4.7.1.6 (Existing Noise Environment)	Local roadway traffic, rail operations, aircraft overflights and wind gusts dominated the noise environment at each of the noise measurement sites.	This interpretation is not correct. For example, at the location of ST-1, Topock Compressor Station noise does at times dominate the noise environment, and, at LT-C, ST-4, ST-8 and LT-A, the compressor station noise is likely to be a significant or dominant component of measured noise.	
64	Section 4.7.1.6 (Existing Noise Environment)		Please include explanations of the rationale for noise measurement site selection for, at a minimum, the 12/2013 noise measurements made as part of the soils EIR development, identification of the equipment used, and provision of the measurement protocols followed.	
65	Table 4,7-1		Please consistently indicate the source of the data by month/year, e.g., 12/2013, or December, 2013. For sites 4 thru 9, a footnote should be added, indicating that a single 15-minute measurement was made at each location in December of 2013.	
66	p. 4.7-9 (Vibration-Sensitive Land Uses)		Please add a statement to the effect that Tribal uses at various locations across the TCP would also be considered vibration sensitive.	
67	p. 4.7-10 (State of California). 2 rd paragraph		In the second sentence, it is stated that "Caltrans recommends a more conservative threshold" Please clarify the meaning of more conservativei.e., conservative RELATIVE to what?	
68	p. 4.7-18 first complete paragraph	soil investigation sampling activities could lead to	Please modify to read:,soil investigation sampling activities AT WHICH LOCATIONS could lead to	l
69	p. 4.7-18 first complete paragraph	The nearest sensitive residence to the active soil sampling area	Please add a sentence to be more specific about the residence location and the soil sampling location.	ľ
70	p. 4.7-19, second bulleted item	Pneumatic powered socket shielded.	Please modify to read: Pneumatic-powered socket wrenches shall be low- noise (<85 dBA when operating - such as pneumatic-powered air pulse wrenches), and all intake and exhaust ports on power equipment, such as engine driven air compressors, shall be muffled and shielded using best- available technology.	F

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Comment No.	Section/ Page	Reference Text	DEIR Comment (Please provide sufficient detail, include specifically what you are looking for)
71	p. 4.7-19. fourth bulleted item		Please modify to add: The PG&E Disturbance Coordinator will also verify and document (sub)contractor and (sub)consultant compliance with all EIR Noise and Vibration Mitigation Measures. For example, the Disturbance Coordinator will verify and document that (sub)contractors possess at the site and are using the required low-noise pneumatic wrenches, and that intake and exhaust ports on power equipment are multiled and shielded while such equipment is in operation.
72	Table 4,7-5 p. 4,7-20	VIBRATION VELOCITIES FOR CONSTRUCTION EQUIPMENT	Based on footnote <i>b</i> , this table appears to have been prepared with consideration only for adjoining residential land use. It needs to be modified to also take into consideration non-residential Tribal use locations, even hypothetical locations identified by the EIR authors, as those locations are highly relevant and they could be much closer to the source(s).
ther CEQA Section	ns (Section 5)		
73	5.1.1 Cultural Resources Topock Traditional Cultural Property p. 5-2	The Project is being proposed notwithstanding these effects because the soil investigation activities are necessary to gather sufficient information to reliably characterize the nature and extent of soil and sediment contamination within the Project Site, enabling completion of the Final RFI/RI Report Volume 3 (Soil) and risk assessment as required by the 1996 Consent Agreement as soon as practicable and consistent with applicable state laws and regulations.	We would like a better understanding of the validity of this statement. It is possible that there is enough soil data to adequately characterize risk? The PG&E risk assessment team has already acknowledged that they have determined that current dataset adequate. The additional step out sampling proposed under the soil investigation will only result in less conservative EPC values because these step-out samples will have lower contaminant concentrations. It is important that the requirements needed to reliably characterize the nature and extent of soil and sediment contamination within the Project Site be clearly defined and included in the DEIR document. If the assumption is true that additional sampling will only decrease the EPC values and the subsequent calculated risk then it would appear that a conservative alternative for reducing impacts would be less sampling and this must be evaluated in the DEIR as a reasonable alternative to achieve project goals.

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Comment No.	Section/ Page	Reference Text	DEIR Comment (Please provide sufficient detail, include specifically what you are looking for)	
74	5.3.1 Agricultural Resources p. 5-6	The proposed Project Site is characterized by arid conditions and high temperatures. While there are agricultural uses north of the Project Site and in Needles along the Colorado River, the landscape at the Project Site consists of considerably eroded small to moderately sized terraces with very steep slopes. These conditions are not conducive to agriculture uses. The National Resource Conservation Service has not mapped soils in the Project Site; therefore, no soils in the area have been designated as agricultural soils (NRCS 2013).	The statement that the conditions of the area are not conducive to agriculture uses contradicts the inclusion of a sustenance farm scenario in the risk assessment. The assumptions in the RAWP and the EIR and any other related documents must be made consistent.	T6-303
75	Sect. 5.3.10, and Appendix E p. 5-13	Transportation and Traffic	Traffic impact analysis does not describe the condition of current roads and whether the roads can handle the additional traffic.	Т6-304
75	Sect. 5.3.10, and Appendix E p. 5-13	Transportation and Traffic	Few descriptions were provided for traffic on the historical Route 66 past the IM-3 facility and Park Moabi South road to the Compressor Station. Both of these roads pass through important cultural areas. How many vehicle trips would be added to these segments?	T6-305
77	Sect. 5.3.10, and Appendix E p. 5-13	Transportation and Traffic	The DEIR indicates that roads and access routes will be improved, graded, or cleared; where other sections of the report indicate that there will be no disturbance, or kept to a minimum. Is there a possibility that there will be no need for any grading or clearing?	Т6-306
78	5.3.11.1 Soil Waste p. 5-17	The waste soil will be stored in U. S. Department of Transportation-compliant drums or lined, steel roll-off soil bins that would be temporarily staged in previously used staging areas to the extent practicable.	Please provide displaced soil volumes associated with all aspects of the soil sampling plan.	Т6-307
79	5.3.11.1 Soil Waste p. 5-18	As shown in Table 5-3, the maximum projected waste stream of up to 20 cubic yards would not exceed the available capacity of relevant landfills.	Please provide more detail on the assumptions used to develop this quantity. Additionally, supporting documentation, calculations, and assumptions need to be included in the report. If these projected estimates are exceeded, what action will be taken?	T6-308

Comment No.	Section/ Page	Reference Text	DEIR Comment (Please provide sufficient detail, include specifically what you are looking for)	
80	5.3.11.2 Water and Wastewater Soil Sampling Activities and Geotechnical Evaluation p. 5-19	It is expected that up to 2,000 gallons of wastewater would be generated from soil sampling (plus 500 additional gallons of wastewater for contingency sampling if required).	Please provide more detail on the assumptions used to develop this quantity. Additionally, supporting documentation, calculations, and assumptions need to be included in the report. If these projected estimates are exceeded, what action will be taken?	T6-
81	5.3.11.2 Water and Wastewater - Pilot Studies, In Situ Soil Flushing p. 5-20	The amount of water required for the flushing would range between 700,000 to 1,000,000 total gallons of water (approximately 8,000 gallons per day).	Please provide more detail on the assumptions used to develop this range. Additionally, supporting documentation, calculations, and assumptions need to be included in the report. If these projected estimates are exceeded, what action will be taken?	T6-
82	5.3.11.2 Water and Wastewater - Pilot Studies In Situ Soil Flushing p. 5-21	PG&E's existing Lower Colorado River Water Supply Project contracted entitlement is 422 AFY. Water at the Station is supplied by wells located on the Arizona side of the Colorado River, and these wells would also supply water needed for in situ soil flushing. Up to 1,000,000 gallons of water (approximately 3 AFY) generated from soil flushing is a fraction of the 70 to 100 AFY of water used at the Station.	Please discuss the elevated arsenic and fluoride levels associated with the Arizona groundwater and whether this would trigger any regulatory requirements for the use of this water for soil flushing and in situ soil treatment. Would one need to ensure that arsenic is not migrating to groundwater?	T6-3
83	5.3.11 2 Water and Wastewater - In Situ Stabilization/Chemic al Fixation p. 5-21	The in situ stabilization/chemical fixation pilot study would involve the application of water or additives containing water to soil to enhance contaminant solubility.	What are the additives and what level of assurance will be provided that these additives will not become a new soil contaminant?	T6-3
umulative Analysis	s (Section 6)	1		
84	Section 6.4.2 (List of Related Projects in the Vicinity)		Prospective pipeline company (PG&E – other than remediation-related, Southern California Edison, Kinder-Morgan, Southwest Gas), City of Needles electrical, and BNSF improvement projects are not included but should be considered in this section.	T6-3

16

Comments on t	he Pacific Gas	& Electric Company	FROM: TRC]
Topock Compre	essor Station S	oil Investigation Project Dra	ift EIR	
Comment No.	Section/ Page	Reference Text	DEIR Comment (Please provide sufficient detail, include specifically what you are looking for)	
85	Section 6.4.2 p. 6-6	Baseline/existing conditions: "The existing infrastructure within the Project Site, including roads, bridges, railroads, and utilities are not included in the Table 6-3, since these past projects in the vicinity of the proposed Project are part of the baseline/existing conditions"	Please explain how the EIR is differentiating between environmental baseline and past projects contributing to cumulative effects, particularly to soil. It is important to specifically mention large land usage/disturbances that have involved soil removal and/or expansion of the TCS foot print outside of the facility fence line when discussing what is included in this "baseline". Presumably, the term "baseline conditions" used herein incorporates major expansions of the facility foot print represented by the area used for the former evaporation ponds, the 1989 construction, on BLM land, of new evaporation ponds, and the "time-critical" soils removal action conducted in 2010 at AOC 4. Both generations of evaporation ponds utilized large tracts of previously open lands, and the soils removal action at AOC4 resulted in a large area of disturbance and soils removal. While each of these occurred prior to the initiation of this EIR document, they all constitute significant and permanent or long lasting damage of the landscape which significantly increased the impact to the area, and encroached upon the most sensitive of the cultural areas included in this EIR. Please include each of these past projects in the cumulative impact analysis evaluated within this document.	T6-314
86	6.4.2 List of Related Projects in the Vicinity p. 6-6	The soil characterization and investigation proposed as part of this DEIR will by nature be completed by the time the soil remedy is identified and implemented and therefore no temporal overlap between the soil investigation Project and the soil remediation would occur. As such, the potential effects of any future soil remediation are not included in this cumulative analysis.	The DEIR text states that: "This chapter presents an analysis of the cumulative effects of the proposed Pacific Gas and Electric Company (PG&E) Topock Compressor Station Soil Investigation Project (Project) in combination with other past, present, and reasonably foreseeable future projects within the Project Site and surrounding area that could cause related environmental impacts similar to those anticipated to occur under the proposed Project and discussed in this draft environmental impact report (DEIR)" It would appear that the final soils remedy would fall under the category of past, present, and reasonably foreseeable future projects and therefore it is not clear why it isn't being considered in the cumulative analysis. Please include the final soils remedy under the cumulative impact analysis evaluated within this document.	T6-315

Comment No.	Section/ Page	Reference Text	DEIR Comment (Please provide sufficient detail, include specifically what you are looking for)
87	TABLE 6-3 LIST OF PROJECTS LOCATED AT OR WITHIN THE VICINITY OF THE PROPOSED PROJECT		Why is the development of the ACEC management plan not listed?
88	TABLE 6-3 LIST OF PROJECTS LOCATED AT OR WITHIN THE VICINITY OF THE PROPOSED PROJECT		The time-critical removal action which resulted in significant soil excavation from AOC-4 should be included in this table.
89	6.4.2.1 PG&E Topock Compressor Station Projects Ongoing Operation of Interim Measure 3 Emergency Groundwater Extraction and Management (1B) p. 6-10		Why is removal of IM3 not considered as a PG&E project and subsequently discussed in the cumulative impact analysis??
90	6.4.2.1 PG&E Topock Compressor Station Projects Groundwater Remediation Project at the Station (1C)	It is not anticipated that construction of the Groundwater Remediation Project would overlap with the proposed Project's soil investigation activities.	Groundwater activities currently and will be occurring at the site. For example current activities associated with freshwater source characterization are ongoing and will likely overlap with soil investigation work. Please correct this statement.

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Comment No.	Section/ Page	Reference Text	DEIR Comment (Please provide sufficient detail, include specifically what you are looking for)
91	6.5.8 Hazards and Hazardous Materials p. 6-26	The PG&E projects are restricted to the area local to the Station, and would not be expected to be compounded by other projects in the area due to the physical separation.	Please confirm that the release of hazardous materials through transportation to waste disposal sites has this been considered.
ternatives to the F	Proposed Project (Sect	ion 7)	
92	Section 7.5.1 p. 7-6 to 7-8	Rejection of Tribal Land Use Alternative	DTSC presents their basis for rejection of the Tribal Land Use Alternative with respect to the selection of soil screening levels to direct the soils sampling program. However, in order to reduce the drastic and ultimate potential for significant damage to the landscape due to soil remediation and/or removal activities, the various reasonable and realistic scenarios described in the Tribal Land Use Alternative should be fully considered during the evaluation and interpretation of the soils data collected in this program.
93	Table 7-1 p. 7-5	"Impact CR-2" "No known unique archaeological resource have been identified within the Project Site."	The assumption that areas outside of loci A, B, and C do not contain unique archaeological resources is incorrect. The participating Tribes submitted a TCVA amendment in April 2014 to address an area outside of the defined loci A, B and C that was designate highly sensitive for its elements of cultural patrimony and association with the Topock TCP. Because of the highly cultural, spiritual, and religious nature of this area it goes beyond archaeological manifestations and therefore cannot be addressed solely through archaeological methodology. The TCVA exclusion area has been adopted by BLM and activities within the exclusion area have been modified to reduce the project activity footprint in this area. Please clarify what constitutes a unique archaeological

.

Comments on t	he Pacific Gas	& Electric Company	FROM: TRC	
Topock Compressor Station Soil Investigation Project Draft EIR				
Comment No.	Section/ Page	Reference Text	DEIR Comment (Please provide sufficient detail, include specifically what you are looking for)	
94	7.5.2 p. 7-10	"a commenter presented an alternative that would go beyond the proposed investigative and data collection activities, and would also incorporate cleanup actions into the proposed Project. Under this alternative, toxins and chemicals of concern would be removed when found, thereby expediting the cleanup process."	Practical experience has shown that soil removal actions that progress as the characterization samples are taken typically result in much greater soil removal than would have occurred with a more deliberate and considered course of action where sufficient time is allowed to fully study and understand the characterization data. A careful consideration of the data, and evaluation of whether or not removal is even necessitated, and if so how it may be controlled and minimized is preferred.	т6-323
95	7.6.1 Reduction of Project Footprint Alternative (Avoid Mouth of Bat Cave Wash) p. 7-11 to12	"If DTSC were to eliminate sampling in this area, the information necessary to fully evaluate the nature and extent of contamination known to be present in this area would not be collected and the fundamental objectives of the Project would not be met."	The EIR argues that elimination of soil sampling at the mouth of Bat Cave Wash is unavoidable in order to achieve the goals of the project. However, every effort to avoid unnecessary sampling should be considered, given the wholesale impact that drilling and sampling at the planned 23 locations would have to this part of Bat Cave Wash. The seven samples that this additional sampling event was based upon only show nominal exceedances above background and/or threshold concentrations. It would seem logical to try to avoid unnecessary sampling in this area if data supported it. Therefore, if sampling were to occur in a phased manner, such as sampling at the northern most and southern most locations first, an evaluation of this data might indicate that the full 23 sample locations are not necessary.	T6-324



Fort Mojave Indian Tribe TIMOTHY WILLIAMS - Chairman SHAN LEWIS - Vice-Chairman COLLEEN GARCIA - Secretary MARTHA McCORD - Council Member • NICHOLE GARCIA - Council Member LINDA OTERO - Council Member • NORVIN McCORD SR. - Council Member 500 Merriman Avenue • Needles, CA 92363 (760) 629-4591 • FAX (760) 629-5767

June 28, 2013

Ms. Karen Baker, CEG, CHG Chief, Geological Services Branch Department of Toxics Substances Control 5796 Corporate Avenue Cypress, California 90630

Dear Ms. Baker:

This letter responds to your April 15, 2013, letter soliciting the Fort Mojave Indian Tribe's (the Tribe or FMIT) input on key view locations for use in the proposed soil investigation environmental impact report (EIR). As you are aware, on June 5, 2013, FMIT and representatives of the CRIT, Hualapai, and Cocopah, met at the Topock Compressor Station to view candidate soil storage areas as well and discuss the approach to ESA's "Key View Points" evaluation. At that meeting, the Tribes requested further time to consult with Tribal Elders on the concept and approach. Subsequently, the Tribe received a June 7, 2013, "Topock View Point" Map received from Ms. Candace Ehringer of ESA, which depicts both the selected Groundwater Remediation Final EIR key views and the proposed soil investigation EIR key views. The Tribe was also informed that, at present, no key view points have been selected for the freshwater source plan. On June 17, 2013, representatives of the aforementioned Tribes and the Chemehuevi Tribe met to continue discussion of the Key View approach.

As a result of these various levels of review, I am hereby submitting the attached technical memorandum prepared by the Tribe. This memorandum summarizes the Tribe's position on the approach to the "Key View Evaluation" proposed by your consultant, ESA, and recommends an approach that we believe is superior in terms of achieving the Tribe's objectives relating to the evaluation of aesthetic impacts.

Thank you for the opportunity to participate in this process. Please contact Ms. Nora McDowell-Antone if you have further questions or when DTSC and ESA is prepared to initiate the assessment.

Sincerely,

Timothy Williams, Chairman

Fort Mojave Indian Tribe

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ENCLOSURE E

Cc: N. McDowell-Antone L. Otero Michael Sullivan, FM Consultant Leo Leonhart, Hargis Courtney A. Coyle Steve McDonald Cocopah Indian Tribe Hualapai Indian Tribe Colorado River Indian Tribe Colorado River Indian Tribe Pam Innis, DOI Kim Liebhauser, BLM LHFO Aaron Yue, DTSC Bobbette Biddulph, ESA Monica Strauss, ESA Candace Ehringer



AHAMAKAV CULTURAL SOCIETY

Fort Mojave Indian Tribe

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FMIT TECHNICAL MEMO Key Views & Aesthetic Impacts June 28, 2013

On April 15, 2013, Ms. Karen Baker of DTSC sent a letter soliciting FMIT's input on key view locations for use in the proposed soil investigation environmental impact report (EIR). As you are aware, on June 5, 2013, FMIT and representatives of the CRIT, Hualapai, and Cocopah, met at the Topock Compressor Station to view candidate soil storage areas as well and discuss ESA's "Key View Points" evaluation approach. At that meeting, the Tribes requested further time to consult with Tribal Elders on the concept and approach. Subsequently, the Tribe received a June 7, 2013, "Topock View Point" Map from Ms. Candace Ehringer of ESA, which depicted both the selected Groundwater Remediation Final EIR key views and the proposed soil investigation EIR key views. The Tribe was also informed that, at present, no key view points have been selected for the freshwater source plan. On June 17, 2013, representatives of the aforementioned Tribes and the Chemehuevi Tribe met to continue discussion of the ESA proposed key view approach.

After consideration of the proposed key view points and the concept underlying this approach toward the evaluation of certain aesthetic impacts of the project (*i.e.* visual impacts), the Tribes concluded that an approach involving selection of specific points and associated directional viewing of project areas is flawed and does not reasonably achieve the objective of full and proper assessment of the impacts to aesthetics, including in the context of Tribal cultural and religious values, in several respects.

This conclusion was based on the fact that physical changes in the project area result in visible changes to the landscape generally regarded as aesthetic impacts. Such visible impacts can also affect the relational/spiritual perceptions that Tribal members have for the site and historic property. These perceived impacts are as significant to Tribal members as visible impacts. It is important to the Tribes to include and describe both the visual and perceptual impacts of any site activities in the Soils Investigation EIR.

As a means of beginning to understand the difference between Indian and Western Scientific perspectives, it has been suggested that:

"[The Indians'] assessment is synecological – observing the whole environment (e.g., water, shoreline, vegetation, marine and land animals) as a vast network of interrelationships in which an abnormal observation in one part indicates to the ill health of the whole. In contrast, the Western Scientific approach selects samples of specific subsets of the environment for scrutiny, according to a prescribed design, draws specific conclusions based upon the analysis of those samples, and then makes carefully bounded extrapolations of their conclusions to other parts of the environment."

¹ Rodgers, W.H., ND. "The Indian approach: holistic, empirical, grounded in local knowledge, adaptive, and applied. In *Environmental Law in Indian Country. v. 1, p. 353.* 839.07 View Point Memo

While this observation is presented in the context of the impacts of contamination on subsistence salmon fishing, the broader concept is indeed relevant to FMIT spiritual values related to the Site.

CONSENSUS

Based on the consensus apparent from the June 17, 2013, meeting the Tribes feel that:

- The exercise should focus on viewsheds, as differentiated from viewpoints or even view corridors.
- A viewshed should be established for each area proposed for sampling, wells or other actions. However, in some instances it may be possible to establish a single viewshed appropriate for multiple areas/project components in close proximity.
- The Tribes should be given the opportunity to provide input on the impacts to Tribal cultural and spiritual values, preferably before any draft environmental document is circulated for public review.

VIEWSHEDS

The term viewshed is used widely in planning, military science, of course, cultural resource management, and refers to an area of land, water, or other environmental resource visible to the human eye from a fixed vantage point. By definition, a viewshed is "the natural environment that is visible from one or more viewing points" (Merriam-Webster online), and is sometimes referred to as "visual exposure mapping." Most often the viewshed provides the basis for assessment of visual impacts associated with a particular project. Figure 1 shows an example of how the viewshed concept or visual exposure mapping can be applied to a complex terrain.



Figure 1. Conceptual application of the viewshed analysis to a complex terrain (after http://www.innovativegis.com/basis/mapanalysis/topic15/Topic15 files/image021.png).

In the context of Tribal concerns, the definition needs to include relational factors. In other words, the impact may not only extend to impairment in a view in a particular direction, but as a result of an impacted area situated along an important spiritual alignment between two features that are located on either side of the area. Thus, the view potentially spanning a 360 degree rotation needs to be considered. In **re-examining Figure 1**, for example, the relational impacts might actually extend to areas that are unseen from the selected view point. This approach is consistent with the CEQA Environmental Checklist Form which asks whether the project would substantially degrade the existing visual character or quality of the site and its surroundings.

PRECEDENTS

The application of visual impact analysis (VIA) has been actively and formally used for many years as part of environmental impact assessment pursuant to state and federal laws (e.g., CEQA and NEPA). For example, a step-by-step approach for visual impact assessment was prepared for the Vulcan Materials Azusa Rock Quarry 2010 Final EIR and is outlined at the following URL:

<u>http://azusarock.com/feir/docs/appendix/appendix-c-1-5-visual-impact-assessment-process.pdf</u>. Other methodologies have focused on combining Land Evaluation and Site Assessment (LESA) models with a participatory geographic information system (PGIS) exercise, which closely approximates the approach here proposed by the Tribe. (See for example:
http://ageconsearch.umn.edu/bitstream/61733/2/Mathews%20and%20Rex%20Incorporatin g%20Scenic%20Quality%20and%20Cultural%20Heritage%20into%20FarmlandValuation.p df).

And finally, an approach applied for the purposes of the Palen Solar Electric Generating Tower viewshed delineation involved considering the visual impact of power towers within a 30-mile visual impact threshold. Using a 30-meter U.S. Geological Survey digital elevation map the view impacts were determined as shown in Figure 2.



Figure 2. Palen Solar Electric Generating Tower viewshed analysis (after Galati-Blek, 2013).

Each of these is an illustrative example of potential methodologies for projects at Topock. The Tribe is not endorsing the referenced projects per se. However, these analytical approaches do appear to provide more detailed analysis than that used in prior CEQA analyses for the Topock remediation and as such provide a more robust framework for analyzing visual impacts of concern to the Tribe.

PROPOSED APPROACH

The approach that would be recommended by the Tribe involves:

- Determination of optimal vantage points representative of and within identified soils areas (AOCs, UAs, and SWMUs).
- Recording visual imagery over 360 degrees.
- · Utilizing GIS to determine the viewshed.
- · Mapping the shape files for each area.
- Determining associated impacts with Tribal consultation.

This is notably different from the approach employed for the purposes of the groundwater remedy EIR, whereby the view considered was essentially unidirectional and there we important viewsheds that were not included in that evaluation (*e.g.*, injection well #2 along the old Route 66 Highway, adjacent to the Maze).

Additionally, the groundwater EIR generally considered the view in relation to proposed infrastructure. In contrast, the potential for permanent changes resulting from soil, vegetation and landform disturbances is potentially longer-lived than the anticipated life of groundwater remedy infrastructure. Consider, for example, the continuing disturbance that resulted from the former evaporation ponds at the Site, despite the decommissioning and restoration that was performed nearly 20 years ago: the above-ground infrastructure is gone, but visual impacts remain (see Figure 3).

Finally, the groundwater remedy EIR does not appear to consider the potential varying visual impacts caused by all the stages of remediation, *e.g.*, construction, operation, decommissioning, restoration and post-restoration.



Figure 3. 2013 Google Earth imagery of former Topock Compressor Station ponds.

On Figure 4, which shows some of the soil investigation areas, the potential for land disruption appears significant. In fact this map may not show all of the potentially affected areas. Accordingly, a different approach from that implemented for the groundwater remedy is necessary for the soil investigation analysis.



Figure 4. Soil areas identified for characterization and potential remediation at the Site.

OTHER AESTHETIC IMAPCTS

While visual impacts are important, they represent only one aspect of a full aesthetic impact analysis under CEQA. (See, for example, CEQA Environmental Checklist Form). DTSC and ESA in any environmental document should be analyzing a full range of potential aesthetic impacts from the proposed projects, including but not limited to: light, glare, evening and day lighting, atmospheric changes, dust, noise, trash, graffiti, design, style, size, materials, landscaping, etc. and their cumulative impact. These may pose additional impacts to the site beyond those considered in a key view points approach and also may pose adverse effects to the historic property.

CONCLUSION

To be able to fully respond to DTSC's request for information on visual impacts, and to address the larger issue of aesthetic impacts, the Tribe requests that ESA work together with Tribal representatives over the next few weeks to select appropriate viewing areas representing positions within the soil disturbance areas that would be used to delineate viewsheds. These would be in addition to the ones already recommended. Once these areas are discussed with the Tribe and agreed upon, then the above-recommended viewshed approach should be initiated in an effort to more accurately determine the extent of visual impacts of the proposed soil investigation and any other remedial actions that are directed. ESA and the Tribe could also discuss the nature and range of potential other aesthetic impacts.

Letter	Fort Mojave Indian Tribe	
T6 Response	Timothy Williams; Courtney Coyle; Michael Sullivan: Technical Review Committee (TRC)	
	September 5, 2014	
	Timothy Williams	
T6-001	The commenter summarizes the comments submitted to the Department of Toxic Substances Control (DTSC) for the draft environmental impact report (DEIR) and specifies that there are four distinct comments within the larger comment letter submitted to DTSC. DTSC has provided responses in this final environmental impact report (FEIR) to all four sets of comments received within the Fort Mojave Indian Tribe (FMIT) letter. Please see responses T6-002 through T6-324.`	
T6-002	The commenter recognizes that there is overlap in the comments submitted from various sources within the FMIT letter. DTSC has responded to every unique comment received regardless of the relatedness of the comment. Please see responses T6-003 through T6-324.	
T6-003	The commenter states that the DEIR does not adequately address the potential for cumulative impacts from concurrent implementation of the groundwater remedy and the soil characterization activities and specifically refers to the cumulative noise and aesthetics analyses. As described in Section 6.4.2.1, and as updated in Master Response Cumulative Projects, the analysis of cumulative impacts in the DEIR does consider groundwater remediation (1C) in combination with the proposed soil investigation activities. The additional activities associated with the proposed Topock Compressor Station Soil Investigation Project (Project)—pilot studies, bench scale tests, geotechnical evaluations, and plant and biota sampling—that may occur after completion of the soil investigation activities could overlap with construction of the Groundwater Remediation Project. The cumulative aesthetic analysis (DEIR Section 6.5.1, beginning on page 6-18) is revised in this FEIR to reflect this potential overlap, as shown below:	
	When combined, projects in the cumulative scenario listed above (Table 6.3) have the potential to affect key views and sensitive aesthetic resources in the geographic scope. In particular, this includes projects at the Station (1A through $1FH$) and the projects along the Colorado River in San Bernardino and Mohave Counties, which include the Moabi Regional Park Improvements (6A), the Pirate Cove Resort (6B), and the Topock Marina Improvements (8A), and the Southwest Gas <u>Pipeline (10A)</u> . Elements of these projects (such as infrastructure, vehicles, equipment, and personnel) would be visible to affected viewers in the geographic scope. Depending on the project element and viewing location, mitigating	

landscape elements, and other factors, such as the presence of vegetation, screening could minimize the actual visibility. The projects anticipated at the Moabi Regional Park and the Pirate Cove Resort are fairly minimal in the context of existing development. As well, these projects would be expansions or additions to existing development that has a similar visual quality and appearance. These recreational developments are of a nature that is consistent in the region and are not anticipated to result in visual effects that would be significant, either in combination with other projects or individually. The Southwest Gas Pipeline project was a replacement of existing infrastructure and would have no noticeable visual effect. While the hotel and restaurant proposed as part of the Topock Marina Improvements would be more significant substantial in nature and of more visual contrast compared to the surroundings, its visual effects would not be compounded by the other projects in the cumulative scenario given the relative separation of the projects from each other.

In addition, the effects of the projects at the Station would not likely be visually discernable given the extent of infrastructure and the minimal contribution the projects would have to the existing industrial nature of the Station. Each of these projects is also relatively distant from the other such that the projects would not be within the same viewshed for any individual viewer. There is the potential that additional soil investigation activities necessary to support a future Soil CMS/FS, should they be necessary, may occur during the construction phase of the Groundwater Remediation Project. Bench scale tests would have minimal visual impact (limited soil collection) over 1 month and would largely be performed off-site, thereby having minimal visual change and no significant cumulative impact. Pilot studies could result in installation of wells, piping, and infiltration galleries within Bat Cave Wash and within the Station. Visual impacts for those activities within the Station fence line would be minimal, as they would be obscured by existing industrial appearance of the facilities. Visual changes from potential pilot studies in Bat Cave Wash would be somewhat noticeable; however, they would introduce incremental change comparable in height and character to the existing built elements in the landscape and would not substantially degrade the existing visual character of the Project Site. These visual changes, in combination with the potentially overlapping construction activities associated with the Groundwater Remediation Project, would not result in a significant cumulative visual impact, as they would be temporary in nature, consistent with the existing infrastructure in the area, and generally low profile with minimal visual change. Geotechnical evaluations could occur at up to eight locations in the Project Site, but would be low profile with no long-term infrastructure that would change the visual

character or contribute to an overall significant cumulative change in the visual environment. Plant and biota sampling would have minimal visual impact and would not contribute to a cumulative visual change. Regarding cumulative lighting impacts, the additional activities described above would occur during daylight hours, and minimal, if any, lighting would be necessary during these activities.

When added to the cumulative scenario, the effects of the proposed Project would contribute incrementally to the cumulative impacts on aesthetic resources. However, as documented in the set of DEIR Figures 4.1-6A through 4.1-15B visual simulations, and summarized in Table 4.1-2, the proposed Project would represent a temporary incremental change that would not substantially alter the composition or character of existing landscape views. It would not involve installation of permanent infrastructure, nor would it result in any long-term or permanent effects on public views. Therefore, when considered in addition to the anticipated impacts of other projects in the cumulative scenario, the Project's incremental contribution to aesthetic impacts would not be cumulatively considerable. For these reasons, the combined visual effects from the projects listed in Table 6-3 within the geographic scope of the visual analysis would not be considered cumulatively significant (see DEIR pages 6-17 and 6-18).

The commenter also states that the cumulative noise analysis did not adequately address concurrent implementation of the groundwater remedy and the soil characterization activities. The cumulative noise analysis (DEIR Section 6.5.12, beginning on page 6-30) is revised in this FEIR to reflect this potential overlap, as shown below:

The projects listed in Table 6-3 that have the potential to generate construction and/or operational noise in the geographic scope include the PG&E projects (1A through 1F<u>H</u>), Quarry Operations (2B), Topock Marsh Water Infrastructure Improvement Project (4B), Moabi Regional Park Improvements (6A), Pirate Cove Resort (6B), and the Topock Marina Improvements (8A), and the Southwest Gas Pipeline (10A). In particular, work at the Station, including the potential overlap of construction of the Groundwater Remediation Project (1C), could result in increased cumulative noise for activities that occur simultaneously and within 500 feet of the Project Site. For these reasons, the combined noise effects from the projects listed in Table 6-3 within the geographic scope of the noise analysis would be cumulatively significant on sensitive receptors.

The revisions to the DEIR clarify that the Groundwater Remediation Project was described and considered in the cumulative impacts analysis in the DEIR and do not present a new significant environmental impact

	or mitigation measure, result in a substantial increase in the severity of an environmental impact as it relates to cumulative impacts, result in new feasible project alternatives or mitigation measures, or preclude meaningful public review and comment (see Section 15088.5 of the California Environmental Quality Act [CEQA] Guidelines).
T6-004	The commenter expresses concern that the assumptions in various documents related to the Project are inconsistent. In general, the DEIR is a stand-alone project-level environmental impact report (EIR) that analyzes the potential environmental impacts of implementing the <i>Soil RCRA Facility Investigation/Remedial Investigation Work Plan</i> (Soil Work Plan). Various documents were referenced and relied on during the preparation of the DEIR, and, as the lead agency responsible for enforcing mitigation measures and approving discretionary actions, DTSC has made every attempt to ensure consistency between documents while meeting the requirements of CEQA to identify impacts, mitigation measures, and alternatives for this Project. Specific inconsistencies identified in later comments are addressed individually.
T6-005	The commenter expresses concern that the assumptions in various documents related to the Project are inconsistent, citing the DEIR's statement that agriculture is not a viable land use although the soil risk assessment work plan considers likely human exposure. The extremely dry desert nature of the Project Site supports the DEIR's conclusion that agricultural activities are not a reasonably foreseeable future land use. The Human Health and Ecological Risk Assessment Work Plan Addendum 2 (May 2014) makes it clear that irrigation-/agricultural-related uses are being considered purely as part of a hypothetical "Unrestricted Future Use" scenario for purposes of conducting the health risk analysis (see Section 4.1.3.4). As stated in the Human Health and Ecological Risk Assessment Work Plan (RAWP) (ARCADIS 2008), residential uses of U.S. Department of the Interior (DOI) land managed by the U.S. Bureau of Land Management (BLM) located north of the railroad are to be evaluated in the Human Health Risk Assessment, even though future unrestricted use is unlikely (DOI 2014). As requested, the future unrestricted land use scenario is to consider the hypothetical future resident as a rural resident who obtains a significant portion of his/her diet from food produced on-site, including vegetables, fruits, and poultry. Chemicals in the soil could partition into these foods, as described in the RAWP (ARCADIS 2008). In agreement with DOI for evaluation of the BLM-managed land, the uptake into homegrown produce/animal products will be evaluated using the uptake model from the Office of Environmental Health Hazard Assessment Toxic Hot Spots Program (Office of Environmental Health Hazard Assessment 2012). This model assumes uptake of compounds into different plants via deposition onto surfaces, and uptake from roots. Then, the model assumes uptake into meat, eggs, and dairy products, and uses the National Health and Nutrition Examination Survey data from 1999 to 2004 to generate per capita consumption distributions for produce (e

eggs (see The Human Health and Ecological Risk Assessment Work Plan Addendum 2, page 4-12). This worst-case hypothetical health risk analysis does not mean such future land uses are reasonably foreseeable and therefore must be assumed in the EIR.

Similar to the previous comment, the commenter questions the consistency between the DEIR's conclusion that future residential on-site uses are not reasonably foreseeable, yet a future hypothetical residential use is considered in the Health Risk Assessment. The undeveloped nature of the area in terms of residential uses, the dominant presence of the Station as an industrial use, the lack of adequate infrastructure, and the land use designations for the area are evidence that future residential uses on the Project Site are not reasonably foreseeable. Use of residential land use scenarios is typical of health risk assessment modeling as it assumes a conservative exposure of 24 hours a day/7 days a week. DTSC and DOI have determined this to be the appropriate threshold for soil investigation (not necessarily cleanup).

T6-006 The commenter opines that the assumptions should be reasonable and consistent, and if there are differences, they should be explained. The comment is noted. See responses to comments T6-004 and T6-005 for more specificity.

T6-007 The commenter states that it is essential that consistent procedures and protocols be developed across the remediation efforts, and refers to a comment provided on the notice of preparation (NOP) that requests that negotiated protocols be applied to the soil investigation. The DEIR states on page 3-36 that the soil investigation activities will adhere to Standard Operating Procedures (SOPs) and Best Management Practices (BMPs) to ensure protection of health, safety, and the environment. The relevant SOPs and BMPs, which have been developed to be consistent with the Groundwater Remediation Project and follow standard practices that have been employed at the Station, would become conditions of approval of the Project. SOPs and BMPs are part of the Project and would be implemented and followed throughout the Project, in particular, related to borehole drilling requirements, surface soil sampling, subsurface soil sampling, debris sampling, geophysical surveys, x-ray fluorescence (XRF) screening, soil vapor sampling, potholing/trenching and sampling, surveying, vegetation management, waste management, and decontamination. On page 3-37, the DEIR further identifies the SOPs from Appendix G of the Soil Work Plan that are relevant to the proposed Project, including SOPs B2 through B5, B7, B9, B11, and B15 through B19. Additionally, the SOP for Well and Borehole Decommissioning (PG&E 2014b), which was developed primarily to support the Groundwater Remediation Project, was also developed with the soil investigation in mind. This SOP would be applied to the proposed Project, and includes the preferential use of natural materials over bentonite, depending on the type of well or boring conditions and subsurface materials. This SOP was issued after the release of the DEIR.

DEIR text is revised in the FEIR to incorporate this information as follows:

Section 3.5.2.12, page 3-30:

Standard well and boring decommissioning procedures required by San Bernardino County and the California Department of Water Resources (DWR) (DWR 1991) would be followed for the decommissioning of all borings. After sampling has been completed, boreholes would be grouted from the total depth to within 6 to 12 inches of the ground surface with a bentonitecement grout installed continuously in one operation to effectively seal the hole. Native soil would be used to fill the top 6 to 12 inches. In addition, guidance from the "Standard Operating Procedure for Well and Borehole Decommissioning" (PG&E 2014) would also be followed for the decommissioning of all wells and boreholes associated with the proposed Project. This document was developed in coordination with DTSC and the Tribes, and identified decommissioning requirements for various scenarios that may be encountered at the Project Site. The maximum area around a boring that may be disturbed for excavation and restoration activities is estimated to be a maximum of approximately 20 feet in diameter, excluding the access route used by the drilling rig that installed the borehole. The borehole abandonment rig would use that same access route.

Section 3.5.7, page 3-37:

Section 2.2.1 of the Soil Work Plan, Best Management Practices, provides a general description of BMPs associated with dust control, noise control, worker safety, access routes, general housekeeping practices, and other potentially undesirable effects associated with the investigation. Appendix J of the Soil Work Plan provides additional details for the management of displaced soil and hazardous waste. <u>The "Standard Operating Procedure for Well and Borehole Decommissioning" (PG&E 2014)</u> provides details regarding well and borehole decommissioning and can be found in SOP B-4 to the "Basis of Design Report/Pre-Final (90%) Design Submittal for the Final Groundwater Remedy" (PG&E 2014) (see Appendix B to the Operation & Maintenance Plan, Volume I).

Additionally, the mitigation measures included in the DEIR have taken into consideration all of the mitigation measures included in the FEIR for the Groundwater Remediation Project (inclusive of FEIR Addendum No. 1) as well as other relevant documents that establish protocols for BMPs, protection of environmental resources, and consideration of Tribal resources and interests, such as the Programmatic Agreement (BLM et al. 2010), the Cultural and Historical Properties Management Plan (CHPMP) (BLM 2012), and the *Programmatic Biological*

	Assessment for Pacific Gas and Electric Topock Compressor Station Remedial and Investigative Actions (PBA) (CH2M HILL 2007). As the lead agency, it is the responsibility of DTSC to ensure that all mitigation measures included in the Soil Investigation Project EIR are practicable, enforceable, and consistent with the measures that will be enforced concurrently as part of the Groundwater Remediation Project.
T6-008	The commenter asserts that DTSC should carefully review related procedures in the groundwater and soil programs. This comment is noted; please refer to response to comment T6-007.
T6-009	The commenter states that while Appendix J (of the Soil Work Plan) discusses displaced soil handling, it does not reference or analyze the relevance of borehole decommissioning procedures, which are to be addressed in the future 90% design of the groundwater remediation system, which will be approved after the Soil Investigation Project EIR. Please refer to response to comment T6-007.
T6-010	The commenter notes that the NOP for the proposed Project did not include bench scale and pilot testing. Please refer to Master Response Additional Testing and Sampling Activities for a detailed response on this topic.
T6-011	The commenter questions the order of operations regarding the risk management decision, remedy selection, and further testing at the bench and/or pilot scales. Please refer to Master Response Additional Testing and Sampling Activities for a detailed response on this topic.
T6-012	The commenter states that the purpose of adding on the bench scale and pilot testing is not made clear in the EIR and it is a deviation from the accepted DTSC and DOI processes of first investigating the scope of contamination followed by the identification of alternative remedial strategies assessed in the Corrective Measures Study/Remedial Investigation. See Master Response Additional Testing and Sampling Activities.
T6-013	The commenter is concerned that the Technical Memo from the AhaMakav Cultural Society was not referenced in the Aesthetics section. The Technical Memo is referenced in Section 4.1, "Aesthetics," page 4.1-9 of the DEIR as (FMIT 2013) and was considered throughout the preparation of the analysis. DTSC recognizes that full citation was inadvertently left out of the Bibliography, and in response to this comment, the DEIR text on page 8-2 is revised in this FEIR as follows:
	Fort Mojave Indian Tribe (FMIT). 2013. FMIT Technical Memo: Key Views & Aesthetic Impacts, June 28, 2013.
T6-014	The commenter claims the viewshed issues were not adequately addressed in the DEIR. The commenter also states that the DEIR incorrectly concludes that aesthetics impacts would not be cumulatively considerable. The commenter is referred to Section 4.1, "Aesthetics,"

where Tribal consideration is given on page 4.1-20 in discussing Tribal groups as potentially affected viewers, and page 4.1-44, where the 360-degree viewshed approach proposed by the FMIT was acknowledged as supporting the analysis. Section 4.1.3.1 describes that consideration has been given in this analysis to the larger viewshed through the incorporation of panoramic views, 360-degree views, and images that depict views both toward the Project Site, which convey a general sense of the visual landscape character found in the Project Site vicinity, as well as photographs illustrating representative views from within the Project Site looking out. This approach was proposed by the FMIT and has been used to support the analysis of the viewshed and its important relationship as a contributing element to the Topock Traditional Cultural Resources," which presents the analysis of the viewshed and its important relationship as a contributing element to the TCP.

As the lead agency, DTSC is not required to obtain concurrence on impact conclusions presented in the DEIR with the public prior to publication of a DEIR. DTSC conducted extensive coordination with the Tribes in the development of the DEIR, including scoping sessions specifically regarding aesthetics, and the Tribes concerns are reflected in the analysis in the DEIR. The commenter does not point to any specific aspects of the analysis presented in the DEIR are deficient.

T6-015 The commenter requests that Tribal views be analyzed in the DEIR. DTSC understands that the Topock area is very sacred to the FMIT and that any physical disturbances and alterations to the landscape are hurtful and disruptive to the FMIT's belief system, values, way of life, and afterlife, and are seen as a desecration of the "spirituality" of the place. As the FMIT noted in the Ahamakav Cultural Society memo, the FMIT sees the environment as a whole and disruption to one part affects the entire area, which is a different perspective from the "Western Scientific approach" that tends to compartmentalize the environment into subsets that can be analyzed independently of one another. DTSC included the FMIT's perspective throughout the DEIR, particularly in the Introduction (see Section 2.2.4), Aesthetics section (see pages 4.1-8, 4.1-9, 4.1-20, 4.1-44), and Noise section (see pages 4.7-7, 4.7-19, and 4.7-20), in addition to the Cultural Resources section. Although the FMIT would have reached additional significant adverse impact conclusions than those identified in the EIR, that does not mean the EIR lacks substantial evidence in support of the significance conclusions that were reached pursuant to CEOA (see National Parks & Conservation Assn. v. County of Riverside (1999) 71 Cal.App.4th 1341, 1352-1353 [an agency's conclusions or methodology must be upheld if substantial evidence supports them, even if there is a difference of opinion among experts]). CEOA does not provide an avenue to analyze impacts to personal or group belief systems, such as intangible, spiritual, or religious beliefs. CEOA requires an agency to consider the effects of a project on the environment, which is defined as "the physical conditions that exist within the area" (see Public Resources Code [PRC] Section 21060.5).

Nevertheless, DTSC recognized Tribal views of the Topock area and the intangible aspects of the Topock TCP in its analysis of impacts to the TCP, which found that the Project would result in a significant and unavoidable impact to noise and cultural resources, including the Topock TCP.

T6-016 The commenter states that DTSC has considered and rejected the Tribal Land Use Alternative, and expresses disappointment in this conclusion. The commenter correctly notes that the Tribal Land Use Alternative was considered and the DEIR explains why the Tribal Land Use Alternative did not receive a more complete evaluation in the DEIR after being found infeasible for its inability to meet the fundamental Project objective-to gather sufficient information to be able to reliably characterize the nature and extent of soil and sediment contamination within the Project Site. The proposed alternative was also determined to be infeasible because it is inconsistent with DTSC's policy to consider residential/unrestricted land uses for the investigation stage of the remedial process, which is based on state and federal laws (see pages 7-8 through 7-10 of the DEIR). Assuming future land use restrictions at the investigation stage of a project is also considered premature by DTSC, in part, because DTSC often lacks the ability to influence such local land use decisions. As to the Project Site at issue, land use restrictions will be considered during the future soil risk assessment and Corrective Measures Study/Feasibility Study (CMS/FS) process.

T6-017 The commenter states that various other (nonresidential) potential future land uses must be assumed and considered as Project alternatives to allow an analysis and determination of the environmentally superior alternative. This is what the Tribal Land Use Alternative recommended. The commenter further states that DTSC must fully analyze a range of alternatives in the DEIR and that a decision on which alternative to implement would then be justified in the decision document. The commenter's desire for a less restrictive (i.e., nonresidential standard) sampling protocol is noted and will be taken into consideration by DTSC. The EIR as proposed, however, includes the "reasonable range" of alternatives required by CEQA (CEQA Guidelines Section 15126.6, subd. (a); see also, Citizens of Goleta Valley v. Board of Supervisors [1990] 52 Cal.3d 553, 566: In re Bay-Delta Programmatic Environmental Impact Report [2008] 43 Cal.4th 1143, 1163 ["The rule of reason 'requires the EIR to set forth only those alternatives necessary to permit a reasoned choice' and to 'examine in detail only the ones that the lead agency determines could feasibly attain most of the basic objectives of the project."; see also Laurel Heights Improvement Assn. v. Regents of Univ. of Cal. (1993) 6 Cal.4th 1112, 1142 ["An EIR need not consider every conceivable alternative"]). The alternatives analysis in the DEIR satisfies these standards. See also responses to comments T6-015 and T6-016.

T6-018

The commenter states that if DTSC moves forward with a decision in the context of the EIR itself without the benefit of discussion or analysis, this

	would undercut the fundamental purpose of the EIR to provide the information on which to base informed decisions. As noted in the response to comments T6-016 and T6-017, it is not necessary to evaluate the Tribal Land Use Alternative because it does not meet the objectives of the Project, nor is it feasible in the context of DTSC policy to consider residential/unrestricted land use for the Project Site during the investigation stage of the remedial process. However, DTSC will fully consider land use restrictions during the risk assessment and CMS/FS process, which would occur after the soil investigation activities are complete. Through the Soil Investigation Project, DTSC is seeking additional information on the extent and nature of soil and sediment contamination so that it will be able to make informed decisions regarding the full range of remediation and cleanup options.
T6-019	The commenter states that the FMIT understands that the Tribal Land Use Alternative is not a stand-alone evaluation but would be part of a comprehensive risk evaluation that would include other human exposures and ecological exposures. Also, the commenter states that they do not agree with the approach DTSC is taking regarding the evaluation of the Tribal Land Use Alternative. While this comment is acknowledged, DTSC will conduct the risk assessment after the comprehensive collection of data necessary to characterize the nature and extent of contamination on the site. This gathering of data is the fundamental objective of the Soil Investigation Project. DTSC will conduct a risk assessment after completion of the investigation stage of the Project. DTSC's proposed approach is consistent with the policies that the agency must follow in its consideration of hazardous contamination and the evaluation of potential cleanup actions. See also responses to comments T6-015 through T6-018.
T6-020	The commenter states that the 2012 settlement agreement does not preclude the FMIT from submitting written and verbal comments regarding the soil and groundwater remediation for the Topock Site. The commenter further requests that the spirituality of the Topock area be considered throughout the DEIR analysis. DTSC has solicited and welcomed comments from the FMIT, and will continue to do so, on all aspects of the Project. As noted, DTSC believes that Tribal involvement on the Topock investigation and remediation activities has resulted in a better project that is increasingly sensitive to the environment and Tribal concerns. The commenter is referred to Response T6-015 regarding how spirituality (intangible elements) is addressed in the DEIR.
T6-021	The commenter states that the soil characterization activities pose a serious impact on the spiritual integrity of the landscape and that every effort must be made to fully consider, avoid, and minimize those significant and irreversible effects. The commenter is referred to response to comment T6-015 for a discussion of intangible aspects. For a discussion of this topic related to areas of controversy in the DEIR, the commenter is referred to response to comment T6-066.

T6-023

T6-022	The commenter paraphrases a section of the DEIR that describes the
	primary Project objectives. The comment is noted.

The commenter questions why certain applicable or relevant and appropriate requirements (ARARs) are not included within the DEIR and used as thresholds of significance by DTSC. The DEIR addresses the federal laws cited by the commenter. The section on Regulatory Background (Section 4.4.2), which states "These [laws] are presented below as they are relevant to the analysis required by CEQA or potential future actions and approvals that may be associated with the proposed Project" discusses the Native American Graves Protection and Repatriation Act (4.4-56), Religious Freedom Restoration Act (4.4-56), and American Indian Religious Freedom Act (4.4-55). Additionally, Mitigation Measure CR-4 requires compliance with the Native American Graves Protection and Repatriation Act.

> The commenter is correct that the soil investigation is regulated by both federal and state agencies. As noted in Section 4.4.1.5 of the DEIR, the 2010 Programmatic Agreement (PA) encompasses not only the groundwater remediation, but also soil response actions, including the investigation. The PA notes in its preamble that the laws referenced by the commenter in its comment letter were considered during consultation for the PA: "WHEREAS, historic and cultural properties and values on public lands administered by BLM, USBR, and U.S. Fish and Wildlife Service (USFWS) fall under the protection of the NHPA, Archaeological Resources Protection Act (ARPA, P.L. 96-95, as amended), American Indian Religious Freedom Act (AIRFA, P.L.95-341, as amended), and Native American Graves Protection and Repatriation Act (NAGPRA, P.L. 101-601), applicable regulations (36 CFR Sections 7, 60, 63, and 800; 43 CFR Section 10), and applicable Executive Orders (e.g., 13007, 13175, and 13287), and these have been considered during consultation for this PA." In addition, these laws are cited in mitigation measures in the PA and CHPMP.

> Under Section 121(d) of Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), the requirements regarding compliance with ARARs apply only to "remedial actions" and the process of identifying ARARs "for remedial actions essentially begins after the site characterization (during the remedial investigation) and may continue through the remedial design phase" (California Environmental Protection Agency [EPA], CERCLA Compliance with Other Laws Manual, Interim Final [August 1988] at page 1-6). DTSC, therefore, was not required to use the ARARs as thresholds of significance in the DEIR's analysis. The final ARARs for a soil remedy, if needed, will be reflected in DOI's Record of Decision for a future soil remedy project.

T6-024

The commenter requests that the recently enacted State of California Executive Order and the EPA's policy on consultation with Tribal governments be referenced in the EIR. The "California Environmental Protection Agency (EPA) Policy Memorandum CIT-09-01: EPA for Working with California Indian Tribes" enacted in 2009 is cited on page 4.4-65 of the DEIR. Reference to Executive Order B-10-11 (issued in September of 2011) has been added to Section 4.4.2.2. In response to the comment, the DEIR text on page 4.4-65 is added to the FEIR as follows:

California Executive Order B-10-11

<u>California Executive Order B-10-11 affirms that all state</u> agencies shall encourage communication and consultation with <u>California Indian Tribes.</u>

DTSC has been conducting extensive Native American outreach for all aspects of the Topock Remediation projects, including for the Soil Investigation Project that is the subject of this EIR, therefore exceeding the intent of California Executive Order B-10-11. A summary of DTSC's outreach can be found in Section 4.4.1.7 of the DEIR and in the PG&E Topock Tribal Communications Summary Table (**Appendix H** of the FEIR).

T6-025 The commenter asks if the ARARs are to be applied through DOI project review, how and where will that analysis be conducted. See Response to comment T6-023. The commenter also notes that the DEIR or some other document must specifically explain why a decision was made to override the significant and unavoidable impacts identified in the DEIR. The commenter is correct that if a project with significant and unavoidable impacts is approved, the lead agency must explain its reasons for approving the project, notwithstanding the significant impacts. But that may occur outside of the EIR as part of the CEQA Findings of Fact and Statement of Overriding Considerations accompanying project approval. (PRC Sections 21002, 21002.1, subd. (c), 21081, subd. (a)(3); see also Las Virgenes Homeowners Federation, Inc. v. County of Los Angeles (1986) 177 Cal.App.3d 300, 309 ["There is no requirement that adverse impacts of a project be avoided completely or reduced to a level of insignificance. ... if such would render the project unfeasible"]).) If DTSC approves the Project as proposed, it will consider the EIR and adopt a Statement of Overriding Consideration explaining the reasons the benefits of the Project outweigh the significant environmental impacts identified in the EIR.

T6-026 The commenter is concerned with expansion of the Project's scope to include geotechnical, bench scale, pilot testing, and tissue sampling when these items were not addressed in the NOP. Please see Master Response Additional Testing and Sampling Activities for information on the inclusion of these activities in the Project Description. It is not unusual for a project to change from the NOP to the DEIR stage as additional information becomes available during the process. CEQA requires lead agencies to consider the "whole of the project." Depending on the results of the soil sampling, the whole of the project could include the additional activities considered in the EIR. To the extent those activities are a reasonably foreseeable possibility they have been included in the DEIR's analysis. As explained in this FEIR, additional work plan approval(s)

	will be required depending on the results of the sampling. DTSC did not intend to mislead or deprive any Interested Tribe or party of this information at the NOP stage.
T6-027	The commenter states that the FMIT remains available to work with DTSC and other stakeholders to see that Tribal concerns are fully considered and mitigated in the DEIR. The comment is noted for the record.
T6-028	The commenter requests that revisions to the DEIR are made in redline. This FEIR includes the entire DEIR with revisions made in strikeout (removed text) and underline (new text) based on responses to comments on the DEIR and the Partially Recirculated DEIR. The commenter also requests that DTSC provide the DEIR, appendices and all environmental documents to the FMIT and their legal counsel and consultants. The FMIT, legal counsel, and consultants were provided the DEIR on July 7, 2014. Responses to the comments made by the FMIT and other commenting parties are included in the FEIR, which has been sent to the FMIT, legal counsel, and consultants. The commenter also requests to be provided with all comment letters received on the DEIR as soon as they become available. In response to that request, comments received by DTSC on the DEIR during the public comment period were transmitted to the FMIT on September 9, 2014.
T6-029	The commenter requests to meet and consult with DTSC on clarification to comments and associated revisions to the DEIR. DTSC appreciates the willingness of the FMIT to meet with DTSC to discuss comments. DTSC has a good understanding of comments submitted by the FMIT, and does not believe that it is necessary to meet with the FMIT and other Native American Tribes to clarify comments. However, DTSC appreciates the FMIT offer to meet with DTSC should further clarification be needed on the comments.
	Courtney Coyle (Enclosure A)
T6-030	The commenter presents an overview of the comments submitted by the FMIT on the DEIR, with reference to the settlement agreement and the provisions in place for participation and review by the FMIT. The commenter also includes language from the settlement agreement which describes the DTSC's commitment to respect and protect cultural resources through communication and planning. The comment is noted for the record.
T6-031	The commenter includes language from the settlement agreement which describes Pacific Gas and Electric Company's (PG&E's) commitment to respect and protect cultural resources through communication and planning. The comment is noted for the record.

T6-032	The commenter restates two sentences from the DEIR which identify the
	fact that there will be a separate CEQA process and alternatives analysis
	for future soil remediation, if determined necessary based on the
	proposed Soil Investigation Project, which aims to characterize the
	nature and extent of soil contamination. This comment is not directed
	toward the environmental analysis presented in the DEIR and no further
	response is required.

T6-033 The commenter restates Project Description information presented in the DEIR and no response is necessary. The commenter also states that, in addition to raking/brushing, the return to approximate original location for boulders and other ground materials should be required to reduce visual and other impacts. The commenter is directed to Mitigation Measure CR-1e-6, which requires the raking/brushing of work areas and returning them to substantially the same condition as to prior the soil investigation sampling. This would include the replacement of boulders and other ground materials; therefore this comment is adequately addressed in the DEIR. The commenter states that a prior storm event deposited a large amount of cobbles in the southern reaches of Bat Cave Wash, which may need to be cleared prior to sampling, and they request those materials to be stockpiled for later restoration in consultation with the FMIT. These soils, should they be moved, would be treated in accordance with Mitigation Measure CR-1e-7, which was developed with input from the Interested Tribes; therefore, this comment is adequately addressed in the DEIR.

> The commenter also states concern that the soil sampling locations may be closer to the Maze lobes if the DEIR were to consider the additional cultural resource locations identified and documented in the Tribal Cultural Values Assessment (TCVA) Report. DTSC has confirmed with the BLM in an email dated September 23, 2014 that the TCVA exclusion area has not been adopted by the BLM (BLM 2014) The TCVA was prepared by the Tribes in order to document the boundaries of the Topock Maze Loci (CA-SBR-219/H) as they are viewed by the Tribes. The TCVA was submitted to BLM for their review and approval; however, to date the BLM has not adopted the TCVA findings. To DTSC's knowledge, the California Department of Parks and Recreation (DPR) 523 form and site boundary for CA-SBR-219/H have not been updated or revised through the California Historical Resources Information System (CHRIS). Therefore, DTSC has relied on the formally-established boundary for site CA-SBR-219/H as it is currently documented at the CHRIS San Bernardino Archaeological Information Center during the preparation of the DEIR.

T6-034 The commenter requests clarification on the precise location of the work area exclusion zone (EZ). EZs would not be located within staging areas. The objective of EZs is to limit human access to areas surrounding soil sampling activities where exposure to site contaminants and/or hazardous materials or conditions could occur. As explained on DEIR page 3-23, each EZ would vary by sampling method, and could be as large as 150 feet

	by 50 feet when drilling with a larger rig, or as small as 10 feet by 10 feet for hand sampling. The EZs would be located entirely within the Project Site and would not increase the total proposed Project acreage (128.5 acres); however, the exact location of each EZ would depend on the sampling method and site conditions and will be demarcated in the field (DEIR page 3-23). Please see Section 3.5.2.8 for more information.
T6-035	The commenter is concerned that Project elements—plant or other biota sampling activities, bench scale tests, and pilot studies—were not a part of the NOP. See Master Response Additional Testing and Sampling Activities for additional information on the inclusion of these activities in the Project Description.
T6-036	The commenter expresses concern about the inclusion of the bench scale tests and pilot studies in the Project Description of the DEIR when those components of the Project were not included in the NOP. A NOP, to be adequate, must include enough information to enable a meaningful response by responsible and trustee agencies (CEQA Guidelines Section 15082). The NOP must include: a description of the project; its location, either by street address or on a map; and a statement of the project's probable environmental effects (CEQA Guidelines Section 15082, subd. [a][1]). A NOP need not include a detailed description of the Project. Rather, a NOP is merely the procedural device used to initiate interagency dialogue involving the scope of the impacts analysis (CEQA Guidelines Section 15082, subd. [a]; PRC Section 21080.4).
	As explained in the DEIR, the bench scale tests and pilot studies were added during development of the DEIR to ensure that if soil remediation is deemed necessary, DTSC has enough information about the various remedy options and methods to move forward with developing a Project Description for consideration and adoption of a final remedy (see DEIR pages 3-12 through 3-13 and 3-31 through 3-34). The NOP was not revised or reissued because the inclusion of the bench scale tests and pilot studies in the Project Description did not deprive commenters or trustee or responsible agencies from providing a meaningful response as to the scope of issues they believed necessary for inclusion in the DEIR. The letters received by DTSC on the NOP are part of the record of proceedings for the Project and are included within the Scoping Report as Appendix I to this FEIR.
T6-037	The commenter is concerned that the DEIR does not define these additional Project elements with sufficient specificity to allow them to be authorized in the discretion of DTSC without additional CEQA review. See Master Response Additional Testing and Sampling Activities.
T6-038	The commenter refers to the DEIR's statement that the analysis of soil samples will be based on previous soil investigations and questions the CEQA review that was conducted for those prior activities in order to develop a better understanding of cumulative impacts. DTSC, as lead agency, often finds investigative actions needed to determine the nature

and extent of soil and groundwater contamination exempt from environmental review under CEQA.

However, in January 2011, DTSC made a determination in the certified Groundwater Remediation Project EIR that the area surrounding the facility to be a Topock Cultural Area, and that a significant and unavoidable impact may occur with the implementation of the proposed remedy. Therefore, DTSC has decided to conduct a full analysis under CEQA of the potential environmental impacts for this comprehensive soil investigation.

T6-039 The commenter notes that the DEIR states that some areas would be investigated using geophysical methods to identify the presence of subsurface objects or obstructions (DEIR page 1-4). The commenter identifies a misplaced sentence in Chapter 1, "Introduction." In response to the comment, the DEIR text on page 1-4 is revised in this FEIR as follows:

> Geotechnical evaluations would be performed on select samples to provide information to support the development of the Soil CMS/FS. In addition, some areas would be investigated using geophysical methods to identify the presence of subsurface objects or obstructions. It is anticipated that geotechnical evaluations would be undertaken within or near Areas of Concern (AOCs) that have steep slopes and where remediation is determined necessary.

The commenter questions the need for the geophysical surveys as described in the DEIR (see page 3-34) and asks specifically what kind of methods may be used, in what specific areas, and if it would occur in Undesignated Area (UA) 2. Please see Master Response Additional Testing and Sampling Activities regarding the need for these activities. While no specific locations have been identified at this juncture, the DEIR states on page 3-34 that the up to eight geotechnical evaluations would occur within or near Areas of Concern (AOCs) with steep slopes, such as Solid Waste Management Unit (SWMU) 1/AOC 1, AOC 4, AOC 9, AOC 10, AOC 11, AOC 14, AOC 27, and AOC 31. DTSC does not anticipate geotechnical surveys in the UA 2 area. However, if they are determined to be necessary at a later time, a work plan will be made available to all interested parties for review and comment, at which time more details would be provided for stakeholder consideration.

T6-040 The commenter asks why the bench scale tests should be considered as part of the Soil Investigation Project EIR versus the future soil remedy environmental review and requests specific details about the bench scale tests. See Master Response Additional Testing and Sampling Activities for additional information on the inclusion of these activities in the Project Description.

T6-041The commenter asks why the pilot studies should be considered as part
of the Soil Investigation Project EIR versus a future soil remedy

environmental review and requests specific details about the pilot studies and Tribal coordination on these activities. See Master Response Additional Testing and Sampling Activities for additional information on the inclusion of these activities in the Project Description.

T6-042 The commenter seeks clarification on the use of Interim Measure 3 (IM-3) to treat recovered water generated by the proposed Project and states that use of the facility for the proposed Project would change the scope of IM-3, intensifying its use greater than originally intended, and result in "mission creep," contrary to settlement agreements with the FMIT.

Approval to discharge decontamination water was granted by the California Water Quality Control Board (Water Board) in 2006 (see Water Board January 26, 2006, letter to PG&E: "Request to treat groundwater generated through groundwater monitoring and other field activities through the interim measure No. 3 groundwater monitoring facility, PG&E Topock Compressor Station, Needles, CA"). As per standard practice, all decontamination water is characterized prior to discharge to IM-3 to assess if it is appropriate for treatment at the facility. For example, if organics are detected in the water, it cannot be discharged to IM-3. The referenced text within the FMIT letter is referring to the use of IM-3 to treat recovered water from the pilot test and states the IM-3 facility should not be incorporated into any final remedy. PG&E does not intend to use the IM-3 treatment plant as part of any final soil or groundwater remedy. Pursuant to the Settlement Agreement between the FMIT and DTSC, the IM-3 treatment plant will be decommissioned when DTSC determines, with DOI's concurrence, that the final remedy is operating properly and successfully and has plume control. PG&E understands the FMIT's preference, but until the time that the groundwater remedy is found to be operating properly and successfully and IM-3 is decommissioned. PG&E may use the IM-3 facilities and site for site-wide activities.

T6-043 The commenter expresses their desire that DTSC had consulted with Tribes regarding the proposed use of IM-3 and states that the DEIR must strike such references to use of IM-3 and describe in detail how recovered water would be used without IM-3. DTSC disagrees with this assertion, and believes that the use of IM-3 is the most practical, costefficient, and least environmentally damaging method to treating recovered water generated by the proposed Project. As described in response to comment T6-042, the use of IM-3 was granted by the Water Board in 2006 and is consistent with the Settlement Agreement between the FMIT and DTSC.

T6-044 The commenter is concerned that without knowing the specific location and scope of the In Situ Stabilization/Chemical Fixation, they cannot effectively comment, and they want to know how DTSC can determine the potential adverse effects of this action. Please see Master Response Additional Testing and Sampling Activities for a detailed response.

T6-045	The commenter requests that the additional testing activities be removed from the EIR and considered at a later time, if necessary. The commenter is also concerned that including these additional testing activities creates an irreversible momentum toward implementation because they are already "studied." See Master Response Additional Testing and Sampling Activities.
T6-046	The commenter requests clarification on the meaning of "herbivorous and invertivorous wildlife populations." The commenter also questions what the target species for tissue sampling would be. "Herbivorous" means the species eats plants; "invertivorous" means the species eat invertebrates. Specific target species for plant and invertebrate sampling would be dependent on the outcome of the baseline ecological risk assessment for soil. The purpose of the sampling, if conducted, would be to obtain representative plant or prey tissue concentrations to evaluate dietary exposure to birds or mammals consuming the plants or prey. Therefore, the specific sampling design would be dependent on the feeding guild potentially at risk. See Master Response Additional Testing and Sampling Activities for more information.
T6-047	The commenter questions whether the plant or biota sampling would result in mortality of target plants or animals, and where in the Project Site these samples would be conducted. The commenter also questions whether pit traps, as cited in the DEIR on page 3-35, is a humane method of collection. Tissue sampling, if necessary, would entail mortality of individual invertebrates and/or small mammal target species. Plant sampling, however, can often be completed by trimming foliage without loss of individual plants. See Master Response Additional Testing and Sampling Activities for more information.
	As described in Section 3.5.5 of the DEIR, in the event that a validation study is required, plant and invertebrate tissue samples and potentially co-located soil samples would need to be collected from the Project Site. The sampling at the Project Site would focus on the areas of the soil investigations, although specific locations cannot be determined at this time without completing the predictive Ecological Risk Assessment (ERA). To minimize additional soil sampling, tissue samples would be collected from locations where soil sampling has already been completed or planned (which can be representative of co-located data) provided adequate biomass is available from those locations.
	Pit traps are one method of collecting invertebrates for tissue analysis in the laboratory. Individual invertebrates collected in pit traps are homogenized in the laboratory to obtain measured chemical concentrations in invertebrate tissue. As such, this method ultimately results in mortality of individual invertebrates. Pit traps or other collection means would only be used if a validation study is warranted based on the outcome of the forthcoming baseline ERA for soil.

T6-048	The commenter requests clarification on the target species for the small mammal tissue sampling. The commenter also requests clarification on whether the Sherman live or similar traps are a humane method of collection, and whether there are other options for sampling that would not result in mortality.
	As described in Section 3.5.5 of the DEIR, the specific target species, if any, would be dependent on the outcome of the baseline ERA for soil. The purpose of the sampling, if conducted, would be to obtain representative small mammal tissue concentrations for dietary exposure to carnivorous birds or mammals. Therefore, the specific sampling design would be dependent on the dietary composition of the representative receptors potentially at risk and would be planned with regulatory agency. Tissue samples may be collected from multiple species to best represent the diet composition of the feeding guild of interest. While typical small mammal tissue sampling methods would entail mortality of individual animals, no impact to the health of small mammal populations would be associated with the relatively small number of individuals that would be collected.
	Sherman live or similar traps allow non-target species to be released when the traps are emptied. Traps may also be deployed in the evening and emptied in the morning so that trapped animals are not subject to excessive heat or captivity. See Master Response Additional Testing and Sampling Activities for more information.
T6-049	The commenter asks whether the Tribes would be consulted on the specifics of plant and biota sampling activities if they are not fully discussed in the DEIR. As discussed in Master Response Additional Testing and Sampling Activities, prior to implementation of any plant and biota sampling, PG&E would prepare a work plan that describes the specific locations, extent, configuration, and rationale for such activities. The work plan(s) would be provided to stakeholders, including Tribes, for review and comment.
T6-050	The commenter states that DTSC needs to meet with the FMIT to discuss the specifics of plant and biota sampling activities, including the need for Tribes to participate in the sampling and whether traditional ceremony may be required. As discussed in Master Response Additional Testing and Sampling Activities, prior to implementation of any plant and biota sampling, PG&E would prepare a work plan that describes the specific locations, extent, configuration, and rationale for such activities. The work plan(s) would be provided to stakeholders, including Tribes, for review and comment. This would be the appropriate time for DTSC to engage with the Tribes and discuss the need for Tribal participation and/or ceremony.
T6-051	The commenter states that plant and biota sampling should be removed from the Project at this time as it is not part of the NOP and may not be directly related to the Soil Investigation. See Master Response Additional

Testing and Sampling Activities for additional information on the inclusion of these activities in the Project Description.

T6-052 The commenter expresses concern that Chapter 7, "Alternatives to the Proposed Project," mischaracterizes the FMIT's involvement in the development of the alternatives analysis. The DEIR text on page 7-1 describes a multiyear collaboration between many entities, one of which encompasses Native American Tribal representatives. The text presented in this section is not intended to, nor does it, convey the position or opinions of individual stakeholders, including Tribes, regarding the Soil Investigation Project or potential Project alternatives, but merely conveys the process that was undertaken by DTSC prior to release of the DEIR for public review. DTSC does not intend to suggest that the FMIT or other Native American Tribal representatives were responsible for drafting sections of the DEIR. Moreover, in response to the comment, the DEIR text on page 7-1 is revised in this FEIR as follows:

> The Project reflects the outcome of a multiyear collaboration among effort that involved the Department of Toxic Substances Control (DTSC), the U.S. Department of the Interior (DOI) and member Bureaus, PG&E, Native American Tribal representatives, and stakeholders to determine how best to move forward with the Project in the least impactful yet most feasible manner. The Project and analysis within this document reflects the independent judgment of DTSC and is not necessarily representative of a consensus between the various entities identified above.

The commenter also generally disagrees with the analysis presented in the DEIR. As defined under CEQA Guidelines Sections15204 and 15088, the response to comments are typically reserved to those that specifically pertain to the sufficiency of an environmental document under CEQA, and ways in which the significant effects of the project might be avoided or mitigated. The commenter has not provided any specific information for the lead agency to evaluate in accordance with CEQA. Lead agencies need only respond to significant environmental issues and do not need to provide all information requested by reviewers, as long as a good faith effort at full disclosure is made. This comment is not directed towards the environmental analysis presented in the DEIR and no further response is required.

The commenter also questions who came up with the alternatives that were studied in the DEIR. As lead agency, DTSC is responsible for the alternatives development, presentation, and analysis in this DEIR.

T6-053 The commenter requests that each alternative in the DEIR be evaluated for its consistency with local, state, and federal management plans. The comment and request is noted. A DEIR need not include a discussion of the consistency of a project or, as urged by the commenter, a project's alternatives, with applicable plans. Rather, it is well settled that an EIR must only include a discussion of any *inconsistencies* between the proposed project and applicable general and/or regional plans (CEQA Guidelines Sections 15122–15130; see also PRC Section 21100; *City of Long Beach v. Los Angeles Unified School Dist.* (2009) 176 Cal.App.4th 889, 918-919 (*City of Long Beach*); *Pfeiffer v. City of Sunnyvale City Council* (2011) 200 Cal.App.4th 1552, 1566 (*Pfeiffer*) [rejecting petitioner's claim that the EIR had a "duty to fully present the issue of general plan consistency" for a portion of a medical campus expansion because EIRs are required only to evaluate any inconsistencies with applicable plans]; see also *North Coast Rivers Alliance v. Marin Municipal Water Dist. Bd. of Directors* (2013) 216 Cal.App.4th 614, 633 [same]). Because the commenter does not identify how the proposed Project allegedly conflicts with an applicable plan, no further response is required.

T6-054 The commenter reiterates some of the findings of the DEIR regarding the Reduction of Project Footprint Alternative and notes that the FMIT supports reducing the footprint of the Project. The commenter further urges DTSC to consider the potential environmental benefits of this alternative in more detail. The DEIR provides a comparative analysis of the environmental effects of the Reduction of Project Footprint Alternative on pages 7-13 through 7-16. This level of detail is consistent with the requirements of CEQA.

T6-055 The commenter reiterates some of the findings of the DEIR regarding the Reduction of Project Noise Alternative and notes that the FMIT supports this measure as one way to reduce impacts to tribal cultural resources. DTSC has considered the comment, but after evaluating the advantages and disadvantages of the alternative, DTSC concluded this alternative to be less desirable. It should be noted that even though noise under this alternative would be less than the maximum potential noise that could be generated under the proposed Project, the duration of the noise exposure would be longer because of the longer time required to conduct the investigation. If the soil investigation was to be performed using only one piece of soil sampling equipment at a time (drill rig, hydrovac truck, backhoe), the field investigation schedule would be extended by at least one month, and could easily be extended to several months due to inefficiencies in staging the work and work flow processes. Implementation of this alternative would greatly complicate Project logistics, hinder efficiency, would lengthen the Project duration, and result in a significant increase in Project costs for minimal benefit. Implications of limiting the allowed equipment to one piece at a time include the following:

> • Increased complexity of Project logistics and phasing from coordinating pieces of field equipment across large project areas to ensure only one piece of equipment is operating at a time. This complexity is greatly amplified when coordination with other parties is critical, e.g., coordination with gas operations when work is done within the Station, coordination with

monitors/agencies personnel that may observe the work,	
coordination with affected utility companies for subsurfa	ace
utility clearance, etc.;	

- Extending the period that Project-related noise will be generated by at least one and likely several months;
- Several months of additional vehicle and truck trips to the site for transporting field crews and equipment;
- Multiple pieces of field equipment would be required to be on standby over the entire duration of the field work, resulting in a significant cost increase;
- Several months of additional field per diem charges; and
- Several months of additional full time supervision and compliance monitoring (e.g., biological and cultural).

The commenter urges DTSC to revise the DEIR to instead use a preproject NOP baseline from which to consider the potentially significant adverse effects of the proposed Project. The commenter specifically requests that DTSC use April 2010 as the baseline because this is when the DEIR for the Groundwater Remediation Project was released and, according to the commenter, the whole of the project bifurcated (groundwater/soil). The comment and request are noted. DTSC disagrees with the request and therefore declines to revise the EIR using such a baseline.

As explained in the CEOA Findings of Fact adopted by DTSC as part of the 2011 certification and approval of the Groundwater Remediation Project FEIR (Exhibit 1 to Attachment B Findings of Fact and Statement of Overriding Considerations, on pages 5 through 7), DTSC originally planned to combine, in a single remedy decision, the groundwater and soil investigation and remediation, and to conduct both soil and groundwater evaluation and remediation simultaneously. By June 2007, it became apparent to DTSC staff that legal and technical impediments would delay the soil investigations and the subsequent development of a proposed remedy for any soil contamination. DTSC therefore decided that a single remedy decision for the two projects would not be feasible. in part because they could not occur together within a reasonable time. DTSC nevertheless hoped it would be able to gather sufficient soil information to provide a program-level evaluation of the potential soil remediation along with the groundwater final remedy in the EIR. For this reason, the May 2, 2008, release of the NOP referenced a single "final remedy" to address both soil and groundwater contamination at the Topock Compressor Station (Station). However, delays in the soil investigations continued and the lack of a full soil characterization prevented DTSC from including the soil information in the EIR. DTSC anticipated at that time that it would begin evaluating a soil remedy in 2014.

The 2011 CEQA Findings of Fact explained that, because the extent of the soil contamination is unknown, inclusion of a soil remediation in one EIR would involve a high degree of speculation and would have

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unnecessarily delayed the EIR prepared from the groundwater remediation, which, in DTSC's determination, was not in the public interest. The decision to bifurcate the remedies for groundwater and soil is reflected in the June 2007 project schedule and was presented at the Topock Consultative Work Group meeting held on June 20, 2007. It was also explained in the Groundwater Remediation Project DEIR (see Groundwater Findings, pages 5 through 7).

As further explained in the 2011 CEQA Findings, the two projects (groundwater and soil), are independent from one another under CEQA in that one project does not cause the need for the other project. The proposed Soil Investigation Project is not, for example, an expansion of the Groundwater Remediation Project and will not change the nature or scope of the Groundwater Remediation Project. The same is true of the Soil Work Plan which will not change the nature or scope of the ongoing final groundwater remedy design project. The two projects involve different contaminants and distinct environmental risks; while Cr(IV) may be present in the soil as well as the groundwater, elevated concentrations of dioxins/furans, polycyclic aromatic hydrocarbons, polychlorinated biphenyls, and total petroleum hydrocarbons, as well as some semi-volatile organic compounds, have also been detected in the soil. Because of the nature of the contamination and contaminated substrate, the two projects would necessarily employ different remediation technologies on different schedules for different durations. Potential soil contamination cleanup activities in the future may prove to be a key component of the overall cleanup efforts at the Station, but would represent a separate project from the Groundwater Remediation Project and would have independent utility. If further soil investigations indicate that soil remediation is suggested, future environmental review would be required before initiating any remediation of contaminated soil. DTSC therefore did not improperly "piecemeal" or "segment" the Project under CEQA when it decided to conduct separate environmental review. The two projects have independent utility and do not require analysis in the EIR as requested by the commenter, including through use of a recreated 2010 baseline (see CEQA Guidelines Section 15125, subd. (a) [the "baseline" is normally the existing environmental conditions at the time of issuance of a NOP]).

The Soil DEIR nevertheless considered, as part of the cumulative impacts analysis, the ongoing and future groundwater remediation activities, to the extent the effects of those activities are reasonably foreseeable and would cause related impacts to those that would occur from implementation of the Soil Work Plan (see DEIR pages 6-6 through -12; 6-17 through 6-36, as revised as part of this FEIR). Table 6-3 of the Soil DEIR, for example, includes the Groundwater Remediation Project and ongoing use of IM-3, among other reasonably foreseeable projects assumed in the cumulative impacts analysis (see Master Response Cumulative Projects). The DEIR also considers the ongoing groundwater monitoring activities within the East Ravine area as part of the cumulative impacts analysis (DEIR page 6-12).

The DEIR further explains that development of the Basis of Design Report/Final Design (90%) for the groundwater remedy is ongoing, and anticipated to be completed in September 2014 (DEIR page 6-11). The 90% design, at the time of this FEIR, however, has since been further delayed and the comment period extended. DTSC therefore does not anticipate having a final design to consider until Spring 2015, followed by a 30-day stakeholder comment and review period (see Letter from DTSC/DOI to Yvonne Meeks, PG&E, Re: Incomplete Elements Identified in Pre-Final (90%) Basis of Design Report [Oct. 21, 2014]; see also DEIR pages 6-11 through -12). Under the most optimistic of timeframes, DTSC now anticipates final approval of the groundwater remedy will not occur until Fall 2015. After obtaining the necessary approvals (rights-of-way, easement, access agreements, etc.), preconstruction and field preparation are expected to begin in late 2015. Construction activities are expected to last through Summer or Fall 2018.

There is potential for activities from the Groundwater Remediation Project and the proposed Project to overlap. The proposed Project has a 12 month schedule for the soil investigation activities, beginning in early (March) 2015, with additional activities supporting a future Soil Corrective Measures Study/Feasibility Study (Soil CMS/FS) (pilot studies, bench scale tests, geotechnical evaluations, and plant and biota sampling) occurring from late 2016 for 13 to 27 months. If overlap occurs, the initial field preparation and surveys for the Groundwater Remediation Project may overlap with the tail end of proposed soil investigation activities. The additional activities supporting a future Soil CMS/FS, if needed, would overlap with the construction of the Groundwater Remediation Project, both occurring from 2016 through 2018 (see DEIR, pages 6-11 through -12 and Master Response Cumulative Projects). To the extent the pilot studies/bench tests could overlap with the early stages of implementation of the groundwater remedy (e.g., in late 2016 through early 2018), the potential effects of those pilot and bench test activities, as identified in the DEIR, in conjunction with implementation of the groundwater remedy would not change the cumulative impact conclusions reached in the Draft Soil EIR; namely, the only cumulatively considerable, and significant and unavoidable effect, of the proposed Project would remain to cultural resources (see DEIR pages 6-22 through 6-24).

Lastly, as explained in Enclosure 1 to the October 21st letter, DTSC/DOI are requesting, among other items, information regarding specific proposed well locations and access routes for the 90% groundwater remedy design. Because the final groundwater remedy design omits this site specific information and is therefore incomplete, the direct project specific impacts of the final groundwater remedy are not yet able to be identified. Those impacts include, for example, impacts to air quality, biological and cultural resources. Expanding upon the cumulative impacts analysis contained within the DEIR at this time would therefore be speculative.

T6-057	The commenter suggests a revision to the DEIR to clarify that risks to human health <i>may</i> pose a potential risk to human health and the environment, rather than implying that the risks are known to exist. In response to the comment, the DEIR text on page 7-20 is revised in this FEIR as follows:
	<u>Potentially</u> C contaminated soil w could continue to exist at undocumented and unexplored capacities and may continue to pose a <u>potential</u> risk to human health and the environment if the No Project Alternative were implemented.
T6-058	This commenter notes that the Tribal Land Use Alternative has been rejected by DTSC because it does not meet the Project objectives, which is correct. Additional information on this conclusion by DTSC is provided in the DEIR on pages 7-8 and 7-9. The commenter questions the source of "DTSC policy" to always include a characterization of the Site to levels of residential/unrestricted land use as the point of departure for evaluation of risk and potential alternatives at the Site. The specific policy cited, DTSC Management Memo #EO-02-002MM (DTSC 2002) (Appendix G to this FEIR), was included as an attachment to the August 31, 2012 letter from the U.S. Department of the Interior and DTSC to Linda Otero (FMIT), which was provided as a response to questions from the FMIT regarding land use jurisdiction and site characterization, and was provided to the commenter as indicated by the distribution list included in the letter. In addition, the commenter asks if there are any exceptions to this policy. See Master Response Future Land Use Scenario for a complete description of the factors that have determined the specified sampling activities. In response to the comment and consistent with the Master Response Future Land Use Scenario, the DEIR text on page 7-8 is revised in this FEIR as follows:
	It is DTSC's policy to always include a <u>C</u> haracterization of the Site to levels of residential/unrestricted land use as <u>is</u> the point of departure for evaluation of risk and potential alternatives at the Site <u>as described in DTSC Management Memo #EO-02-002MM (DTSC 2002).</u>
T6-059	The commenter asks DTSC to explain why considering land use restrictions at the investigation stage of a remediation planning effort would be premature. As described on page 7-8 of the DEIR, DTSC needs to first gather data to reliably identify the nature and scope of the on-site contamination before determining whether remediation activities are necessary and, if so, the location and extent of those remediation activities. While DTSC expresses this as "characterization of the Site to levels of residential/unrestricted land use as the point of departure for evaluation of risk," this approach to characterization (or information gathering) does not predetermine the ultimate outcome regarding risk avoidance. Having comprehensive information regarding the condition of the site will ensure a full, accurate, and balanced evaluation of remedial alternatives, including potential land use restrictions.

In the last sentence of this comment, the commenter notes that the FMIT disagrees with the DEIR's assertion that the Land Use and Planning environmental effects were found to be less than significant and without controversy. This comment does not identify any specific deficiency regarding the Land Use and Planning analysis, which is found in Section 5.3.5, beginning on page 5-10 of the DEIR. The analysis in Section 5.3.5 goes through the various thresholds of significance considered by DTSC in the Land Use and Planning analysis, which are consistent with the CEQA Guidelines, Appendix G. As demonstrated by this analysis, the Project would not physically divide an established community or conflict with a land use planning policy adopted for the purpose of avoiding or mitigating an environmental effect. Thus, the Project would not result in a significant Land Use and Planning impact. DTSC recognizes the FMIT's concern regarding the use of the residential land use criteria for soil characterization on the Topock Site. The commenter is referred to Master Response Future Land Use Scenario for a discussion of this topic. No changes have been made to the analysis in the FEIR because the comment does not represent a factual argument regarding the Land Use and Planning analysis presented in the DEIR.

However, in recognition of the FMIT's concern about the residential land use criteria for soil characterization, Section 1.5, page 1-7 of the DEIR is modified to acknowledge that area of controversy in this FEIR as follows:

- **Issue:** The use of the residential land use scenario for soil characterization at the Project Site and associated impacts to Land Use and Planning.
 - Where Addressed in the DEIR: The analysis in \sim Section 5.3.5 goes through the various thresholds of significance considered by DTSC in the Land Use and Planning analysis, which are consistent with the CEQA Guidelines, Appendix G. As demonstrated by this analysis, the Project would not physically divide an established community or conflict with a land use planning policy adopted for the purpose of avoiding or mitigating an environmental effect. Thus, the Project would not result in a significant Land Use and Planning impact. The Tribal Land Use Alternative is addressed in Chapter 7 of the DEIR, specifically pages 7-6 through 7-10. The need to first gather data about the condition of the Site before establishing approaches to cleanup is addressed on page 7-8. This section of the DEIR provides a description of the Tribal Land Use Alternative and an evaluation of how the alternative meets the Project Objectives and whether the alternative is feasible. As addressed in more detail in Chapter 7, DTSC has determined that the Tribal Land Use Alternative does not meet the objectives of the Soil Investigation Project.

	In addition, the introduction to Section 1.5 on page 1-7 is revised to accurately characterize the input received within the DEIR comment period as follows:
	Agency and public scoping meetings were held from December 11 to December 13, 2012, to receive oral comments on the scope and content of the DEIR. In addition, various input has been received by DTSC throughout the process, including input during the DEIR comment period. The following is a summary of the known controversial issues that were have been received during the NOP comment period:
	The revisions to the DEIR provided in this response are merely to recognize the difference in opinion (i.e., controversy) between the DEIR's approach and the commenter's perspective. It does not present a new significant environmental impact or mitigation measure, result in a substantial increase in the severity of an environmental impact as it relates to cumulative impacts, result in new feasible project alternatives or mitigation measures, or preclude meaningful public review and comment such that recirculation of the DEIR is required (see Section 15088.5 of the CEQA Guidelines).
T6-060	The commenter notes that the DEIR states that Dr. Sullivan's letter did not address how land use restrictions would be implemented or enforced, and that the agencies did not inquire about this aspect of the Tribal Land Use Alternative. It is correct that land use restrictions may be used as a risk management approach. Consideration of this approach would occur after the site is comprehensively characterized (that is, after investigation and data gathering is complete).
T6-061	The commenter states that the DEIR appears to reject studying the Tribal Land Use Alternative because it would not meet the objectives of evaluating remedies that protect human health and the environment (DEIR page 7-10). This conclusion is correct.
	While the proposed Project is an investigation project and does not evaluate cleanup remedies, one of the primary objectives of the Project is to finalize the evaluation of soil properties and containment distribution to gather enough information to support the evaluation of remedial options. The evaluation of cleanup remedies would occur after implementation of the soil investigation activities that are the subject of the DEIR. In order to have complete data to evaluate possible cleanup scenarios, DTSC must conduct sufficient investigation and data collection to know the extent and nature of contamination on the Project Site.
	The commenter concludes by stating the DEIR did not meaningfully evaluate, analyze and compare the Tribal Land Use Alternative with the proposed Project in violation of CEQA. To the contrary, DTSC's decision to not evaluate the Tribal Land Use Alternative is consistent with CEQA and the CEQA Guidelines. Specifically, the Tribal Land Use

	Alternative was rejected because it would not meet the basic objectives of the proposed Project. The CEQA Guidelines Section 15126.6(c) directs that the range of potential alternatives to a project shall include those that could feasibly accomplish most of the basic objectives of the project. Furthermore, a lead agency may use the failure of an alternative to meet most of the basic project objectives to eliminate alternatives from detailed consideration in an EIR. See also response to comment T6-017.
T6-062	The commenter would like confirmation that other future land use scenarios (besides the residential/unrestricted levels selected for characterization) may be considered in the soil remedy environmental review such as the Tribal Land Use Scenario. Whether or not future soil remediation will be necessary at some or all of the contamination sites identified in the Project Site will be determined after completion of the Soil Resource Conservation and Recovery Act Facility Investigation and Remedial Investigation Report (RFI/RI) and preparation of a future Soil CMS/FS.
T6-063	The commenter states the FMIT believes the DEIR must be revised to identify each of the environmentally superior alternatives for stakeholders, decision makers, and the public as well as to explain the environmental advantages and disadvantages of each alternative in comparison to the Project.
	Under CEQA, an EIR must identify the overall environmentally superior alternative, not the environmentally superior alternative as perceived by each stakeholder, agency, or interested party, as alluded to by the commenter (CEQA Guidelines Section 15126.6, subd. (e)(2)). If, moreover, the environmentally superior alternative is the "no project" alternative, the EIR shall also identify an environmentally superior alternative among the other alternatives (<i>ibid</i>). The DEIR fulfills these requirements by identifying the reduced footprint alternative as the environmentally superior alternative (DEIR page 7-22). The DEIR analysis also describes what significant impacts of the Project could be avoided or substantially lessened by each respective alternative as required by CEQA (see DEIR pages 7-11 through 7-22; CEQA Guidelines Section 15126.6).
	The commenter also states there is no restriction in CEQA for combining elements of alternatives to develop a project with fewer impacts. The commenter is correct that lead agencies generally have such discretion. No further response is required.
T6-064	The commenter's opinion that some conclusions in the DEIR are unsupported by substantial evidence is noted. Although the FMIT may disagree with the conclusions in the DEIR at page 7-22, that does not mean the DEIR lacks substantial evidence in support of its conclusions. It has long been held that an EIR is not legally inadequate simply because experts in a particular environmental subject matter dispute the conclusions reached by the experts whose studies were used in drafting

	the document, even where different conclusions can reasonably be drawn from a single pool of information. In such instances, the EIR need only summarize the main points of disagreement and explain the lead agency's reasons, if any, for accepting one set of judgments instead of another (see CEQA Guidelines Section 15151; <i>Greenebaum v. City of</i> <i>Los Angeles</i> (1984) 153 Cal.App. 3d 391, 413; <i>Browning-Ferris</i> <i>Industries v. City Council</i> (1986) 181 Cal.App. 3d 852, 862–863).
	The commenter's belief that the Reduced Noise Alternative is also an Environmentally Superior Alternative and should be more fully studied is also noted and will be taken into consideration by DTSC. Any additional response is therefore not required.
T6-065	The FMIT's request that the Tribal Land Use Scenario Alternative be fully studied and included as an environmentally superior alternatives in the EIR is noted and will be taken into consideration by DTSC. As explained in pages 7-8 through 7-10 of the DEIR, DTSC determined the Tribal Land Use Scenario Alternative to be infeasible and therefore it need not be fully considered in the DEIR (CEQA Guidelines Section 15126.6, subd. (a)). Because an infeasible alternative is not required to be fully studied in an EIR, it also need not be considered an environmentally superior alternative as requested by the commenter.
T6-066	The commenter requests that Chapter 1, "Summary," page 1-7, Areas of Controversy, be edited to reflect Native American concerns to Visual/ Aesthetics Impacts and Land Use and Planning. For a response to the Land Use and Planning comment the commenter is referred to response to comment T6-059.
	The Areas of Controversy identifies potential impacts to Native American cultural and archaeological resources. In recognition of the FMIT's concern about Visual/Aesthetics impacts as related to Cultural Resources, Section 1.5, page 1-7 of the DEIR is modified to acknowledge that area of controversy in this FEIR as follows:
	• Issue: Potential impacts to the environment of the investigation and remediation process, particularly the impact to Native American cultural and archaeological resources <u>, and Visual/Aesthetics resources</u> in the immediate vicinity of the Station and the surrounding landscape (e.g., how the geographic description was chosen; analysis of social change in regards to the Project).
	 Where Addressed in the DEIR: The description of potential impacts to Native American cultural and archaeological resources, and Visual/Aesthetics resources is included in Section 4.1, "Aesthetics," and Section 4.4, "Cultural Resources," of this DEIR. Section 4.7, "Noise," also discusses issues of particular concern to Native American Tribes.

	In addition, the introduction to Section 1.5 on page 1-7 is revised to accurately characterize the input received within the DEIR comment period as follows:
	Agency and public scoping meetings were held from December 11 to December 13, 2012, to receive oral comments on the scope and content of the DEIR. <u>In addition, various input has been</u> received by DTSC throughout the process, including input during the DEIR comment period. The following is a summary of the known <u>controversial</u> issues that were <u>have been</u> received during the NOP comment period:
	The revisions to the DEIR provided in this response are merely to recognize the difference in opinion (i.e., controversy) between the DEIR's approach and the commenter's perspective. It does not present a new significant environmental impact or mitigation measure, result in a substantial increase in the severity of an environmental impact as it relates to cumulative impacts, result in new feasible project alternatives or mitigation measures, or preclude meaningful public review and comment (see Section 15088.5 of the CEQA Guidelines).
	The commenter is referred to Section 4.1, "Aesthetics," where Tribal consideration is given on page 4.1-20 in discussing Tribal groups as potentially affected viewers, and page 4.1-44, where the 360-degree viewshed approach proposed by the FMIT was acknowledged as supporting the analysis. The commenter is referred to Section 4.4, "Cultural Resources," which presents the analysis of the viewshed and its important relationship as a contributing element to the TCP.
T6-067	This comment requests that DTSC's decision to not study the Tribal Land Use Alternative be included in the listing of known controversial issues, which is provided in Section 1.5 of the DEIR. The commenter is referred to response to comment T6-059, which shows that this topic has been added to Section 1.5, "Summary of Known Controversial Issues."
T6-068	The commenter expresses an opinion regarding the less than significant impact conclusions reached for Biological Resources, Visual Resources/Aesthetics, Land Use and Planning; and Cumulative Impacts to Biology, Cultural Resources, Land Use and Planning, Noise, Public Services and Visual Impacts/Aesthetics analyzed in the DEIR. It has long been held that an EIR is not legally inadequate simply because experts in a particular environmental subject matter dispute the conclusions reached by the experts whose studies were used in drafting the document, even where different conclusions can reasonably be drawn from a single pool of information. In such instances, the EIR need only summarize the main points of disagreement and explain the lead agency's reasons, if any, for accepting one set of judgments instead of another (see CEQA Guidelines Section 15151; <i>Greenebaum v. City of Los Angeles</i> (1984) 153 Cal.App. 3d 391, 413; <i>Browning-Ferris Industries v. City Council</i> (1986) 181 Cal.App. 3d 852, 862–863).

T6-070

T6-069 The commenter provides an overview of their disagreement with various impact conclusions in the DEIR with the exception of Cultural Resources and Noise and refers to later comments in the letter with more specific information. Accordingly, please refer to later responses to comments on particular issues. Additionally, DTSC notes that although the FMIT may disagree with the conclusions in the DEIR, which does not mean the DEIR lacks substantial evidence in support of its conclusions. It has long been held that an EIR is not legally inadequate simply because experts in a particular environmental subject matter dispute the conclusions reached by the experts whose studies were used in drafting the document, even where different conclusions can reasonably be drawn from a single pool of information. In such instances, the EIR need only summarize the main points of disagreement and explain the lead agency's reasons, if any, for accepting one set of judgments instead of another (see CEQA Guidelines Section 15151; Greenebaum v. City of Los Angeles (1984) 153 Cal.App. 3d 391, 413; Browning-Ferris Industries v. City Council (1986) 181 Cal.App. 3d 852, 862-863).

> The commenter expresses an opinion on the Aesthetics analysis presented in the DEIR. Specifically, the commenter approves the graphic depiction of visual impacts. The comment is noted for the record. The commenter also states that the FMIT disagrees with the conclusion presented in DEIR Table 1-1 that Impact AES-3 (potential degradation of existing visual character) will be less than significant and disagrees with the idea that vegetative screening and viewing distance are attenuating factors. The commenter also points out that there may be a typographical error in the Table 1-1 entry for Impact AES-3. The DEIR includes a set of 6 panoramic landscape views and 23 key representative photographs that convey the existing vegetative screening at the Project Site as seen from a range of viewing distances (refer respectively to DEIR Figures 4.1-2a through 4.1-2c and Figures 4.1-5a through 4.1-5j). A subset of these photographs was selected for visual simulation and are referenced in the detailed analysis presented in Section 4.1.3.3 of the DEIR. As noted in this discussion, the Project would not involve substantial grading or permanent vegetation removal. Project activities would require trimming, pruning, or clearing of some vegetation in limited areas. The simulation views presented on Figures 4.1-8b and 4.1-10b demonstrate that due to factors including but not limited to vegetative screening and viewing distance, the visual effects of proposed vegetation trimming or pruning represents an incremental change that would not substantially alter the composition or character of existing visual character. Comparison of the other before and after simulation views in the DEIR also indicates less than significant levels of visual change. See response to comment T6-174 for additional information related to visual aspects of proposed revegetation.

> > In light of the above, DTSC can confirm that Table 1-1 correctly states that "The proposed Project would introduce incremental change comparable in height and character to the existing built elements in the
landscape and as such would not substantially degrade the existing visual character of the Project Site."

Although the FMIT may disagree with the conclusions in the DEIR regarding impact AES-3, that does not mean the DEIR lacks substantial evidence in support of its conclusions. The EIR need only summarize the main points of disagreement and explain the lead agency's reasons for accepting one set of judgments instead of another (see CEQA Guidelines Section 15151; *Greenebaum v. City of Los Angeles* (1984) 153 Cal.App. 3d 391, 413; *Browning-Ferris Industries v. City Council* (1986) 181 Cal.App. 3d 852, 862–863).

T6-071 The commenter states that the term "casual observer" is not applicable to the Tribes and notes that Tribal viewers are informed, experienced, and sensitive. DTSC does not disagree with the comment. However it should be noted that Section 4.1.1.4 of the DEIR follows accepted visual assessment methods by providing a description of potentially affected viewers of the Project Site (FHWA 1988). As discussed on DEIR pages 4.1-20 and 4.1-21, the potentially affected viewers include tribal groups as well as motorists, train passengers, recreationalists, and a limited number of residents. DEIR page 4.1-20 states that "Tribal members are the first identified viewer group as several Interested Tribes have significant cultural ties to the area. . . Tribal views of the Project Site based on these typical activities range from short to moderate in duration. Many Tribal users, however, are intimately familiar with the views and overall viewshed associated with the cultural landscape and would be sensitive to visual changes in the natural landscape. Viewer sensitivity is therefore considered high."

> The DEIR does not equate tribal groups and the "casual observer." However the DEIR follows accepted methods and considers potential effects on the range of identified viewer groups. Accordingly, the DEIR viewshed evaluation appropriately acknowledges the visual experience of the casual observer (Section 4.1.1.3, page 4.1-19): "Project activities that the viewshed maps indicate as being potentially visible may not be perceptible to a casual observer, especially when considering more distant views. This is particularly true in the case of sampling locations that involve use of hand tools. This activity is unlikely to be visible to the unaided eye at distances beyond one-quarter of a mile."

T6-072 The commenter expresses an opinion regarding the duration of impacts experienced from machinery as a result of the proposed Project, specifically that the visual impact from machinery could be extremely impactful if it represented the viewer's last view on earth. The comment is noted for the record.

T6-073 The commenter asks how the DEIR defines "daytime" in regard to the aesthetics analysis. In response to the question, the text of Section 3.5.8.1 (page 3-39) of the DEIR is revised in this FEIR to define the term:

	Drilling would be limited to day <u>time</u> light hours to minimize the need for lighting and to conserve energy to the extent feasible. Daytime is generally defined as the time between sunrise and sunset when there is enough natural light to conduct Project activities without assisted lighting.
	In addition, the text on page 4.1-76 related to Impact AES-4 is revised in this FEIR to be consistent with the changes above:
	Soil investigation activities would be limited to day <u>time</u> light hours (defined generally as the time between sunrise and sunset when there is enough natural light to conduct Project activities without assisted lighting) to minimize the need for lighting and to conserve energy to the extent feasible.
T6-074	The commenter states there is insufficient information to support the conclusion that potential visual contrast between disturbed areas and the surrounding landscape would be minimal and asks if there is a visual simulation showing the full anticipated impacts of all 23 sampling locations at Bat Cave Wash. The potential visual contract between disturbed areas and the surrounding landscape is evaluated in Section 4.1.3.3 of the DEIR. This evaluation addresses potential color, texture, and scale contrast resulting from the Project and references a set of 10 before and after views to support the conclusion (Figures 4.1-6a through 4.1-15b). Figure 4.1-8b includes a simulation view looking toward Bat Wash Cave from the National Trails Highway that shows vegetation removal associated with all the sample locations and access routes which consists of canopy trimming, pruning, or clearing of up to 2 acres of vegetation to facilitate access in this area (page 4.1-72). As noted on page 4.1-72 of the DEIR, sampling equipment, as shown in the simulation, would be seen at only one location at a time. Because of the multiple sampling locations in Bat Cave Wash, visibility of the drilling rig would vary depending on the height and density of the existing vegetation within the grove and the extent of clearing required for access, with only the top-most portion evident in some locations. In these cases, Project activity would be less visible than what is shown in Figure 4.1-8b simulation. Additionally, the depiction of soil investigation activities in the simulation represents those activities most likely to have a visual impact. For example, the excavator shown in the Figure 4.1-6b view toward Bat Wash Cave from I-40 would represent the most visible component of sampling activity seen from this viewpoint, which could also include sampling using hand tools.
T6-075	The commenter questions the estimate of the time it would take for the area to revegetate of one to two growing seasons (DEIR, page 3-36), whether that is equivalent to pre-Project visual conditions, how will the impact would be documented and compared to pre-existing conditions, and what steps can be taken to assist in revegetating the area or offset the unexpected reduction in visual quality. As described in Section 3.5.6 of the DEIR, complete vegetation removal is not anticipated in any work

areas. Pruning, trimming, or clearing of some vegetation may be needed to access some sites and clear around investigation areas. Roots will be left in place to allow for natural regrowth of vegetation. The estimate of regrowth in 1 to 2 growing seasons is based on documented past on-site experience, where no additional human intervention has been necessary.

Site restoration activities described on page 3-36 of the DEIR will be evaluated by the DTSC as the lead agency, including monitoring natural vegetation regrowth following work activities. The amount of time it takes an area to revegetate, estimated at one to two growing seasons in Section 3.5.6 of the DEIR, is not intended to be equivalent to pre-Project visual conditions. Consideration of the aesthetic impacts of vegetation pruning, trimming, and clearing are included in Section 4.1.3.3 of the DEIR and Figures 4.1-8b and 4.1-10b demonstrate that the visual effects of proposed vegetation pruning, trimming, or clearing would represent a visual change that would not substantially alter the composition or character of existing landscape views, regardless of the time to regrowth. A return to pre-Project visual conditions for vegetation would be dependent to some degree on regional weather patterns. A quicker or slower return to pre-Project visual conditions, however, would not change the conclusions in the EIR for Aesthetic Resources.

T6-076 The commenter asks what effort has been made to understand the short. mid-, and long-term expected visual contrast between disturbed areas and the surrounding landscape. Further, the commenter asks where the support is for the assertion that the ground surface following Project completion would "closely resemble pre-investigation" conditions and would not leave a permanent visual impact on the landscape. Further, the commenter asks how this will be documented and compared to preexisting conditions and if visual effects remain what is the plan to remedy them. As outlined in response to comment T6-074, potential visual contrast between disturbed areas and the surrounding landscape is evaluated in Section 4.1.3.3 of the DEIR. This evaluation references a set of 10 before and after visual simulations that depict visual change from the Project at the time of completion, when the visual contrast would be strongest-not after any post-work site restoration or regrowth period of time (see DEIR Figures 4.1-6a through 4.1-15b). As described in Section 3.5.6 of the DEIR, complete vegetation removal is not anticipated in any work areas. Pruning, trimming, or clearing of some vegetation may be needed to access some sites and clear around investigation areas. Roots would be left in place to allow for natural regrowth of vegetation. The estimate of regrowth in one to two growing seasons is based on documented past on-site experience, where no additional human intervention has been necessary.

> Site restoration activities described in Section 3.5.6 of the DEIR would be evaluated by DTSC as the lead agency, including monitoring natural vegetation regrowth following work activities. The amount of time it takes an area to revegetate, estimated at one to two growing seasons in Section 3.5.6 of the DEIR, is not intended to be equivalent to pre-Project

	visual conditions. Consideration of the aesthetic impacts of vegetation pruning, trimming, and clearing are included in Section 4.1.3.3 of the DEIR and Figures 4.1-8b and 4.1-10b which demonstrate that the visual effects of proposed vegetation pruning, trimming, or clearing would represent a visual change that would not substantially alter the composition or character of existing landscape views, regardless of the time to regrowth. A return to pre-Project visual conditions for vegetation would be dependent to some degree on regional weather patterns. A quicker or slower return to pre-Project visual conditions however would not change the conclusions in the EIR for Aesthetic Resources.
T6-077	DTSC agrees that Tribal views regarding visual impacts to the FMIT's sacred area are "relevant, material, credible and reliable" as characterized by the commenter. This is why, in part, the DEIR reaches a significant and unavoidable impact conclusion with respect to cultural and historical resource impacts (Impacts CR-1, CR-2, CUM-1) and noise impacts (Impact NOI-1) of the Project. The Reduction of Project Footprint Alternative would result in a significant and unavoidable impact for similar reasons, as explained in the DEIR. The commenter's opinion that additional thresholds of significance may be used in the analysis, and that the "sensitive viewers' concerns are not reflected in the significance determinations" are noted.
T6-078	The commenter states that the analysis is not focused on key Tribal views and it does not appear the Tribes were consulted on the Project-related Visual Effects at Key Viewpoints conclusions. The commenter also states that there was no input from the Tribes regarding key viewpoint locations. DTSC has conducted outreach with Interested Tribes and afforded them the opportunity to consult on Key Viewpoint recommendations through several in-person meetings. On April 15, 2013, DTSC sent a letter to Interested Tribes soliciting input on key viewpoints. On June 5, 2013 and October 28, 2013 DTSC met with members of the FMIT and other tribes in order to garner additional input on key viewpoints. As outlined in Section 4.1.3.1 of the DEIR, field observations were conducted in October 2013 to document existing visual conditions in the Project Site and to identify potentially affected sensitive viewing locations. The identified potentially sensitive viewing locations include the following:
	• Locations along designated and eligible scenic roadways
	Recognized scenic vista points
	• Locations within public recreation areas from which the Project features would be visible
	• Publicly accessible locations where visible Project-related changes could be particularly noticeable
	In addition, consideration in this analysis was given to places that were identified as visually sensitive by Interested Tribes during the Native

American scoping process (see Section 4.4.1.7 "Native American	
Scoping").	

In recognition of Tribal concerns, Section 4.1.3.1 describes that consideration has been given in this analysis to the larger viewshed through the incorporation of panoramic views, 360-degree views, and images that depict views both toward the Project Site, which convey a general sense of the visual landscape character found in the Project Site vicinity, as well as photographs illustrating representative views from within the Project Site looking out. This approach was proposed by the FMIT and has been used to support the analysis of the viewshed and its important relationship as a contributing element to the Topock TCP.

As the lead agency, DTSC is not required to obtain concurrence on impact conclusions presented in the DEIR with the public prior to publication of a DEIR. DTSC conducted extensive coordination with the Tribes in the development of the DEIR, including scoping sessions specifically regarding aesthetics, and the Tribes' concerns are reflected in the analysis in the DEIR. The commenter does not point to any specific aspects of the analysis presented in the DEIR that they have an issue with.

T6-079 The commenter indicates that the DEIR neglects to fully include Tribal views regarding the Project's impact levels and asks for clarification as to why these views have not been accepted or at least acknowledged in the DEIR. CEOA does not provide an avenue to analyze impacts to personal or group belief systems, such as intangible, spiritual, or religious beliefs. CEQA requires an agency to consider the effects of a project on the environment, which is defined as "the physical conditions" that exist within the area" (see PRC Section 21060.5). Nevertheless, DTSC attempted to recognize Tribal views of the Topock area and the intangible aspects of the Topock TCP in its analysis of impacts to the TCP, which found that the Project would result in a significant and unavoidable impact to the Topock TCP. Although the FMIT may disagree with the conclusions in the DEIR in regards to the cumulative visual analysis that does not mean the DEIR lacks substantial evidence in support of its conclusions. It has long been held that an EIR is not legally inadequate simply because experts in a particular environmental subject matter dispute the conclusions reached by the experts whose studies were used in drafting the document, even where different conclusions can reasonably be drawn from a single pool of information. In such instances, the EIR need only summarize the main points of disagreement and explain the lead agency's reasons, if any, for accepting one set of judgments instead of another (see CEQA Guidelines Section 15151; Greenebaum v. City of Los Angeles (1984) 153 Cal.App. 3d 391, 413; Browning-Ferris Industries v. City Council (1986) 181 Cal.App. 3d 852, 862-863).

The commenter also notes that the definition of TCP on page 4.1-1 of the DEIR should be changed from "traditional cultural place" to "traditional

	cultural property." DTSC acknowledges this inadvertent typographical error, and in response to the comment, the DEIR text on page 4.1-1 is revised in the FEIR as follows:
	The area is considered a cultural landscape and has been identified as a traditional cultural place property (TCP) (see Section 4.4, "Cultural Resources," for detailed discussion of the Topock TCP).
T6-080	The commenter questions the finding that the Project's "incremental" impacts to aesthetics are not cumulatively significant. Please see Master Response Cumulative Projects regarding additional projects that were included in the cumulative analysis. Please see response to comment T6-003 regarding revisions made to the cumulative analyses for Aesthetics (see Section 6.5.1) and Noise (see Section 6.5.12). Even with the revisions made to the analysis as shown above, the combined visual effects from the projects listed in Table 6-3 within the geographic scope for visual analysis, are not considered cumulatively significant.
T6-081	The commenter asks what PG&E plans to do with the trimmings/cuttings of native trees. As described on page 3-30 of the DEIR, disposition of cleared vegetation would be in accordance with direction from DOI (the landowner) and would likely not include off-site disposal. For example, vegetation cleared from the mouth of Bat Cave Wash needed to provide access for sampling may be chipped and left in place and/or used as bedding for the access routes within the tamarisk area.
T6-082	The commenter states that Impact BR-4 claims the temporary loss of foraging habitat would not substantially affect any special-status birds due to the abundance of foraging habitat in the vicinity of the Project site. The commenter then requests clarification on whether the habitat in the vicinity of the Project is fungible (same quality and value) compared to the habitat proposed for temporary impact for special-status birds. To clarify, the habitat for special-status birds that will be temporarily impacted during Project implementation is comprised of riparian and desert scrub communities, mainly tamarisk thickets and creosote bush scrub, as described in the DEIR Table 4.3-4 on page 4.3-51. The adjacent/abundant habitat that Impact BR-4 refers to includes the pristine, expansive desert scrub communities in all directions, such as creosote bush scrub, and the dense riparian/tamarisk thickets along the Colorado River and within HNWR. These habitats are of the same quality and value to special-status bird species and are, therefore considered fungible to the habitat that is being temporarily impacted by Project activities. Furthermore, impacts to foraging habitat will be temporary and revegetation is expected to occur within one to two growing seasons as described in detail in Section 4.3.3.3 on page 4.3-49 of the DEIR. For these reasons, the temporary loss of foraging habitat would not substantially affect any special-status birds.

T6-083 The commenter presents two questions regarding Impact BR-5: (1) will the biological monitor's spot check be done randomly or will PG&E be notified and what is the basis for the effectiveness of this spot-check protocol; and (2) is it not DTSC as the lead agency who has the responsibility for overseeing compliance with the mitigation measures?

PG&E will be notified at least 24 hours prior to the biological monitor's spot check. It is anticipated that once the investigation equipment is in place, constant biological monitoring would not be necessary as impacts would be limited to within that designated work space.

As lead agency, DTSC is responsible for oversight and overall compliance with the mitigation measures; however, it is the responsibility of PG&E to execute the mitigation measures themselves, which means there must be a field contact representative (appointed by PG&E) to enforce measures on-site. It would not be DTSC's responsibility to identify the field contact representative; rather it would be DTSC's responsibility to ensure that PG&E has a field contact representative in place. In response to the comment, Mitigation Measure BR-5 in DEIR Section 4.3, page 4.3-61, is revised in this FEIR as follows:

Disturbance of Desert Tortoise and Loss of Habitat.

Consistent with the PBA and the USFWS letter concurring with the PBA, the following measures shall be implemented:

- a) Before any ground-disturbing Project activities begin, a qualified desert tortoise biologist (i.e., an experienced tortoise expert whom USFWS would be confident in the evaluation and survey for the presence of the desert tortoise under the PBA) shall identify potential desert tortoise habitat in areas that could be affected by the Project activities. The qualified <u>desert tortoise</u> biologist shall conduct a pre-investigation desert tortoise clearance survey prior to the start of investigative activities. They The qualified desert tortoise biologist shall also conduct monitoring on a <u>periodic spot</u> basis (1–2 days for a 2-week period) or as a result of a change in investigation boundaries or limits.
- b) PG&E shall designate a field contact representative (FCR) who will be responsible for overseeing compliance with proper execution of the mitigation measures. The field contact representative FCR-shall be trained by the qualified desert tortoise biologist and have authority to halt activities that are in violation of the mitigation measures/or pose a danger to listed species. The field contact representative FCR-will have a copy of the mitigation measures when work is being conducted on the Project <u>sS</u>ite. The field contact representative

T6-084

FCR-may be a project manager, PG&E representative, or <u>qualified</u> biologist.

The commenter states that Table 4.3-3 in the DEIR does not reference the sightings of bighorn sheep near the proposed Project and requests that the species' potential for occurrence be elevated to "known to occur" based on the sightings referenced in comment T6-084. Table 4.3-3 on page 4.3-32 of the DEIR has been revised in the FEIR, as follows:

Could occur Present; suitable lambing habitat occurs in the mountains south of the Project Site, but not within the Project Site. Suitable foraging and movement habitat extends from the foothills of the mountains down into the floodplain and upland areas of the Project Site. Fort Mojave Indian Tribe members observed a family of six sheep next to Maze Locus A during the annual prayer ceremony in June 2013. Also, Felton Bricker, FMIT Tribal Monitor, has reported observances of sheep in his monitoring logs during the AOC 4 cleanup.

Additionally, the following changes were made to the existing setting description for Nelson's bighorn sheep in the FEIR:

Nelson's Bighorn Sheep

Habitat requirements for Nelson's bighorn sheep include mountainous terrain with areas of gentle terrain such as valley floors and alluvial fans that provide important linkages between adjacent mountainous regions. These gentle terrain areas also provide temporary access to resources such as forage and water, particularly in the drier summer months (PG&E 2015a). Steep, rugged terrain, also called escape terrain, is a crucial component of bighorn sheep habitat because bighorn sheep use running speed coupled with their climbing abilities to evade predators (PG&E 2015a). BLM research indicates that flight and cardiac response is activated within 50 to 100 meters (160 to 330 feet) of disturbance (BLM 2001). Males and females will also often occupy different habitats outside the breeding season. Females tend to choose steep, safe areas for bearing and initial rearing of lambs, while males occupy much flatter areas during the lambrearing season (BLM 2013). Nelson's bighorn sheep forages on a broad variety of plants species (at least 34 and up to 121 different species) including forbs, shrubs, new shoots from shrubs and trees, grasses, shrubs, and barrel cactus (PG&E 2015a).

Nelson's bighorn sheep have a potential are known to occur in the Project Site. <u>A family of six Nelson's bighorn sheep were</u> observed next to Maze Locus A during a FMIT annual prayer ceremony in June 2013. Also, a FMIT Tribal Monitor reported observances of sheep in monitoring logs during the Time Critical Removal Action at AOC 4. Bighorn sheep prefer visually open habitat that is steep and rocky in mountainous terrain above the desert floor. They use their eyesight as the primary sense for detecting predators at sufficient distances to ensure adequate time to reach safe terrain. Males and females will also often occupy different habitats outside the breeding season. Females tend to choose steep, safe areas for bearing and initial rearing of lambs, while males occupy much flatter areas during the lambrearing season (BLM 2013). Nelson's bighorn sheep and signs thereof (tracks, scat, etc.) were not observed within or near the Project Site during the various biological surveys; however, a According to the CNDDB (2013), Nelson's bighorn sheep have been documented in the mountains south of the Project Site (Figures 4.3-3, 4.3-4 and 4.3-4c). The species may use the foothill portions of the Project Site for foraging and movement, but no lambing habitat occurs within the Project Site.

In response to this comment and comment A6-004 (provided by the California Department of Fish and Wildlife), the analysis and significance conclusion for Nelson's bighorn sheep are revised in the FEIR as follows:

Disturbance of Nelson's Bighorn Sheep

The primary risk to Nelson's bighorn sheep is disturbance during soil investigation activities from noise or visual disruptions. Habitat loss is not expected as no lambing habitat occurs on-site and any vegetation community impacts within suitable foraging areas would be temporary.

There is evidence that human disturbance can alter habitat use and activity patterns of bighorn sheep, although the response to disturbance varies among individuals and with degree of previous exposure to human contact. Given the limited use of the Project Site by Nelson's bighorn sheep, potential disturbance could include disruption of the movement of sheep passing through the area from late October to mid-May, as inferred in the northern portion of the site from the observed presence of burro and sheep trails (PG&E 2014c). However, sightings near the Station by PG&E personnel indicate that sheep have already habituated to human activities in and around the Station, including operations and maintenance activities at the Station, vehicle traffic on roads, and the general presence of people in the area (pers. comm. Curt Russell, PG&E March 3, 2015). Additionally, Nelson's bighorn sheep in the region could be affected by respiratory disease (as evident in Mojave Preserve), however this respiratory disease (pneumonia) is passed to bighorn sheep from contact with domestic sheep, therefore, the Project has no potential to contribute to the potential spread of respiratory disease in bighorn sheep. There would be no permanent loss of habitat and Nelson's bighorn sheep are likely habituated to human activities in and around the Station. Implementation of Mitigation Measure BR-7 would ensure impacts from the Project would remain less than significant.

As the soil investigation proceeds, additional data may identify additional key COPECs (e.g., dioxins/furans, PCBs, or other organic chemicals). If unacceptable risk is predicted for carnivorous receptors, a validation study may be required where small mammal tissue would need to be collected from the Project Site. Tissue would be collected from smaller mammals using Sherman live or similar traps deployed on the ground surface if a validation study is required. These traps are not large enough to capture Nelson's bighorn sheep, and therefore no impacts would occur to Nelson's bighorn sheep from tissue sampling.

IMPACT Disturbance of Nelson's Bighorn Sheep.

BR-7 Implementation of the proposed Project may result in human disturbance that can alter habitat use and activity patterns of Nelson's bighorn sheep which are known to occur at the Project Site. This potential impact would be significant.

Mitigation Measure BR-7: Disturbance of Nelson's Bighorn Sheep. If a bighorn sheep is observed at the Project Site during soil investigation activities, work shall be halted in the vicinity of the sheep (within 250 feet of the sheep). Project activities can recommence after the animal moves away on its own.

Timing:	During Project activities.
Responsibility:	PG&E would be responsible for the implementation of these
	measures. DTSC would be responsible for ensuring
	compliance.
Significance after Mitigation:	Following the avoidance measure for Nelson's bighorn

sheep described in Mitigation Measure BR-7 would reduce the impact on the species to a less than significant level.

T6-085	The commenter questions how the invertebrate and small mammal sampling would be conducted as not to trap or otherwise harm any of the biologically sensitive species. The commenter also questions how the equipment used for trapping would avoid such impacts. The commenter further questions how invertebrate and small mammal testing is consistent with CDFW's avoidance and minimization measure, number 3, and if the Project's Programmatic Agreement Biological Agreement considers such takes. As described in Master Response Additional Testing and Sampling Activities, biota tissue sampling, if conducted, would be planned with input from government agencies and stakeholders to minimize potential impact to non-target species. There are several measures that are taken to reduce the likelihood of harm to non-target species. For example, the use of live traps allows non-target species to be released when the traps are emptied. Traps may also be deployed in the evening and emptied in the morning so that trapped animals are not subject to excessive heat or captivity.
T6-086	The commenter questions why bat surveys were not conducted as part of the Project and no documented surveys have been conducted in the HNWR. In response to this comment and comment A6-002 (provided by the California Department of Fish and Wildlife), a bat habitat assessment survey was conducted on the Project Site in January 2015 and a focused bat survey was conducted in April/May 2015. The results of those surveys have been incorporated into this FEIR accordingly.
T6-087	The commenter requests that the DEIR state that the FMIT was not consulted by USACE regarding the application of CERCLA with making its determinations in 2008 and 2013. As DOI stated in its comments on the DEIR, "[p]ermits are not required for on-site activities associated with CERCLA response action per CERCLA Section 121(e)(1)." This CERCLA permit exemption is reflected in the statute and the text on page 4.3-52 of the DEIR accurately describes USACE's confirmation that the exemption applies here.
T6-088	The commenter expresses concern regarding invasive species recruitment and habitat degradation post-investigation activities. As described on page 4.3-51 of the DEIR, under the heading "Invasive Species Recruitment," impacts from invasive colonization would have minimal impact on sensitive habitats within the Project Site because these areas are already dominated by aggressive, quick-growing invasive species (e.g., salt cedar).
T6-089	The commenter expresses an opinion regarding the Tribal Perspectives discussion integrated throughout the DEIRs analysis, specifically

expressing gratitude for the effort taken by DTSC. The comment is noted for the record.

T6-090 The commenter states that a portion of the DEIR is incorrect that indicates the Tribes did not respond to DTSC's request for input on the Project's cultural resources impacts and potential mitigation measures. The commenter states that the Tribes did verbally respond to requests at various meetings. While no written comments were received, the commenter is correct that input was received through various other methods. This input is summarized on pages 4.4-46 through 4.4-49 of the DEIR. Tribal input has been given consideration by DTSC throughout the entire Soil Investigation Project CEQA process. In response to the comment, the DEIR text on page 4.4-46 is revised in the FEIR as follows:

> On March 5, 2013, DTSC sent letters to actively participating Native American Tribes requesting Tribal input regarding cultural resources impacts and potential mitigation measures. The letters described the proposed Project and asked that all participants reply by April 19, 2013 if they had concerns regarding the Project. No responses were received.

On March 19, 2013, DTSC sent letters to the remaining Native American Tribes not actively participating in order to solicit input about the Project. The letters described the proposed Project and included a map depicting its location. Recipients were requested to reply with any information they are able to share about places of cultural importance to Native Americans that might be affected by the Project by April 19, 2013. No responses were received.

T6-091 The commenter requests that the Cultural Resources section of future environmental documents start with a discussion of Ethnographic Views and Individual Tribal Perspectives, followed by a discussion of the Archaeological Setting and Historical Setting. The DEIR for Soil Investigation Activities presents the cultural resources setting in the following order: Archaeological Setting, Ethnographic Setting, Historical Setting, and Individual Tribal Perspectives. The setting was arranged in this manner to present the material in a temporal frame, starting with the Paleoindian archaeological period (12,000 to 7,500 years Before Present), to the ethnographic setting for each Tribe with longstanding historical and cultural ties to the Project Site and surrounding area, to the historical period, and ending with present-day tribal perspectives. The comment is noted for the record.

T6-092 The commenter notes that Table 1-1 (Summary of Environmental Impacts and Mitigation Measures) states that prehistoric archaeological resources may be directly and adversely affected by the Project's ground disturbing activity (Impact CR-1), notes that the Groundwater Remediation Project EIR indicated that "PG&E is prohibited from creating any direct physical impact on the Topock Maze, as it is manifested archaeologically," and asks if DTSC is intending or proposing a different level of avoidance with this Project. While the Project is located within the Topock TCP, the Project would not directly affect the Topock Maze as it is manifested archaeologically since it has been avoided through Project design and DTSC is not proposing a different level of avoidance with this Project. Impact CR-1 is intended to indicate that *unknown* [emphasis added] prehistoric archaeological resources could be adversely affected by the Project's ground disturbing activity. All known prehistoric archaeological resources, which are considered contributors to the Topock TCP, would be avoided by the Project. In response to the comment, the DEIR text on page 4.4-73 is revised in the FEIR as follows, to make this clarification:

IMPACT CR-1

Potential Impacts to the Topock Traditional Cultural

Property. Implementation of the proposed Project could cause a substantial adverse change in the significance of the historical resource identified as the Topock TCP as a result of the physical destruction and alteration to the characteristics of the property that convey its historical significance and qualify it for inclusion in the CRHR as defined in CEQA Guidelines Section 15064.5. The substantial adverse change to the TCP and its contributing elements would result from ground-disturbing activity that would directly and adversely affect the soil, landforms, and unknown prehistoric archaeological resources; pruning or alteration of the natural growth of native and traditional plant species; plant and biota sampling; and the presence of equipment, workers, and vehicles, which would introduce activities that are inconsistent with the natural setting associated with the Topock TCP. These activities would also materially affect the cultural values ascribed to the TCP by Tribes. This impact would be significant.

Also in response to the comment, the DEIR text on page 4.4-69 is revised in the FEIR as follows:

Contributing elements that would not be affected by the Project include the Topock Maze, <u>known prehistoric archaeological</u> <u>resources, and water, and animals</u>. Contributing elements that could be affected by the Project include land, plants, <u>animals</u>, <u>and unknown</u> prehistoric archaeological resources, and the viewshed.

Also in response to the comment, the DEIR text on page 4.4-70 is revised in the FEIR as follows:

Some Interested Tribes value prehistoric archaeological resources as an integral part of the TCP (see Table 4.4-3 for list of nine known prehistoric archaeological resources in the Project

Site that contribute to the Topock TCP). <u>Although known</u> prehistoric archaeological resources are being avoided through <u>Project design, there is the potential for the Project to</u> <u>inadvertently impact unknown prehistoric archaeological</u> <u>resources.</u> Any damage, destruction, or alteration to such an archaeological resource would negatively affect the TCP.

Also identified in response to this comment, the DEIR text on page 4.4-79 has been modified in the FEIR as follows:

Therefore, there would be no direct impact to <u>these 14</u> known archaeological resources that qualify as historical resources.

Also identified in response to this comment, the DEIR text on page 4.4-80 has been modified in the FEIR as follows:

Implementation of Mitigation Measures CR-1a through CR-1d, and CR-2 would ensure that known <u>prehistoric archaeological</u> <u>resources</u> qualifying as historical resources under CEQA are avoided during Project implementation, and impacts to known <u>historic-period</u> and historic period <u>archaeological resources</u> <u>qualifying as historical resources under CEQA are less than</u> <u>significant</u>.

Also identified in response to this comment, the DEIR text on page 4.4-82 has been modified in the FEIR as follows:

IMPACT CR-2: Potential Impacts to Known and Unknown Historical Resources and Unknown Unique Archaeological Resources. <u>Impacts to Kk</u>nown historical resources would be <u>less than significant avoided through Project design</u>. No known unique archaeological resources have been identified within the Project Site. Implementation of the proposed Project could, however, cause a substantial adverse change in the significance of unknown historical resources (other than the TCP) and unknown unique archaeological resources pursuant to CEQA Guidelines Section 15064.5 resulting from ground-disturbing activity. This impact would be **significant**.

Also identified in response to this comment, the DEIR text on pages 4.4-83 and 4.4-84 has been modified in the FEIR as follows:

Significance after Mitigation: The impact would be **significant and unavoidable** after implementation of the measures detailed above. The Project as designed would avoid impacts to known prehistoric archaeological resources qualifying as historical resources <u>under CEQA and would result in less than</u> significant impacts to historic-period archaeological resources

qualifying as historical resources under CEQA. No unique archaeological resources have been identified. The implementation of Mitigation Measures CR-2a through CR-2d would ensure avoidance of impacts to known prehistoric and historic-period archaeological resources qualifying as historical resources and would reduce impacts in the event of inadvertent discovery of unknown historic-period archaeological resources, potentially qualifying as historical resources or unique archaeological resources under CEQA, to a less than significant level. However, even with the implementation of Mitigation Measures CR-2a through CR-2d, impacts to historical resources and unique archaeological resources resulting from the inadvertent discovery of unknown prehistoric archaeological resources would be significant and unavoidable given their relationship as contributors to the Topock TCP. Therefore, impacts to known and unknown historical resources and unique archaeological resources would be significant and unavoidable.

Also identified in response to this comment, the DEIR text on pages 5-2 and 5-3 has been modified in the FEIR as follows:

Historical Resources (other than the Topock TCP) and Unique Archaeological Resources

In addition to the Topock TCP, a total of 20 known historical resources are located within the Project Site, including 15 significant archaeological resources and five historic-period built resources. The proposed Project as designed would avoid significant impacts to known historical resources. However, because the Project involves ground-disturbing activities, there is the potential for such activities to disturb unknown potentially significant resources qualifying as historical resources under CEQA. Ground-disturbing activities associated with the Project would have the potential to cause substantial adverse changes to unknown historical resources. Any damage to or destruction of such resources during the discovery process could result in significant impacts. Because prehistoric archaeological resources are considered contributing elements to the Topock TCP any inadvertent discoveries would be significant given their relationship as contributing elements to the Topock TCP. (Impact CR-2)

In order to reduce these impacts, **Mitigation Measures CR-2a**, **CR-2b**, **CR-2c**, and **CR-2d** shall be implemented (see Section 4.4).

T6-093

Mitigation Measures CR-2a through CR-2d would ensure avoidance of <u>significant</u> impacts to known historical resources and would reduce impacts in the event of inadvertent discovery of unknown historic-period archaeological resources, potentially qualifying as historical resources or unique archaeological resources under CEQA, to a less than significant level. However, even with the implementation of Mitigation Measures CR-2a through CR-2d, impacts to historical resources and unique archaeological resources resulting from the inadvertent discovery of unknown prehistoric archaeological resources would be significant and unavoidable given their relationship as contributing elements to the Topock TCP. Therefore, impacts to known and unknown historical resources would remain significant and unavoidable.

The revisions that have been included in the text do not present significant new information, such as changes in the Project, environmental setting, or additional data or information. The revisions to the DEIR provided above do not present a new significant environmental impact or mitigation measure, result in a substantial increase in the severity of an environmental impact, result in new feasible project alternatives or mitigation measures, or preclude meaningful public review and comment (see Section 15088.5 of the CEQA Guidelines).

The commenter requests that Mitigation Measure CR-1a-2 mention that the FMIT retains the ability to manage access on the parcel it owns in fee. The commenter also requests clarification on how potential observation locations would be utilized and requests maximum access possible. Nevertheless, pursuant to the 2006 Settlement Agreement between the FMIT and DTSC, the FMIT agreed that the "Tribe will not object to DTSC and its authorized representatives otherwise exercising its authority to enter and move safely about the Former MWD Property at all reasonable times for purposes of ensuring compliance with laws, regulations and requirements." The soil investigation activities proposed for the FMIT's property are required by DTSC to ensure that PG&E complies with various laws, regulations, and requirements, including those imposed by Hazardous Waste Control Law and CEQA. Thus, such activities should be allowed to occur without FMIT objection.

> The intended use of the "Potential Observation Locations" depicted on Figure 3-2 are to provide a central area for observing Project-related activities, but are not intended to restrict Tribal monitors or archaeological monitors from observing ground disturbance and soil more closely. While monitors may not enter an exclusion zone without proper training, they may at any time request that machinery be halted to enter and observe soil cuttings, or request that soil cuttings be brought out for inspection. In response to the comment, the DEIR text on page 3-39 is revised in the FEIR as follows:

	In addition, two "observation areas" have been identified that would be used by PG&E, DTSC, and other stakeholders to view Project progress. <u>The intended use of these locations is to</u> <u>provide a central area for observing Project-related activities.</u> <u>Tribal and archaeological monitors would not be confined to</u> <u>these areas or restricted from observing ground disturbance and</u> <u>soil more closely, provided health and safety requirements are</u> <u>met.</u> No equipment or materials would be stored in these locations.
T6-094	The commenter requests that Mitigation Measure CR-1b: Worker Education Program have a time window for when new personnel receive training and that workers who have not yet been, but may be, assigned to an on-site activity, receive training. Mitigation Measure CR-1b requires that "an initial sensitivity training session shall be provided by PG&E to all Project employees, contractors, subcontractors, and other professionals <i>prior to their involvement in any ground-disturbing</i> <i>activities</i> [emphasis added], with subsequent training sessions to be held as new personnel become involved in the Project." DTSC believes this text adequately addresses the commenter's concern and no further response is warranted.
T6-095	The commenter requests clarification on where topography would allow for sampling but not allow for pre-investigation. Mitigation Measure CR- 1c-2 states "The field verification shall include all sampling locations, including any future pilot study areas, new access areas, and equipment and materials staging areas, <i>plus a 50-foot buffer surrounding sampling</i> <i>areas where topography allows</i> [emphasis added]." While the entire sampling location would be subject to pre-investigation, there are instances where topography could preclude pre-investigation of the entire 50-foot buffer.
	The commenter also requests that the measure refer to documenting intangible elements of traditional cultural value. As provided for in Mitigation Measure CR-1c-2, Interested Tribes will have an opportunity to identify features of Tribal significance during pre-investigation field verifications. If the participating Tribal members believe a specific feature is historically significant due to intangible elements of traditional cultural value, that information should be provided to DTSC for consideration and possible inclusion in the <i>Pre-Investigation Historical</i> <i>Resources Field Check Memoranda</i> . Because CEQA requires lead agencies to consider the potentially significant adverse environmental impacts of a project on the physical environment, rather than intangible elements of a to personal or group belief, including elements of traditional cultural value, as noted by the commenter, DTSC declines to revise Mitigation Measure CR-1c-2 as requested by the commenter. DTSC will, however, continue to receive input from Interested Tribes during the pre-investigation survey process. The commenter is also referred to Response to Comment T6-015. The commenter also requests that the language "be revised to not 'substantially' impede the

fundamental Project objective." While DTSC understands the FMIT request, there may be certain areas where it is imperative to collect data to adequately characterize the nature and extent of soil contamination, the fundamental objective of the Project. In these areas, where complete avoidance is infeasible, Mitigation Measure CR-1c-2 identifies alternative means to reduce or minimize impacts, such as through elevated ramps, protective coverings, or other types of temporary capping.

T6-096 The commenter asks what efforts will be made to include tribal cultural values in the cultural resource monitoring. CEOA does not provide an avenue to analyze impacts to personal or group belief systems, such as intangible, spiritual, or religious beliefs. CEQA requires an agency to consider the effects of a project on the environment, which is defined as "the physical conditions that exist within the area" (see Public Resources Code Section 21060.5). Nevertheless, DTSC attempted to recognize Tribal views of the Topock area and the intangible aspects of the Topock TCP in its analysis of impacts to the TCP. The commenter also requests that the Tribes have an opportunity to provide Tribal input on updates to existing DPR forms. Mitigation Measure CR-1d is intended to ensure the Tribes an opportunity to provide Tribal monitoring and contribute their observations or Tribal perspectives in the monitoring report. Mitigation Measure CR-1a-1 provides the Tribes an opportunity to review all cultural resources documents, which includes updates to existing DPR forms. However, the measure will be modified to include DPR updates specifically. In response to the comment, the DEIR text on page 4.4-73 is revised in the FEIR as follows:

> CR-1a-1: Tribal Document Review and Comment. Interested Tribes shall continue to be afforded the opportunity to review and comment on all cultural resources-related documentation prepared as a result of this Project. Tribal comments shall be considered to the extent feasible by DTSC, in coordination with Interested Tribes, PG&E, and representative landowners (BLM, BOR, FMIT, PG&E, and USFWS). Cultural resources documents shall include, but not be limited to, pre-investigation verification survey memoranda; daily archaeological monitoring logs: monitoring report to be prepared at the close of grounddisturbing activities; annual monitoring reports; DPR forms; and any documentation arising as a result of the inadvertent discovery of potential historical resources of a Tribal nature pursuant to CR-2d (Inadvertent Discovery of Potential Historical Resources and Unique Archaeological Resources). Interested Tribes shall also be afforded the opportunity to review and comment on technical documents including, but not limited to, soil investigation-related plans and reports, bench and pilot study implementation plans, and biological resources reports.

In addition, the DEIR text on page 4.4-76 is revised in the FEIR in response to this comment:

DPR 523 forms, following the OHP's *Instructions for Recording Historical Resources*, shall be prepared and filed with the SBAIC for all newly identified <u>and updated</u> resources and shall be appended to the monitoring report. The report shall be provided to the Tribes for review and comment consistent with CR-1a-1. The report shall be provided to DTSC and the Tribes for review and comment within 16 weeks of Project completion.

T6-097 The commenter presents two recommended additions to Mitigation Measure CR-1e-8. Mitigation Measure CR-1e-8 as adopted by DTSC requires that the Technical Review Committee (TRC) established by Mitigation Measure CUL-1a-4 of the January 2011 Certified Groundwater Remediation Project EIR continue through the soil remedy selection or the construction phase of the groundwater remedy (whichever comes later). At that time, the measure provides that PG&E will assess the necessity and dollar value of the TRC and, with the approval of DTSC, extend, reduce, or terminate the TRC.

> The requested additions to mitigation measure CR-1e-8 are not necessary to avoid or substantially lessen a significant adverse impact of the Project on the physical environment. The measure instead ensures the continued viability of the TRC and economic compensation to allow ongoing informed decision-making. The first proposed addition, to extend the TRC "into Soil and Groundwater Remedies implementation (e.g., such as 5 years after remedy is fully operational)," is deemed unnecessary by DTSC at this time. If the soil investigation concludes that a soil remedy is needed, the applicability and continuation of the TRC for the soil remedy would be addressed at that time during the CEQA process.

The second proposed addition states that "the necessity and dollar value of the TRC shall be assessed by PG&E, DTSC, and the Tribes." The TRC is required by CR-1e-8 to remain funded through the soil remedy selection or the construction phase of the groundwater remedy (whichever comes later). At that time, the measure provides that PG&E will assess the necessity and dollar value of the TRC and, with the approval of DTSC, extend, reduce, or terminate the TRC.

DTSC and its legal counsel have reviewed this comment in light of the December 2012 settlement agreement between FMIT and DTSC and find the comment in violation with FMIT's agreement in Section 10.c, which provides that FMIT "waives any and all . . . requests for additional mitigation measures" relating the groundwater and soil remedies. This comment is also similar to comments that were submitted by FMIT on the Groundwater Remediation Project EIR mitigation measures, both during and after the public review period (see responses to comments T1-73, T1-86, and the response set forth on page 49 of DTSC's January 31, 2011 Findings of Fact document). Although DTSC made a number of changes in the groundwater remedy mitigation measures, DTSC found that further expansion of the mitigation measures regarding the TRC and open grant funding would not have a "nexus" or "rough proportionality"

	to the Groundwater Remediation Project (CEQA Guidelines Section 15041). This rationale applies to the Soil Investigation Project as well, which is a project of substantially smaller scope and impact than the Groundwater Remediation Project. Because the proposed additions to the mitigation measure lack a nexus to the Project's impacts, DTSC cannot legally impose such requirements at this time (see PRC Sections 21081.6, subd. (b), 21004 [CEQA does not expand agency authority to impose condition]; CEQA Guidelines Section 15126.4, subd. (a)(2), (4) [same]).
T6-098	The commenter presents similar recommended additions to Mitigation Measure CR-1e-9 as to CR-1e-8 Mitigation Measure CR-1e-9 requires that the open grant funding established by Mitigation Measure CUL-1a- 11 of the January 2011 Certified Groundwater Remediation Project EIR continue through the soil remedy selection or the construction phase of the groundwater remedy (whichever comes later). At that time, the measure provides that PG&E will assess the necessity and dollar value of the open grant funding and, with the approval of DTSC, extend, reduce, or terminate the open grant funding. The response to comment T6-097 applies to the recommended additions to CR-1e-9. The request also violates the settlement agreement reached between DTSC and FMIT. See Response to Comment T6-097.
T6-099	The commenter notes that Impact CR-2 states that no known unique archaeological resources have been identified within the Project Site and asks why the Maze and other features do not meet the description for unique archeological resources. The Maze is located outside of the Project Site. The 14 known archaeological resources within the Project Site were not assessed for qualification as unique archaeological resources since as historical resources they are already afforded protection under the law as prescribed by CEQA.
T6-100	The commenter requests that the FMIT be afforded the opportunity to review DPR updates. The commenter is referred to Response T6-096, which states that Tribes will be afforded this opportunity for review, as requested.
T6-101	The commenter indicates that the use of the term "inadvertent" is offensive to the FMIT. The term "inadvertent" means "not resulting from deliberate planning" and is appropriately used in the DEIR.
	The commenter also indicates that the FMIT prefers avoidance and not data recovery. The FMIT's preference is noted. In response to the comment, the DEIR text on page 4.4-83 is revised in this FEIR as follows:
	Avoidance and preservation in place shall be the preferred manner of mitigating impacts to such resources to maintain the important relationship between artifacts and their archaeological context in order to preserve each resource's scientific value, as well as to preserve the cultural values ascribed to resources by

the Tribes. The feasibility of avoidance, as it relates to the Project objectives, shall be determined by DTSC, in coordination with PG&E, Tribes, and respective landowners. Preservation alternatives for consideration shall include (and are listed here in order of preference as indicated by Interested Tribes from most to least preferred): avoidance, data recovery of the materials associated with the resource, and capping. <u>Tribes generally</u> prefer avoidance over data recovery or capping.

T6-102 The commenter indicates that the FMIT disagrees with the DEIR's conclusion that the Topock Maze would not be affected by the Project and asks if the TCVA report was considered, along with indirect and cumulative impacts. The TCVA was prepared by the Tribes in order to document the boundaries of the Topock Maze Loci (CA-SBR-219/H) as they are viewed by the Tribes. The TCVA was submitted to BLM for their review and approval. However, to date the BLM has not adopted the TCVA findings. To DTSC's knowledge, the DPR 523 form and site boundary for CA-SBR-219/H have not been updated or revised through the CHRIS. Therefore, DTSC has relied on the well-established boundary for site CA-SBR-219/H as it is currently documented at the CHRIS San Bernardino Archaeological Information Center during the preparation of the DEIR. Although the FMIT may disagree with the conclusions in the DEIR in regards to the cumulative analysis that does not mean the DEIR lacks substantial evidence in support of its conclusions. It has long been held that an EIR is not legally inadequate simply because experts in a particular environmental subject matter dispute the conclusions reached by the experts whose studies were used in drafting the document, even where different conclusions can reasonably be drawn from a single pool of information. In such instances, the EIR need only summarize the main points of disagreement and explain the lead agency's reasons, if any, for accepting one set of judgments instead of another (see CEQA Guidelines Section 15151; Greenebaum v. City of Los Angeles (1984) 153 Cal.App. 3d 391, 413; Browning-Ferris Industries v. City Council (1986) 181 Cal.App. 3d 852, 862-863).

> The commenter also disagrees with the conclusion that animals would not be affected, and questions whether the conclusion on page 5-1 takes into account the proposed collection and mortality for tissue sampling. For more information on the impacts related to invertebrate and small mammal tissue sampling, please see Master Response Additional Testing and Sampling Activities, which includes revisions to Chapter 5 that address the commenter's concern.

T6-103 The commenter asks what other mitigation measures were considered by the agency to further reduce significant and unmitigable effects and if the Tribes were consulted on the specific measures prior to publication of the DEIR. DTSC provided conceptual mitigation measures to the Tribes and held a focused discussion regarding potential mitigation at meetings on December 16, 2013 (attended by representatives of the FMIT, Cocopah,

	Chemehuevi, and Hualapai) and January 23, 2014 (attended by representatives of the FMIT, CRIT, and Hualapai. See page 4.4-47 of the DEIR). Measures considered but rejected during the deliberative process do not need to be included in the DEIR.
T6-104	The commenter requests to review documentation and be consulted on the National Register of Historic Places evaluation and recommendation of eligibility for the Topock Compressor Station. DTSC did not request nor direct PG&E to conduct this evaluation as part of the DEIR. DTSC would like to clarify that the report was not prepared as part of this Project and is irrelevant to its use in the DEIR. Nonetheless, the significance recommendation for the Topock Compressor Station (Smallwood 2013) is based on consideration of the resource as it relates to the National Register criteria. Documentation regarding the station's eligibility is on file at PG&E. The commenter should direct requests for this documentation to PG&E.
T6-105	The commenter notes the FMIT's appreciation for recognizing that prehistoric "isolates" are contributing elements of the Topock TCP, but expresses concern regarding the technical term "isolate" that is used. The term "isolates" is correctly used in the DEIR. The comment is noted for the record.
T6-106	The commenter requests clarification on the function of the IM-3 extraction system in preventing groundwater from entering the Colorado River, and questions whether the naturally-reducing rind should also be referenced as protecting the Colorado River. In response to the comment, the text on page 4.6-6 in the FEIR is revised as follows:
	As noted previously and discussed further in this document, the goal of the IM-3 extraction and treatment system prevents is to contain and reverse the flow of groundwater away from entering the Colorado River. In addition, there is a naturally occurring zone of carbon-rich sediments adjacent to and beneath the river which provides a geochemical barrier that helps to prevent hexavalent chromium from reaching the river.
T6-107	The commenter disagrees with the DEIR's conclusion that the Project's Land Use and Planning impacts would be less than significant, and suggests the DEIR should convey the terms of an easement granted to the FMIT under FMIT's 2006 Settlement Agreement with PG&E. The FMIT's disagreement with the DEIR's conclusion that the Project will result in less than significant land use and planning impacts is noted. With respect to the terms of the easement, the FMIT's 2006 Settlement Agreement with PG&E grants PG&E:
	"a blanket easement over the IM-3 Site that accommodates existing remediation-related facilities on the IM-3 Property and any additional facilities that DTSC determines are necessary on the IM-3 Site for remediation-related purposes. The blanket easement will, consistent with the consultation obligations set

	out herein, provide access to PG&E for all necessary and lawful activities, including but not limited to the ability to install, use, operate, and maintain existing and future remediation-related facilities on the IM-3 site."
	(See 2006 Settlement Agreement, Section VII.C.2; see also recorded Easement Agreement Between FMIT and PG&E (Oct. 29, 2008) ¶ 3 ["Easement shall include the right to take any other actions ordered by the DTSC and/or other agencies or governmental bodies with jurisdiction over the Property"].) DTSC therefore disagrees with the commenter's characterization of the scope and nature of the referenced easement. See also response to comment T6-077.
	The 2006 Settlement Agreement between PG&E and the commenter contains a number of terms and DTSC does not believe the EIR is the appropriate place to lay out all the relevant terms of the Settlement Agreement and/or the Easement as requested in footnote 12 of the comment letter. The EIR therefore provides a general description of the Agreement. The general description of the easement on page 4.1-41 is both accurate and sufficient.
T6-108	The commenter notes several plans referenced in the DEIR and questions the level of consideration given to these plans in the DEIR. See response to comment T6-053 regarding the duty of lead agencies to identify only inconsistencies of a project with applicable plans. The proposed Project would not interfere with the standards called out by the commenter in BLM's RMP requiring, for example, the ACEC to be managed to protect and prevent irreparable damage to the relevant characteristics and important values. BLM manages the RMP, not DTSC. The proposed Project, moreover, has been modified over many years of input received from Interested Tribes to ensure the soil investigation is conducted in a manner sensitive to tribal concerns and without causing irreparable damage to known historically significant resources, as well as the relevant characteristics and important values of the Project Site as a whole.
T6-109	The commenter notes that the proposed Project would result in noise levels that conflict with the use of this area. This specific conclusion is provided in the top paragraph on page 4.7-19 of the DEIR, and is summarized in Impact NOI-1. The commenter requests an explanation of how this is not a significant land use and planning effect. Effects of noise on existing land uses are analyzed within the Noise Section of the DEIR rather than the Land Use and Planning section. It is the intent of the Land Use and Planning section to address potential conflicts with land use plans, policies, or regulations that have been adopted for the purpose of avoiding or mitigation an environmental effect that are not addressed in other sections of the DEIR. Additional language is added to the DEIR text on page 5-11 in this FEIR as follows:

	Other sections of this document consider whether the proposed Project would conflict with environmental plans, policies, or regulations adopted for the purpose of avoiding or mitigating an environmental effect. For example, Section 4.7 of the DEIR considers whether the Project conflicts with noise policies and regulations, including the San Bernardino Development Code. As well, Section 4.3 of the DEIR specifically considers whether the Project would conflict with any biological resource policies or plans. It is the intent of this additional analysis to supplement those analyses to ensure that no land use and planning policy document has been overlooked in the assessment of the proposed <u>Project.</u>
	to duplicating the analysis or impact conclusion.
T6-110	The commenter states that the DEIR does not discuss that the characterization assumptions for future land use are inconsistent with the land use decisions, designations and compatibilities in these land use plans and DEIR analysis particularly relative to agricultural resources and residential uses/population and housing. See response to comment T6-053 regarding the duty of lead agencies to identify only inconsistencies of a project with applicable plans. Moreover, inconsistency with a plan does not necessarily indicate the existence of a physical environmental impact for purposes of CEQA. See also Master Response Future Land Use Scenario.
T6-111	The commenter expresses an opinion regarding the conclusions reached on the noise analysis presented in the DEIR, specifically approving the conclusions. The comment is noted for the record.
T6-112	The commenter questions the DEIR's use of a San Bernardino County indoor threshold for a place of worship, as any Tribal activity on-site would occur outside. As such, the commenter states that the DEIR analysis is inaccurate. The commenter also questions whether DTSC will develop Project-specific thresholds for noise through consultation with the FMIT to take into account the use of an outdoor area for a place of worship. The DEIR used the County's standard for places of worship since it is the most representative established noise standard, although it is true that this is not an enforceable standard. For this reason, using this threshold provides a conservative analysis. Overall, the DEIR on page 4.7-20 determined that the noise impact would be significant and unavoidable because the unique values associated with the Topock TCP cannot be reconciled with additional Project-related noise. This conclusion would not change even if another, potentially more stringent standard were chosen for inclusion in the DEIR (i.e., one which considered that the activities would occur outside).
T6-113	The commenter asks how the DEIR defines "daytime" and inquires about the statement that daytime hours are "less noise-sensitive." In response to

	the comment, the text in Mitigation Measure NOI-1: Potential Impacts to Noise Levels and Noise Standards in the DEIR on page 4.7-19 is revised in this FEIR as follows:
	• Investigation activities <u>that generate noise</u> shall be limited to the daytime hours between 7:00 A.M. to 7:00 P.M., and prohibited on Sundays and federal holidays.
	Daytime hours are typically considered less noise sensitive based on people's sleep patterns, and because ambient noise levels during the daytime hours are generally higher than nighttime hours (see the typical noise spectrum presented on Figure 4.7-1 of the DEIR). DTSC recognizes that Tribes do use the area during daytime hours and that they consider all noise impacts a concern. The DEIR text on page 4.7-20 is revised in this FEIR as follows:
	Implementation of the above Mitigation Measure NOI-1 would ensure that noise generated during temporary Project investigation activities would be minimized and that activities would be limited to the less noise sensitive daytime hours.
	This change presented in the mitigation measure does not result in a decrease in the effectiveness of the proposed measure, result in a substantial increase in the severity of the identified impact after mitigation, or preclude meaningful review and comment.
T6-114	The commenter questions whether Figure 4.7-3 uses the general California guidelines for evaluating the compatibility of land uses as a function of noise exposure or the more conservative threshold used by California Department of Transportation (Caltrans) for the protection of fragile, historic and residential structures from ground borne vibration. Figure 4.7-3 depicts typical land use compatibility standards from the Office of Planning and Research (2003) for noise in the "Community Noise Exposure" or CNEL (dBA) criteria. It Figure 4.7-3 does not pertain to vibration. For the analysis of vibration, including the thresholds of significance used in the DEIR, please see pages 4.7-16, 20-21.
T6-115	The commenter states that the DEIR does not include a discussion of noise attenuation relative to actual Project Site conditions and disagrees with the assertion that noise sensitive receptors do not have "direct exposure" to Station and IM-3 facility noise. The DEIR text on page 4.7-6 is revised in this FEIR as follows:
	Noise associated with the operation of the PG&E Topock Compressor Station (Station) is audible within the vicinity of the Station and the Interim Measure 3 (IM-3) Groundwater Extraction and Treatment Facility (IM-3 Facility); however, because of the existing topography (intervening mesas) noise- sensitive receptors in the Project Site vicinity do not have direct

exposure to these noise sources. <u>The intervening mesas do not</u> <u>block all Station noise</u>, but do result in some attenuation.

The discussion of existing topography is based on site visit observations. The DEIR does not state that Tribal members have not been affected by noise from the Station or IM-3 facility.

T6-116 The commenter questions whether any of the noise studies referenced in the DEIR are those that were undertaken independently by PG&E, which according to DTSC, would not be used as part of the CEQA process. The commenter questions why these studies are now being used to establish baseline noise conditions for the CEQA process. The commenter further questions why the FMIT was not included in the development of protocols for these studies. While some of the noise studies used to establish baseline noise conditions for the CEQA process were undertaken independently by PG&E, all noise monitoring activities relied upon in the DEIR followed standard protocols for establishing the baseline noise environment for CEOA analyses. The latest measurements (December 2013), conducted by DTSC's environmental consultant, ESA, were included to provide up-to-date monitoring in the DEIR for areas selected based on the potential for high Project activity, for areas in proximity to sensitive Tribal resources, and for areas where there previously wasn't sufficient monitoring coverage. As discussed further in Response T6-117, as part of DTSC's comprehensive outreach efforts, the Tribes were contacted regarding specific key view and noise monitoring locations.

T6-117 The commenter states that Figure 4.7-2 does not include some noise monitoring locations requested by the FMIT, and that other areas were included but only measured in short-term noise measurements versus the earlier long-term measurement. The FMIT also request that DTSC provide measurements and conduct full studies for all the locations requested by the FMIT. As part of DTSC's comprehensive outreach efforts, the Tribes were contacted regarding specific key view and noise monitoring locations. While no specific locations were provided by the Tribes, general discussions regarding the types of areas that should be monitored were discussed. And based on an understanding of proposed Project activities, sensitive cultural resources, and site topography, noise monitoring locations were identified by the technical experts. As described in the DEIR, both short-term and long-term noise measurements were taken, in contrast to the commenter's assertion that only short-term measurements were collected. Noise monitoring data that was collected as part of the DEIR process is included in the DEIR in Section 4.7.

T6-118 The commenter restates that DTSC, as the lead agency, must ensure compliance with applicable noise standards and DTSC acknowledges this comment. Please see response to comment T6-111 and T6-112 regarding more specificity to noise comments provided by the commenter. DTSC is unaware of any other duties that would be performed by the Disturbance Coordinator/acoustical consultant that would prohibit them from ensuring compliance with mitigation measures, and the commenter has not provided specific information that would enable the lead agency to provide a more detailed response. DTSC has revised Mitigation Measure NOI-1 (fourth bullet) to include the suggested text provided by the commenter (see response to comment TO4-073). Though the revisions to the Mitigation Measure have been incorporated, the identified impact and the impact conclusion (Significant and Unavoidable) do not change.

T6-119 The commenter states that the DEIR on page 4.7-5 acknowledges sensitive receptors include people. The commenter questions whether vibration resulting from proposed Project activities would affect Tribal uses within the Project Site and their religious/cultural practices. The commenter also questions whether the FMIT was consulted on the DEIR's conclusion regarding less than significant impacts for vibration. The DEIR page 4.7-5, Section 4.7.1.5 describes the methods used to quantify vibration, and lists the types of sensitive receptors generally considered in a vibration analysis, not all of which are applicable to the proposed Project. For a discussion about vibration-sensitive land uses the commenter is referred to page 4.7-9.

> Regarding Tribal uses and vibration, Tribal members were not specifically identified in the DEIR analysis as vibration-sensitive receptors because they would be on-site only temporarily and at unknown locations, in contrast to residences which are permanently located. Therefore, specific assessment of vibration impacts to any individual Tribal members visiting the site would be speculative. Further, there is no need to include specific non-residential Tribal use locations as they would be outside of the work area exclusion zone for all activities (see Section 3.5.2.8) resulting is a less than significant impact. Sampling activities at 50 feet or greater distance would result in vibration levels that would be below the FTA threshold of human annovance and would be a less than significant impact (see page 4.7-21). This conclusion does not negate the significant noise impact, which would still necessitate implementation of Mitigation Measure NOI-1. However, ground-borne vibration impacts are much more localized than noise and drop off substantially with distance. As stated on page 7-1 of the DEIR, "In contrast to airborne noise, ground-borne vibration is not a common environmental problem. It is unusual for vibration from sources such as buses and trucks to be perceptible, even in locations close to major roads..." And later on page 7-2, "Ground-borne vibration is almost never annoying to people who are outdoors. Although the motion of the ground may be perceived, without the effects associated with the shaking of a building, the motion does not provoke the same adverse human reaction. In addition, the rumble noise that usually accompanies the building vibration is perceptible only inside buildings."

T6-120

The commenter indicates that the DEIR does not discuss whether vibration may impact cultural resources. While the commenter does not

suggest any specific vibration impact to "cultural resources," which covers a broad array of topics as indicated by the commenter in preceding comments, DTSC is providing the following response for informational purposes. Potential impacts resulting from vibration are discussed beginning on page 4.7-20 of the DEIR. As described in that section, any vibration generated from on-site equipment (namely a caisson drill, the strongest vibration generating equipment used), would be roughly 0.089 peak particle velocity (PPV) at 20 feet from the source, which is not strong enough to result in physical damage to structures. Similarly, it is unlikely that any historical resources, which would be at ground surface or subsurface (and not subject to the effects of gravity as other structures considered in the 0.2 PPV threshold are), would be affected in such a way that would result in a substantial adverse change in the physical characteristics of the historical site, or alter the characteristics of the resource such that it no longer conveys its historical significance. PPV effects on the ground, such as slight soil shifting or movement, would not damage historical resources. Cultural Resources Mitigation Measure CR-1c-2 would require pre-investigation historical resources field verifications that are intended to identify any cultural resources located within the work areas and a 50-foot buffer. The results of this pre-investigation survey are to ensure no resources qualifying as historical resources under CEQA are present within the investigation location areas. Adherence to this mitigation measure would protect any historical resource from vibration impacts through field verifications, documentation, and protective measures. Additionally, through Mitigation Measure CR-1d, Tribes are given the opportunity to contribute field observations to a Soil Investigation Monitoring Report that documents monitoring activities and observations as it relates to cultural resources.

T6-121 The commenter requests a more detailed discussion of noise and vibration effects, specifically related to the significant values ascribed to the area by tribes. The commenter is correct when stating that the DEIR concludes that the Project would result in a Significant and Unavoidable noise impact to the Topock TCP (see Impact NOI-1). However, the DEIR does not include Tribal users as vibration-sensitive receptors because they would be temporarily on-site at unknown locations rather than permanently located, as would be a residence. Discussion of Tribal users as vibration-sensitive receptors would be speculative. Further, there is no need to include specific non-residential Tribal use locations as they would be outside of the work area exclusion zone for all activities (see Section 3.5.2.8) resulting is a less than significant impact. Sampling activities at 50 feet or greater distance would result in vibration levels that would be below the FTA threshold of human annoyance and would be a less than significant impact (see page 4.7-21).

> The commenter also requests information regarding cumulative noise and vibration effects. The commenter is referred to Section 6.5.12 for a discussion of cumulative impacts related to noise.

T6-122	The commenter questions what other mitigation measures were
	considered by DTSC to try to further reduce and offset the identified
	significant and unavoidable effects of noise. All feasible mitigation
	measures were included in Mitigation Measure NOI-1 of the DEIR in
	order to avoid or substantially lessen noise levels and potential
	annoyance impacts to the greatest extent feasible.

T6-123 The commenter asks why the DEIR treats PG&E's maintenance, investigation, and decommissioning projects for the last 10 years as part of the existing baseline conditions rather than within the list of cumulative projects. As explained in the DEIR, a list of the projects identified at or within the general vicinity of the Project Site was provided in Table 6-3 and considered in the cumulative impacts analysis as those that may have related environmental impacts similar to those of the proposed Project and are either: (1) recently completed: (2) currently under construction or implementation or beginning construction or implementation; (3) proposed and under environmental review; or (4) reasonably foreseeable, consistent with CEOA Guidelines Section 15130 (see DEIR, page 6-6, Table 6-3). Thus, the previously completed soil sampling and investigation activities were necessarily included in the cumulative impacts analysis because they were analyzed as past projects that comprise the existing physical conditions (i.e., environmental setting) which comprises the baseline against which the DEIR compared the proposed Project's anticipated cumulative impacts.

The DEIR explains that some soil investigations have occurred on-site in the past including, for example, as directed by DTSC as part of additional soil and groundwater characterization activities conducted during the East Ravine Groundwater Investigation Phase 2. During those Phase 2 activities, an addition of 20 groundwater monitoring wells were installed and soil samples were also collected at six investigation sites in the area of the compressor and at one site in the East Ravine. This is explained in the cumulative impacts section of the DEIR (see DEIR page 6-12).

The Soil Work Plan also includes a summary of past soil sampling at pages B2-2 through -3. The cumulative impacts analysis within the FEIR is expanded to further describe the past soil sampling and investigation activities previously conducted within the Project area. The FEIR includes this additional information to the extent such information is relevant to the understanding of the environmental impacts of the proposed Project considered cumulatively with other ongoing, pending and reasonably foreseeable future projects. The additional information about past soil sampling does not result in a substantial increase in the significant and unavoidable cumulative impacts already found in the DEIR, nor does it result in a finding of any new cumulatively considerable impacts. It therefore does not change the EIR's impact conclusions but is nevertheless offered also within the context of the FEIR in the interest of full disclosure (see *Environmental Protection Information Center v. Cal. Dept. of Forestry and Fire Protection* (2008)

	44 Cal.4th 459, 524 ("EPIC") [finding petitioner's argument that an EIR substantially understated the effects of past timber harvest practices on various species unpersuasive]; see also <i>City of Long Beach v. Long Beach Unified School Dist.</i> (2009) 176 Cal.App.4th 889, 910-911 [rejecting City's argument that the cumulative impacts analysis for a school construction project omitted "closely related past projects," including two already completed freeways, ports, petroleum refineries and chemical plants, in part, because it failed to show how the EIR's conclusion would have been different]).
T6-124	The commenter asks why the potential effects of any future soil remediation are not included in the cumulative analysis. See Master Response Cumulative Projects regarding this topic.
T6-125	The commenter states that the DEIR appears to be selectively removing some of the most cumulatively significant projects from the cumulative analysis and should be revised to include full sets of past, current and potential future projects, to include both the 10 years of PG&E projects as well as the soil remedy. Please see Master Response Cumulative Projects regarding this topic.
	Regarding the commenter's inquiry about the "leasing issues" at Pirate Cove, as stated in the DEIR on page 6-15, construction has not yet begun on the facilities proposed as part of the Pirate Cove Master Plan. While the fact that the proposed facilities have not been constructed is integral to the proposed Project's cumulative effects analysis, the exact reasoning for delay of the facilities proposed under the Pirate Cove Master Plan is outside the scope of this analysis. Regardless of timing, this project was included in the cumulative impact analysis appropriately throughout the DEIR.
T6-126	The commenter notes that the FMIT is concerned that visual contrasts at all viewing distances (foreground, middleground, and background) could result from the Project and would be intensified through cumulative impacts because the area is easily scarred and slow to heal. The DEIR considers all viewing distances mentioned by the commenter and these viewing distances have been appropriately incorporated into the analysis in the DEIR. As discussed on DEIR page 4.1-10, given the scale and potential visibility of the proposed sampling equipment, the analysis in the DEIR is primarily focused on foreground viewing distances, although consideration is also given to the potential effects on middleground and background views. The geographic scope for potential cumulative impacts to aesthetics also includes foreground, middleground, and background viewing distances, however the effects of the proposed soil sampling activities and any associated changes in visual contrast would generally be visible at foreground viewing distances and not beyond 3 to 5 miles from the Project Site. The text in the DEIR on page 6-17 is updated in the FEIR as follows to clarify this point:

The geographic scope for potential cumulative impacts to aesthetics includes the foreground, which is defined as the zone within 0.25 miles to 0.5 miles from the Project Site, and the middleground, which is a zone that extends from the foreground up to 3 to 5 miles. Consideration is given to background views, however the effects of the proposed soil sampling activities and any associated changes in visual contrast would generally be visible at foreground viewing distances and not beyond 3 to 5 miles from the Project Site. In desert areas, such as the vicinity of the proposed Project, landscape detail is typically most noticeable and objects generally appear most prominent when seen in the foreground. At middleground viewing distances, the texture of landscape features such as of rock outcropping surfaces and vegetation as well as built elements may be noticeable but are increasingly unrecognizable. At background viewing distances, which would extend from about 3 to 5 miles from the Project Site to infinity, visible detail is limited to landscape patterns or visual contrasts.

In recognition of the sensitive ecological nature of the Project Site, DTSC has identified the following mitigation measures (DEIR page 4.4-77), that are intended to minimize impacts to the natural environment: CR-1e-3: Prioritized use of Previously Disturbed Areas and CR-1e-6: Work Area Restoration. No additional specific mitigation measures have been suggested by the commenter and no changes have been made to the DEIR.

The commenter states that the cumulative analysis for aesthetics does not include a discussion of the inability to mitigate the view of machinery and equipment during the Project particularly from sensitive locations like the Maze or the ground scarring and visual contrasts that would likely remain after the Project combined with other projects. The commenter also expresses disagreement with the cumulative impact finding for aesthetic resources. Please see Master Response Cumulative Projects and response to comment T6-003 regarding the cumulative aesthetic analysis, which is revised as part of this FEIR. As described in the DEIR in Section 6.5.1, "Aesthetics," on pages 6-17 and 6-18, and in the revisions made as part of this FEIR, the Project's incremental contribution to aesthetics impacts would not be cumulatively considerable (less than significant). Accordingly, no mitigation is required. The presence of machinery or equipment or visual scarring seen from sensitive locations does not automatically indicate a significant aesthetics impact under CEQA. Although the FMIT may disagree with the conclusions in the DEIR in regard to the cumulative visual analysis that does not mean the DEIR lacks substantial evidence in support of its conclusions. It has long been held that an EIR is not legally inadequate simply because experts in a particular environmental subject matter dispute the conclusions reached by the experts whose studies were used in drafting the document, even where different conclusions can reasonably be drawn from a single pool of information. In such instances, the EIR need only summarize the main points of disagreement and explain the lead agency's reasons, if any, for

T6-127

	accepting one set of judgments instead of another (see CEQA Guidelines Section 15151; <i>Greenebaum v. City of Los Angeles</i> (1984) 153 Cal.App. 3d 391, 413; <i>Browning-Ferris Industries v. City Council</i> (1986) 181 Cal.App. 3d 852, 862–863).
	For further information on visual impacts and their relevance to tribal concerns and the TCP, see response to comment T6-015. Also note the findings for Cultural Resources (Section 6.5.5), when considered in combination with the impacts of other projects in the cumulative scenario, the Project's incremental contribution to impacts on cultural resources including historical resources (i.e., the Topock TCP), unique archaeological resources, and human remains, is cumulatively considerable.
	Regarding vegetation regrowth and pre-Project visual conditions, the commenter is directed to the response to comment T6-075.
T6-128	The commenter suggests a general method to reduce visual impacts that involves assessing visual contrasts at a certain (unidentified) time from Project completion, making an assessment with tribal input, then developing restoration measures to reduce aesthetic impacts remaining from the proposed Project at a future time. The commenter appears to be suggesting a form of mitigation involving monitoring and restoration for aesthetic impacts had DTSC found a significant adverse aesthetic impact requiring mitigation. The commenter is nevertheless referred to the Biological Resources chapter of the DEIR which includes monitoring and vegetation/restoration efforts (see DEIR Section 3.5.6, including page 3-36).
T6-129	The commenter states that the cumulative analysis for biological resources (DEIR pages 6-20 through 6-22) does not discuss the effects to Tribes and tribal cultural values such as the potential loss of culturally sensitive plants, the mortality of invertebrates and animals, and the overall cumulative degradation of the setting from the development-oriented projects mentioned. The commenter is directed to cumulative effects Section 6.5.5 Cultural Resources which describes the Topock TCP and other resources of traditional or cultural significance to Interested Tribes. The assessment of potential cumulative impact to biological resources is based on the CEQA Guidelines, Appendix G, and other relevant guidance documents. Additionally, although the FMIT may disagree with the conclusions in the DEIR in regards to the cumulative visual analysis that does not mean the DEIR lacks substantial evidence in support of its conclusions. It has long been held that an EIR is not legally inadequate simply because experts in a particular environmental subject matter dispute the conclusions reached by the experts whose studies were used in drafting the document, even where different conclusions can reasonably be drawn from a single pool of information. In such instances, the EIR need only summarize the main points of disagreement and explain the lead agency's reasons, if any, for accepting one set of judgments instead of another (see CEQA Guidelines

Section 15151; *Greenebaum v. City of Los Angeles* (1984) 153 Cal.App. 3d 391, 413; *Browning-Ferris Industries v. City Council* (1986) 181 Cal.App. 3d 852, 862–863).

T6-130 The commenter states generally that the DEIR makes no effort to quantify or otherwise compare the potential cumulative adverse environmental impacts of development versus the asserted cumulative beneficial impacts of restoration and habitat projects and that, for this reason, the DEIR's conclusion that the Project's incremental contribution to impacts to biological resources is not cumulatively considerable lacks substantiation. The conclusion of the cumulative analysis for biological resources is supported by substantial evidence and quantified to the extent feasible (see e.g. Table 6-3 [including approximate acreage for the Topock Marsh Infrastructure Improvement Project, Marina Improvements, Sterling solar project etc]). Specifically, the cumulative analysis for biological resources included in its reasoning consideration that there is a limited amount of development and activity proposed within the geographic scope of the Project area which would have an adverse effect on biological resources. When combined, these projects (as identified in the DEIR on page 6-21) would not have a significant adverse cumulative impact on biological resources. The Project itself, moreover, is not so significant as to independently cause, either directly or indirectly, a significant adverse cumulative impact to biological resources (see DEIR page 6-2 [explaining the two-step process for conducting a cumulative impacts analysis]). Although the FMIT may disagree with the conclusions in the DEIR that does not mean the DEIR lacks substantial evidence in support of its conclusions.

- T6-131 The commenter expresses an opinion on the conclusions reached in the cumulative impacts to cultural resources section of the DEIR, specifically agreeing with the conclusions. The comment is noted for the.
- T6-132 The commenter takes issue with stating that the Lower Colorado River Valley is the appropriate geographic scope for cumulative impacts to cultural resources since the resources in this Valley are "expected to be similar" to those that occur in the Project Site since it suggests that the resources are redundant and not special. DTSC maintains that the DEIR establishes an appropriate geographic scope for the cumulative cultural resources analysis; however, DTSC agrees that some clarification in the rationale would be appropriate in light of the tribes concern. As such, the DEIR text on page 6-22 is revised in the FEIR as follows:

This geographic scope of analysis is appropriate because the historical, <u>and</u> archaeological , <u>and paleontological</u> resources within this area are expected to be similar <u>linked or connected</u> to the six Interested Tribes, all of whom have a vested interest those that occur on <u>in</u> the Project Site. For paleontological resources, the geographic scope of analysis is appropriate because the formations within this area are expected to be similar.

T6-133

In the second part of the comment, the commenter provides a discussion of ethnographic landscapes, but does not identify a specific issue. The comment is noted for the record.

The commenter notes that the DEIR does not provide cumulative impactspecific mitigation for cultural resources. The commenter is correct that the cumulative impacts analysis for cultural resources does not present any additional cumulative impact-specific mitigation. This is because direct Project-specific impacts to cultural resources have all been mitigated to such a degree that no other mitigation can be identified that would reduce the impacts to a less than significant level. Because cumulative impacts for cultural resources are found to be cumulatively considerable, the same direct Project-specific mitigation measures are also applicable to the cumulative scenario. Any additional mitigation measures that would reduce the significance determination below that of significant and unavoidable would have been identified at the direct Project level. DTSC has not identified any additional mitigation measures that could possibly reduce the direct or cumulative-specific impacts related to cultural resources. Additionally, the largest project identified in the Cumulative Projects List and described in Chapter 6, "Cumulative Impacts," that has the potential to also impact cultural resources is Project 1C – Groundwater Remediation Project at the Station. This project, certified by DTSC in January 2011, has a full suite of comprehensive and long-term mitigation measures that will be enforced by DTSC throughout the duration of the Groundwater Remediation Project. Usually mitigation measures are only applied to cumulative impacts in situations where the direct project-specific impacts are determined to be less than significant. In these cases, cumulative mitigation measures could potentially reduce the cumulative impact below a level of significance.

Although the FMIT may disagree with the lack of cumulative impactspecific mitigation measures in the DEIR, that does not mean the DEIR lacks substantial evidence in support of its conclusions. It has long been held that an EIR is not legally inadequate simply because experts in a particular environmental subject matter dispute the conclusions reached by the experts whose studies were used in drafting the document, even where different conclusions can reasonably be drawn from a single pool of information. In such instances, the EIR need only summarize the main points of disagreement and explain the lead agency's reasons, if any, for accepting one set of judgments instead of another (see CEQA Guidelines Section 15151; *Greenebaum v. City of Los Angeles* (1984) 153 Cal.App. 3d 391, 413; *Browning-Ferris Industries v. City Council* (1986) 181 Cal.App. 3d 852, 862–863).

Finally, any requests by the FMIT for additional mitigation measures are in violation of the December 2012 Settlement Agreement, which states: "The Tribe shall not raise any additional mitigation claims or support such claims made by others during the federal Groundwater and Soil Remedy process and the state Soil CEQA process" (Section VI A). See also Response T6-097.

T6-134 The commenter expresses concern that the geographic scope of cumulative impacts analysis for Land Use and Planning is not regional, and that no explanation for the confines of the geographic scope exists. The geographic scope for Land Use and Planning in the DEIR is identified as San Bernardino County, which includes lands managed by other agencies. This geographic scope is regional in nature due to the large amount of area covered in the county, approximately 20,105 square miles. DTSC chose to include a regional geographic scope to encompass any potential large-scale planning efforts with multiple agency oversight. DTSC acknowledges that the regional geographic scope could also be extended from San Bernardino County into parts of Arizona to account for large scale federal projects in the cumulative scenario that are listed in Table 6-1. In response to the comment, the DEIR text in Chapter 6, "Cumulative Impacts," on page 6-29 is revised below. The commenter is correct that the DEIR on page 6-29 does not provide rationale for the geographic scope. In response to the comment, the DEIR text in Chapter 6, "Cumulative Impacts," on page 6-29 is revised as follows:

> The geographic scope for land use and planning is San Bernardino County and eastern parts of Mohave County, Arizona, to encompass any potential large-scale planning efforts with multiple federal and state agency oversight.

The impact conclusions for the thresholds of significance evaluated for land use and planning – whether the Project divides an established community or whether the Project would conflict with environmental regulations/plans that intend to avoid or mitigate environmental effects do not change by increasing the geographic scope for land use, as it is a more localized issue. The intention of the land use thresholds are not to evaluate land use compatibility with all plans in the region, and doing so would not result in a more comprehensive analysis of environmental impacts. The revisions that have been included in the text do not present significant new information, such as changes in the Project, environmental setting, or additional data or information. The revisions to the DEIR provided above do not present a new significant environmental impact or mitigation measure, result in a substantial increase in the severity of an environmental impact, result in new feasible Project alternatives or mitigation measures, or preclude meaningful public review and comment (see Section 15088.5 of the CEOA Guidelines).

In addition, the commenter identifies the fact that federal agencies are also involved in planning discussions in the area. While the commenter is correct, as identified in federal agency projects discussed on pages 6-13 to 6-14, even though federal agencies are involved in planning efforts near the Project, the geographic scope remains consistent with the regional parameters identified in the various land use and planning documents. T6-135 The commenter is concerned that the noise resulting from Station activities could result in increased cumulative noise impacts to activities that occur simultaneously and within 500 feet of the Project site. As stated in Chapter 6, "Cumulative Impacts," on page 6-30, even though the effects of the proposed Project, in combination with other cumulative projects in the geographic scope, would contribute incrementally to noise impacts, the noise generated by the proposed Project would attenuate such that the Project's cumulative impact to noise would not be cumulatively considerable. Further, the commenter's concern regarding cumulative noise levels from normal Station operations, which are a contributing factor to the geographic scope, are independent of this Project's cumulative impact conclusion regarding noise.

> The commenter also questions what can be done at the Station to reduce potential for increased cumulative noise. In general, noise at the Station for ongoing activities involves required alarms and alerts related to safety protocols required by PG&E. Certain safety alarms and alerts are required by the California Public Utilities Commission while others are part of the natural gas industry's standard design features to ensure the safety of the equipment, employees, and the public. As DTSC has noted previously in response to suggestions for mitigating existing Station noise, the phone system and the alarm/enunciator system at the Station are required by, and are designed to comply with, regulations that require such a system for operations of a natural gas pipeline system (49 CFR Sections 192.736 and 192.605) (see DTSC, January 31, 2011, Findings of Fact for the Groundwater Remediation Project, page 50). These noise outputs contribute to the existing noise baseline that is the basis for analysis in Section 4.7, "Noise and Vibration." As discussed above, the geographic scope for cumulative noise impacts for the proposed Project is cumulatively significant on nearby sensitive receptors, due to the ongoing operations at the Station and other projects listed on page 6-30.

T6-136 The commenter asks if the increase in personnel, machinery and activity into the sensitive Topock area associated with the proposed and cumulative Projects, will necessitate increased police, ranger and/or security presence. The commenter asserts that even though the Project is an "infrastructure project," it does not necessarily mean that the presence of these activities would not induce other people into the area. The commenter also states that indirect effects and induced access are not addressed in the DEIR for the Project or cumulatively, even though they were raised in the commenter's NOP comment date January 17, 2013.

> As described in the DEIR on page 5-13, the proposed Project would not result in increased demand for police, fire, or other emergency services due to the temporary nature of the Project and the small amount of temporary workers on-site. Contrary to the commenter's assertion, just because the Project is an "infrastructure project" does not mean that there would be no impact to public services such as police, ranger, and/or security presence. Other long-term "infrastructure projects" with extensive construction and operation phases that involve permanent
| workers would require increased public services related to safety. |
|---|
| However, due to the short-term nature of the Soil Investigation Project, |
| with a maximum of 13 temporary workers plus on-site agency personnel |
| and monitors, there would be no need for additional public services, |
| including police, ranger or security (DEIR page 5-13). Whether or not |
| the Project would induce unauthorized people to try and venture into the |
| Project Site is not reasonably foreseeable based on the evidence in the |
| record and therefore does not require speculation by DTSC. Regarding |
| cumulative impacts, as discussed on pages 6-32 and 6-33 of the DEIR, |
| the projects analyzed in the cumulative scenario are also infrastructure |
| projects with a limited permanent employee base. Because the Project |
| would not create impacts with respect to new or physically altered fire |
| protection, police protection, school, parks, or other public service |
| facilities, it would not contribute to or combine with the impacts of other |
| projects in the cumulative scenario to cause significant cumulative |
| impacts related to these services (DEIR page 6-32). |

Regarding the commenter's assertion that induced access is not addressed in the DEIR and that indirect effects would occur as a result to cultural resources and the Site itself, the DEIR includes Mitigation Measure CR-1b to ensure any person working on-site is trained appropriately in cultural resource protection and appropriate on-site access protocols. This worker cultural resources sensitivity program shall continue to be implemented for the Project consistent with existing practices. Specifically, an initial sensitivity training session shall be provided by PG&E to all Project employees, contractors, subcontractors, and other professionals prior to their involvement in any grounddisturbing activities, with subsequent training sessions to be held as new personnel become involved in the Project. PG&E shall invite Interested Tribes to participate in and present Tribal perspectives during the training sessions. The sensitivity program shall address: the cultural (Native American, archaeological, and paleontological) sensitivity of the Project Site and a tutorial providing information on how to identify these types of resources; appropriate behavior; worker access routes and restrictions; work area cleanliness; procedures to be followed in the event of an inadvertent discovery; safety procedures when working with monitors; and consequences in the event of noncompliance.

- T6-137 The commenter asks if it is anticipated that Project activities will introduce more recreational and other users into the area, and if so how increased patrols might reduce the potential for impacts to cultural resources. The commenter is referred to response to comment T6-136.
- T6-138 The commenter cites CEQA Guidelines Section 15126.2(c) and DEIR pages 5-5 and 5-6, and states the Tribe does not understand the DEIR's conclusion regarding the use of some resources being deemed "temporary," as opposed to permanent impacts of the Project, and the justification for those impacts as provided in section 15126.2, subdivision (c). The commenter also states the Tribe believes the DEIR should include a discussion of the irretrievable commitments of

resources relevant to visual quality and setting. CEQA Guidelines Section 15126.2, subd.(c), focuses on the uses of nonrenewable resources during the initial and continued phases of a project which may be irreversible since a large commitment of such resources makes removal or nonuse thereafter unlikely. This section provides an example of such an irretrievable commitment as the construction of highway improvements that will provide public access to previously inaccessible areas and therefore "generally commit future generations to similar uses." Thus, irretrievable commitments of resources "should be evaluated to assure that such current consumption is justified" (see CEQA Guidelines Section 15126.2, subd. (c), citing PRC Section 21100.1 which relies, in turn, on Section 21100).

The inclusion of the terms "nonrenewable resources" and "consumption" in section 15126.2, subdivision (c), read as a whole, reflects the need for lead agencies to consider the use and consumption by an agency or project proponent for purposes of constructing or operating a project involving the use of nonrenewable resources – e.g., nonrenewable resources such as diesel, oil or other resources which are "consumed." Used elsewhere in the statute and Guidelines, "consumption" is within the context of, for example, mitigating significant impacts "including to reduce the wasteful, inefficient, and unnecessary 'consumption' of energy." (See PRC Section 21100, subdivision (b)(3); see also CEQA Guidelines, Appendix F [goal of conserving energy implies the wise and efficient use of energy . . . including decreasing overall per capita energy consumption].) Visual quality is not a nonrenewable resource as contemplated under CEQA, to be "consumed" and was therefore not analyzed as such in the DEIR.

As explained in the DEIR, soil sampling activities are considered temporary because they are anticipated to last up to 12 months (with 9 months of active field investigation) with a potential extension of up to 3 months for 25 percent contingency samples. Subsequent activities to support the Soil CMS/FS would be undertaken after the completion of the soil sampling activities in 2016 and are anticipated to last from 13 to 27 months, depending on need for each activity and ability for each activity to be implemented concurrently (DEIR pages 5-5 through -6). Although the material used to fill the soil sampling drill holes would remain present, the overall nature of the Project (as a soil investigation project) is considered temporary because it would not, for example, result in a completed highway or housing project which would commit future generations to the same or similar uses. Here, future generations would not be required to continue permanently using the land for soil sampling once the investigation is complete and remedial action(s) taken, if any. The Project was also not found to result in the consumption of a large commitment of nonrenewable resources such as fossil fuels, minerals, metals or groundwater from an isolated aquifer. Any additional impacts to cultural or historical resources that may result from implementation of the Project, or implementation of data recovery or capping of cultural resources, as explained in the DEIR are nevertheless

considered an irreversible and irretrievable commitment of resources (see DEIR page 5-6).

In response to the comment, the DEIR text in Chapter 5, "Other CEQA Sections," on page 5-5 is revised as follows:

Soil sampling activities are anticipated to last up to 12 months (9 months of active field investigation) with a potential extension of up to 3 months for 25 percent contingency samples. Subsequent activities to support the Soil CMS/FS would be undertaken after the completion of the soil sampling activities in 2016 and are anticipated to last from 13 to 27 months, depending on need for each activity and ability for each activity to be implemented concurrently. The consumption and use of nonrenewable resources, as contemplated in CEQA Guidelines Section 15126.2, subdivision (c), is considered temporary for the purposes of this discussion because of the nature of the Soil Investigation Project, which is justified to ensure protection of the environment. The project does not commit substantial amounts of resources, and the amount of energy and equipment to be used is limited to that needed for the investigation, so there is no irreversible commitment of nonrenewable resources or related significant impact.

Soil investigation activities associated with the proposed Project could potentially disturb cultural resources within the Project Site. Site clearing and grading, drilling, boring activities, and pilot studies have the potential to uncover archaeological and paleontological resources. Despite application of mitigation measures to reduce potential impacts to less than significant levels, including the priority to avoid cultural resources and preservation of resources in place, activities involving data recovery or capping of cultural resources discovered during soil investigation activities could result in irreversible losses. Data recovery requires removal of artifacts from their original context. Capping involves covering an archaeological site with fill such that Project activities could take place unimpeded over the area. Because Booth methods would disturb the overall Topock archaeological area site to differing degrees, DTSC recognizes that there would be some and would constitute an irreversible and irretrievable impacts to cultural resources. commitment of resources.

T6-139

The commenter summarizes the DEIR impact conclusions related to cultural resources. The commenter also states that the DEIR fails to respond to FMIT comments at least to the minimum extent required by law, and that the DEIR does not include all feasible mitigation measures required to reduce the significant and unavoidable impacts of the Project. The FMIT presents an opinion about the significant and unavoidable impacts they think result from the proposed Project. Although the FMIT may disagree with the conclusions in the DEIR that does not mean the DEIR lacks substantial evidence in support of its conclusions. It has long been held that an EIR is not legally inadequate simply because experts in a particular environmental subject matter dispute the conclusions reached by the experts whose studies were used in drafting the document, even where different conclusions can reasonably be drawn from a single pool of information. In such instances, the EIR need only summarize the main points of disagreement and explain the lead agency's reasons, if any, for accepting one set of judgments instead of another (see CEQA Guidelines Section 15151; Greenebaum v. City of Los Angeles (1984) 153 Cal.App. 3d 391, 413; Browning-Ferris Industries v. City Council (1986) 181 Cal.App. 3d 852, 862-863).

Finally, any requests by the FMIT for additional mitigation measures are in violation of the December 2012 Settlement Agreement, which states: "The Tribe shall not raise any additional mitigation claims or support such claims made by others during the federal Groundwater and Soil Remedy process and the state Soil CEQA process" (Section VI A). See also Response T6-097.

T6-140 The commenter restates CEOA Guidelines Sections 15002(h), 15370, and 15123(b)(3), which enumerate methods to protect the environment, feasible mitigation measures, and issues to be resolved, and questions why these issues are not included in the DEIR for Project and cumulative impacts. The DEIR adequately addresses these issues. Although the FMIT may disagree with the conclusions in the DEIR, that does not mean the DEIR lacks substantial evidence in support of its conclusions. It has long been held that an EIR is not legally inadequate simply because experts in a particular environmental subject matter dispute the conclusions reached by the experts whose studies were used in drafting the document, even where different conclusions can reasonably be drawn from a single pool of information. In such instances, the EIR need only summarize the main points of disagreement and explain the lead agency's reasons, if any, for accepting one set of judgments instead of another (see CEQA Guidelines Section 15151; Greenebaum v. City of Los Angeles (1984) 153 Cal.App. 3d 391, 413; Browning-Ferris Industries v. City Council (1986) 181 Cal.App. 3d 852, 862-863).

> Finally, any requests by the FMIT for additional mitigation measures are in violation of the December 2012 Settlement Agreement, which states: "The Tribe shall not raise any additional mitigation claims or support such claims made by others during the federal Groundwater and Soil Remedy process and the state Soil CEQA process" (Section VI A). See also Response T6-097.

T6-141	The commenter questions why, given the scope and complexity of the Project, combined with its significant and additive impacts, there no programmatic mitigation approach being undertaken relative to the Groundwater and Soil Characterization and Remedies under CEQA. Please see Master Response Groundwater regarding the relationship between the proposed Project and the Groundwater Remediation Project. Additionally, the mitigation measures included in the DEIR have taken into consideration all of the mitigation measures included in the FEIR for Groundwater, inclusive of FEIR Addendum No. 1, (DTSC 2011, 2013) as well as other relevant documents that establish protocols for best management practices, protection of environmental resources, and consideration of Tribal resources and interests, such as the Programmatic Agreement (BLM et al. 2010) the CHPMP (BLM 2012), <i>Programmatic Biological Assessment for Pacific Gas and Electric Topock Compressor</i> <i>Station Remedial and Investigative Actions</i> (PBA) (CH2M HILL 2007).
	Finally, any requests by the FMIT for additional mitigation measures are in violation of the December 2012 Settlement Agreement, which states: "The Tribe shall not raise any additional mitigation claims or support such claims made by others during the federal Groundwater and Soil Remedy process and the state Soil CEQA process" (Section VI A). See also Response T6-097.
T6-142	The commenter states that the impacts to biological resources, cultural resources, aesthetics and visual resources, and land use and planning pose unique impacts to the FMIT. The commenter's dissatisfaction with the Project is noted. Please also see responses to comments T6-015 and T6-143.
T6-143	The commenter generally expresses the FMIT's environmental justice concerns about the Project and its unique impacts to the FMIT which, in the commenter's opinion, remains insufficiently considered and responded to. The comment does not provide specifics or raise environmental issues. As evidenced by the numerous meetings, outreach efforts and comment periods provided on the DEIR and Soil Work Plan, DTSC has made every effort to disclose and consider the perspectives of all Interested Tribes in preparing the DEIR, acting consistently with the principles of Environmental Justice, the Department's own Environmental Justice Polices and the spirit of the settlement agreements entered into with the FMIT (see also CEQA Guidelines Section 15153 ["social effects of a project shall not be treated as significant effects on the environment"]; <i>Bakersfield Citizens for Local Control v. City of Bakersfield</i> (2004) 124 Cal.App.4th 1184, 1205 ["social effects of proposed projects are outside CEQA's purview"]). See also response to comment T6-144.
T6-144	The commenter asks how the EIR will address environmental justice issues and cites to CEQA Guidelines Section 15124 (Project Description). Despite policies held by specific agencies within California State Government, CEQA does not specifically require an evaluation of impacts related to "Environmental Justice." This is because

environmental justice is not an impact on the physical environment as defined under CEQA; thus, an EIR is not required to include an analysis of the environmental justice implications of a particular project. Under CEQA Guidelines Section 15360, an impact on the physical environment is defined as follows:

> "Environment" means the physical conditions which exist within the area which will be affected by a proposed project including land, air, water, minerals, flora, fauna, ambient noise, and objects of historic or aesthetic significance...The "environment" includes both natural and man-made conditions.

Effects that are solely social or economic in nature do not constitute an effect to the physical environment (see PRC Section 21080, subd. (e)(2): "substantial evidence is not...evidence of social or economic impacts that do not contribute to, or are not caused by physical impacts on the environment"). In addition, Section 15131 of the CEQA Guidelines indicates that there must be a physical change resulting from the project directly or indirectly before CEQA will apply. Thus, to the extent people, including members of the FMIT, could be affected by Project-related impacts to the physical environment, the EIR considers those potential effects (e.g., from air quality, land use, water resources, traffic, and noise) on all people.

Environmental Justice by definition is the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies. Fair treatment means that no group of people, including a racial, ethnic, or socioeconomic group, should bear a disproportionate share of the negative environmental consequences resulting from industrial, municipal, and commercial operations or the execution of federal, state, local, and tribal programs and policies. Meaningful involvement means that: (1) potentially affected community residents have an appropriate opportunity to participate in decisions about a proposed activity that will affect their environment and/or health; (2) the public's contribution can influence the regulatory agency's decision; (3) the concerns of all participants involved will be considered in the decision making process; and (4) the decision makers seek out and facilitate the involvement of those potentially affected (see U.S. Environmental Protection Agency, www.epa.gov/enironmentaljustice/definition).

Environmental justice has become a central concern in California, particularly after the passage in 1999 of legislation mandating that the EPA and related agencies and departments administer and enforce their programs in a way that "ensures fair treatment of people of all races, cultures, and income levels, including minority populations and low-income populations" (PRC Section 71110(a)).

	Despite the absence of any CEQA requirement to include an environmental justice analysis in EIRs, however, DTSC has engaged in an unprecedented outreach effort to ensure the fair treatment and meaningful involvement of all people and Interested Tribal members in the Topock site and surrounding area. The outreach conducted between DTSC and Tribes is included in the PG&E Topock Tribal Communications Summary Table (DTSC 2014), which is included in this FEIR as Appendix H.
T6-145	The commenter asks whether DTSC shared any version of the administrative DEIR prepared for the Project with PG&E. An administrative draft Screencheck DEIR was provided to PG&E on May 23, 2014. The reason for submittal to PG&E was to ensure that the Project Description and other technical descriptions of the proposed sampling and pilot studies, were accurate. PG&E, as the entity that commissioned preparation of the Soil Work Plan, and the entity tasked with completing the work, is in the best position to confirm that technical issues were correctly described in the DEIR.
	DTSC disagrees with the commenter's reading of <i>Citizens for Ceres v.</i> <i>Superior Court of Stanislaus County</i> (2013) 217 Cal.App.4th 889 (" <i>Ceres</i> "), particularly that in every instance where a lead agency provides a real party in interest with an administrative draft copy of an EIR that administrative draft becomes a public record or part of a later administrative record of proceedings. Here, the agencies, DTSC and DOI, have already determined that PG&E has a legal duty to clean up the contamination it caused. The FMIT has also sued DTSC twice in the past (in 2005 and 2011), each resulting in settlement pertaining to past and future proposed investigative and remediation efforts. Given this litigious history, DTSC and PG&E share a common interest in ensuring the legal adequacy of the EIR and that PG&E complies with DTSC's orders. These circumstances sometimes necessitate confidential communications between DTSC and PG&E. The two parties (DTSC and PG&E) therefore have a common interest in securing legal advice related to the adequacy of the EIR, and the communications were required to advance the shared interest in securing legal advice to ensure the adequacy of the EIR.
	(See also <i>California Oak Foundation v. County of Tehama</i> (2009) 174 Cal.App.4th 1217, 1222–1223 [upholding common interest defense doctrine's application to information shared between legal counsel for County and developer prior to project approval].)
T6-146	The commenter states that the previous comments made are intended to assist in finding a way to adequately characterize soil contamination with the minimal amount of adverse impacts to resources of concern to the FMIT. The commenter offers DTSC further clarification as needed. The comment is noted for the record.

Dr. Michael Sullivan (Enclosure B)

T6-147	The commenter requests changes to the footnote on page 1-2 of the DEIR which defines screening levels (text can also be found on page 2-3 of the DEIR). DTSC has considered the suggested changes and does not feel the changes are warranted. The footnote as written adequately describes screening levels.
T6-148	The commenter suggests revisions to the Project objectives to reference soil screening levels. This comment is noted. The discussion regarding screening levels and soil criteria can be found in Appendices A and B (Data Quality Objectives) of the Soil Work Plan (see Appendix A of the DEIR). The following are considered in the assessment of nature and extent: data usability, potential fate and transport mechanisms, and screening values. Evaluation of nature and extent consists of identifying newly detected compounds, point-by-point comparison to screening values, assessing lateral and vertical extent and trends of detected compounds, and central tendency comparisons between site data and background data.
T6-149	The commenter requests that the DEIR mention that displaced soil would be managed according to the process developed with Tribes and stakeholders. The text that the commenter points to is a brief overview within the Project Summary. The language the commenter is looking for can be found in the Project Description (see pages 3-29, 3-30, and 3-37; throughout Section 4.5, "Hazards and Hazardous Materials; and Section 4.6, "Hydrology and Water Quality).
T6-150	The commenter states that the phrase "where remediation is deemed necessary" in Section 1.3.3.2 Geotechnical Evaluations is contrary to the evaluation process used in this project where risk assessment results will be considered in a risk management process to make a final remediation recommendation. DTSC has determined that no change in the text is necessary. Geotechnical evaluations, if determined necessary, would be implemented after soil sampling is complete and would be guided by the results of the soil sampling activities and soil risk assessment (DEIR Sections 3.5.3, 3.5.4 and 3.5.5). These activities would only be undertaken in locations where the results of the soil investigation and risk assessment determine that there is a need to perform remedial actions.
T6-151	The commenter recommends that the DEIR state that any pilot soil remediation tests will be performed after the risk assessment and determination of remediation areas and will not be performed during the soil characterization work. See Master Response Additional Testing and Sampling Activities.
T6-152	The commenter requests that the Summary of Project Alternatives contain additional text that notes that there were proposed alternatives

that were not evaluated in the DEIR. In response to the comment, the introductory text in Section 1.4 on page 1-6 of the DEIR is revised in this FEIR as follows:

The following provides a summary of each of the alternatives that are considered in this DEIR. <u>Several alternatives were</u> considered but rejected from further consideration because they would not meet the basic objectives of the proposed Project. For a full discussion of the alternatives <u>selected for evaluation</u>, and an evaluation of their potential environmental effects, and a discussion of the reasons for the rejection of those alternatives <u>not evaluated</u>, refer to Chapter 7, "Alternatives to the Proposed Project."

T6-153 The commenter states that the evaluation fails to perform a cumulative impacts analysis in that it does not take into consideration other non-Project related sources of noise on-site. The commenter also states that there may be specific times and dates when the FMIT plans on being on-site, and questions whether the DEIR has taken into consideration decreasing noise impacts during those times. As described in Section 6.5.12, the Project was evaluated in combination with other related project in the geographic and temporal scope including: PG&E projects (1A through 1F), Quarry Operations (2B), Topock Marsh Water Infrastructure Improvement Project (4B), Moabi Regional Park Improvements (6A), Pirate Cove Resort (6B), and the Topock Marina Improvements (8A). However, as described on page 6-30 of the DEIR, the proposed Project's incremental contribution to noise impacts would not be cumulatively considerable based on consideration of geographic and temporal scope of other projects listed in Table 6-3. This is primarily because of the relative distances and timing (i.e., the majority of other projects would not occur concurrently) of the other cumulative projects and that it would be highly unlikely for noise emanating from more than one construction or noise-generating project to be heard from an individual receptor. Furthermore, in regards to geographic relativity, even if two similar projects were occurring simultaneously, if one of the projects were to be located several hundred feet closer to a receptor than the second project, the closer equipment noise would essentially mask the equipment noise from the second project based on the logarithmic summation of noise.

> Decreasing impacts during Tribal activities are considered in Mitigation Measure NOI-1 on pages 4.7-19 and 4.7-20 of the DEIR, which says "The disturbance coordinator will also consider the timing of soil investigation activities in relation to Tribal ceremonial events that are sensitive to noise, which will be accommodated by PG&E to the extent practicable."

T6-154

The comment requests that a full and thorough evaluation of alternatives, as proposed by the FMIT, be included in the DEIR. DTSC has completed an alternatives analysis that is consistent with the requirements of

	CEQA, as contained in Chapter 7 of the DEIR. It is within DTSC's authority to determine the range of alternatives to examine in the EIR. Further detail on the CEQA requirements for an alternatives analysis is provided on pages 7-1 and 7-2 of the DEIR. As well, a more detailed response regarding the two alternatives referenced by the commenter as proposed by the FMIT is provided in response to comment T6-202. See also response to comment T6-017.
T6-155	The commenter states that the DEIR NOP did not include pilot tests in the description of the proposed Project for review. See Master Response Additional Testing and Sampling Activities for additional information on the inclusion of these activities in the Project Description.
T6-156	The commenter states that the sequence of Project steps is out-of-order, likely resulting in additional and unnecessary impacts from pilot studies. See Master Response Additional Testing and Sampling Activities.
T6-157	The commenter states that the DEIR should reference the Tribes' position regarding the Soil Work Plan that each soil sample location represents a significant and irreversible impact. The comment is directed towards pages 2-4 and 2-5 of the DEIR, which present a summary of meetings that were held with Tribes as well as other stakeholders during the preparation of the Soil Work Plan over several years. The text presented in this section is not intended to convey the position or opinions of individual stakeholders, including Tribes, regarding the Soil Work Plan, but is meant to simply convey the process that was undertaken by DTSC prior to release of the DEIR for public review. DTSC continues to acknowledge the Tribes position regarding all activities, including those proposed in the Soil Work Plan, at the Project Site. Additionally, the DEIR concludes that, in line with the Tribal position, that implementation of the proposed Project would have significant and unavoidable impacts as it relates to the TCP and elements or areas of the natural landscape which have traditional cultural significance (see Section 4.4, "Cultural Resources" of the DEIR).
T6-158	The commenter states that the DEIR should reference the Tribes request for a reduced number of soil samples and evaluate this as an alternative in the DEIR, and particularly is referencing pages 2-4 and 2-5 where the DEIR presents a summary of meetings that were held with Tribes as well as other stakeholders during the preparation of the Soil Work Plan over several years. The text presented in this section is not intended to convey the position or opinions of individual stakeholders, including Tribes, regarding the Soil Work Plan or potential Project alternatives, but is meant to simply convey the process that was undertaken by DTSC prior to release of the DEIR for public review. Please see Chapter 7, "Alternatives to the Proposed Project" of the DEIR for a full discussion on Project alternatives, including the Tribal Land Use Alternative and the Reduction of Project Footprint Alternative that includes a reduced number of soil sample locations. It is not the intent of this specific

discussion in the DEIR to describe in detail Project alternatives, and no change has been made to the DEIR.

T6-159 The comment states that the DEIR gives the misimpression that the Soil Investigation Project and the Groundwater Remediation Project are separate, and therefore have separate impacts, and that several impacts are additive and should be considered cumulatively, and is referencing page 2-6 of the Soil Investigation Project DEIR. This part of the DEIR, Section 2.2.3, "Groundwater Remediation," is intended to provide a summary of the ongoing Groundwater Remediation Project and how it relates to the proposed Project. This part of the DEIR is not intended to describe or disclose the environmental impacts associated with each of the projects, but rather the types of activities proposed and how each of the projects have independent utility. The basis for the DEIR evaluation is not the "different technologies" but the individual driving factors behind each of the separate projects. The DEIR acknowledges that the Groundwater Remediation Project is a cumulative project (see page 6-11, Project 1-C), and presents a comprehensive analysis of the additive impacts to noise (see page 6-30), viewscapes (see page 6-17), soil disturbance (see various locations throughout Chapter 6), and cultural resources (see page 6-22), as suggested by the commenter. It is not the intent of this discussion in the DEIR to describe in detail cumulative impacts, and no change has been made to the DEIR. See also Master Response Groundwater and Master Response Cumulative Projects. T6-160 The commenter states that the text must acknowledge that there are impacts beyond the soil characterization activities and that cumulative impacts from all past, present and future site activities must be evaluated in this DEIR. The cumulative impact analysis in Chapter 6, as revised as part of this FEIR, appropriately takes into account past, present and

impacts from all past, present and future site activities must be evaluated in this DEIR. The cumulative impact analysis in Chapter 6, as revised as part of this FEIR, appropriately takes into account past, present and probable future site activities. The methods of analysis are described in Section 6.4 and the rationale for the list of related projects in the vicinity is described in Section 6.4.2. Please also see Master Response Cumulative Projects.

T6-161 The commenter requests clarification on the relationship of the on-site CERCLA exemption to the soil investigation activities. DOI's 2007 memorandum on the CERCLA permit exemption explains that CERCLA Section 121(e)(1) provides that "[n]o Federal, State, or local permit shall be required for the portion of any removal or remedial action conducted entirely on-site, where such remedial action is selected and carried out in compliance with this section." The National Contingency Plan (NCP) defines "on-site" as "the areal extent of contamination and all suitable areas in very close proximity to the contamination necessary for implementation of the response action." EPA guidance and the NCP preamble further explains that "areal" refers to surface areas, the air above the site, the soil, and any groundwater plume that are to be remediated.

The Consent Agreement provides for PG&E to perform both a Remedial Investigation and a Feasibility Study in a manner consistent with CERCLA and the NCP and subject to the oversight of the Federal Agencies. Therefore, all activities conducted by PG&E pursuant to the Consent Agreement at the "site" as defined in the Consent Agreement (not the DEIR) are qualifying actions to which the permit exemption applies. The Consent Agreement defines the "site" as "all areas where hazardous substances released at or from the Compressor Station have come to be located, including areas where hazardous substances are discovered in the course of performing the Work." Hence, any response action performed within the boundaries of the site, or areas in very close proximity to the site that are necessary for implementation of the response action are subject to the permit exemption. Response actions include, but are not limited to, groundwater pump and treat measures, in situ treatment, the collection and analysis of samples, and any other soil or groundwater investigation or cleanup.

In terms of the proposed Project, the "Project Site" refers to the Soil Investigation Project boundary as delineated on Figure 3-8, which does include the Station.

T6-162 The commenter expresses concern that "housing" has been eliminated from analysis in the DEIR, and references page 2-11. The commenter also requests clarification on the different approaches taken on the elimination of an evaluation of "housing" in the DEIR, and the DOI requirement of evaluating a residential "house" in Bat Cave Wash. Section 2.5, "Scope of This Environmental Impact Report," identifies the resource areas that are not analyzed in the same level of detail as resources areas found to be potentially significant. It is important to note that these resources areas that do not warrant a detailed analysis are still analyzed in Chapter 5, "Other CEQA Considerations." Population and Housing, the resource area in question, is analyzed on pages 5-12 and 5-13 of the DEIR.

> The use of the residential land use scenario as the standard implemented by DTSC for investigation and cleanup at the Project Site does not necessitate a discussion on the potential for future housing to exist onsite. The CEQA analysis that was performed in the DEIR focuses on the impacts of a proposed project to induce substantial population growth, or displace housing or people. When analyzed in this context, the proposed Project has no impact on population and housing, as determined on pages 5-12 and 5-13. The commenter is also referred to the Master Response Additional Testing and Sampling Activities to understand the relationship between the risk assessment work plan and this DEIR.

T6-163 The commenter suggests that the Groundwater CMS/FS be included as an appendix to the DEIR. While the suggested document is an important reference to inform environmental condition information and the cumulative analysis, it is not a primary document that supports the proposed Project and therefore is sufficient to include a citation in the

	bibliography (see Chapter 8, "Bibliography," page 8-1) and as part of the record that will inform decision making. Additionally, the Groundwater CMS/FS can be found on DTSC's project website at: http://dtsc-topock.com/corrective-measures-study-feasibility-study, and hard copies can be located at the selected information repositories in the Project vicinity that house hard copy project materials.
T6-164	The commenter states that the DEIR should be clear about all activities that are evaluated for potential impacts, including any CMS activities that may deviate from typical schedule, and that the Project objectives should be edited to include pilot studies. As stated on page 3-29 of the DEIR, the pilot studies would only be implemented if necessary, and would be guided by the results of the soil sampling activities and soil risk assessment. The implementation of pilot studies prior to CMS/FS is typical and is not considered as a deviation from the normal schedule or process. See Master Response Additional Testing and Sampling Activities for more information. If there is a need to implement the pilot studies, work plans describing the proposed work would be submitted by PG&E and made available to all interested parties for review and comment. The Project objective to finalize the evaluation of soil properties and contaminant distribution to support preparation of the future Soil CMS/FS, including gathering a sufficient level of information to identify a range of remedial alternatives, speaks to this particular issue.
T6-165	The commenter questions the justification for the contingency borings and asks what specific criteria must be met to trigger these contingency borings. See Master Response 25 Percent Contingency.
T6-166	The commenter requests more details about the pilot studies. See Master Response Additional Testing and Sampling Activities.
T6-167	The commenter requests that the scope of additional testing activities be discussed with the Tribes. As described in Master Response Additional Testing and Sampling Activities, prior to implementation of any bench scale tests, pilot studies, and geotechnical evaluations, DTSC will prepare a work plan that describes the specific location, extent, and configuration of such activities at the level of detail requested in the comments. The work plan will be provided to stakeholders for review and comment. In accordance with CR-1a-1 Tribal Document Review and Comment, Tribes will be afforded the opportunity to review and comment on all cultural resources-related documentation prepared as a result of this Project. DTSC will consider the Tribes input in the formulation of these additional testing activities.
T6-168	The commenter questions the justification for the contingency borings and asks what specific criteria must be met to trigger these contingency borings. See Master Response 25 Percent Contingency.
T6-169	The commenter is concerned that Chapter 3, "Project Description" does not mention Tribal monitoring and contingency actions in the event of a

cultural resource discovery. The commenter is referred to mitigation measures presented in Section 4.4, "Cultural Resources," pages 4.4-73 through 4.4-78; 4.4-82 and 4.4-83; and 4.4-85 and 4.4-86 which describes Tribal monitoring, access, and general involvement in the Soil Investigation Project.

T6-170 The commenter asks for a description of actions to be taken when plants or boulders need to be altered in order to take a soil sample. Section 3.5.6 on the DEIR describes work area restoration procedures. As discussed on page 3-36 of the DEIR, areas would be raked/brushed to remove tire tracks and restored to substantially the same condition(s) as prior to the soil investigation sampling.

> Further, as described in Section 4.4, "Cultural Resources," Mitigation Measure CR-1c-2, pre-investigation historical resources field verifications will be conducted by PG&E not less than four weeks prior to the commencement of ground-disturbing activities. The field verification shall include all sampling locations, including any future pilot study areas, new access areas, and equipment and materials staging areas, plus a 50-foot buffer surrounding sampling areas where topography allows. Sampling activities may occur within the buffer area without additional field verification. Interested Tribes shall be afforded the opportunity to participate and shall be provided 2 weeks (14 calendar days) notice prior to the start of the field verification. The objective of the field verification will be to verify that additional resources qualifying as historical resources under CEQA are not present within the investigative location areas. Interested Tribes shall be afforded the opportunity to identify, and DTSC to consider, for the purposes of avoidance, any physical features of Tribal significance within the field verification area, including but not limited to trails, rock features, desert pavement areas, and cleared circles that might be considered contributors to the TCP.

T6-171 The commenter requests clarification on the identification of subsurface utilities. The FMIT requests that removable flags be used rather than the use of ground painting. The process of locating utilities in the field is described in detail in the DEIR in Section 3.5.2.4 on pages 3-20 to 3-22. To provide further clarification on the methods to be utilized to identify subsurface utilities and in response to the comment, the DEIR text on page 3-20 is revised in this FEIR as follows:

The survey would be conducted on foot and would not require additional access beyond that described in the physical access subsection above. <u>Subsurface utilities and structures would be</u> <u>marked in the field using removable flags where feasible, such as</u> <u>unpaved areas. However, in paved areas marking paint will be</u> <u>used to mark these features.</u>

T6-172

The commenter states that the FMIT objects to the criterion of "previous disturbance" as a justification to use an area, and requests that staging

areas not be placed in or adjacent to the Maze, even if the area may have been previously disturbed. As referenced in the Project Description in the DEIR (see Section 3.5.2.2 and 3.5.2.7), priority would be given to siting Project elements within previously disturbed areas over undisturbed or pristine areas. This is defined as areas disturbed within the last 50 years in Mitigation Measure CR-1e-3 (see page 4.4-77). It is acknowledged that the FMIT does not believe that previously disturbed areas are necessarily appropriate for additional activities. However, in order to meet the objectives of the proposed Project, DTSC has determined that the proposed activities are necessary and that previously disturbed areas are generally better suited for activity as compared to undisturbed areas. Consistent with Section 4.4, "Cultural Resources" Mitigation Measure CR-1e-3, Interested Tribes shall be afforded the opportunity to express, and DTSC shall consider, whether there are specific instances where disturbed areas may be more culturally sensitive than non-disturbed areas. This coordination has taken place on the Soil Work Plan (see DEIR Sections 4.4.1.7 and 7.4 for details) and will take place for all future work plans associated with the Soil Investigation Project (e.g., 25 percent contingency, bench scale tests, and pilot studies). Mitigation Measure CR-1e-3 on page 4.4-77 of the DEIR has been revised in the FEIR to include this clarification, as shown below. No staging areas that are part of the Soil Investigation Project are located within or directly adjacent to the Maze (See DEIR Figure 3-2 and detailed Figures 3-3 through 3-6).

> CR-1e-3: Prioritized use of Previously Disturbed Areas. To minimize impacts to intact landforms and natural features important to Tribes as part of the Topock TCP, priority shall be given to siting project elements that have not formerly been subject to Tribal review and input as part of the Soil Work Plan (including the potential 25 percent contingency samples, bench scale tests, pilot studies, and geotechnical evaluations) within previously disturbed areas (areas disturbed within the last 50 years) over undisturbed or pristine areas to the maximum extent feasible as determined by DTSC, in coordination with Interested Tribes, PG&E, and respective landowners, to minimize impacts to intact landforms and natural features important to Tribes as part of the Topock TCP. Interested Tribes shall be afforded the opportunity to express, and DTSC shall consider, whether there are specific instances where disturbed areas may be more culturally sensitive than non-disturbed areas.

T6-173 The comment states Table 1-1 (see Mitigation Measure CR-1e-3) of the DEIR lists additional criteria that will be used in the decision on the use of an area for Project-related activities which are not in the text. In response to the comment, the first partial paragraph on page 3-23 of the DEIR is revised in this FEIR as follows:

Many of the staging areas to be used for soil sampling activities have been used for staging during previous RFI/RI-related activities, and all are located in previously disturbed <u>(areas</u>)

	<u>disturbed within the last 50 years</u>) and existing operational areas with either existing natural topographic boundaries or fencing that defines the staging area boundaries.
T6-174	The commenter requests minimal use of FMIT property. DTSC appreciates the FMIT's preference that activities on its property be kept to a minimum. Nevertheless, pursuant to the 2006 Settlement Agreement between the FMIT and DTSC, the FMIT agreed that the "Tribe will not object to DTSC and its authorized representatives otherwise exercising its authority to enter and move safely about the Former MWD Property at all reasonable times for purposes of ensuring compliance with laws, regulations and requirements." The soil investigation activities proposed for the FMIT's property are required by DTSC to ensure that PG&E complies with various laws, regulations, and requirements, including those imposed by Hazardous Waste Control Law and CEQA. Thus, such activities should be allowed to occur without Tribal objection.
T6-175	The commenter states that the graphic embedded in the text should be a separate figure like the others included within the DEIR. In response to the comment, this figure is added to Chapter 3, "Project Description," as Figure 3-9. Subsequently, the original Figure 3-9 is changed to 3-10.
T6-176	The commenter states that the statement the "least intrusive method feasible will be used for soil sampling" is vague, and requests a more rigorous process be described. The phrase "least intrusive," in this instance, refers to issues related to the health and safety protocols that PG&E, in coordination with DTSC, will undertake for sampling activities. Based on the presence of existing underground utilities, PG&E experts in the field may have to modify the preferred sampling technique to be less intrusive to account for underground utilities in a given location that may pose a health and safety concern. The Tribes would not be consulted on such adjustments. The DEIR text in Section 3.5.2.9 of the DEIR on page 3-24 is revised in this FEIR to provide this clarification:
	Soil samples would be taken using one or more of the following options: (1) small hand tools (trowel, shovel, slide-hammer, and hand auger); (2) a sonic or hollow-stem auger drilling rig; (3) a hydrovac truck in conjunction with hand tools; or (4) a backhoe or excavator. Because of potential health and safety concerns posed by underground utilities, Eefforts will be made to use the least intrusive method feasible depending on the conditions encountered on location. Hand tools would be used in areas of limited access, areas with topographic constraints, or areas with other constraints. The hydrovac process would be used for borings up to approximately 10 feet bgs. Backhoes or excavators would be used for trenching and for collecting soil samples in sloped and unstable areas. A sonic drill rig would be used for soil borings deeper than 10 feet bgs. The drill rigs would use conventional truck-mounted drilling equipment or all-terrain-

	capable equipment (track-mounted or rubber balloon tires), depending on access considerations.
T6-177	The commenter states that the DEIR must cite the Memorandum that has been developed in consultation with the FMIT regarding the handling of investigation derived soil, and state it is the authoritative document that will be updated, not the Soil Work Plan. DTSC presumes that the memorandum in question here is Appendix J (Displaced Soil Protocol) to the Soil Work Plan, which is referenced on pages 3-29 and 3-30.
T6-178	The commenter states that the DEIR gives a general evaluation of soil flushing, but does not provide sufficient detail for full evaluation. See Master Response Additional Testing and Sampling Activities for additional information on the inclusion of these activities in the Project Description.
T6-179	The commenter states that the DEIR must provide clear decision criteria by which potential pilot testing may be implemented. See Master Response Additional Testing and Sampling Activities.
T6-180	The commenter states that the DEIR is unclear related to the purpose and need of geotechnical sampling and that the geotechnical samples were not listed in the NOP for the DEIR nor included in the count of total borings. As stated in Section 3.4.4 of the DEIR, "Geotechnical borings may be drilled in areas to collect information to evaluate strength characteristics of subsurface soil and slope stability. Slope stability analyses may be performed to evaluate the maximum slope ratio that can be maintained or maximum loads that may be placed at a given location during sampling or remediation activities." Table 3-2 Summary of Project Features in the DEIR includes up to 8 borings for geotechnical evaluations. Please see Master Response Additional Testing and Sampling Activities for additional information on the inclusion of geotechnical evaluations in the Project Description.
T6-181	The commenter requests that geotechnical sampling be postponed until after characterization sampling and risk assessment to determine if remediation is necessary. Any necessary geotechnical evaluation will occur after soil sampling and risk assessment are completed. The text in Section 3.5.4 on page 3-34 of the DEIR is revised in this FEIR to clarify this point as follows:
	<u>Geotechnical evaluations, if determined necessary, will occur</u> <u>after soil sampling activities and soil risk assessment and be</u> <u>guided by these efforts</u> . Geotechnical borings may be drilled in areas to collect information to evaluate strength characteristics of subsurface soil and slope stability. Slope stability analyses may be performed to evaluate the maximum slope ratio that can be maintained or maximum loads that may be placed at a given location during sampling or remediation activities. It is anticipated that geotechnical evaluations would be undertaken within or near AOCs that have steep slopes and where

	remediation is determined necessary. AOCs with or near significant slopes include: SWMU 1/AOC 1, AOC 4, AOC 9, AOC 10, AOC 11, AOC 14, AOC 27, and AOC 31. It is assumed that up to eight geotechnical evaluations would be undertaken. Geotechnical borings would be drilled using hollow-stem auger drill. Soil samples would be collected using the standard penetration test and modified California ring samplers for index properties, strength, and compaction characteristics.
T6-182	The commenter states that there are no criteria provided that would trigger biota sampling. Further, the commenter describes common strategies available for interpreting Ecological Risk Assessment results that include LOAEL-based TRVs, reviewing exposure assumptions and considering ranges of acceptable Hazard Indices that should be employed first before the collection of biota samples. As described in Master Response Additional Testing and Sampling Activities, prior to implementation of any plant or biota sampling, DTSC will prepare a work plan that describes the specific location, extent, and configuration of such activities as well as a rationale for undertaking the activities. The work plan will be provided to stakeholders for review and comment. DTSC is aware of the strategies available for interpreting ecological risk assessment and will take all options under consideration when formulating a work plan if determined necessary.
T6-183	The commenter states that the DEIR describes the collection of small mammal tissue samples through trapping as "minimally invasive," but fails to consider the concerns of the Tribes with respect to this impact. The commenter is referred to Master Response Additional Testing and Sampling Activities and response to comment T6-015.
T6-184	The commenter notes that the descriptive text seems to discount impacts due to their relative size compared to the surrounding mountains. The text in Section 4.1.1.2 of the DEIR is a description of the regional landscape context and visual setting. As such, it is not an analysis of impacts. The comment, however, is noted, and the text is modified to more clearly describe the landscape setting. In response to the comment, the DEIR text on page 4.1-8 is revised in the FEIR as follows: In this open view of the Mojave Valley, built features such as the existing Station and nearby transportation infrastructure, while visible, are dwarfed by large-scale are surrounded by natural features such as the surrounding peaks, arroyos, and the
	Colorado River, which become defining elements in the visual character of the landscape.
T6-185	The commenter is concerned that the Technical Memo from the AhaMakav Cultural Society was not referenced in the Aesthetics section. The Technical Memo is referenced in Section 4.1, "Aesthetics," page 4.1-9 of the DEIR. DTSC recognizes that the associated reference

in the Bibliography on page 8-2 is incorrect. In response to this comment, the DEIR text on page 8-2 is revised in this FEIR as follows:

Fort Mojave Indian Tribe (FMIT). 2013. FMIT Technical Memo: Key Views & Aesthetic Impacts, June 28, 2013.

T6-186 The commenter states that the DEIR does not evaluate visual impacts to on-site Tribal activities such as ceremonies at the Maze that are within the impacted viewshed. The DEIR Section 4.1.3, as summarized in Table 4.1-2, includes evaluation of three key viewpoints at the Topock Maze: Viewpoint 7 is a view of from Topock Maze (Locus C) toward lower Bat Cave Wash Topock Maze and Viewpoints 8 and 9 are views from Topock Maze (Locus A) toward the Station facility and upper Bat Cave Wash (DEIR Figures 4.1-10a through 4.1-12a). Page 4.1-20 also describes the types of activities that Tribal Groups (as a specific viewer group) conduct, including several annual gatherings (i.e., ceremonies), educational events, and individual visits. Therefore, the DEIR adequately considered the suggested activities presented by the commenter.

T6-187 The commenter states that Table 4.1-2 minimizes the impact of the visual impacts in areas of the Maze as there is no consideration of viewer sensitivity addressed in the evaluation and that the table has underestimated the visual impacts in on-site areas important to the FMIT. Table 4.1-2 includes evaluation of three key viewpoints at the Topock Maze: Viewpoint 7 is a view of from Topock Maze (Locus C) toward lower Bat Cave Wash Topock Maze and Viewpoints 8 and 9 are views from Topock Maze (Locus A) toward the Station facility and upper Bat Cave Wash (DEIR Figures 4.1-10a through 4.1-12B). As noted in the Impact Methodology Section 4.1.3.1 of the DEIR, the aesthetics analysis applies professionally accepted criteria to address changes that are visible and to assess the resulting aesthetic impacts. In so doing, and based on comparisons of the before and after views presented in Figures 4.1-10a through 4.1-12B, the DEIR appropriately determined that the proposed Project would not obstruct views of distant landscape features including the Needles Rock formation, Spirit Mountain, or Boundary Cone. The Project would not involve substantial grading or permanent vegetation removal and the visual effects of proposed vegetation trimming or pruning would represent an incremental change that would not substantially alter the composition or character of existing landscape views. At Viewpoints 7, soil investigation activities in this location would not substantially alter the existing landscape character or significantly affect views from adjacent publicly accessible locations. At Viewpoint 8, the Project would introduce incremental change comparable in height and character to the existing built elements in the landscape and as such would not substantially degrade the existing visual character of the Project Site. At Viewpoint 9, the Project would represent a temporary minor incremental visual change that, given the viewing distance and absorptive quality of the backdrop, would not substantially change the overall visual character of the setting.

DEIR Table 4.1-2 acknowledges the sensitive cultural component of the three views at Topock Maze and at page 4.1-69, Section 4.1.3.3 states that because it is a focal point for recreational visitors as well as because of its cultural sensitivity, the open landscape view from Topock Maze Locus A at the interpretive sign is considered a scenic vista. Section 4.4 Cultural Resources of the DEIR includes more general discussion on the sensitive cultural component of the viewshed as well as detailed discussion of the cultural sensitivity at Topock Maze.

The DEIR discussion also includes description provided directly by the FMIT: "The FMIT is also concerned about physical modifications to the landscape. Visible changes in the landscape can affect FMIT Tribal members' "relational/spiritual perceptions" of the landscape. These "perceived impacts are as significant to Tribal members as visible impacts. It is important to the Tribes to include and describe both the visual and perceptual impacts of any site activities" (FMIT 2013). Additionally the DEIR notes that "As pointed out by some Tribal representatives, they are sensitive not only to permanent intrusions but also to those that may be characterized by some as "temporary." They feel that even those activities or physical intrusions characterized as "temporary" result in spiritual disturbances that remain for long periods of time and although these disturbances may not be visible to the physical eye, they can still be seen from the "mind's eye" (McDowell 2013).

Discussion of potential impacts to the viewshed in Section 4.4.3.3 of the DEIR states:

"The Project Site is located within a larger area determined by the BLM to encompass the NRHP- eligible Topock Traditional Cultural Property (TCP). Impacts to those physical characteristics (contributing elements) that convey the TCP's historical significance, such as the Topock Maze, land, water, plants, animals, prehistoric archaeological resources, and the viewshed, would result in a significant impact to the historical resource identified as the Topock TCP. Contributing elements that would not be affected by the Project include the Topock Maze, water, and animals. Contributing elements that could be affected by the Project include land, plants, prehistoric archaeological resources, and the viewshed."

Some Interested Tribes have expressed that the viewshed, comprising a panoramic 360-degree view of the Project Site and vicinity (see Figures 4.1-2A-2C) is more important than individual line-of-sight views. Because some Interested Tribes have broad conception of visual intrusions to the Topock TCP, impacts to the TCP viewshed go beyond visible physical disturbances and extend into the metaphysical plane in the opinion of the some Interested Tribes. The viewshed of the Topock TCP is not limited to a view in a particular direction, or even to a 360-degree view, but includes a three-dimensional perspective that extends below ground surface. Soil sample collection activities would include drilling hundreds of bore holes that would be backfilled. Following Project completion, the ground surface would closely resemble pre-investigation conditions and would not leave a permanent visual impact on the landscape. Nonetheless, as noted above in Section 4.4.1.4, for some Interested Tribes these disturbances can still be seen from the "mind's eye." The knowledge of physical alterations to the landscape remain in the collective consciousness of those Interested Tribes who associate deep spiritual beliefs and values with the area long after the landscape has been restored and evidence of destruction is no longer physically visible.

The DEIR includes a set of Cultural Mitigation Measures to address Impact CR-1 Potential Impacts to the Topock TCP and on page 4.4-70 concludes that: "The impact would be significant and unavoidable after implementation of the measures detailed above. The Project would result in the destruction or alteration of contributing elements which convey the historical significance of the Topock TCP. Although the implementation of Mitigation Measures CR-1a through CR-1e would reduce or minimize impacts to the Topock TCP, they would not be reduced to a less than significant level. Therefore, impacts to the historical resource identified as the Topock TCP would be significant and unavoidable."

The commenter disagrees with the conclusion that a drill rig in the distance is not impacting the vista, because the Tribal viewers would be focused on both the distant (vista) and closer (adjacent) viewsheds. The commenter refers to text in the analysis of Scenic Vistas (page 4.1-69), which states that a comparison of the existing view (Figure 4.1-12a) and the visual simulation (Figure 4.1-12b) demonstrates that the Project would not obstruct distant views of important landscape features, nor would it substantially alter the existing landscape character or composition as currently seen from this location, given the viewing distance and absorptive quality of the backdrop. Therefore, the Project would not substantially affect views from Topock Maze Locus A at the interpretive sign. The DEIR analysis analyzes the impact to the vista and concludes that it would not be substantially affected and provides an appropriate rationale. The commenter does not point to any specific aspects of that rationale as a point of concern except to say that they disagree with the conclusion. Although the FMIT may disagree with the conclusions in the DEIR, that does not mean the DEIR lacks substantial evidence in support of its conclusions. Responses to comment T6-071 and T6-187 provide further details on the analysis of the viewshed in the DEIR and sensitive viewers.

T6-189

T6-188

The commenter disagrees with the categorization of visual impacts on page 4.1-70 and states that there would be significant impacts during Tribal visits to the Maze area during the period of soil characterization. In response to the comment, the DEIR text on pages 4.1-47, 4.1-69 and

4.1-70 is revised respectively for additional clarification in the FEIR as follows:

In light of the above characteristics and because it would not involve installation of permanent infrastructure, the Project would not result in any long-term <u>or</u> permanent adverse effects on public views.

A substantial adverse effect on a scenic vista is defined as circumstances in which construction or operational activities would introduce <u>long-term or</u> permanent dominant visual elements that, based on the landscape sensitivity level, would result in noticeable to very noticeable changes in the visual character of a vista viewshed that do not blend and are not in keeping or are incompatible with the existing visual environment.

For purposes of this analysis, "substantially alter the existing visual quality or character" is defined as circumstances in which construction or operational activities would introduce <u>long-term</u> <u>or</u> permanent dominant visual elements that, based on the landscape sensitivity level, would result in noticeable to very noticeable changes that do not blend and are not in keeping or are incompatible with the existing visual environment.

As outlined under response to comment T6-076, Section 4.1.3.3 of the DEIR contains an evaluation of short, mid- and long term potential visual contrast related to the Project. This evaluation references a set of 10 visual simulations that depict short term visual change (Figures 4.1-6a through 4.1-15b).

In addition, response to comment T6-187 provides further discussion contained in the DEIR regarding potential impacts to Tribal groups and the Maze area. As detailed in DEIR section 4.4.3.3, potential impacts to the Topock TCP would be significant.

T6-190 The commenter suggests that the following become a condition of approval for the Project: work should only occur during daylight hours when no vehicle or Project Site lights are needed. The DEIR text on page 3-39 is revised in this FEIR as follows to define the term:

Drilling would be limited to day<u>time</u> light hours to minimize the need for lighting and to conserve energy to the extent feasible. Daytime is defined generally as the time between sunrise and sunset when there is enough natural light to conduct Project activities without assisted lighting. DTSC will ensure that the Project is being implemented as described in the EIR.

DTSC as the lead agency would evaluate and monitor the implementation of the Project consistent with the Project Description in the DEIR (Section 3.5).

T6-191	The commenter objects to the characterization of small mammal trap placement, and presents an opinion about the analysis on the DEIR related to Tribal views. The DEIR text on page 4.3-51 does not intend to minimize impacts related to the collection of small mammal tissue samples by stating that the trapping would occur on a small area of land. For a discussion on Tribal viewpoints, please see response T6-015. The commenter notes that Tribal concerns regarding biota sampling have not been fully evaluated and asks for clarification on what are the observed number of small mammals within a sampling area and how many individuals would be "taken" for tissue sampling. Clarification has been made to better describe the potential impacts from small mammal and tissue sampling in Section 4.3, "Biological Resources," which is included in the Master Response Additional Testing and Sampling Activities.
T6-192	The commenter states that the FMIT has recently expanded the areas previously assigned to Tribal historical activities and that these findings must be presented and considered in the DEIR and requests that the TCVA be cited. The commenter is referred to Response T6-033. DTSC reviewed the TCVA and extracted relevant information where appropriate (see page 4.4-19).
T6-193	The commenter reiterates that throughout the development of the Soil Work Plan, the Tribes have consistently requested reduced sampling through different screening criteria and phased sampling approach and suggests that the DEIR mistakenly gives the impression that the result of the meetings was Tribal agreement with the scope of the soil sampling. In particular, this comment is regarding text on page 4.4-49 of the DEIR, which summarizes the Tribal scoping process conducted by DTSC (Section 4.4.1.7, "Native American Scoping"). The intent of the discussion in the referenced text is to provide a summary of the dates and general discussion points of the meetings held from 2011 and 2014. The text presented in this section is not intended to convey the position or opinions of individual stakeholders, including Tribes, regarding details of the Soil Work Plan, but is meant to simply convey the process that was undertaken by DTSC prior to release of the DEIR for public review. The text following the referenced paragraph indicates those changes that occurred following Tribal discussions, including reduced number of sample locations, utilizing lesser intrusive and harmful technologies, and developing displaced soil procedures. While the DEIR does not explicitly state the Tribal comments received on the Soil Work Plan, it is inferred through the revisions stated, that the Tribes did have concerns regarding the scope of the Project. For a full review of Tribal comments on the Soil Work Plan, please see Appendix I of the Soil Work Plan, which can be found as Appendix A to the DEIR.
T6-194	The commenter states that the DOI's position on soil characterization to residential criteria and the inclusion of the residential scenario in the risk assessment are contrary to their legal requirement to protect Tribal resources. The DOI's identification of future land use assumptions for the federal portion of the Topock Site to be used in the baseline human

	health risk assessment and in the development of remedial alternatives conducted during the CERCLA Remedial Investigation/Feasibility Study (RI/FS) are separate from their mandates and management objectives to protect Tribal resources. See Master Response Future Land Use Scenario for more information on the DOI's basis for residential future land use scenario developed for purposes of the site investigation and baseline risk assessment.
T6-195	The commenter requests that the collection of small mammals must be fully disclosed and evaluated in the DEIR and not dismissed. See Master Response Additional Testing and Sampling Activities for more information on the process DTSC will go through prior to any plant or biota sampling.
T6-196	The commenter requests that the DEIR include literature references for the assumptions related to A-weighted noise levels. The Caltrans <i>Technical Noise Supplement</i> (Caltrans 2009) provides the data regarding noise perception on page 4.7-5. This document is listed in the DEIR Bibliography on page 8-18.
T6-197	The commenter suggests that the 6 dBA attenuation applied to the noise analysis is inappropriate and asserts that the 3 dBA attenuation rate per doubling distance should be used. Contrary to the commenter's assertion, the 6 dBA attenuation rate is the correct factor since it was applied to point sources (i.e., construction equipment on-site), rather than line sources (i.e., onroad traffic). The 3 dBA attenuation rate would be applied to line sources.
T6-198	The commenter disagrees with the use of "conservatively" in the DEIR, because it can be misinterpreted to mean that impacts have been over- estimated when they may have been underestimated. Per the Caltrans <i>Technical Noise Supplement</i> (Caltrans 2009), for point sources (i.e., construction equipment), the 6 dBA attenuation is applicable for hard- sites (i.e., paved surfaces or smooth bodies of water), whereas the 7.5 dBA attenuation is applicable for soft-sites (i.e., soft dirt, grass, scattered bushes or trees). The noise analysis for the proposed Project was conservative in that the 6 dBA attenuation rate was applied, rather than the 7.5 dBA attenuation rate, even though the sampling sites and general area primarily consists of "soft-sites."
T6-199	The commenter states that the DEIR only compares attenuated Project noise with site noise, and that it does so incorrectly using the 6 dB attenuation factor. The commenter suggests that the DEIR should compare cumulative or combined noise (source plus background) to determine if there is a significant increase. The noise analysis for the proposed Project includes the simultaneous operation of multiple pieces of equipment at any individual sampling site and compares those projected noise levels to the existing background noise levels gathered through noise monitoring. Other noise comparisons would be speculative at this juncture. Cumulative noise impacts are discussed in the DEIR on

	page 6-30. The commenter also presents an opinion that the FMIT does not support using the comparison to existing noise levels. That comment is noted for the record.
T6-200	The commenter points out that the DEIR cites hours of operation as 7am to 7pm which during the winter months will likely be later than sunset and therefore will require vehicle and equipment lighting. In response to the comment, the DEIR text on page 3-39 is revised in the FEIR as follows to define daytime:
	Drilling would be limited to day <u>time</u> light hours to minimize the need for lighting and to conserve energy to the extent feasible. Daytime is defined generally as the time between sunrise and sunset when there is enough natural light to conduct Project activities without assisted lighting.
	In addition, text on page 4.1-76 of the DEIR (related to Impact AES-4) is revised in this FEIR to be consistent with the changes above:
	Soil investigation activities would be limited to day <u>time</u> light hours (defined generally as the time between sunrise and sunset when there is enough natural light to conduct Project activities without assisted lighting) to minimize the need for lighting and to conserve energy to the extent feasible.
	This change does not result in a decrease in the effectiveness of the proposed measure, result in a substantial increase in the severity of the identified impact after mitigation, or preclude meaningful review and comment.
T6-201	The commenter indicates that the list of corrective measures designed to decrease impact to cultural resources is insufficient. While the DEIR mitigation measures are designed in an effort to reduce impacts to cultural resources (and includes measures for avoidance, monitoring, and treatment) the DEIR recognizes that impacts to cultural resources would remain significant and unavoidable. Additionally, DTSC would like to point out that the Tribes have had significant involvement in the development of the Soil Work Plan, including input on boring locations and other details. This involvement has overall resulted in a more sensitive project that considers Tribal input and resources.
T6-202	The commenter identifies the two alternatives that the FMIT believes have previously been proposed for consideration: 1) the use of less restrictive soil screening levels and 2) a temporally incremental process of data collection. The Tribal Land Use Alternative is the alternative presented by the FMIT that uses less restrictive soil screening levels. As described on pages 7-8 and 7-9 of the DEIR, the Tribal Land Use Alternative fails to meet the Project's basic objectives and thus has been rejected from detailed consideration by DTSC.

	Regarding the commenter's second referenced alternative, DTSC has conducted a thorough review of the written documentation submitted to date and only has record of the Tribal Land Use Alternative being formally proposed. However, it is acknowledged that in Dr. Michael Sullivan's November 26, 2013 letter to DTSC the notion of a phased or temporal approach was expressed. In this letter Dr. Sullivan asserts that additional sampling could occur after remedial decisions have been made (and during the design process). DTSC does not agree with Dr. Sullivan's conclusion that remedial design should occur before comprehensive data collection and site characterization are complete. This approach would unnecessarily require DTSC to make remedial decisions without fully understanding the nature and extent of soil and sediment contamination within the Project Site. This approach would also be inconsistent with DTSC policy (as discussed in response to comment T6-058) and would also be inconsistent with the fundamental objective of the Project to gather sufficient soil samples to be able to reliably characterize the nature and extent of soil and sediment contamination within the Project Site.
	The commenter states that these alternatives must be fully evaluated because they reduce impacts. This is incorrect. An agency is only obligated to "describe a range of reasonable alternatives to the projectwhich would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project" CEQA Guidelines Section 15126.6(a). As noted in Section 15126.6(c)(i) of the CEQA Guidelines among the factors that may be used to eliminate an alternative from detailed consideration in an EIR is the failure of the alternative to meet most of the basic project objectives.
T6-203	The comment states that there is no evaluation to support the conclusion that daytime hours are "less noise sensitive." Daytime hours are typically considered less noise sensitive based on people's sleep patterns, and because ambient noise levels during the daytime hours are generally higher than nighttime hours (see the typical noise spectrum presented on Figure 4.7-1 of the DEIR). DTSC recognizes that Tribes do use the area during daytime hours and that they consider all noise impacts a concern. The DEIR text on page 4.7-20 is revised in this FEIR as follows:
	Implementation of the above Mitigation Measure NOI-1 would ensure that noise generated during temporary Project investigation activities would be minimized and that activities would be limited to the less noise sensitive daytime hours.
T6-204	The commenter expresses concern about the list of irreversible and irretrievable commitment of resources presented in Section 5, "Other CEQA Considerations," page 5-5. The commenter states that the list is not clear regarding irreversible and irretrievable commitments of concern to the FMIT. The bulleted list is taken from CEQA Guidelines Section 15126.2(c), which lists conditions for determining an

	irretrievable commitment of resources. Section 5.2 of the DEIR presents the conclusions regarding irreversible irretrievable commitment of resources resulting from implementation of the proposed Project. Cultural resources are specifically discussed on page 5-6. DTSC understands that the Topock area is very sacred to the FMIT and that any physical disturbances and alterations to the landscape are hurtful and disruptive to the FMIT's belief system, values, way of life, and afterlife, and are seen as a desecration of the "spirituality" of the place. The commenter is referred to response to comment T6-015 for further discussion of Tribal values.
T6-205	The commenter requests that DOI implement land use assumptions for the Project Site that are more in-line with land uses specified in the BLM RMP. See Master Response Future Land Use Scenario.
T6-206	The commenter states that the list and the cumulative evaluation to be incomplete because 1) it does not include all of the past soil sampling and related impacts, 2) the total Groundwater Remediation Project and 3) future activities (e.g., soil remediation). Please see Master Response Cumulative Projects.
T6-207	The commenter objects to the use of "temporal overlap" as a criterion for selecting projects for cumulative impacts. See Master Response Cumulative Projects. In response to the comment, the DEIR text on page 6-6 is revised in this FEIR as follows:
	In addition, after the completion of the soil sampling that is proposed within this DEIR, which is expected to be completed by October 2015, areas identified as having soil contamination with chemicals of potential concern (COPCs) at concentrations above action levels, surface stains, and hazardous debris within the Station boundary and in the surrounding area may undergo remediation. Soil remediation, if warranted, could take many forms in varying locations including, but not limited to: excavation and off-site disposal; excavation and on-site treatment; soil flushing; solidification/stabilization; in situ chemical reduction; capping; and/or institutional controls. DTSC has concluded that it is too speculative to include soil remedy, if needed, is anticipated to occur from mid 2016 into early 2017 at the Station and surrounding areas. Any soil remedy, if determined warranted, would not temporally overlap with the Soil Investigation Project. Further, given the temporary nature of the impacts associated with the Soil Investigation Project, impacts from any future soil remediation effort would not result in related environmental impacts. The soil characterization and investigation proposed as part of this DEIR will by nature be completed by the time the soil remedy is identified and implemented and therefore no temporal overlap between the soil investigation Project and the soil remediation

T6-208

would occur. As such, the potential effects of any future soil remediation are not included in this cumulative analysis. <u>Any future soil remedy would be evaluated in accordance with CEQA, including a cumulative impact analysis.</u>

The commenter states that the cumulative evaluation of impacts to aesthetics is incomplete because it fails to consider relevant projects that cause a cumulative impact. Section 6.5.1 of the DEIR analyzes the cumulative impacts for aesthetics which includes relevant (related) projects. The geographic scope for potential cumulative impacts to aesthetics also includes foreground, middleground, and background viewing distances, however the effects of the proposed soil sampling activities and any associated changes in visual contrast would generally be visible at foreground viewing distances and not beyond 3 to 5 miles from the Project Site. The text in the DEIR on page 6-17 is updated in the FEIR as follows to clarify this point:

> The geographic scope for potential cumulative impacts to aesthetics includes the foreground, which is defined as the zone within 0.25 miles to 0.5 miles from the Project Site, and the middleground, which is a zone that extends from the foreground up to 3 to 5 miles. Consideration is given to background views, however the effects of the proposed soil sampling activities and any associated changes in visual contrast would generally be visible at foreground viewing distances and not beyond 3 to 5 miles from the Project Site. In desert areas, such as the vicinity of the proposed Project, landscape detail is typically most noticeable and objects generally appear most prominent when seen in the foreground. At middleground viewing distances, the texture of landscape features such as of rock outcropping surfaces and vegetation as well as built elements may be noticeable but are increasingly unrecognizable. At background viewing distances, which would extend from about 3 to 5 miles from the Project Site to infinity, visible detail is limited to landscape patterns or visual contrasts. Consideration is given to background views, however the effects of the proposed soil sampling activities and any associated changes in visual contrast would generally be visible at foreground viewing distances and not beyond 3 to 5 miles from the Project Site.

The projects considered in the geographic scope are based on the List of Related Projects in Section 6.4.2 of the DEIR. This is not intended to be an all-inclusive list of projects in the region, but rather a list of projects in the vicinity of the Project Site that may have some related environmental impact to the proposed Project and are: (1) recently completed, (2) currently under construction or implementation or beginning construction or implementation, (3) proposed and under environmental review, or (4) reasonably foreseeable. This includes the Groundwater Remediation Project. This list of cumulative projects was expanded as part of this FEIR to include specific projects suggested by commenters (see Master Response Cumulative Projects). No specific project or example is provided within this comment, so no change has been made.

This does not result in changes to the cumulative impact conclusions for aesthetics resources in the DEIR which determined that when combined, related projects in the cumulative scenario (Table 6.3) have the potential to affect key views and sensitive aesthetic resources in the geographic scope, however the combined visual effects from the related projects would not be considered cumulatively significant. Further, when considered in addition to the anticipated impacts of other projects in the cumulative scenario, the Project's incremental contribution to aesthetic impacts would not be cumulatively considerable (less than significant).

T6-209 The commenter states that the cumulative evaluation of impacts to cultural resources is incomplete because it fails to consider relevant projects that cause a cumulative impact. Section 6.5.5 of the DEIR analyzes the cumulative impacts for cultural resources which includes relevant (related) projects. The projects considered in the geographic scope are based on the List of Related Projects in Section 6.4.2 of the DEIR. This is not intended to be an all-inclusive list of projects in the region, but rather a list of projects in the vicinity of the Project Site that may have some related environmental impact to the proposed Project and are: (1) recently completed, (2) currently under construction or implementation or beginning construction or implementation, (3) proposed and under environmental review, or (4) reasonably foreseeable. This includes the Groundwater Remediation Project. This list of cumulative projects was expanded as part of this FEIR to include specific projects suggested by commenters (see Master Response Cumulative Projects). No specific project or example is provided within this comment, so no change has been made.

This does not result in changes to the cumulative impact conclusions for cultural resources in the DEIR (Section 6.5.5), which determined that when considered in combination with the impacts of other projects in the cumulative scenario, the Project's incremental contribution to impacts on cultural resources including historical resources (i.e., the Topock TCP), unique archaeological resources, and human remains, is cumulatively considerable.

T6-210 The commenter expresses the opinion that the mitigation measures presented for cultural resources in the cumulative impacts analysis do not reduce the significance of the impacts, and that more appropriate mitigation that is specific and accurate needs to be developed that better attempts to decrease the impacts. For a discussion of mitigation measures related to the cumulative impacts analysis, the commenter is referred to Response T6-133.

T6-211 This comment reiterates that the two options presented by the FMIT would decrease environmental impacts, and specifically references

cultural resource impacts. The comment is addressed by the response to comment T6-202.

- T6-212 The commenter states that the cumulative impact evaluation related to noise impacts does not consider either 1) multiple soil related activities occurring at the same time and 2) other ongoing remediation projects. The commenter is referred to Master Response Cumulative Projects and response to comment T6-003.
- T6-213 The commenter requests an accurate account of the Tribal position on the soil characterization scope. The position of the FMIT is provided within the comment. The text on page 7-4 referenced by the commenter states: "Approximately 50 sample locations were removed by DTSC/DOI from the sampling program as a result of the input provided by the Interested Tribes..." This account by DTSC is not meant to imply agreement between DTSC and the Tribes on the final scope of the soil sampling. It is noted that the FMIT's current position is the scope of the proposed Project is more than is needed.
- T6-214 The commenter provides additional detail about land use restrictions and some information on where authorities for such restrictions reside. It is correct that there are mechanisms for the potential restriction of land uses in the future, should DTSC determine that such restrictions are appropriate. However, the consideration of these potential restrictions would only occur after a full characterization of the Site. Understanding the nature and extent of the contamination at the Site is the primary objective of the Project. Without this full characterization, DTSC would be unable to fully anticipate the potential risks for all potential future users of the land.
- T6-215 The commenter questions the regulatory basis for evaluating the residential scenario. See Master Response Future Land Use Scenario for more information on the DOI's rationale and regulatory underpinning for the future land use scenario developed for purposes of the site investigation and baseline risk assessment.
- T6-216 The commenter provides an interpretation of input they have received from risk assessment staff regarding the information that is necessary to characterize the site and complete the risk assessment. DTSC can confirm that PG&E's risk assessors have previously indicated that they have an adequate number of soil data to perform a calculation of the potential risk based on the data they have. However, the current soil data set has data gaps, including not having defined the nature and extent of soil contamination, and more importantly, not having any soil data for some of the investigation areas. Therefore, any calculated risk from the current data may not be completely accurate. These data gaps are planned to be filled by performing the activities proposed in the Soil Investigation Work Plan.
- T6-217 The commenter expresses concern that Dr. Sullivan is not referenced in the DEIR as having a Ph.D. in toxicology. The commenter is correct that

on page 7-9 Mr. Sullivan is referenced, however on page 4.4-24 Dr. Sullivan is referenced correctly as having a Ph.D. In response to the comment, the DEIR on page 7-9 is revised in this FEIR as follows:

In a letter to <u>Mr. Dr.</u> Sullivan, consultant to the FMIT, on March 26, 2014 (DOI 2014), DOI restates the importance of factoring reasonable but conservative future land use assumptions into both the baseline risk assessment and the development of remedial alternatives.

T6-218 The commenter provides additional information regarding his position that the Tribal Land Use Alternative should be considered by DTSC. Within this comment, it is asserted that the Tribal Land Use Alternative meets the Project objectives. However, as documented on pages 7-8 and 7-9 of the DEIR, it is DTSC's position that the Tribal Land Use Alternative does not meet the objectives of the Project. Furthermore, the commenter states that there is no restriction on making land-use decisions early in the process. To the contrary, setting land use restrictions at the investigation stage of the process would be in conflict with DTSC's Management Memo #EO-02-002MM, which directs that the site mitigation and corrective action processes include comprehensive development and evaluation of alternatives for remediation or corrective measures. This memorandum is included as Appendix G to this FEIR. DTSC would not be able accurately evaluate a range of remedial options if it does not know, with some level of certainty, the extent and condition of the site. Furthermore, the evaluation of remediation options is outside the scope and purpose of the Soil Investigation Project.

The soil investigation activities do not predetermine remedial design or options. After the soil and sediment at the Site have been reliably characterized, DTSC will evaluate remedial options consistent with Management Memo #EO-02-002MM. As noted in this policy directive, general remedial options to be considered could include cleanup that will allow unrestricted use, partial cleanup coupled with land use-restricting covenants, and, in very limited cases, no cleanup with land use restricting covenants constituting the entire remedial action. However, these remedial options can only be compared <u>after</u> a comprehensive understanding of the condition of the Site is ascertained (which is the purpose of the Soil Investigation Project). The evaluation of remedial options will occur after the implementation of the Soil Investigation Project and will be presented in the CMS/FS.

T6-219 The commenter states that the FMIT does not object to the collection of data needed for the CMS/FS. However, the FMIT prefers a temporally-phased approach where first those areas that are to be remediated are identified and then the data needed for the CMS/FS is collected. DTSC notes that it is unable to identify what areas need to be remediated if it does not have comprehensive information regarding the nature and extent of the contamination. Gathering this data is the primary purpose of the Soil Investigation Project. See also response to comment T6-202.

T6-220	The FMIT requests that the referenced California State Policy (not guidance, which is discretionary) that specifically requires DTSC to consider residential land use be cited in the DEIR and provided to the FMIT (Page 7-9, pp 5). The specific policy cited is DTSC Management Memo #EO-02-002MM (DTSC 2002). This memorandum is included as Appendix G to this FEIR. Furthermore, this Management Memo was included as an attachment to the August 31, 2012 letter from the DOI and DTSC to Linda Otero (FMIT), which was provided as a response to questions the FMIT presented regarding land use jurisdiction and site characterization. The commenter was provided a copy of this correspondence at that time, as indicated by the distribution list included in the letter.
T6-221	The commenter states that the Soil Work Plan does not provide any mention or detail for potential 'additional' or 'contingency' soil sample locations. See Master Response 25 Percent Contingency.
T6-222	The comment states that the FMIT has consistently rejected the criterion of "previously disturbed" for deciding whether an area is acceptable for additional activities and requests that each area subject to soil related activities be reviewed and approved by the FMIT. The commenter is referred to response to comment T6-172.
T6-223	The commenter states that the NOP is vague and incomplete in its notification regarding the pilot studies that are proposed and discussed in the DEIR, and requests that these activities be removed and proposed in later phases of the Project where they can be fully discussed and evaluated. Please see Master Response Additional Testing and Sampling Activities for additional information on the inclusion of these activities in the Project Description.
T6-224	The commenter states that since the Project identifies that dust generation could occur on up to 20 acres, the Project must be managed in such a way that less than 20 acres are disturbed. The commenter further suggests that the Soil Investigation Project managers keep a running sum of the total number of acres where dust is being generated during the Project (including road access, sampling areas, trails, etc.). The 20-acre disturbed area assumption is based on the most intense overlap of sampling activities expected. However, the 20-acre assumption does not serve as the specific basis for a finding of a less than significant impact. As shown in Table 4.2-5 of the DEIR, particulate matter (PM10 and PM2.5) emissions would be substantially less than the Mojave Desert Air Quality Management District (MDAQMD) significance thresholds. Since the 20-acre disturbed area is a conservative estimate, and since the projected emissions are substantially less than the thresholds, tracking daily disturbed area is unnecessary for the proposed Project.
T6-225	The commenter expresses concern that the ethnobotany survey report attached to the DEIR was created solely for the Groundwater Remediation Project EIR study area and does not encompass all related ethnobotanical

issues potentially within the Soil Investigation Project EIR study area. The Groundwater Remediation Project EIR study area encompasses the entire Soil Investigation Project EIR study area with the exception of existing Interstate 40 and Park Moabi Entrance Road (analyzed in the Soil Investigation Project EIR as access/haul routes). It is unlikely that additional ethnobotanical issues exist along these roads. Furthermore, as described in Mitigation Measure CR-1e-4 on page 4.4-77 of the DEIR, a qualified biologist shall flag all indigenous plant specimens that shall be avoided and protected prior to any ground disturbance. This would include those areas outside of the Groundwater Remediation Project EIR study area.
The commenter expresses concern that the DEIR traffic impact analysis does not include the 25 percent contingency sampling. As described on page 5-14, the DEIR states that if implemented, the 25 percent contingency would require an additional 385 trips over a 2- to 3-month period. Further, in the DEIR Appendix E, Traffic Impact Analysis Report, page 9, Table 3, the 25 percent contingency is included in the trip generation estimates and subsequent analysis. See also Master Response 25 Percent Contingency.
The commenter expresses concern that the cumulative traffic impact analysis does not take into consideration the overlap of the Soil Investigation Project (proposed Project) and the Groundwater Remediation Project. As discussed in Chapter 6, "Cumulative Impacts," pages 6-11 and 6-12, it is not anticipated that the Groundwater Remediation Project would overlap with the Soil Investigation Project. If overlap occurs, the initial field preparation and surveys for the Groundwater Remediation Project may overlap with permitting and site planning for the proposed Soil Investigation Project, neither of which would involve substantial vehicle traffic. As the construction/implementation phases of both projects would not overlap, the cumulative traffic impacts would not be cumulatively considerable.

Technical Review Committee (TRC) (Enclosure D)

T6-228

The commenter states that there is no evidence presented in the DEIR that documents that the DEIR incorporated the Soil
Staging/Storage/Construction areas developed through discussions between Interested Tribes and the DOI/BLM/U.S. Bureau of
Reclamation and detailed in the January 2014 CHPMP Meeting. It should be clarified that these discussions were held to specifically discuss staging/storage/construction areas related to the Groundwater Project. As described in Section 7.4 of the DEIR (see page 7-4), prior to the publication of the draft Soil Work Plan and as part of the soil data gap evaluation process, DTSC held multiple coordination meetings and site walks with Native American representatives and stakeholders in an effort to coordinate on what would be included in the planned soil investigation activities. This included consideration of the staging areas

to be used for soil investigation activities. DTSC did not receive comments requesting modifications to the proposed soil investigation staging areas during the review of the Soil Work Plan. These efforts (dates and specifics) are documented in the Soil Work Plan (CH2M HILL 2013), Appendix A Part A Data Gaps Investigation Program, Section 1.0 Introduction (see Appendix A to the DEIR). Prior to and since the publication of the initial draft Soil Work Plan (CH2M HILL 2011), DTSC and PG&E worked with agency and Tribal stakeholders to minimize the footprint and impact of the proposed soil investigation activities. Specific examples of how PG&E, under the direction of DTSC, was able to refine the design of the investigation and limit the amount of ground disturbance or other intrusion can be found on pages 4.4-49 and 7-4 of the DEIR. Further, based on the groundwater-related discussions referred to by the commenter, DTSC has had followup conversations with PG&E regarding the use of certain staging areas for the Soil Investigation Project. PG&E has agreed to avoid using the following staging areas during the soil investigation activities: areas at the east side of the evaporation ponds and the small staging area across from IM-3. Avoidance of these staging areas will become conditions of approval for the Soil Investigation Project. With respect to staging area 25, assuming the historic resource of concern to the Tribe is the Route 66 sign, no impacts to the sign are anticipated from use as a staging area. As described in the DEIR section 3.5.2.7, page 3-23, in areas where natural boundaries or fencing are not sufficient to define a staging area, PG&E would temporarily mark the boundaries of the staging areas with traffic cones, caution tape, or straw wattles. The sign would fall outside of this boundary and would not be affected by the Project.

T6-229 The commenter states that a primary objective of the DEIR is to evaluate cumulative impacts (past, present, and foreseeable future) of the soil sampling program; however, previously drilled soil-sample boreholes are not shown or even mentioned in the DEIR. The purpose of the EIR is to evaluate the Project-specific and cumulative impacts from the proposed Project, which is the implementation of the current (2011) Soil Work Plan as well as additional activities described in the DEIR. Past soil investigation activities are described in the DEIR to provide context for the baseline/existing conditions at the Project Site. As explained in Master Response Cumulative Project, past projects that involved soilsample boreholes have been added to the discussion of cumulative impacts (see new cumulative project 1G). Historical soil investigations that occurred at the Project site, such as those carried out in 1988, are considered part of the baseline. See Master Response Cumulative Projects for more information on the past projects included in the DEIR.

T6-230 The commenter states that the threat of soil contamination to groundwater and the approach to assess it as defined in the Project objective are not well described, and questions how modeling fits into the assessment. Appendices A and B (Data Quality Objectives) of the Soil Work Plan (which is provided as Appendix A to the DEIR) describes this item in detail. The use of vadose zone modeling is the third

	step in the multi-step evaluation process to evaluate the threat of soil contamination leaching into the underlying groundwater. Vadose zone modeling has not increased the number and depth of boreholes proposed in the Soil Work Plan (and correspondingly the Project Description presented in the DEIR). Modeling results are discussed in detail in Appendix C (sub-appendices) of Appendix A of the Soil Work Plan. Additional modeling and model refinement, if needed would be performed after results of the soil investigation activities are received.
T6-231	The commenter inquires as to what "existing data" is referred to regarding soil contamination, and questions whether it is limited to soil data or is it inclusive of all data collected as part of the groundwater and soil investigation/remediation. Chapter 1 of the DEIR (page 1-2) explains that the investigation of soil (i.e., the Project analyzed in the DEIR), along with existing data at the Project Site will enable the evaluation and selection of corrective measures, if necessary, in a Soil CMS/FS. The existing data referred to in the DEIR has been gathered from previous sampling activities, including historic soil and groundwater-related sampling activities.
T6-232	The commenter seeks clarification regarding maps showing the extent of the project area that was analyzed in the DEIR, within which potential environmental impacts could occur (see in particular Figures 3-2 through 3-6 of the EIR). DTSC asserts that the DEIR is explicit in discussing and showing graphically where Project activities would occur. DTSC confirms that the "Project Site" is the term used throughout the DEIR to describe where Project activities would occur. However, Project graphics indicate "Project area" where "Project Site" should be used. Accordingly, all applicable figures have been updated in the FEIR. Additionally, there are a few instances where the term "Project area" is used in the DEIR. In response to the comment, the DEIR text in the following locations is revised in the FEIR:
	DEIR text on page 4.1-10:
	(Note that a contingency of up to 25 percent additional sampling locations is contemplated as part of this draft environmental impact report (DEIR) which could increase the level of activity in some portions of the Project <u>Site area</u> .
	DEIR text on page 4.1-45:
	As previously noted, a contingency of up to 25 percent additional sampling locations is contemplated as part of this DEIR, which could increase the level of activity in some portions of the Project <u>Site</u> area.
	DEIR text in Table 4.4-1, page 4.4-30 (table title):
	ARCHAEOLOGICAL AND HISTORIC-PERIOD BUILT RESOURCES WITHIN THE PROJECT <u>SITEAREA</u>

DEIR text on page 6-32:

The proposed Project does not include residential development and would not bring any new, fulltime employees to the Project <u>Site area</u> that would require the expansion of public facilities.

DTSC agrees with the commenter that maps provided in the Soil Work Plan show the historic AOC/SWMU/UA boundaries as well as soil investigation locations (which are in many specific situations extend outside of the original AOC/SWMU/UA boundaries). As part of the DEIR process, DTSC developed a larger "Project Site" within which all Projectrelated activities would occur. This is a larger area than that identified within the Soil Work Plan, in order to capture all work areas (including access to each investigation site, ample room for individual types of work equipment, etc.) and any direct environmental impacts. No Project activities would occur outside this larger Project Site boundary. As described on page 3-3 of the DEIR, the Project Site totals approximately 128.5 acres (shown in its entirety in gray) and includes equipment staging (in black hatching), access/haul routes (in yellow), and observation areas (in blue hatching), in addition to the AOCs (shown in green), SWMUs (shown in purple), and UAs (shown in orange). Using "layering" is a common way for presenting multiple types of geographic information, and DTSC considers the EIR project maps to be a clear and concise way of presenting the otherwise complex and overlapping information.

T6-233 The commenter requests that DTSC define the specific requirement used to determine if the nature and extent of contamination has been adequately fulfilled. Appendices A and B (Data Quality Objectives) of the Soil Work Plan (see Appendix A of the DEIR) describe this item in detail. The following factors are, for example, considered in the assessment of nature and extent: data usability, potential fate and transport mechanisms, and screening values. Evaluation of nature and extent consists of identifying newly detected compounds, point-by-point comparison to screening values, assessing lateral and vertical extent and trends of detected compounds, and central tendency comparisons between site data and background data. DTSC, as the state lead agency tasked with overseeing the investigation and cleanup of hazardous substance release sites, has broad discretion when conducting remedial investigations as provided under the Resource Conservation and Recovery Act (RCRA) as well as the Hazardous Waste Control Laws.

T6-234 The commenter expresses an objection to the potential infiltration gallery in Bat Cave Wash that is described on page 1-5 of the DEIR (also see pages 3-31 through 3-34 for more detail). It should be clarified that the infiltration gallery as discussed in the DEIR is proposed as a pilot study (soil flushing) in the event that soil cleanup is needed based on the results of the soil investigation. This proposed pilot study also has the option of using injection wells instead of an infiltration gallery. DTSC acknowledges the commenter's opinion regarding this issue. It is premature to discount this alternative at this time as it may later be
	determined that this is a less intrusive option when compared to other options such as soil excavation. The advantages and disadvantages of different remedial alternatives will be evaluated during the corrective measures study. DTSC also notes that this potential remedial technology may also be applicable at other portions of site, and cannot at this stage discount this potential remedy. In the event that soil cleanup pilot studies are necessary, work plans will be made available to all interested parties for review and comment, at which time more details would be provided for stakeholder consideration.
T6-235	The commenter states that the inclusion of plant sampling to evaluate potential risk is inconsistent with the Groundwater Risk Assessment and updated soil site conceptual models, and further questions what level of consistency is to be maintained between the Groundwater Risk Assessment and the DEIR. The risk assessment would be performed after the results of the soil investigation are received. If the risk assessment indicates that additional data may be required to verify its results, plant sampling may be an option instead of collecting more soil samples. It should be noted that the previous Groundwater Risk Assessment only focused on the contamination from groundwater, and did not include soil contamination data.
T6-236	The commenter asks for specific detail on which polycyclic aromatic hydrocarbons (PAHs), polychlorinated biphenyls (PCBs), volatile organic compounds (VOCs), semivolatile organic compounds (SVOCs), dioxins and furans, and pesticides have been detected above screening levels. As shown in the DEIR Appendix A Soil Work Plan, Appendix C (sub-appendices) of Appendix A and Appendix B (sub-appendices), which contains the historic soil data that was used in the preparation of the Soil Work Plan, the following exceedances are provided:
	• PAHs: Benzo (a) anthracene, Benzo (a) pyrene, Benzo (b) fluoranthene, PAH High Molecular weight, B(a)P Equivalent, Benzo (k) fluoranthene, Dibenzo (a,h) anthracene, Indeno (1,2,3- cd) pyrene
	• PCBs: Aroclor 1254, Aroclor 1260
	• Pesticides: 4,4-DDE, 4,4-DDT, Dieldrin
	 Dioxin/Furans: 1,2,3,7,8- PeCDD, TEQ Avian, TEQ Human, TEQ Mammals
	• SVOCs: Di-n-butyl phthalate
T6-237	This comment states that the groundwater and soil remediation projects have similar impacts within similar areas; therefore, they should be considered together. While it is often a valid approach to consider two projects within the same project area within one project description and analysis in an EIR, it is not the case for the Topock Soil Investigation and Groundwater Remediation Projects. A discussion regarding the independent nature of the Groundwater Remediation Project and the Soil Investigation Project is presented in Section 2.2.3, "Groundwater Remediation" of the DEIR. As described in that section, the soil

	investigation activities will not change the scope of the Groundwater Remediation Project. The proposed Soil Investigation Project is not an expansion of the Groundwater Remediation Project and will not change the nature or scope of the Groundwater Remediation Project. Nor are the two projects dependent on each other. The Groundwater Remediation Project is a separate project from the proposed Soil Investigation Project, in part, because one activity (e.g., groundwater remediation) does not cause the need for the other (e.g., soil remediation). The two projects have different purposes, soil investigation versus groundwater remediation. The two projects also have independent utility in that one does not cause the need for the other. That is the fundamental test regarding segmentation under CEQA. Therefore, the projects are properly considered separately for purposes of CEQA. Please also see Master Response Groundwater regarding the relationship of the two activities and the status of the Groundwater Remediation Project. Cumulative impacts associated with implementation of both the proposed Project and the Groundwater Remediation Project are disclosed in the EIR in Chapter 6, "Cumulative Projects." Specifically, refer to page 6-11 of the Soil Investigation Project (labeled as project 1C), and the supporting analysis that follows.
T6-238	The commenter seeks clarification regarding maps showing the extent of the Project area that was analyzed in the Soil Investigation Project DEIR, within which potential environmental impacts could occur. Please see response to comment T6-232 regarding maps showing the Project Site.
T6-239	The commenter questions Site AOC-BCW7 as it is near an identified IM-3 Restoration Area in the Draft IM-3 Decommissioning Report, and questions what the overlap and relationship are between IM-3 decommissioning and soil sampling. Appendix A Sub Appendix C2 (AOC 1) of the Soil Work Plan (see Appendix A to the DEIR) states that AOC1-BCW7 is proposed to resolve data gaps #5 (nature and extent of contamination within the impoundment areas near the railroad bridge culvert and IM-3 road crossing) and #6 (soil physical properties to support the CMS/FS). It is not related to the decommissioning of IM-3. Decommissioning of IM-3 is tied to the successful implementation of the Groundwater Remediation Project. If this data is useful and relevant for the purposes of IM-3 decommissioning, however, it can be used to reduce the number of samples for that future effort if deemed appropriate.
T6-240	The commenter questions the estimates of soil sample material to be removed from the Project area for laboratory testing (5 to 20 cubic yards, as described on page 3-29 of the DEIR), and provides an estimate of 2 cubic yards based on their understanding. The commenter also questions whether XRF can be used to reduce soil removal and whether there are plans to reuse the clean investigation-derived waste (IDW). The commenter is correct in suggesting that the IDW estimates in the DEIR include drill cuttings and would therefore be more than the volume

	calculated by the Technical Review Committee, which includes only the soil for laboratory analysis. IDW also includes decontamination water, incidental trash, disposable tools, and personal protective materials such as gloves (see page 3-29 of the DEIR). The use of XRF is limited to constituents such as metals, and other constituents, including organic analytes, cannot be analyzed using an XRF. Therefore, the use of an XRF to decide the immediate reuse of displaced soil may not be applicable. The Displaced Soil Protocol, which describes the handling and potential reuse of displaced soil generated from site investigations can be found in Appendix J of the Soil Work Plan (see Appendix A to the DEIR).
T6-241	The commenter states that the soil flushing operations as described in the DEIR are minimally described in the Soil Work Plan. The commenter is correct in that the in situ soil flushing pilot studies are not part of the Soil Work Plan. Please see Master Response Additional Testing and Sampling Activities for additional information on the inclusion of these activities in the Project Description.
T6-242	The commenter expresses that the Tribes oppose locating an infiltration basin within Bat Cave Wash. The Tribal preference against such a construction in Bat Cave Wash is noted. Please see response to comment T6-234.
T6-243	The commenter requests a revision to Section 3.5.2.7 Staging Areas regarding boundary marking in the DEIR. The DEIR text on page 3-23 is modified in this FEIR as follows:
	For example, during the operation of IM-3 injection wells, the Native American Tribes expressed a preference for unobtrusive, low-visibility boundary markers, so straw wattles were used as the primary means of boundary marking, with wattles were used as a means of boundary marking as they were generally low- visibility and less obtrusive. Θ Other delineation devices have been used only in strategic locations. The proposed Project would follow this same general means of marking work boundaries.
T6-244	The commenter requests clarification on whether the exclusion zones would be moved in the event that wind changes direction upwind of the exclusion zone, and whether or not this change would increase the footprint of the proposed Project. The exclusion zones would not be adjusted if the wind changes direction. However, as noted in Figure 3-9, ³ a support zone would be established upwind of the exclusion zone and would be adjusted as needed. This is not expected to happen frequently, since the exclusion zone would be fairly small (i.e., around a boring location or trench) and temporary. The exclusion zones would only be needed for a short duration, from a few hours up to a few days. The

³ This figure has been added to Chapter 3, "Project Description," as Figure 3-9. Subsequently, the original Figure 3-9 is changed to 3-10.

footprint of the proposed Project, which constitutes 128.5 acres as identified in Figure 3-2, includes all exclusion zone boundaries and associated support zones. No additional work would occur outside of the Project boundaries.

T6-245 The commenter requests that details be provided on how "least intrusive" survey methods will be quantified, who will make this decision, how it will be implemented, and if consultation with Tribes will occur. The phrase "least intrusive," in this instance, refers to issues related to the health and safety protocols that PG&E, in coordination with DTSC, will undertake for sampling activities. Based on the presence of existing underground utilities, PG&E experts in the field may have to modify the preferred sampling technique to be less intrusive to account for underground utilities in a given location that may pose a health and safety concern. The Tribes would not be consulted on such adjustments. The DEIR text in Section 3.5.2.9 of the DEIR on page 3-24 is revised in this FEIR to provide this clarification:

Soil samples would be taken using one or more of the following options: (1) small hand tools (trowel, shovel, slide-hammer, and hand auger); (2) a sonic or hollow-stem auger drilling rig; (3) a hydrovac truck in conjunction with hand tools; or (4) a backhoe or excavator. Because of potential health and safety concerns posed by underground utilities, Eefforts will be made to use the least intrusive method feasible depending on the conditions encountered on location. Hand tools would be used in areas of limited access, areas with topographic constraints, or areas with other constraints.

T6-246 The commenter states that use of the IM-3 facility for treatment of soil derived wastewater as described in the DEIR should not in any way delay scheduled removal of the facility, and questions the dates for IM-3 removal and the use of the facility to process wastewater related to soil investigation. Currently, the soil investigation activities are planned to occur prior to the decommissioning of IM-3. The field implementation for the proposed Project, which includes the use of IM-3, would occur for approximately 9 months beginning in Spring 2015. According to PG&E, once the groundwater remedy design is approved, contracting and construction will occur over 2.5 years before remedy startup. The IM-3 facility would be shut down with the startup of the groundwater remedy, even though full decommissioning would not occur until the remedy is determined to be operating properly and successfully. Regardless of the schedule, DTSC concurs that the decommissioning of IM-3 should not be delayed if IM-3 is used to treat investigation-derived wastewater from the Project.

T6-247 The commenter requests clarification on what parameters will be evaluated under the bench scale test for In Situ Soil Flushing. At this time, it is not known whether bench scale tests would be conducted; therefore precise detail regarding parameters is not known. However, the following is a preliminary list of parameters that may be evaluated under bench-scale and/or pilot studies:

- In situ (undisturbed) porosity and hydraulic conductivity
- Permeability
- Particle-size distribution
- Total Organic Carbon
- Cationic Exchange Capacity (measurement of soil-clay content)
- pH/buffering capacity
- Pre- and post-treatment concentrations of:
 - o Chromium
 - Hexavalent Chromium
 - o Viscosity
 - o Density
 - o pH
 - o salinity
 - o hardness
 - o temperature water solubility
 - o octanol/water partition coefficient
- Critical Micelle Concentration (measurement of solubility of surfactant by reducing the water interfacial tension)
- Toxicity characteristic leaching procedure metals
- Synthetic precipitation leaching procedure metals

Prior to implementation of any bench scale tests or pilot studies, PG&E would prepare a work plan(s) that describes the specific location, extent, configuration, parameters to be evaluated, and rationale for such activities. The work plan(s) would be provided to stakeholders for review and comment. See Master Response Additional Testing and Sampling Activities for more information.

T6-248 The commenter requests clarification on whether the flushed contaminant fluid may redistribute within the unsaturated zone, rather than assuming 100 percent of the fluid is recoverable at extraction wells. The soil flushing pilot test does not assume that 100 percent of the contaminants would necessarily migrate to groundwater and be captured and treated by the groundwater treatment system. The purpose of the flushing test would be to evaluate the effectiveness of the treatment method. The flushing test would be conducted in an area known to have soil contamination. The action of the flushing test is anticipated to flush some portion of the contaminants from the soil downward to groundwater, where groundwater flow would then transport the contaminants to the IM-3 groundwater treatment system. The soil at the site is largely sandy and gravelly, so the primary flow direction in the unsaturated zone is expected to be downward. The flushing of T6-249

contaminants in the soil column would reduce the concentrations in the soil, resulting in a beneficial impact. As noted by the commenter, there is the possibility that heterogeneities in soil may result in some lateral spreading of contaminants within the soil unsaturated zone. The extent of lateral spreading, if any, is expected to be minimal because of the relatively high soil permeability. To further address this issue, the following text is added to the FEIR on page 3-31 of the Project Description as follows:

The width of the infiltration gallery (i.e., the width perpendicular to the groundwater flow direction) will be limited to the center one-half of the known width of the contaminated area. Thus, if any lateral spreading were to occur, the extent of the spreading would be anticipated to be within the existing contaminated unsaturated zone.

The commenter requests clarification on the number of injection and recovery wells that would be part of the pilot studies, and whether these wells would be added to the total number of wells that are drilled. The commenter also questions what the approximate total depths and screened intervals are for each well. DTSC would like to clarify that, as described in the DEIR on page 3-32, up to 10 injection and recovery wells would be required to conduct the In Situ Soil Flushing Pilot Study and up to 10 borings for the In Situ Stabilization/Chemical Fixation Study, if warranted. Additionally, up to eight geotechnical borings may be required. The potential effects from pilot studies and geotechnical investigations, to the extent they are reasonably foreseeable, are considered in the EIR on a programmatic level. The up to 28 borings would be in addition to the 292 investigation borings plus the 73 contingency borings required for soil sampling, should they be used. Depths and screened intervals of wells installed to support the In Situ Soil Flushing Pilot Study will depend upon the depth of contamination and the depth to groundwater at the location of the pilot study. As stated in the DEIR on page 3-32, injection wells will be screened within impacted soil zones that will be defined during the soil investigation. Extraction wells will be screened across the top of the shallow aquifer, with 10- to 20-foot screen intervals. The depths of the wells will depend upon the depth to water at the pilot study locations. For example, if a pilot study is performed in the area of the Bat Cave Wash adjacent to the Station, the depth to groundwater is approximately 70 to 80 feet bgs. Extraction wells would be installed to approximately 90 to 100 feet bgs, and screened from 70 to 80 feet bgs.

Prior to implementation of any pilot studies, PG&E would prepare a work plan(s) that describes the specific location, extent, configuration, parameters to be evaluated, and rationale for such activities, subject to DTSC review and approval. The work plan(s) would also be provided to stakeholders for review and comment. See Master Response Additional Testing and Sampling Activities for more information.

T6-250	The commenter requests that a specific inventory be provided for borings/drillings associated with the In Situ Soil Flushing pilot study. As explained in the DEIR on page 3-33, if it is determined necessary, up to 10 soil borings would be drilled for the In Situ Soil Flushing pilot study component of the Project. The exact locations of these borings is not known at this time; however, as described in the Master Response Additional Testing and Sampling Activities, the impact analysis and mitigation measures have been prepared to include, to the extent feasible, the potentially significant adverse environmental impacts that may result from such future actions should they be found necessary, thus rendering the DEIR as useful of a document as possible for DTSC's ability to efficiently obtain an adequate characterization of the scope and extent of soil contamination within the Project Site.
T6-251	The commenter requests that a specific inventory is provided for borings/drillings associated with the geotechnical evaluations. As described in the DEIR on page 3-34, there may be eight geotechnical evaluations performed that would be drilled using a hollow-stem auger drill. For more information about the additional activities that may occur, please refer to the Master Response Additional Testing and Sampling Activities.
T6-252	The commenter states that the inclusion of plant sampling to evaluate potential risk is inconsistent with the Groundwater Risk Assessment and updated soil site conceptual models, and the commenter further questions what level of consistency is to be maintained between the Groundwater Risk Assessment and the DEIR. Please see response to comment T6-235.
T6-253	The commenter asks how site restoration would be quantified and evaluated and who would do the monitoring and verification of outcomes. The site restoration activities described on page 3-36 of DEIR will be evaluated by the DTSC as the lead agency. However, as described in that section, no complete vegetation removal is anticipated; therefore no revegetation would be required. DTSC will monitor work progress to ensure no vegetation removal is conducted. Restoration in the context provided on page 3-36 is geared toward removal of all equipment, raking/brushing of soil to remove tire tracks, and general cleaning of individual work areas. These restoration activities will ensure that there are no environmental impacts. The term "substantially similar" is used to indicate that the site conditions may not be identical before and after the described activities. DTSC will monitor natural vegetation regrowth following work activities.
T6-254	The commenter requests that when and if pilot studies in the bottom of Bat Cave Wash are planned, the Tribes should be involved in scheduling, monitoring, construction specifications and all phases of such studies. The Tribes will be involved in the scheduling, monitoring, construction specifications, and all phases of any future pilot studies in Bat Cave Wash. As described in Master Response Additional Testing and Sampling Activities, prior to implementation of any pilot studies, DTSC

	will prepare a work plan that describes the specific location, extent, and configuration of such activities, including any necessary resource management plans as requested in the comment. The work plan will be provided to stakeholders, including the Tribes, for review and comment.
T6-255	The commenter questions why several specific boreholes are considered separate from the Groundwater Remediation Project EIR borehole count, and suggests that the projects be considered together. The boreholes referenced by the commenter that are presented in Table 3-3 of the DEIR are taken directly from the Soil Investigation Work Plan (see Appendix A), which is a distinctly separate project from the Groundwater EIR, which was approved by DTSC in 2011. Please see response to comment T6-237 regarding the independent nature of the groundwater remediation and soil investigation projects (and also Section 2.2.3, "Groundwater Remediation" of the Soil Investigation Project DEIR), and how the cumulative effects of the combined projects was considered (see page 6-11 of the DEIR).
T6-256	The commenter requests clarification on how the anticipated vehicle use and trips were calculated in Table 3-5. The following are the assumptions used to present the vehicle trip estimates in Table 3-5, and text has been added to clarify these assumptions on page 3-39 of the DEIR:
	Most of the trips to the Project Site are expected to occur either early morning or end of day; deliveries may occur throughout the day. Anticipated vehicle use and trips are outlined in Table 3-5 . Duration of sampling via drilling, hydrovac, or backhoe was assumed to be 2 months. As shown in the table, it was assumed each piece of sampling equipment and associated support truck would be mobilized to the site 2 to 4 times during that period. The drill rig support truck would make 1 to 2 trips per week (for 7 to 14 total trips) of drill rig sampling. It was assumed waste would be picked up two to six times over the course of the investigation. The total duration of the field effort was assumed to be 5 months (100 work days). The total number of staff to be on-site each day is up to 13 to 15 staff. This results in 1,300 to 1,500 worker truck/car daily trips to the site over the life of the Project.
T6-257	The commenter expresses concern that unforeseen off-site emissions might arise from implementation of the proposed Project. Although some level of forecasting is often necessary, CEQA does not require analysis of unforeseen or speculative impacts. While it is possible that some unforeseen emissions may arise from the Project, this is speculative and out of the scope of this environmental analysis.
T6-258	The commenter questions why Davis Dam was not included in the description of the Lower Colorado River. In response to the comment, the DEIR text on pages 4.3-1 and 4.3-2 is revised in this FEIR as follows:
	Starting in the 1930s, federal actions in the region consisted of the construction of several dams, including the Hoover Dam,

	<u>Davis Dam</u> , and Parker Dam. Construction of the Hoover Dam, located 108 miles upstream of Topock, was completed in 1936. <u>Completion of the Davis Dam, located 41 miles upstream of</u> <u>Topock, occurred in 1951.</u> Completion of the Parker Dam, located 42 miles downstream of Topock, occurred in 1938. The changes that resulted from dam construction to the natural river flows substantially altered available fish habitats and reduced the river's ability to meander and create or destroy backwaters and marshes. Alleviating the threat of floods also allowed for conversion of riparian areas to agricultural uses.
T6-259	The commenter states that there needs to be development of erosion control plan specifics for pilot-scale testing in Bat Cave Wash. As described in Master Response Additional Testing and Sampling Activities, prior to implementation of any pilot studies, DTSC will prepare a work plan that describes the specific location, extent, and configuration of such activities, including any necessary resource management plans as requested in the comment. The work plan will be provided to stakeholders, including Tribes, for review and comment. The need for an erosion control plan for pilot-scale testing will be determined in the future by DTSC and provided to stakeholders for review and input. Moreover, as discussed in Section 4.6.3.1 of the DEIR, the Soil Work Plan describes and references SOPs and BMPs that have been developed during the previous investigations. Among other things, the SOPs and BMPs will reduce potential impacts to hydrology and water quality during the Project activities (see DEIR Section 4.6, "Hydrology and Water Quality"). In addition, PG&E will meet the substantive provisions of the state Construction General Permit (CGP) in accordance with the CERCLA exemption (see DEIR Section 2.3), and prepare and implement an erosion control plan as part of the Project (see DEIR pages 4.6-12 through 4.6-13).
T6-260	The commenter questions why the Habitat Typing Survey Technical Memorandum is not listed or discussed in the DEIR. As discussed in the DEIR Section 4.3.1.5 on page 4.3-18 (and referenced in the bibliography), the results of the Habitat Typing Survey Technical Memorandum are incorporated into the discussion of aquatic wildlife potentially occurring within the Colorado River.
T6-261	The commenter asks whether all features indicated within the map key on Figure 4.3-2 are considered jurisdictional under Section 404 of the Clean Water Act (CWA) and states that the DEIR should be specific. All resources included on Figure 4.3-2 are considered jurisdictional under Section 404 of the CWA. The map key on Figure 4.3-2 in the FEIR has been updated for clarification.
T6-262	The commenter states that special-status bird species that have been documented in riparian areas around the Project Site (specifically southwestern willow flycatcher) be listed as "likely to occur" instead of "could occur." As stated on pages 4.3-34 and 4.3-35 of the DEIR, protocol USFWS presence/absence surveys for southwestern willow

flycatcher were conducted around the Project site from 2005 to 2012. Transient (not nesting) individuals were observed near the Project Site on multiple occasions; therefore, the potential for occurrence status does necessitate a change to "likely to occur." In response to the comment, the DEIR text in Table 4.3-3 on page 4.3-30 is revised in the FEIR as follows:

> **Could Likely to occur**; the Project Site provides suitable nesting and foraging habitat within the large stands of salt cedar along the banks of the Colorado River. This species has been documented in riparian areas around the Project Site, primarily at Topock Marsh, and has been detected near Park Moabi Lagoon (GANDA 2009a: Figure 5, page 7, 2010, and 2012); <u>however, no nests or nesting behaviors have been observed. All observed</u> <u>individuals have been transient.</u>

This text change does not change the analysis or conclusions in the DEIR regarding special status bird species (see the DEIR pages 4.3-59 and 4.3-60).

T6-263 The commenter states that the DEIR suggests that only the foothill portions of the site may be used by Nelson's bighorn sheep, which is inconsistent with the Groundwater Risk Assessment. Page 4.3-40 of the DEIR notes that, Nelson's bighorn sheep "may use the foothill portions of the Project Site for foraging and movement, but no lambing habitat occurs within the Project Site." However, the DEIR does not suggest that the foothill portions of the site are the only areas used by the species. For clarification, the text in the FEIR is revised as follows:

Nelson's Bighorn Sheep

Habitat requirements for Nelson's bighorn sheep include mountainous terrain with areas of gentle terrain such as valley floors and alluvial fans that provide important linkages between adjacent mountainous regions. These gentle terrain areas also provide temporary access to resources such as forage and water, particularly in the drier summer months (PG&E 2015a). Steep, rugged terrain, also called escape terrain, is a crucial component of bighorn sheep habitat because bighorn sheep use running speed coupled with their climbing abilities to evade predators (PG&E 2015a). BLM research indicates that flight and cardiac response is activated within 50 to 100 meters (160 to 330 feet) of disturbance (BLM 2001). Males and females will also often occupy different habitats outside the breeding season. Females tend to choose steep, safe areas for bearing and initial rearing of lambs, while males occupy much flatter areas during the lambrearing season (BLM 2013). Nelson's bighorn sheep forages on a broad variety of plants species (at least 34 and up to 121 different species) including forbs, shrubs, new shoots from

shrubs and trees, grasses, shrubs, and barrel cactus (PG&E 2015a).

Nelson's bighorn sheep have a potential are known to occur in the Project Site. A family of six Nelson's bighorn sheep were observed next to Maze Locus A during a FMIT annual prayer ceremony in June 2013. Also, a FMIT Tribal Monitor reported observances of sheep in monitoring logs during the Time Critical Removal Action at AOC 4. Bighorn sheep prefer visually open habitat that is steep and rocky in mountainous terrain above the desert floor. They use their eyesight as the primary sense for detecting predators at sufficient distances to ensure adequate time to reach safe terrain. Males and females will also often occupy different habitats outside the breeding season. Females tend to choose steep, safe areas for bearing and initial rearing of lambs, while males occupy much flatter areas during the lambrearing season (BLM 2013). Nelson's bighorn sheep and signs thereof (tracks, scat, etc.) were not observed within or near the Project Site during the various biological surveys; however, a According to the CNDDB (2013), Nelson's bighorn sheep have been documented in the mountains south of the Project Site (Figures 4.3-3, 4.3-4 and 4.3-4c). The species may use the foothill portions of the Project Site for foraging and movement, but no lambing habitat occurs within the Project Site.

These observations, and the additional discussion of Nelson's bighorn sheep in the FEIR, are consistent with the discussion in the Groundwater Risk Assessment.

T6-264 The commenter notes the lack of discussion of the designated Area of Critical Environmental Concern (ACEC) in Section 4.3.2 of the DEIR. The commenter also asks about the management plan developed under the ACEC program. Reference to the Beale Slough Riparian and Cultural ACEC can be found on page 4.3-64 of the DEIR (in Biological Resources Impact BR-8, Regional and Local Plans). However, DTSC acknowledges the importance of this land management plan and the protection of the resources within in the ACEC, and in response to the comment the following text has been added to the DEIR Section 4.3.2.1, page 4.3-44, in this FEIR as follows:

> The Project Site is located within the Beale Slough Riparian and Cultural Area of Critical Environmental Concern (ACEC). This ACEC was designated through the BLM Lake Havasu Field Office Record of Decision and Approved Resource Management Plan (BLM 2007). ACEC designations highlight areas where special management attention is needed to protect, and prevent irreparable damage to important historical, cultural, and scenic

	values, fish, or wildlife resources or other natural systems or processes; or to protect human life and safety from natural hazards (Section 202I(3) of the Federal Land Policy and Management Act of 1976). The Beale Slough ACEC has been designated to protect both cultural and natural resources. This large ACEC contains regional rare riparian resources and wildlife habitat at Beale Slough to the north of the Project Site and a cultural element on the Project site (BLM 2007: 106, Map 28).
	The BLM's 2007 Lake Havasu Resource Management Plan states that "ACEC management plans will be developed in the future with associated monitoring plans." According to the BLM Lake Havasu Field Office (Liebhauser 2014) at this time the BLM does not have the resources to pursue the development of a management plan for any of its ACECs. The BLM will continue to pursue funding opportunities to develop management plans for all of its ACECs in the future.
T6-265	The commenter requests inclusion of the avoidance and minimization measure attached to the March 6, 2013, letter as an Appendix to the DEIR. The referenced document is the "Confirmation of Application of the CERCLA 121(e)(1) Permit Exemption to Pacific Gas and Electric Company's Soil and Groundwater Investigation and Remediation Project" from the California Department of Fish and Wildlife (CDFW 2013). All of the measures presented in that letter that are applicable to the Soil Work Plan have been included in the DEIR, verbatim. The commenter is directed to the Project website, where the subject letter can be found in its entirety, at http://dtsc-topock.com/documents/other-and-environment-impact-review/sitewide/approval-letters-and-communications.
T6-266	The commenter requests a map illustrating the soil investigation activities relative to the high water mark to ensure compliance with regulatory requirements and avoidance measures, specifically, Mitigation Measure BR-7 on page 4.3-53 of the DEIR. In response to the comment, Figure 4.3-2 has been revised by adding the soil investigation activities to Figure 4.3-2 and adding Figures 4.3-2a through 4.3-2d to the FEIR to include detailed exhibits at a smaller scale that illustrate the soil investigation activities relative to jurisdictional resources. The respective DEIR figure references and clarifying text in Section 4.3.1.3 on page 4.3- 14 has been modified in the FEIR as follows:
	Several jurisdictional wetlands and other waters under the jurisdiction of the U.S. Army Corps of Engineers (USACE), CDFW, and the Regional Water Quality Control Board (RWQCB) were identified along the Colorado River (Figures 4.3-2 <u>through 4.3-2d</u>) and throughout the Project Site. Jurisdictional wetlands identified during the delineation include palustrine scrub-shrub wetlands associated with ephemeral

washes (PSSA); palustrine emergent, permanently flooded wetlands (PEMH); and palustrine emergent, seasonally flooded wetlands (PEMC). Other waters identified during the delineation include non-wetland riverine features such as the Colorado River itself and the ephemeral desert drainages that traverse the Project Site (riverine intermittent bed cobble-gravel, temporarily flooded) (CH2M Hill 2013).

It is assumed that the resources mapped within the Project Site in Figures 4.3-2 through 4.3-2d are considered jurisdictional under Section 404 of the Clean Water Act (CWA) and therefore also qualify for jurisdiction under Section 401 of the CWA administered by the RWQCB, and Section 1600 of the California Fish and Game Code administered by CDFW (CH2M Hill 2013). <u>An additional 0.4 acre of riparian vegetation was mapped along the fringes of these resources, which only fall under the jurisdiction of CDFW....</u>

As previously discussed, wetland vegetation within the Project Site consists primarily of common reed. Several of these wetland patches are located at the confluence of Bat Cave Wash and below the I-40 overcrossing. A number of intermittent drainages mapped on-site were found to connect to the Colorado River (Figures 4.3-2 through 4.3-2d). Near their confluence with the Colorado River, these drainages include tamarisk, catclaw acacia, honey mesquite, and screwbean mesquite.

The DEIR text on page 4.3-41 is revised in the FEIR as follows:

A wetland delineation was completed in 2013 by CH2M Hill. The Colorado River is considered waters of the United States and subject to regulation under CWA Section 404. Other waters of the United States may also include ephemeral drainages if they are connected to waters of the United States (Colorado River), as shown in Figures 4.3-2 through 4.3-2d.

While the high water mark is delineated on the figures, the 150 feet above high water mark is not shown on the figures as this will be delineated in the field prior to each investigation activity.

T6-267

The commenter requests a more quantitative definition of "extent feasible," and questions who defines this term, and who ensures compliance. The commenter also suggests that any evaluation should include ethnobotanical uses by the Tribes. In response to the comment, the following edits are made to the DEIR page 4.3-56 in this FEIR as follows:

Mitigation Measure BR-1: No-net-loss of Wetland, Riparian or other Sensitive Habitat Function or Value. The Project shall be implemented to avoid effects to the habitat values and functions of identified jurisdictional areas (i.e., floodplain and riparian areas, wetlands, and waters of the United States and habitats designated by CDFW as sensitive, including ephemeral washes and western honey mesquite bosque). Before undertaking ground-disturbing activities within East Ravine and Bat Cave Wash, a qualified biologist shall coordinate with PG&E to ensure that the footprints of investigation activities, including drill pads, staging areas, and access routes, are designed to avoid disturbance to sensitive habitats to the extent feasible. Where complete avoidance to sensitive habitat is not feasible DTSC shall be notified and Project activities shall be implemented to ensure no-net-loss of habitat value or function under the direction of a qualified biologist. The following avoidance measures shall be implemented when working in Bat Cave Wash and East Ravine:

- a. No plants or vegetation shall be completely removed only pruning, trimming, clearing, or similar approaches which allow the natural regrowth of the plant will be allowed;
- b. Vegetation pruning, trimming, or clearing shall only occur to access investigation sites and clear around the sample areas where absolutely necessary;
- c. The only vegetation to be cut off at the base (cleared rather than pruned or trimmed) will be salt cedar at the mouth of Bat Cave Wash. The roots of the salt cedar at the mouth of Bat Cave Wash will be left in place where possible to allow for natural, rapid regrowth of vegetation;
- d. No more than 20 percent of the crown on all native trees, such as palo verde, shall be trimmed, and no main branches shall be trimmed. This is consistent with what is recommended by the International Society of Arboriculture (ISA 2011);
- e. Complete removal of vegetation in any work area shall be prohibited; and
- f. Project equipment and materials from work areas shall be completely removed and, if the area is not paved, it shall be raked/brushed to remove tire tracks.

<u>"No net loss" shall be achieved through any combination of the</u> following, in descending order of desirability: (1) avoidance; (2) where avoidance is not possible, minimization of impacts on the resource (a – f above); or (3) 1:1 like kind habitat compensation, including use of a mitigation banking program that provides the opportunity to mitigate impacts to rare, threatened, and endangered species and /or the habitat which supports these species in wetland and riparian areas. A biological monitor shall be present for all vegetation trimming, pruning, and clearing to ensure the above measures are implemented and that vegetation is protected to the extent feasible.

Regarding ethnobotanical uses by the Tribes, a discussion of indigenous plants of biological and cultural significance (identified in the Ethnobotany Survey Report included as Appendix D-3 of the DEIR) can be found in Section 4.3 "Biological Resources" of the DEIR under "Disturbance of Special-Status Plant Species" (page 4.3-57) and proposed mitigation measures for these plants can be found in Section 4.4, "Cultural Resources" (Section 4.4.3.3), specifically, Mitigation Measure CR-1e-4.

T6-268 The commenter requests a more quantitative definition of "where possible," who defines this, and who ensures compliance. Also, ethnobotanical uses and gathering practices of the Tribes should be taken into consideration. In response to the comment, the following edits to the DEIR on page 4.3-59 have been made to Mitigation Measure BR-4: Disturbance of Special-Status Birds in the FEIR:

> **Mitigation Measure BR-4: Disturbance of Special-Status Birds.** The following measures shall be implemented to avoid impacts to active nests and nesting birds and to ensure compliance with the Migratory Bird Treaty Act and California Fish and Game Code:

- a) Where possible, v Vegetation trimming, pruning, or clearing and other activities shall be timed to avoid the nesting season for special-status bird species that may be present (March 15 through September 30) except as provided for in item b, below.
- b) If vegetation removal or other Project activities are necessary in vegetated areas between March 15 and September 30, <u>DTSC shall be notified and</u> focused surveys for active nests of special-status birds (including Arizona Bell's vireo, California black rail, Yuma clapper rails and other species identified in Table 4.3-3) shall be conducted no more than 72 hours before such activities begin. A qualified biologist shall conduct preinvestigation surveys to identify active nests that could be affected. The appropriate area to be surveyed and the timing of the survey may vary depending on the activity

T6-269

and species that could be affected and shall be determined by the qualified Projectbiologist. For the Yuma clapper rail, the pre-investigation surveys shall specifically identify habitat within 300 feet of investigation areas, in accordance with measures set forth in the Bird Avoidance and Minimization Plan (BIAMP) which was finalized on April 30, 2014 (CH2M HILL 2014).

Regarding ethnobotanical uses and gathering practices of the Tribes, a discussion of indigenous plants of biological and cultural significance (identified in the Ethnobotany Survey Report included as Appendix D-3 of the DEIR) can be found in Section 4.3 "Biological Resources" of the DEIR under "Disturbance of Special-Status Plant Species" (page 4.3-57) and proposed mitigation measures for these plants can be found in Section 4.4, "Cultural Resources" (Section 4.4.3.3), specifically, Mitigation Measure CR-1e-4.

The commenter requests that a reference to BLM's ACEC management plan and a description of its biological resource elements are included in the DEIR. The Beale Slough Riparian and Cultural ACEC is described in Section 4.3.3.3 of the DEIR under the heading "Regional and Local Plans" (page 4.3-65). The BLM's 2007 *Lake Havasu Resource Management Plan* states that "ACEC management plans will be developed in the future with associated monitoring plans." According to the BLM Lake Havasu Field Office, at this time the BLM does not have the resources to pursue the development of a management plan for any of its ACECs. There is, therefore, no adopted ACEC management plan. The BLM will continue to pursue funding opportunities to develop management plans for all of its ACECs in the future. The DEIR text on pages 4.3-64 and 4.3-65 has been edited in the FEIR as follows in response to the commenter's request to expand the discussion of land use consistency:

> BLM's *Lake Havasu Land Management Plan* outlines guidance for managing habitat, fish, wildlife, and special-status species. The plan also requires BLM to protect water quality or other potentially harmful conditions for resident wildlife, fish, and human populations. The Project Site is located within an Area of Critical Environmental Concern (ACEC), designated the Beale Slough Riparian and Cultural ACEC. This area is designated to protect both cultural and natural resources. This large ACEC contains regional rare riparian resources and wildlife habitat at Beale Slough to the north of the Project Site (BLM 2007:106, Map 28), but the Project Site contains the cultural element of the ACEC. <u>Per BLM's *Lake Havasu Resource Management Plan*, the Beale Slough ACEC would be managed to protect and prevent irreparable damage to the relevant characteristics or important values:</u>

<u>Relevance</u>

- <u>Regional rare riparian resources and wildlife habitat.</u>
- <u>Significant cultural resources, cultural sites within part</u> of a regional cultural complex.
- <u>Place of traditional Native American importance.</u>

Importance

- <u>The area has regional importance as it was set in reserve</u> to stop the gradual decline of aquatic and associated riparian and terrestrial habitat along the Colorado River.
- The area's fragile and irreplaceable prehistoric sites are eligible for inclusion on the NRHP.
- Ensure that the public will continue to have an opportunity to interact with the natural environment and cultural values of the area.
- <u>This area was part of mitigation for the channelization</u> by Reclamation in 1951 and identified by the LCRMSCP for its fish and wildlife values.

No conflicts with BLM's management plan or the ACEC management prescriptions described in the BLM's 2007 *Lake Havasu Resource Management Plan* are anticipated with implementation of the proposed Project. The proposed Project activities are is not considered a prohibited in the ACEC per the *Lake Havasu Resource Management Plan* and the Project activities would not cause irreparable damage to the ACEC's relevant characteristics or important values described above degrade the biological resources element of the ACEC. In addition, Aactions associated with cleanup of the contaminated soil would not conflict with management goals because these actions would reduce the potential for long-term adverse effects on sensitive resources in the ACEC.

- T6-270 The commenter expresses concern that new access roads are planned for sampling efforts and that traffic would be impacted by the proposed Project. No new access roads would be constructed as a result of the proposed Project. Existing access roads may be improved to create access to certain locations (DEIR page 4.4-68). The commenter is referred to Section 5.3.10 "Transportation and Traffic" for a discussion of traffic impacts.
 T6-271 The commenter states that the DEIR analysis did not consider spill of
 - 71 The commenter states that the DEIR analysis did not consider spill of contaminated soil and wastewater that are being transported off-site. The potential for accidental spills is discussed in the DEIR on pages 4.5-12 through 4.5-15. The text discusses the procedures for handling waste that

	would reduce the potential for spills. Within this subsection is Spill Prevention and Control (WM-4), which requires that spills and releases of materials are cleaned up immediately and thoroughly. To further clarify procedures related to spills from contaminated soil and wastewater, the following DEIR text on page 4.5-14 is revised in the FEIR as follows:
	Ensure that spills and releases of materials are cleaned up immediately and thoroughly, including soil or water being transported off-site for disposal.
	Further, as discussed in the DEIR on page 3-29 and 3-30, the potential for spill of contaminated soil and wastewater that are being transported off-site will be limited because most waste water is anticipated to be disposed of on-site at the IM-3 treatment system. In addition, soil waste that meets reuse standards will be reused on-site.
T6-272	The commenter questions the timing of the risk assessment identified for preparing pollution prevention requirements listed in the DEIR on page 4.5-13. The commenter seems to be confusing the Soil Risk Assessment with specific requirements within Section 4.5, "Hazards and Hazardous Materials." The "risk assessment" described in the DEIR on page 4.5-13 is not the Soil Risk Assessment. Rather, the risk assessment described on page 4.5-13 will be prepared as part of the grading and site preparation elements of the Project to determine pollution prevention requirements pursuant to the three Risk Levels as established in the CGP and relevant for the proposed Project. For more information on the Soil Risk Assessment, please see Master Response Additional Testing and Sampling Activities.
Т6-273	The commenter states that a flood-induced washout of a pilot study site in Bat Cave Wash would be a significant impact, and suggests further clarification in the DEIR. In response to the comment, the following DEIR text is added on page 4.5-17 to the FEIR as follows:
	Potential for Flood Damage In the event that a flood were to occur in Bat Cave Wash at the same time that a pilot study was being conducted, the flood waters would be expected to inundate the pilot study area. However, because the majority of infrastructure (infiltration galleries or trenches) for the pilot study (In Situ Soil Flushing or In Situ Soil Stabilization) would predominantly be flush with or buried below ground. Injection wells would have stovepipe well heads set in concrete well pads that would resist damage from floods. In the event that the surface area of an infiltration gallery or trench is scoured by the flood, the area would be reworked with a backhoe. In the event that a flood damages a well head, the damage would be repaired after the flood receded. This is consistent with current protocols practiced in Bat Cave Wash

	<u>Therefore, the potential for flood-induced damage is minimal</u> and therefore less than significant.
T6-274	The commenter requests clarification that while pumping at IM-3 might draw water from the Colorado River, the water is returned to the aquifer through injection wells resulting in a net groundwater discharge from the basin. In response to the comment, the following DEIR text on page 4.6-5 is revised in the FEIR as follows:
	However, the groundwater extraction wells (that are part of Interim Measure 3 [IM-3] extraction system) located along the National Trails Highway (Route 66) from the railroad tracks north to near where Bat Cave Wash enters the Colorado River maintain losing stream conditions to prevent contaminated groundwater from entering the river. <u>The water pumped by the</u> <u>IM-3 treatment system is returned to the aquifer through</u> <u>injection wells.</u>
T6-275	The commenter expresses concern that the Project activities, including field workers, equipment, drill rigs, stockpiled soil, and sampling activities are at risk for flooding at the Project Site. In accordance with SOPs (see pages 3-36 through 3-38), and existing practice, in the event of a sudden rain storm, the field team would cease work in washes or low-lying areas. During times when rain storms are likely or have been predicted for the area, the field team would monitor one or more weather websites with radar on a computer or smartphone to track the potential rain storm. If a rain storm is expected during the time frame work is being conducted in washes and low-lying areas, the field team would try to avoid working in washes and low-lying areas (PG&E 2014a). As discussed in Section 4.6.3.2, Thresholds of Significance, the low probability event the commenter notes would originate from Davis Dam or Hoover Dam, located approximately 55 and 108 miles upstream of the Project Site, respectively. In the event of a catastrophic dam failure, the federal, state, and local agencies with emergency response responsibilities would implement emergency notifications that would provide sufficient time for field personnel to leave the site to areas outside of the potential flood zone.
T6-276	The commenter indicates that a statement in the DEIR is incorrect that IM-3 <i>prevents</i> (emphasis added) groundwater from entering the Colorado River, whereas it diminishes groundwater flow from entering the Colorado River at certain river miles. DTSC notes this and has made the following revision to the DEIR on page 4.6-6 in the FEIR as follows:
	As noted previously and discussed further in this document, the goal of the IM-3 extraction and treatment system prevents is to contain and reverse the flow of groundwater away from entering the Colorado River.
T6-277	The commenter requests clarification on the significance of the molybdenum and selenium concentration ranges presented in the EIR. In

response to the comment, the DEIR text on page 4.6-6 FEIR is revised in the FEIR as follows:

Molybdenum concentrations ranged from 1.0 to 5.6 ug/L. <u>Water</u> <u>quality standards have not been assigned for molybdenum</u> (Table 4.6-1 in the Groundwater Remediation Project FEIR, <u>Vol. II; DTSC 2011</u>). Selenium was detected in four of five samples at concentrations ranging from 1.7 to 3.4 ug/L, <u>all below</u> the 50 ug/L water quality standard cited in the Groundwater Remediation Project FEIR (DTSC 2011).

T6-278 The commenter requests clarification on the background concentrations and maximum contaminant levels (MCLs) for total dissolved solids (TDS) (as specific conductance), arsenic, molybdenum, selenium, and nitrate. The Ephemeral Drainages section cited by the commenter discusses 2010 DTSC surface water data collected in low-lying depressions at the Station area. Sampling occurred after a storm event. Background samples were not taken from areas that fed the low-lying areas as water was not flowing into the depressions at the time of sampling. The January 2010 data was provided for informational purposes and was not being compared to groundwater MCLs. The commenter may be referring to the next page (Section 4.6.1.3, Page 4.6-7, last paragraph) where TDS (as specific conductance), arsenic, molybdenum, selenium, and nitrate groundwater data are being compared to regional background concentrations and MCLs. This portion of the paragraph is simply summarizing elevated constituent concentrations other than chromium. More detailed information can be found in the 2009 RCRA Facility Investigation Volume 2 and Volume 2 Addendum Reports included in the reference section of the DEIR. T6-279 The commenter expresses concern that part of the Regulatory Setting language appears to be the same in the Hazards section as it is in the Hydrology section. The commenter is correct; both sections require consideration of the National Pollutant Discharge Elimination System

T6-280 The commenter expresses that the Tribes' input into well and boring abandonment procedures that have been provided as part of the Groundwater Remediation Project should be used for the proposed Project, particularly in the use of natural materials as opposed to non-native materials (i.e., bentonite). The recently developed "Standard Operating Procedure for Well and Borehole Decommissioning" (PG&E 2014b) was developed primarily to support the Groundwater Remediation Project; however, it was developed with the soil investigation in mind. The SOP would be applied to the proposed Project, and includes the preferential use of natural materials over bentonite, depending on the type of well or boring conditions and subsurface materials. This SOP was issued after the release of the DEIR. DEIR text is revised in the FEIR to incorporate this information as follows:

CGP in the analysis.

Section 3.5.2.12, page 3-30:

Standard well and boring decommissioning procedures required by San Bernardino County and the California Department of Water Resources (DWR) (DWR 1991) would be followed for the decommissioning of all borings. After sampling has been completed, boreholes would be grouted from the total depth to within 6 to 12 inches of the ground surface with a bentonitecement grout installed continuously in one operation to effectively seal the hole. Native soil would be used to fill the top 6 to 12 inches. In addition, guidance from the "Standard Operating Procedure for Well and Borehole Decommissioning" (PG&E 2014) would also be followed for the decommissioning of all wells and boreholes associated with the proposed Project. This document was developed in coordination with DTSC and the Tribes, and identified decommissioning requirements for various scenarios that may be encountered at the Project Site. The maximum area around a boring that may be disturbed for excavation and restoration activities is estimated to be a maximum of approximately 20 feet in diameter, excluding the access route used by the drilling rig that installed the borehole. The borehole abandonment rig would use that same access route.

Section 3.5.7, page 3-37:

Section 2.2.1 of the Soil Work Plan, Best Management Practices, provides a general description of BMPs associated with dust control, noise control, worker safety, access routes, general housekeeping practices, and other potentially undesirable effects associated with the investigation. Appendix J of the Soil Work Plan provides additional details for the management of displaced soil and hazardous waste. The "Standard Operating Procedure for Well and Borehole Decommissioning" (PG&E 2014) provides details regarding well and borehole decommissioning and can be found in SOP B-4 to the "Basis of Design Report/Pre-Final (90%) Design Submittal for the Final Groundwater Remedy" (PG&E 2014) (see Appendix B to the Operation & Maintenance Plan, Volume I).

T6-281 The commenter states that the surface expression of any abandoned boring should not pose a hazard to animals or humans and that care should be taken to ensure that long-term visual disturbance does not occur. As described in Section 3.5.7, "Standard Operating Procedures and Best Management Practices" (page 3-36), the soil investigation activities will adhere to SOPs and BMPs to ensure protection of health, safety, and the environment. Relevant BMPs and SOPs as defined in Section 2.2 of the Soil Work Plan (see Appendix A of the DEIR) will become conditions of Project approval.

T6-282	The commenter expresses concern over the potential of dam failure to impact the Project Site, as well as flooding potential from Bat Cave Wash. The potential for flooding due to the "very small risk" (as characterized by the commenter) of inundation from upstream dam failure is part of the existing environmental conditions and is therefore not a reasonably foreseeable significant impact of the Project requiring the additional detailed analysis requested by the commenter in the EIR. As explained in the EIR, the Project could be impacted by flooding (see page 4.6-2), as the site is today, but that does not warrant, for example, an evaluation of the validity of the referenced County General Plan Hazard Maps regarding inundation zones, or for DTSC to second guess those maps since flood control issues are not within the purview of DTSC's expertise or jurisdiction. The commenter is also referred to responses to comments T6-273 and T6-275 for information regarding potential impacts from flooding on the Project Site.
T6-283	The commenter requests clarification of the proposed Project's impact on recharge of groundwater in some areas (i.e., compaction of soil). In response to the comment, text has been added to the DEIR on page 4.6-22 in the FEIR as follows:
	Although some compaction of dirt roads and staging areas may occur and that compaction may reduce the permeability within the footprint, the extent of the roads and staging areas compared to the adjacent open desert areas is small in comparison. Rain falling on the dirt roads and staging areas would run off into adjacent unaffected areas and infiltrate downward to the aquifer.
T6-284	The commenter states that the analysis in Impact Hydro-2 "Groundwater" contradicts analysis presented in Impact Hydro-3 "Drainage, Runoff, and Erosion." Both analyses are correct: the Project does not include construction of any impervious surfaces (paved surfaces like roads, parking lots, etc.) that would prevent groundwater recharge, while the grading and ground disturbing activities could alter drainage patterns through the simple movement of dirt and vegetation. Each impact statement is addressing a different threshold and as such the discussion is not meant to be exactly the same. Further, grading and ground disturbing activities do not prevent groundwater recharge.
T6-285	The commenter questions whether efforts will be made to reduce the potential for creating areas of focused groundwater recharge and unnecessary spread/transport of contaminants into undesired areas. The commenter further suggests that although the SOPs and BMPs may reduce direct drainage to the Colorado River, they should also reduce the potential for concentrating any stormwater surface flows into non-impacted areas. To provide further clarification, additional BMPs will be included in the list of BMPs presented in Section 4.6.3.3, "Impact Analysis," in the subsection on Water Quality, under Grading and Site Preparation Activities. Text is added on page 4.6-19 of the DEIR in this FEIR as follows:

	 Fiber Rolls/Sediment Wattles (SE-5): A temporary erosion control method that consists of aspen wood excelsior, straw, flax, or other similar materials that are rolled and bound into tight tubular rolls and placed on the face of slopes at regular intervals depending on steepness of slopes to intercept runoff and reduce flow velocity.
	 Straw Bale Barriers (SE-9): A temporary erosion control method that intercepts and slows down sheet flow runoff, causing temporary ponding. The temporary ponding provides quiescent conditions allowing sediment to settle. Straw bale barriers also interrupt the slope length and thereby reduce erosion by reducing the tendency of sheet flows to concentrate into rivulets (which erode rills) and ultimately gullies, into disturbed, sloped soil.
T6-286	The commenter suggests clarification regarding the description of the logarithmic scale presented in the DEIR. DTSC concurs with this description of the decibel scale, and modifications to the DEIR on page 4.7-4 are made in this FEIR as follows:
	A typical ratio is 10, so that the marks on the scale read: 1, 10, 100, 1,000, 10,000, etc. , which doubles the variable plotted on the x-axis . The human ear perceives sound in a nonlinear fashion; hence the decibel scale was developed. Because the decibel scale is based on logarithms, <u>sound pressure (noise)</u> <u>levels</u> from two noise sources do not combine in a <u>simple linear</u> additive fashion , rather they combine logarithmically .
T6-287	The commenter requests clarification regarding the possibility for noise attenuation to diminish, leading to greater noise levels than are expected or anticipated. In response to this comment, the following discussion under Existing Setting in the Noise section has been added on page 4.7-5 of the DEIR in the FEIR as follows:
	Atmospheric effects can also result in noise level fluctuations, either increasing or decreasing noise levels relative to typical propagation and attenuation (Caltrans 2009). For instance, receivers located downwind from a source can be exposed to increased noise levels relative to calm conditions, whereas receivers upwind from the source can have lowered noise levels. In addition to these effects produced by wind, sound levels can increase at large distances from the source (e.g., more than 500 feet) as a result of atmospheric temperature inversions (i.e., increasing temperature with elevation) or can decrease with distance from the source at a higher rate than the typical spreading loss with distance rate as a result of a temperature lapse condition (i.e., decreasing temperature with elevation). Other factors such as air temperature, humidity, and turbulence

	can also have significant effects on sound propagation (Caltrans 2009).
T6-288	The commenter requests clarification regarding vibration and caliche layers in the Existing Setting discussion of the DEIR. DTSC has added the following information on page 4.7-6 of the DEIR to the FEIR as follows:
	Notably, soil and subsurface conditions can have a substantial influence on ground-borne vibration, with stiffness and internal damping (which is affected by soil type, moisture content, temperature, and the frequency of the vibration source) of the soil and the depth to bedrock being some of the most important factors (FTA 2006). According to the FTA, vibration levels do not attenuate as rapidly in stiff clay soil or rock, and vibration levels can thereby be greater and travel further in those materials than in other soil types, such as loose sandy soil (FTA 2006).
T6-289	The commenter requests clarification that intervening mesas on the Project Site do not block all noise from the Station. In response to the comment, the DEIR text on page 4.7-6 is revised in this FEIR as follows:
	Noise associated with the operation of the PG&E Topock Compressor Station (Station) is audible within the vicinity of the Station and the Interim Measure 3 (IM-3) Groundwater Extraction and Treatment Facility (IM-3 Facility); however, because of the existing topography (intervening mesas) noise- sensitive receptors in the Project Site vicinity do not have direct exposure to these noise sources. <u>The intervening mesas do not</u> <u>block all Station noise</u> , but do result in some attenuation.
T6-290	The commenter requests clarification on why the 2013 measurement locations are not even close for different epochs of measurements (specifically, ST ⁴ -2 and ST-3) and suggests the legend presented in Figure 4.7-2 and Table 4.7-1 of the DEIR should indicate the month and year of the data acquisition. The noise measurement locations included in Figure 4.7-2 present noise monitoring results from 2008, 2012, and 2013. The 2008 and 2012 measurements taken at ST-3 (Locus C) and questioned by the commenter were taken approximately 450 feet away from each other. The 2008 and 2012 measurements taken at ST-3 (Park Moabi) and questioned by the commenter were taken approximately 120 feet away from each other. The 2008 and 2012 measurements recorded at ST-2 (Locus C), and at ST-3 (Park Moabi), were taken in the general vicinity of one another. As such, the measurements are a reasonable representation of noise relevant to the Locus C and Park Moabi areas. Each of the long-term and short-term locations identified in Figure 4.7-2 of the DEIR correlates to the sites described in Table 4.7-1 of the DEIR. As noted in Table 4.7-1, sites ST-1, ST-2, and ST-3 were monitored multiple times in December

 $^{^4}$ ST refers to "short term" noise measurement site as depicted in the DEIR on Figure 4.7-2.

	2008, August 2012, December 2012–January 2013. Separately, sites ST-4 through ST-9 were monitored in December 2013.
T6-291	The commenter requests clarification on the chronology for the noise monitoring events. In response to the comment, the DEIR text on page 4.7-6 is revised in this FEIR as follows:
	Ambient noise surveys were conducted in and around the Project Site in December 2008 (for the groundwater EIR), August 2012, December 2012 to January 2013 (for the groundwater remedy design development), and December 2013 for the analysis conducted for the Soil Investigation Project.
T6-292	The commenter disagrees with the existing noise environment in Section 4.7.1.6. In response to the comment, the following sentence in the DEIR on page 4.7-6 is deleted in this FEIR as follows:
	Local roadway traffic, rail operations, aircraft overflights, and wind gusts dominated the noise environment at each of the noise measurement sites. The results of the ambient noise survey are summarized in Table 4.7-1 .
T6-293	The commenter requests clarification regarding the noise monitoring survey completed in December 2013. DTSC's consultant Environmental Science Associates used Metrosonics dB-3080 noise meters, calibrated before and after the monitoring. The locations for short-term (15-minute) monitoring were determined with input from a qualified archaeologist to gather existing noise levels at culturally sensitive areas where known Project activities would occur. The following variables were considered for noise monitoring location selection: areas of high Project activity, proximity to cultural resources, and locations where data previously had not been collected. The long-term (24-hour) measurement was conducted near the Station to describe day and night noise levels from Station operations. Data collected is processed and summarized in Table 4.7-1 in the DEIR.
T6-294	The commenter requests that the data in Table 4.7-1 be sourced appropriately. In response to the comment, a footnote is added to Table 4.7-1 on DEIR page 4.7-8 to this FEIR as follows:
	^b Single 15-minute measurements were collected at these locations in December 2013.
T6-295	The commenter requests that Tribal uses be considered vibration- sensitive. Tribal members were not specifically identified in the DEIR analysis as vibration-sensitive receptors because they would be on-site only temporarily and at unknown locations, in contrast to residences or residential uses which are permanently located. Therefore, specific assessment of vibration impacts to any individual Tribal members visiting the site would be speculative and does not require further evaluation. Please see also response to comment T6-301.

T6-296	The commenter requests clarification on why the DEIR states that Caltrans recommends a more conservative threshold. In response to the comment, the DEIR text on page 4.7-10 is revised in this FEIR as follows:
	Caltrans recommends a more conservative threshold of 0.2 inches/second PPV for normal residential buildings and 0.08 inches/second PPV for old or historically significant structures (Caltrans 2004).
T6-297	The commenter requests that location-specific information be included for the noise levels listed. In response to the comment, the DEIR text on page 4.7-18 is revised in this FEIR as follows:
	Using the Federal Highway Administration (FWHA) Roadway Construction Noise Model (RCNM) and conservatively assuming an attenuation of 6 dBA per doubling of distance and that a drill rig truck, backhoe, and vacuum truck would operate at the same site location concurrently (a conservative assumption since equipment use at a site would be staggered rather than used concurrently), the <u>nearest potential</u> soil investigation sampling activities to Topock Maze Loci could lead to noise levels of 78 dBA Leq at Topock Maze Loci B or C, 72 dBA Leq at Locus A.
T6-298	The commenter requests clarification on the particular residences identified as sensitive receptors in Table 4.7-5. As described in Table 4.7-5, the nearest sensitive residence to the active soil sampling area is a home located approximately 685 feet away across the Colorado River and south of Interstate 40 (I-40). For a discussion of nonresidential Tribal sensitive receptors, please see response to comment T6-301.
T6-299	The commenter suggests revisions to Mitigation Measure NOI-1, which is intended to reduce potential noise impacts. Edits have been made to the mitigation measure to respond to this comment. Though the revisions to the Mitigation Measure have been incorporated, the identified impact and the impact conclusion (Significant and Unavoidable) do not change. The DEIR text in Mitigation Measure NOI-1: Potential Impacts to Noise Levels and Noise Standards on page 4.7-19 is revised in the FEIR as follows:
	 Investigation equipment shall be properly maintained per manufacturer specifications and fitted with the best available noise suppression devices (e.g., mufflers, silencers, wraps). Pneumatic powered socket wrenches shall be <u>low noise</u> (85 dBA or less measured at 75 feet) when operating, shrouded or shielded, and all intake and exhaust ports on power equipment, such as engine-driven air compressors, shall be muffled or shielded <u>using best available technology</u>.

T6-300 The commenter suggests revisions to Mitigation Measure NOI-1, which is intended to reduce potential noise impacts. The suggested edits have been applied to the fourth bulleted item in order to further strengthen the measure to reduce noise levels from Project-related equipment. Though the revisions to the Mitigation Measure have been incorporated, the identified impact and the impact conclusion (Significant and Unavoidable) do not change. The DEIR text in Mitigation Measure NOI-1: Potential Impacts to Noise Levels and Noise Standards on page 4.7-19 is revised in the FEIR as follows:

> A disturbance coordinator shall be designated by PG&E. which will post contact information in a conspicuous location near investigation areas so that it is clearly visible to nearby noise-sensitive receptors as labeled in Figure 4.7-2. In addition, mailing of the same information will be sent to nearby noise-sensitive receptors as labeled in Figure 4.7-2 and Interested Native American Tribes (Chemehuevi Indian Tribe, Cocopah Indian Tribe, Colorado River Indian Tribes, Fort Mojave Indian Tribe, the Fort-Yuma Quechan Indian Tribe, and the Hualapai Indian Tribe). The coordinator will manage complaints resulting from the investigation noise. Reoccurring disturbances will be evaluated by a qualified acoustical consultant retained by PG&E to ensure compliance with applicable standards. The disturbance coordinator will contact nearby noise-sensitive receptors as labeled in Figure 4.7-2 and Interested Tribes, advising them of the investigation schedule. The disturbance coordinator will also consider the timing of soil investigation activities in relation to Tribal ceremonial events that are sensitive to noise, which will be accommodated by PG&E to the maximum extent practicable. The disturbance coordinator will also verify and document that all activities at the Project Site are in compliance with all items presented in Mitigation Measure NOI-1.

T6-301 The commenter expresses concern that Table 4.7-5 does not include nonresidential Tribal use locations. Specific nonresidential Tribal use locations were not included because they would be outside of the work area exclusion zone for all activities (see Section 3.5.2.8), resulting is a less than significant impact. Sampling activities at 50 feet or greater distance would result in vibration levels that would be below the Federal Transit Administration (FTA) threshold of human annoyance and would be a less than significant impact (see page 4.7-21). This conclusion does not negate the significant noise impact, which would still necessitate implementation of Mitigation Measure NOI-1. However, ground-borne vibration impacts are much more localized than noise and drop off substantially with distance.

T6-302

The commenter questions whether there is enough soil data to adequately characterize risk, and states that PG&E has acknowledged that the

current data set is adequate. They emphasize the importance that the requirements needed to reliably characterize the nature and extent of soil and sediment contamination within the Project Site be clearly defined and included in the DEIR. Please see response to comment T6-233 regarding evaluating the nature and extent of contamination. It should also be clarified that although PG&E's risk assessors have previously indicated that they have an adequate number of soil data to calculate a risk for that dataset, the current soil data set has data gaps, including not having defined the nature and extent of soil contamination, and more important, not having any soil data for some of the investigation areas. Therefore, any calculated risk from the current data set may not be completely accurate. These data gaps are planned to be filled by performing the activities proposed in the Soil Work Plan, as described in the DEIR.

T6-303 The commenter questions the level of consistency to be maintained with the risk assessment documents. The commenter also expresses concern that the conclusions reached in the DEIR for agricultural resources contradict the inclusion of a sustenance farm scenario in the risk assessment. The commenter is referred to the Master Response Future Land Use Scenario for details about the association between the risk assessment and the Soil Investigation EIR. DTSC has established specific thresholds for the analysis of this Project's effect on agricultural resources, which are derived from the CEQA Guidelines Appendix G. As stated in DEIR Section 5.3.1, "Agricultural Resources," the proposed Project would not convert farmland identified by the Farmland Mapping and Monitoring Program to non-agricultural use, conflict with a Williamson Act contract, or otherwise result in conversion of farmland to non-agricultural use, which are the established CEQA thresholds for agriculture. As a result, the DEIR finds that there would be no impact to agricultural resources resulting from Project implementation.

T6-304 The commenter expresses concern that the condition of current roads is not described in the DEIR and questions whether the roads can accommodate additional traffic. The condition of current roadways are presented in Table 5-1 on page 5-15, which includes the existing year roadway segment volumes, and Table 5-2 on page 5-15, which includes existing year 2014 LOS volumes. As discussed in Section 5.3.10 on pages 5-14 and 5-15, the existing condition represented by Average Daily Traffic (ADT) volumes on Park Moabi Road are well below San Bernardino County's threshold of 7,000 ADT. As described on page 5-14, the maximum amount of vehicle trips associated with Project implementation is 1,540 trips over the lifetime of the Project. As a result, the DEIR finds that impacts to traffic volumes would be less than significant.

T6-305 The commenter expresses concern that traffic impacts were not analyzed on historical Route 66 past the Interim Measure 3 Groundwater Extraction and Treatment Facility (IM-3 Facility) and Park Moabi Road south to the Station, and that traffic would pass through important areas for cultural resources. As described in Section 5.3.10, the study area for the traffic impact analysis includes Park Moabi Road, I-40, and National Trails Highway (also known as historic Route 66). The two intersections analyzed, Park Moabi Road and the east/west on/off ramps to the I-40, represent the main access points to the Project Site and surrounding roadways. To access historic Route 66 or Park Moabi Road south toward the Station from I-40, the studied intersections would be used. As such, the traffic impact analysis for intersections and roadway segments accounts for Project-related traffic on the Park Moabi Road south to the Station and historical Route 66 past the IM-3 facility. The traffic volumes on roadways surrounding the proposed Project presented in Section 5.3.10, page 5-14, include all trips associated with the proposed Project. In terms of impacts to cultural resources, Project-related vehicles and trucks would stay on established roads, haul routes, and access routes, limiting the impact to cultural resources. The commenter is referred to Section 4.4.3.3 for impacts related to cultural resources.

T6-306 The commenter requests clarification regarding access road improvements, specifically whether routes would be improved, graded, or cleared as a result of Project implementation, or whether no grading or clearing would occur. As discussed on DEIR page 3-16, the proposed sampling locations are accessible by the existing network of roads throughout the Project Site; however, access roads may need to be improved for access to certain locations and to protect subsurface utilities from heavy equipment needed for sampling activities. As discussed on page 3-16, unpaved access roads that cross over utilities may require additional cover material to be placed on the roadbed to protect the utilities. Clean fill material stored in or around the Station would be used for this purpose. In addition, some areas outside the Station fence line may require trimming, pruning, or clearing of vegetation or movement of boulders to access proposed sampling locations. After sampling activities are complete, all Project equipment and materials would be removed from the work area and, if the area is not paved, the area would be raked/brushed to remove tire tracks. The specific access road conditions and need for improvement are described in detail on pages 3-16 through 3-19.

T6-307 The commenter requests that the DEIR provide soil volumes associated with all aspects of the soil sampling plan on page 5-17. The DEIR Section 3.5.2.11 identifies the amount of IDW that would result from implementation of the proposed Project. IDW materials involve drill cuttings, sampling equipment wash water (decon water), personal protective equipment, and incidental trash. Approximately 5 to 20 cubic yards of IDW would be generated from the proposed Project, as identified on page 5-17. To further clarify the soil volumes associated with each component of the Soil Investigation Project, the DEIR text on page 5-17 is revised in this FEIR as follows:

The estimated amount of solid waste that may be generated ranges from less than 5 cubic yards up to 20 cubic yards. <u>The soil</u> <u>sampling would produce between 7 to 10 cubic yards, the bench</u> <u>scale tests would produce between 9 to 15 5-gallon buckets, the In</u>

	Situ Soil Flushing and In Situ Stabilization/Chemical Fixation would each produce 4 cubic yards, the Geotechnical Evaluations would produce 1 to 2 cubic yards, and the Plant and Biota Samples would not produce any IDW. All Project-related activities would produce no more than 20 cubic yards.
T6-308	The commenter requests more detail on the assumptions used to develop displaced soil quantities. The volume of total IDW (5 to 20 cubic yards) was calculated based on the number of samples, sampling method, diameter of borings, and boring depths. The range reflects the variety of sampling methods that may be used in some locations. Note, the volume of total IDW is only for soil cuttings, personal protection equipment and trash would be disposed of separately. See also response to comment T6-307.
T6-309	The commenter requests clarification regarding how the 2,000-gallon and 500-gallon volumes were calculated. The 2,000-gallon volume of wastewater was estimated based on PG&E's experience regarding the amount of wastewater generated during previous soil sampling events at the Station. The 500-gallon volume for the 25 percent contingency reflects 25 percent of the total volume (2,000 gallons) of wastewater generated by the proposed soil sampling activities.
T6-310	The commenter requests clarification regarding the amount of water (between 700,000 and 1,000,000 gallons) required to conduct soil flushing. As discussed in the DEIR in Chapter 3, "Project Description," page 3-32, assuming an application rate of 1 to 1.5 gallons per minute per well, the amount of flush solution for a 120-day test would range between 700,000 to 1,000,000 total gallons of water (approximately 8,000 gallons per day).
T6-311	The commenter requests clarification on whether the elevated arsenic and fluoride levels associated with the Arizona groundwater would trigger any regulatory requirements for the use of this water for soil flushing and in situ soil treatment. As described in Section 3.5.3.1 of the DEIR, initial bench scale treatability tests (conducted off-site in a laboratory environment) for soil flushing and in situ soil fixation/stabilization would evaluate candidate reagents using representative PG&E site soil. While this comment is not directly related to the environmental analysis presented in the DEIR, the following technical information is provided for clarification and full disclosure. Testing would be performed using current water supply from Arizona to verify the effectiveness of the treatment and to assess the quantity and quality of the resulting flushed water. This information would be used to inform the management plan for the resulting flushed water and associated regulatory requirements.
	Soil flushing would involve leaching contaminants out of the soil and into the underlying groundwater. During the on-site pilot test, these contaminants would be pumped out through nearby wells and managed

in accordance with applicable regulations. Aquifer conditions during the on-site soil flushing pilot test would remain aerobic; therefore, it is expected that much of the arsenic in the source water would be attenuated by adsorption to iron oxides and other minerals as it passed through the unsaturated zone, so the concentration reaching groundwater would likely not be above regulatory limits. Regardless, arsenic reaching the groundwater would be extracted via pumping along with other contaminants leached from the soil.

Arsenic management would be part of a fixation/stabilization pilot test regardless of whether or not arsenic was elevated in the source water. In an in situ soil fixation/stabilization, where geochemically reducing conditions were established in the unsaturated zone, there could be considerable amounts of arsenic liberated as a byproduct; therefore, the presence of elevated arsenic in the source water is not anticipated to trigger any additional regulatory requirements for the pilot test.

The fluoride concentration in Arizona groundwater is less than the fluoride concentration in groundwater in the anticipated area of soil flushing/stabilization pilot test (near MW-10). Fluoride has not been identified as a concern for injection of Arizona groundwater into the aquifer during the operation of the groundwater remedy. It is not anticipated to be a concern or trigger any additional regulatory requirements for a soil flushing or in situ soil fixation/stabilization pilot test.

Prior to implementation of any bench scale tests or pilot studies, PG&E would prepare a work plan(s) that describes the specific location, extent, configuration, reagents to be used, parameters to be evaluated, and rationale for such activities. The work plan(s) would be provided to stakeholders for review and comment. See Master Response Additional Testing and Sampling Activities for more information.

T6-312 The commenter questions what additives will be used for the In Situ Stabilization/Chemical Fixation pilot study, and questions the level of assurance provided that these additives will not become a new soil contaminant. The potential reagents for investigation are described in DEIR Section 3.5.3.2 and include: reduction/oxidation solutions; sodium dithionite; calcium/sodium polysulfide; sodium metabisulfite; complexing solutions; diphenyl carbazide; and ECOBOND® solution. Selection will be made of the most effective reagents and their anticipated concentrations. One or more of these reagents may be used in the pilot studies. As described on page 3-33, the reagent selection and percent addition will be determined based on the bench scale tests.

As described in Section 3.5.3.1, initial bench scale treatability tests (conducted off-site) for soil flushing and in situ soil fixation/stabilization will evaluate candidate reagents using representative PG&E site soil. Testing will be performed to verify the effectiveness of the treatment and to assess the quantity and quality of the resulting flushed water and

stabilized soil. This information will be used to inform the management plan for the resulting flushed water and associated regulatory requirements. For the on-site soil flushing pilot test, reagents will be flushed and the underlying groundwater will be pumped until remaining concentrations of both the contaminants and the flushing reagents are removed to levels deemed acceptable by the regulatory agencies. Prior to implementation of any bench scale tests or pilot studies, PG&E would prepare a work plan(s) that describes the specific location, extent, configuration, reagents to be used, parameters to be evaluated, and rationale for such activities. The work plan(s) would be provided to stakeholders for review and comment. See Master Response Additional Testing and Sampling Activities for more information. T6-313 The commenter suggests other prospective projects, specifically pipeline projects from Southern California Edison, Kinder Morgan, and Southwest Gas, City of Needles electrical, and Burlington Northern Santa Fe Railway (BNSF) improvement projects, that should be included in the cumulative analysis. The DEIR made a concerted effort of gathering information as it pertains to cumulative projects, including past, present, and reasonably foreseeable projects. In response to the comment, DTSC contacted each of the parties suggested in the comment. Of these projects, only one – the Southwest Gas project – was a viable past project that should be considered in the cumulative analysis. See Master Response Cumulative Projects regarding the inclusion of this additional project. Kinder Morgan confirmed they do not have any pipelines in the Project area (the nearest being in Las Vegas). The City of Needles (who was previously contacted during preparation of the DEIR) confirmed that, although upgrades to the electrical system at Park Moabi are needed, there is no funding and they will not be replaced for another 20 years. The lead agency does not consider this to be reasonably foreseeable for purposes of having meaningful analysis in the EIR, and it was therefore was not included. BNSF was contacted (as they were for the preparation of the DEIR) and no specific response regarding potential projects was provided. T6-314 The commenter asks for an explanation of how the EIR is differentiating between environmental baseline and past projects contributing to cumulative effects, particularly to soil, and states that it is important to specifically mention large land usage/disturbances that have involved soil removal and/or expansion of the Station footprint outside of the facility fence line when discussing what is included in this "baseline." As explained in the DEIR and updated as part of this FEIR (see Master Response Cumulative Projects), a summary of the projects identified at or within the general vicinity of the Project Site were listed in Table 6-3 and considered in the cumulative impacts analysis as those that may have related environmental impacts similar to those of the proposed Project and are either: (1) recently completed; (2) currently under construction or implementation or beginning construction or implementation; (3) proposed and under environmental review; or (4) reasonably

foreseeable, consistent with CEQA Guidelines Section 15130. (See DEIR, page 6-6, Table 6-3.) Historical soil investigation activities such as those that occurred in 1988, are considered to result in conditions that form the baseline. More recent soil investigation activities, such as those conducted in 2008 (see cumulative project 1G) are considered cumulative projects. Please see Master Response Cumulative Projects for more information.

The DEIR explains that some soil investigations have occurred on-site in the past, including, for example, those directed by DTSC as part of additional soil and groundwater characterization activities conducted during the East Ravine Groundwater Investigation Phase 2. During those Phase 2 activities, an addition of 20 groundwater monitoring wells (MWs) were installed and soil samples were also collected at six investigation sites in the area of the compressor and at one site in the East Ravine. This is explained in the Cumulative Impacts section of the DEIR (see DEIR page 6-12). The Soil Work Plan also includes a summary of past soil sampling at pages B2-2 through B2-3 (see Appendix A to the DEIR).

The cumulative impacts analysis within the FEIR has been expanded to further describe the past soil sampling and investigation activities previously conducted within the Project area. As described in detail in Master Response Cumulative Projects, DTSC has decided based on comments received on the DEIR to include two of PG&E's past projects (Time Critical Removal of AOC 4 and the Part A Soil Investigation) to the extent such information is relevant to the understanding of the environmental impacts of the proposed Project considered cumulatively with other ongoing, pending, and reasonably foreseeable future projects.

The additional information about past soil sampling does not result in a substantial increase in the significant and unavoidable cumulative impacts already found in the DEIR, nor does it result in a finding of any new cumulatively considerable impacts. It therefore does not change the EIR's impact conclusions but is nevertheless offered also within the context of the FEIR in the interest of full disclosure. (See Environmental Protection Information Center v. Cal. Dept. of Forestry and Fire Protection (2008) 44 Cal.4th 459, 524 [finding petitioner's argument that an EIR substantially understated the effects of past timber harvest practices on various species unpersuasive]; see also City of Long Beach v. Long Beach Unified School Dist. (2009) 176 Cal.App.4th 889, 910-911 [rejecting City's argument that the cumulative impacts analysis for a school construction project omitted "closely related past projects," including two already completed freeways, ports, petroleum refineries and chemical plants, in part, because it failed to show how the EIR's conclusion would have been different].)

T6-315

The commenter states the final soil remedy should fall under the category of past, present, and reasonably foreseeable future projects and

be considered in the cumulative analysis. Please see Master Response Cumulative Projects.

T6-316 The commenter asks why the development of the Beale Slough Riparian and Cultural ACEC management plan are not listed in Table 6-3 "List of Projects Located At or Within the Vicinity of the Proposed Project." The BLM's 2007 *Lake Havasu Resource Management Plan* states that "ACEC management plans will be developed in the future with associated monitoring plans." According to the BLM Lake Havasu Field Office, at this time the BLM does not have the resources to pursue the development of a management plan for any of its ACECs. The timeline for development of an ACEC management plan for the Beale Slough Riparian and Cultural ACEC is uncertain. No ACEC-specific management plan or management projects currently exist for the Beale Slough Riparian and Cultural ACEC and it is therefore not included in Table 6-3.

- T6-317 The commenter asks that the time-critical removal action which resulted in significant soil excavation from AOC-4 be included in this table. This project has been included in the cumulative analysis. Please see Master Response Cumulative Projects.
- T6-318 The commenter asks why removal of IM-3 is not considered as a PG&E project in the cumulative impact analysis. Future removal of IM-3 is a component of the Groundwater Remediation Project at the Station. The description of Project 1C in Section 6.4.2.1 of the DEIR has been modified to clarify this (see Master Response Cumulative Projects). The cumulative analysis includes the Groundwater Remediation Project, and therefore considers removal of IM-3. For questions regarding what is included in the Groundwater Remediation Project, please refer to the Groundwater FEIR (DTSC 2011), which can be accessed on the project website at: http://dtsc-topock.com/groundwater-remedy-selection. No changes to the DEIR text are necessary.
- T6-319 The commenter states that groundwater activities are currently occurring at the site (specifically refers to the freshwater source evaluation) and will likely overlap with soil investigation work, and that this statement in the DEIR should be corrected. The commenter is correct in that the freshwater source evaluation efforts, which were evaluated in Addendum No. 1 to the Groundwater FEIR, were completed with the drilling of a test well in Arizona in April 2014. The timing of this effort was necessary in order move forward with the Groundwater Remediation Project, and the environmental analysis, including a cumulative assessment, was conducted by DTSC as part of the Groundwater FEIR and the subsequent EIR Addendum No. 1. Please see Master Response Cumulative Projects regarding the timing of the overall Groundwater Remediation Project and the proposed Project.

T6-320 The commenter requests confirmation that the release of hazardous materials through transportation to waste disposal sites has been considered in the DEIR. The commenter is referred to Section 4.5,

"Hazards and Hazardous Materials," pages 4.5-15 through 4.5-18 under the heading "Management of Waste Soil from Investigation Activities," where the handling, transport, and disposal of waste soil are described. All soil and IDW would be handled in accordance with applicable local, state, and federal laws, and in accordance with the *Management Protocol for Handling and Disposition of Displaced Site Material, Topock Remediation Project, Needles, CA* provided in Appendix J of the Soil Work Plan (CH2M HILL 2013). As a result, impacts would be less than significant related to the transport of soil waste. Regarding Cumulative Impacts, the DEIR text on page 6-26 identifies the fact that the Project, in combination with the other projects mentioned in the geographic scope for hazards and hazardous materials, would contribute incrementally to the cumulative baseline; however, adherence to applicable laws and the SOPs and BMPs mentioned previously would not result in a cumulatively considerable impact on hazards and hazardous materials.

T6-321 This commenter expresses that the Tribal Land Use Alternative should be considered fully by DTSC as a reasonable and realistic scenario. DTSC understands that there is interest from many of the Tribes to consider this alternative, which would require land use restrictions be put in place at the site, as described on page 7-7 of the DEIR. Because this Project addresses only the investigation stage of the remedial process, the Tribal Land Use Alternative does not meet the primary objective of the Project, which is to gather sufficient soil samples to be able to reliably characterize the nature and extent of soil and sediment contamination within the Project Site. After the gathering of information occurs through an investigation project, DTSC will then, and only then, consider remedial design options and alternatives. The soil investigation activities would not predetermine remedial design options or alternatives. Furthermore, considering land use restrictions at the investigation stage of a remediation planning effort is premature. DTSC will evaluate different remedial options, including land use restrictions, as part of the CMS/FS phase of the remedial process, which will occur after DTSC has characterized the nature and extent of soil and sediment contamination at the Project Site.

T6-322 The commenter indicates that the assumption that areas outside of Topock Maze loci A, B, and C do not contain unique archaeological resources is incorrect and asks for clarification on what constitutes a unique archaeological resource. The commenter also indicates that the TCVA exclusion area had been adopted by the BLM. The commenter is referred to PRC Section 21083.2(g) for the definition of what constitutes a unique archaeological resource, which is described in detail on page 4.4-61 of the DEIR. The DEIR does not assert that areas outside of the Topock Maze do not contain unique archaeological resources, as stated by the commenter. Page 4.4-79 of the DEIR states that "None of the 14 known archaeological resources have been assessed for qualification as unique archaeological resources under CEQA Section 15064.5 and PRC Section 21083." These resources were not assessed for qualification as unique archaeological resources were not assessed for qualification as unique archaeological resources because, as historical resources, they are already afforded protection under the law as prescribed by CEQA. Additionally, in an email dated September 23, 2014, DTSC has confirmed with BLM that, in contrast to the commenter's assertion, the TCVA exclusion area has not been adopted by the BLM (BLM 2014). The TCVA was prepared by the Tribes to document the boundaries of the Topock Maze Loci (CA-SBR-219/H) as they are viewed by the Tribes. The TCVA was submitted to BLM for their review and approval; however, to date the BLM has not adopted the TCVA findings. To DTSC's knowledge, the (DPR 523 form and site boundary for CA-SBR-219/H have not been updated or revised through the CHRIS. Therefore, DTSC has relied on the formally-established boundary for site CA-SBR-219/H as it is currently documented at the CHRIS San Bernardino Archaeological Information Center during the preparation of the DEIR.

T6-323 The commenter is concerned that soil removal actions that occur during characterization activities could result in much greater soil removal than might occur if a more deliberate course of action is considered. The commenter does not specify a particular course of action; however, the commenter is referring to Section 7.5.2 of the DEIR, which addresses an alternative that would incorporate cleanup actions. This alternative was rejected by DTSC as being a viable project alternative for several reasons, as specified on pages 7-10 and 7-11 of the DEIR. DTSC is proposing the characterization of the soil conditions at the site through implementation of the Soil Investigation Project; remediation and cleanup activities are not proposed as part of the soil investigation activities. Soil remediation activities, if determined to be warranted, would only be proposed after consideration of the data that would be obtained through the implementation of the Soil Investigation Project. Those soil cleanup activities would also be subject to CEQA.

T6-324 The commenter suggests that the Reduction of Project Footprint Alternative (Avoid Mouth of Bat Cave Wash) would avoid sampling and that it would seem logical to try to implement this alternative if data supported the presumption that this sampling was unnecessary. DTSC agrees that unnecessary sampling should not occur. The soil sample data that is currently available for this area is limited to areas *adjacent* to the Mouth of Bat Cave Wash. As noted on page 7-12 of the DEIR, the sample results that currently exist for this area indicate that surface soil and sediment in and adjacent to the heavily vegetated area is known to have chemical concentrations above background and action levels. If soil sampling was limited to the areas surrounding this vegetated area, as suggested in the Reduction of Project Footprint Alternative, the conditions of soil or sediment contamination within the vegetated areas would remain unknown. Furthermore, if sampling was conducted only in a portion of the Mouth of Bat Cave Wash area (e.g., the northern most and southern most locations) full characterization would not be possible and there would not be comprehensive data upon which to determine potential remedial alternatives. The primary objective of the of the Soil Investigation Project is to gather sufficient soil samples to be able to reliably characterize the nature and extent of soil and sediment
contamination within the Project Site to support the preparation of the future CMS/FS. The Reduction of Project Footprint Alternative would not provide enough information for this area to meet that objective.

Letter T7: Hualapai Indian Tribe





September 5, 2014

Hualapai Department of Cultural Resources P.O. Box 310 Peach Springs, Arizona 86434 Office: 928.769.2223 FAX: 928.769.2235

HDCR File 2014-741

VIA ELECTRONIC MAIL Mr. Aaron Yue Topock Project Manager DEPARTMENT OF TOXIC SUBSTANCES CONTROL 5796 Corporate Avenue Cypress, California 90630

Ms. Pamela S. Innis Topock Remedial Project Manager Office of Environmental Policy and Compliance U.S. DEPARTMENT OF THE INTERIOR P.O. Box 25007 (D-108) Denver, Colorado 80225-007

Re: Invitation to Review and Comment on Pacific Gas & Electric Topock Compressor Station Soil Investigation Project, Draft EIR, SCH# 2012111079, prepared for California Department of Toxic Substances Control, July 2014.

Dear Mr. Yue:

On behalf of the Hualapai Tribe, we appreciate being able to respond to the *Topock Compressor Station Soil Investigation Project, Draft EIR.* We have read the document and have come to the conclusion that even though Hualapai provided our Tribal Perspectives regarding Topock, our concerns were not fully addressed within the context of the Draft Soils Environmental Impact Review (DEIR). Firstly, information provided to DTSC sub-contractors from 2012 through early 2014, was inserted into the DEIR, (page 4.4-11, 2-6,) which described an overview of Hualapai Tribal Perspectives. However, tribal perspectives were not applied throughout the DEIR, and there is a continued lack of integrating intangible concepts into the discussion.

T7-001

Secondly, we are very concerned that the environmentally superior alternative was rejected. CEOA specifically states that an EIR must identify the environmentally superior alternative which for Hualapai, was (however limited it may be) that of the reduced footprint regarding Bat Cave Wash soil sampling.

T7-002

Cont.

T7-003

The authors even agreed to that. Also, we have described to no avail previously that agency interpreted disturbed areas are still considered highly significant because of the context to the totality of the cultural landscape. The DEIR describes activities occurring on locations that we specifically requested have exclusion zone applicability.

Thirdly, we feel that the DEIR does not address CEQA to the extent that CEQA regulations require EIR's to define mitigation measure per the spirit of the law. These are:¹

- 1. Methods or plans to reduce, offset, or eliminate adverse project impacts. Action taken to avoid, reduce the severity of, or eliminate an adverse impact. Mitigation can include one or more of the following:
- 2. Avoiding impacts.
- 3. Minimizing impacts by limiting the degree or magnitude of an action.
- Rectifying impacts by restoration, rehabilitation, or repair of the affected environment.
- 5. Reducing or eliminating impacts over time.
- 6. Compensating for the impact by replacing or providing substitute resources or environments to offset the loss

We do not agree that the mitigation measures presented under Impacts CR-1 through CR-4 are inconsistent in regards to National Registry determinations; do not consider intangible cultural elements; do not provide mitigation; and do not protect tribal interests. We would like to point out, that in regards to mitigation measure CR-1e-8, is in-adequate. The specific mitigation is as follows (page 1-17 DEIR):

The Technical Review Committee (TRC),...shall continue through soil remedy selection and construction phase of the Groundwater Remedy (whichever comes later), at which time the necessity and dollar value of the TRC shall be assessed by PG&E and. With the approval of DTSC, shall either be extended, reduced, or terminated..."

T7-005

T7-004

Hualapai would like to recommend that PG&E not have a role in this decision and that the TRC be extended through soil remediation, GW build and be retained for five years after the remediation program has been running. The TRC is an invaluable group dedicated to the needs of the tribes and are responsible for Hualapai and interested tribes in being able to make informed consent decisions because

¹ Mitigation (measures). (n.d.). *Bureau of Reclamation Glossary*. Retrieved December 13, 2013, from website: <u>http://www.expertglossary.com/definition/mitigation-measures</u>.

technical information is being given to tribes in a manner that is understandable. On December 16, T7-005 2013, Hualapai and other tribes presented a draft conceptual cultural resources mitigation document containing 11 specific mitigation measures that Hualapai felt did address the intent of CEQA and actually mitigated to some degree cultural, religious, social and economic impacts, (reference CEQA § 15002(h), 15123(b)(3), 15270, and 15124(d)(1)(c), yet the DEIR as it is presented, did not address any of our suggested mitigations. We again, present these mitigation recommendations at the end of this comment letter.

To further these discussions, we provided a commentary table with the assistance of the Technical Review Committee and have indicated Hualapai comments via italicized font.

T7-007

T7-008

We are encouraged by the United States Department of the Interior's reaffirmation of the Federal Trust Responsibility to Federally recognized Tribes, and we encourage the Topock Lead Agency to incorporate Secretary Jewell's August 20th Order 3335 into the consultative process between Tribes, and agencies for the Topock Remediation Project. We appreciate our on-going consultations and collaborations with the Topock Remediation Project and look forward to meaningful dialogue through-out the up-coming years. If you have any concerns please feel free to contact myself, or Dawn Hubbs, Program Manager and we will be happy to assist you.

Sincerely,

Uretta Jackson Kelly, Director and JAbai Historic Preservation Officer Hualapai Department of Cultural Resources

Cc:

Ms. Sherry J. Counts, Chairperson, Hualapai Tribal Council. Mr. Rudy Clark, Sr., Councilman, Hualapai Tribal Council Ms. Carrie Imus, Councilwoman, Hualapai Tribal Council

T7-010

T7-011

T7-012

DTSC/Tribal Coordination Meeting – December 16, 2013 Hilton Garden Inn, 1340 W. Warm Springs Rd., Henderson Nevada 1pm to 4pm Pacific Standard Time (CA and NV time) <u>Conceptual Cultural Resources Mitigation</u>

Resources of tribal cultural, religious, social, and use values:

- A biological survey of riparian habitat associated with the Topock Cultural landscape shall be conducted (by PG&E with tribes and or tribal representatives) bi-annually to document vegetation characteristics and conditions in order to determine if there are any long-term impacts of the project on the riparian habitat, and to determine if the project revegetation process is functioning. The findings of all biological surveys shall be submitted to the Tribes. These surveys should occur every year from start of soils remediation selection through the life of the remediation project in its entirety.
- 2. If any grading, clearing, brushing, or construction occurs during the bird breeding season (approximately February 15 through August 31), a qualified biologist, with tribal assistance, shall conduct a survey of the habitat to determine whether there are active bird nests in the area, including raptors and ground nesting birds. The survey would begin not more than three days prior the beginning of work. If an active nest is observed, a minimum 300-foot buffer (500 feet for raptors) would be established using temporary fencing. The buffer would be in effect as long as work is occurring and until the nest is no longer active.
- 3. All disturbed areas, including storage piles, which are not being actively utilized for construction purposes, shall be effectively stabilized to suppress dust emissions using typical methods such as: water, organic stabilizers / coverage with a tarp or other suitable material, or vegetative ground cover. All on-site unpaved roads and off-site unpaved access roads shall be effectively stabilized to suppress dust emissions using water or organic stabilizers. All land clearing, grubbing, scraping, excavation, land leveling, grading, cut/ fill, and demolition activities shall be effectively controlled of fugitive dust emissions utilizing application of water and/ or by presoaking.
- 4. When soil or similar materials are transported off-site, all material shall be covered, or effectively wetted to limit visible dust emissions, and at least six inches of freeboard space from the top of the container shall be maintained. All operations shall limit or expeditiously remove the accumulation of mud or dirt from adjacent public streets at the end of each workday. Use of blower devices is expressly prohibited. Following the addition of materials to, or the removal of materials from, the surface of outdoor storage piles, said piles shall be effectively stabilized to suppress fugitive dust emissions utilizing sufficient water or organic stabilizers. Within urban areas, track out of mud or dirt onto public roads shall be immediately removed when it extends 50 or more feet

	from the site and at the end of each workday. Any site with 150 or more vehicle trips per day shall prevent carryout and track-out of mud or dirt onto public roads.	T7-012
5.	Physical disturbance within the Project area will occur to significant trails and will cut-off	
	the ability of participating tribes to travel physically and spiritually along these trails. In	
	consultation with participating tribes, extant trails in Topock Cultural Landscapes should	
	be field mapped, and preserved by qualified cultural resource personnel with the	T7-013
	assistance of participating tribes and or tribal representatives. Low-level aerial	
	photography and video photography should be used to document trails that are within	
	the APE and throughout the Topock Cultural Landscape. It appears from present	
	information that certain trail corridors can be preserved, including routes to Spirit	
	Mountain, Boundary Cone, and the Needles.	I
6.	Physical disturbance within the Project area will occur to significant cultural resources	I
	including but not limited to, stone circles, rock cairns, stone scatters, trails, tool refining	
	stations, spiritual teaching areas, minerals etc. In consultation with participating tribes,	
	the entire Topock Cultural Landscapes should be field mapped, and preserved by	T7-014
	qualified cultural resource personnel with the assistance of participating tribes and or	
	tribal representatives.	
7.	Tribal Interpretive Centers. Provide financial support for tribal interpretive centers on	I
	tribal lands that describe, educate, and engage tribal communities in disseminating and	
	preserving traditional cultural identity through tribal languages. Provide support	
	through grants and phased funding, for tribal interpretive facilities/museums, language	T7-015
	programs, and healthy food systems. Resulting programs could then be components for	
	continued outreach and education to stakeholder/agency staff with linking cultural	
	information at Topock. Grants to be phased over life of the remediation project.	
8.	Continue on-going reasonable compensation for tribal participation in monitoring,	I
	attending meetings, and participating in project development, as with the present	
	Consultative Work Group, Technical Work Group, Clearinghouse Task Force, and	T7-016
	subcommittee involvement. Funding support to continue through the life of the	
	remediation clean-up project.	
9.	Create a trust fund for a Cultural Preserve at Topock. This would help in attempting to	1
	preserve the Topock Cultural Landscape in view of the encroaching Park Moabi tourist	T7-017
	facility. Future generations.	
10.	. Funding for increased security measures around the Topock Cultural Landscape. Due to	
	tourism and increasing numbers of visitors to the Topock area. This also relates to	T7-018
	recent vandalism at Grapevine Canyon. We do not want this to happen at Topock.	
11.	Funding support for education and technical training for tribal members. In conjunction	
	with all of the above, provide for full higher-education tribal scholarships (two per	T7 010
	educational year per participating tribe) for biology and / or ethnobotanical degrees,	17-019
	archaeology, hydrogeology, and museum studies.	

opock Comp	ressor Station S	Soil Investigation Project Dr	aft EIR September 5, 2014
Comment No.	Section/ Page	Reference Text	DEIR Comment (Please provide sufficient detail, include specifically what you are looking for)
ections 1 & 2			
4	n/a	n/a	There is no evidence presented in the DEIR that documents that the DEIR incorporated the Soils Staging/Storage/Construction areas developed through discussions with the Tribes and the DOI/BLM/BOR and detailed in the 1/2014 CHPMP Meeting. Please provide information on whether this was done, and if not, why not and what will be done to incorporate this important information. As an example, figure 3-3 includes a black hatch mark area that is staging area #18. Tribes agreed. AOC1-6d is on top of staging area #20; Tribes said no.
2	General	Cumulative Impacts	A primary objective of the DEIR is to evaluate cumulative impacts (past, present, and foreseeable future) of the soil sampling program, however, previously drilled soil-sample boreholes are not shown or even mentioned in the DEIR. This DEIR should describe previous soil sampling impacts, plus new proposed soil sampling impacts, in order to discuss cumulative impacts of the soil program. Hualapai is concerned that CEQA is not being addressed in regards to describing how the project will minimize impacts by limiting the degree or magnitude of the activities.
3	General	Threat to groundwater	The objective is stated to assess the threat to groundwater, however, this threat and approach to assess it are not well described. For example, how does modeling fit into this assessment? Modeling has contributed to the increased number and depth of proposed boreholes; therefore, descriptions of modeling results are needed in the DEIR.
4	1.3 Summary of the Proposed Project – p. 1-1	The investigation of soil which is the subject of this DEIR, along with existing data at the Project Site will enable the evaluation and selection of corrective measures, if necessary, in a future Soil Corrective Measures Study/Feasibility Study (Soil CMS/FS).	Please be more specific to what existing data is referring to. Is it only limited to soils data or is it inclusive of all data collected as part of the groundwater and soil investigations/remediation.
5	Sect. 1.3.1 p. 1-2	Project Location	The terms "Project Area" and "Project Site" are used interchangeably throughout the report. Previous maps from the Soil Work Plan show the AOC boundaries; however, the DEIR maps show another area of gray shading around the AOC's. Why is space needed around the AOC's? Are these areas of anticipated impacts or disturbance?

Comments on the	he Pacific Gas	& Electric Company	FROM: Hualapai Tribe/TRC	
Topock Compre	essor Station S	oil Investigation Project Dra	ft EIR September 5, 2014	
Comment No.	Section/ Page	Reference Text	DEIR Comment (Please provide sufficient detail, include specifically what you are looking for)	
6	1.3.2 Project Objectives p. 1-3	The primary and fundamental objective of the soil investigation activities is to gather sufficient soil samples to be able to reliably characterize the <i>nature and extent</i> of soil and sediment contamination within the Project Site.	As the driving force behind the soil sampling is to define nature and extent of the contamination, it is requested that the specific requirements used to determine if nature and extent has been adequately fulfilled be presented.	T7-026
7	1.3.3.3 Bench Scale Tests and Pilot Studies, Pilot Studies p. 1-5	The in situ soil flushing pilot study would include the construction of either an infiltration gallery or four injection wells for the application of water	The Tribes had indicated during the 30% Groundwater BOD that an infiltration gallery within Bat Cave Wash is not an acceptable option. It was agreed as the project moved from 30% to 60% design that the Tribal perspective was to be respected and the infiltration gallery option was removed. The Tribes opinion on the inclusion of an infiltration gallery within the wash (whether short or long-term) has not changed. Please revise the EIR text.	T7-027
8	1.3.3.3 Bench Scale Tests and Pilot Studies, Plant or Other Biota Sampling p. 1-5	Plant or other biota sampling may be conducted to evaluate the potential risk to herbivorous and invertivorous wildlife populations.	The inclusion of plant sampling to evaluate potential risk is inconsistent with the conclusions of exposure within the Groundwater risk assessment and the updated soils site conceptual models which indicate that this is an incomplete exposure pathway. Please indicate this within the EIR if this discussion is to continue to be included. Also please indicate what level of consistency is to be maintained between the soils EIR and the soils risk assessment. <i>Hualapai was under the impression that there would be no plant or other sampling conducted as Hualapai community members no longer visit the area.</i>	T7-028
9	2.2.1 Station History and Activities p. 2-3	Soil within the Station fence line and in the vicinity of the Station has also been affected by historical releases of COPCs, including Cr(VI) and other metals, acids, petroleum hydrocarbons, polycyclic aromatic hydrocarbons (PAHs), polychlorinated biphenyls (PCBs), volatile organic compounds (VOCs), semivolatile organic compounds (SVOCs), dioxins and furans, pesticides, and asbestos (CH2M HILL 2013).	Please provide specific detail on which PAHs, PCBs, VOCs, semivolatile organic compounds (SVOCs), dioxins and furans, and pesticides have been detected above screening levels. <i>Hualapai understands that there are no background data for dioxins and furans. How does the project propose to establish background levels?</i> In the GWEIR establishing background levels has been contentious and difficult. How will the soils <i>EIR correct this issue?</i>	T7-029
10	**************	*************	This row intentionally left blank.	1

Comment No.	Section/ Page	Reference Text	DEIR Comment (Please provide sufficient detail, include specifically what you are looking for)
11	2.2.3 Groundwater Remediation – Page 2-5	The proposed soil investigation activities are therefore not an expansion of the Groundwater Remediation Project and should not change the nature or scope of the Groundwater Remediation Project.	Both the groundwater and the soils remediation projects have similar impacts within many of the same areas. Therefore it can be concluded that the two projects are intertwined and associated impacts should be considered together.
		and In summary, potential soil contamination cleanup activities in the future may prove to be a key component of the overall cleanup efforts at the Station, but the proposed soil investigation effort is a separate project from the Groundwater Remediation Project and has independent utility.	Further evidence of the overlap of the Groundwater and Solls investigation can be found in the text which states "Many of the staging areas to be used for soil sampling activities have been used for staging during previous RFI/RI-related activities, and all are located in previously disturbed and existing operational areas with either existing natural topographic boundaries or fencing that defines the staging area boundaries." Hualapai has mentioned many times that many of the disturbed areas are still culturally sensitive. Hualapai requests that staging areas be mapped and listed appropriately. If there is over-lap it needs to be clearly stated and visually noted within the document for clarity. Tribes expressed their specific concerns regarding the soils/staging areas matrices. Similar to comment #1 in this document, there needs to be a clear understanding of what the intentions are regarding all proposed/accepted and rejected soils/staging areas prior to build.
oject Description	(Section 3)		
12	3.3 Project Location Figure 3-2		The actual area that is considered within the Soil Investigation Project Site is not clearly designated in the provided maps. For example it is indicated in the map key that the Soil Investigation Final Project Area is represented in pink, however the mouth of Bat Cave Wash is outlined in green and highlighted in brown. This doesn't make sense as this area is clearly included in the soil investigation. Please provide a map that clearly designates what is within the Soil Investigation Project Site. Additionally Hualapai noted that there are grey areas (figures 3-3, 3-4 and 3-5) indicating final project areas. How large is it exactly? Hualapai and the other tribes also requested an exclusion zone within the northern mouth area in Bat Cave Wash. It appears that this document does not acknowledge that request. Please explain why not?

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13	Figure 3-3 p. 3-6	Investigation Detail Map 1	Site AOC-BWC7 is located within the same area identified as IM-3 Restoration Area in the <i>Draft Interim Measure No. 3 Decommissioning</i> <i>Report</i> of July 24, 2013. What is the relationship between the soil sampling and IM-3 decommissioning? Is there any overlap in order to reduce the number of samples for either effort?	T7-036
14	Sect. 3.5.2.11 p. 3-29,	Investigation-derived waste (IDW)	At the request of the Hualapai Tribe, calculations were done by TRC indicating that about 2 cubic yards (one pickup truck) of soil sample material would be transported out of the project area for laboratory analyses. The DEIR shows 5 to 20 cubic yards of IDW will be produced; the difference is unclear, but the higher estimate might include drill cuttings, blading, and clearing. Can you be more specific regarding the types of IDW generated? Most of these other soils do not need to be stockpiled, but using XRF analysis could be returned immediately to the landscape, whether as borehole filler or land cover at selected locations. Are there any plans to reuse the clean IDW? How would they be used?	T7-037
15	p. 3-31	3.5.3.2 Pilot Studies	The Soil Flushing operations are minimally-described in the Soils Work Plan. Thus, the DEIR really has nothing to reference in that regard from the Soils Work Plan. The comment development in the Soils Work Plan references the CMS/FS for future development of the Soil Flushing. However, the DEIR seems to assume that Soil Flushing is part of the Soils Work Plan. This situation needs to be more completely addressed.	T7-039
16	p. 3-13	3.5.3.2 In Situ Soil Flushing	In the DTSC comments during the 30% BOD response to comment process, it seemed that an infiltration gallery within Bat Cave Wash was removed from further consideration. However, it is included here again as a possible remedial option as part of a soil-washing pilot study. Regarding Exhibit 3-6 of the 30%, DTSC commented: "The note at the bottom of the exhibit indicates that the Infiltration Gallery in Bat Cave Wash option is deferred until after completion of the Soil RFI/FS and CMS/FS. First, DTSC and a Tribe commented on the Gallery as it affected the soil work plan. PG&E indicated that the Gallery was no longer being considered, and therefore, soil comments related to the Gallery were dropped from further consideration. [emphasis added]" Regardless if an infiltration gallery is proposed as disposal of treated water or as a remedial option, the Tribal preference against such a construction in Bat Cave Wash is the same and should be clearly stated in the EIR text.	T7-040

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17	3.5.2.7 Staging Areas p. 3-23	For example, during the operation of IM-3 injection wells, the Native American Tribes expressed a preference for unobtrusive, low-visibility boundary markers, so straw wattles were used as the primary means of boundary marking, with other delineation devices used only in strategic locations.	This statement should be reworded to say "In some areas, wattles have been used as a means of boundary marking, as they were generally low- visibility and less obtrusive. Other delineation devices have been used only in strategic locations. The current project will follow this same general means of marking work boundaries.	T7-041
18	3.5.2.8 Work Area Exclusion Zone p.3-24	Figure of work zones	The figure indicates that the support zone will be located upwind of the exclusion zone. What happens when wind changes direction? Will the support zone be moved? Please discuss this and how this would increase the footprint of impact during soil investigation.	T7-042
19	3.5.2.9 Drilling or Excavation for Soil Samples p. 3-24	Efforts will be made to use the least intrusive method feasible depending on location	Please provide detail on how "least intrusive" will be quantified. Who will ensure that the least intrusive method is decided upon and implemented? Determination of "least intrusive" should be made in consultation with the Tribes	T7-043
20	3.5.2.11 Investigation- Derived Waste p. 3-29	After characterization, water generated from decontamination activities, estimated at up to 2,000 gallons, would likely be processed on-site at the existing IM-3 treatment facility and re-injected into the aquifer.	The IM3 facility is to be removed and therefore the inclusion of the facility for treatment of soil derived waste water needs to occur prior to the removal and should not in any way delay the scheduled removal of this facility. Please indicate the dates of IM3 removal and the anticipated dates that this groundwater facility would be used to process soils investigation derived waste water.	T7-044
21	p. 3-31	"Some of the more important Project Site- related parameters include variations in hydraulic conductivity, degree of heterogeneity and soil organic content. Soil permeability is a key factor in assessing the applicability of this technology. The site specificity of application of this technology necessitates extensive predesign data collection through pilot studies."	It's unclear what parameters are specifically needed – soil permeability? Why not saturated hydraulic conductivity? What about soil moisture retention characteristic and hydraulic conductivity relations for unsaturated zone?	T7-045
22	p. 3-32	"Contaminants would be transferred from soil to water, which would then be recovered via extraction wells,"	Given the significant depth to ground water, especially in source areas, coupled with heterogeneities within the unsaturated zone, is there any potential that a portion of the flushed contaminants fluid may redistribute within the unsaturated zone, rather than assuming 100% is recoverable at extraction wells, that presumably extract from the saturated zone beneath the flushing? If so, how would this be recovered?	T7-046

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23	p. 3-32	Paragraph 4	It appears 4 new injection and 4 new recovery wells (a total of 8 wells) would be installed, and then removed. Would these add to the total number of wells to be drilled? What would the approximate total depths and screened intervals be for each?	T7-047
24	p. 3-33	1 st complete paragraph	Up to 6 borings will be drilled. Please include a spreadsheet inventory, like that for the groundwater remedy, for tracking borings/drilling related to the soils investigations and testing. Table 3-3 should be developed into such an inventory.	T7-048
25	p. 3-34	3.5.4	Please include a spreadsheet inventory, like that for the groundwater remedy, for tracking borings/drilling related to the soils investigations and testing. Table 3-3 should be developed into such an inventory.	T7-049
26	3.5.5 Plant or Other Biota Samples p. 3-34		The inclusion of plant sampling to evaluate potential risk is inconsistent with the conclusions of exposure within the Groundwater risk assessment and the updated soils site conceptual models which indicate that this is an incomplete exposure pathway. Please indicate this within the EIR if this discussion is to continue to be included. Also please indicate what level of consistency is to be maintained between the soils EIR and the soils risk assessment.	T7-050
27	3.5.6 Work Area Restoration p. 3-36	If not paved, the area would be raked/brushed to remove tire tracks and restored to substantially the same condition(s) as prior to the soil investigation sampling.	Please describe how this will be quantitatively evaluated. How will this activity be monitored before, during and after to assist in the evaluation?	T7-051
28	3.5.8.1 Soil Sampling and Sample Analysis p.3-38	TABLE 3-4 SOIL SAMPLING FIELD IMPLEMENTATION SCHEDULE	When and if Pilot Studies in the Bottom of Bat Cave Wash are planned, Tribes should be involved in scheduling, monitoring, construction specifications and all phases of such studies.	T7-052

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29	TABLE 3-3 SOIL INVESTIGATION AREAS – TOPOCK COMPRESSOR STATION PROJECT SITE, NEEDLES, CALIFORNIA p. 3-38		The table indicates that boreholes of significant depth will be part of the soils investigation. Specifically AOC1 (80ft), AOC11 (69ft), AOC 26 (75ft), Storm Drain System (50ft). It is not clear why these boreholes are considered independent of the borehole count considered within the Groundwater EIR. It is suggested that the groundwater remediation project, the soils investigation and the future soil remediation project all have similar and overlapping impacts that need to be considered to the landscape and need to be considered within the Broundwater EIR. Specifically these boreholes should be included in the borehole count which is to be capped at 168 boreholes.	774
30	3.5.8.1 Soll Sampling and Sample Analysis p. 3-39	Anticipated vehicle use and trips are outlined in Table 3-5	Please indicate within the text how these numbers were calculated.	T7-
vironmental Anal	ysis (Section 4)			1.0
31	Sect. 4.2.3.3 p. 4.2-15	Air Quality Impact Analysis	Unforeseen emissions might also arise from the project, such as trucking and transportation of laboratory samples, acid digestion of soil samples in laboratory fume hoods, and incineration or disposal of laboratory samples. These may occur off site, but are impacts of the project nonetheless.	77-1
32	4.3.1,1 Project Setting - Lower Colorado River p. 4.3-1		Why is Davis Dam not included in the description of the Lower Colorado River?	17-
33	NPDES Construction General Permit 4.5.6		There needs to be development of necessary erosion control plan specifics for pilot-scale testing in Bat Cave Wash.	T7-(
34	4.3.1.2 General Biological Resources		Why is the Instream Habitat Typing Survey Technical Memorandum not listed or discussed?	17-0

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35	4.3.1.3 Jurisdictional Resources p. 4.3-14	It is assumed that the resources mapped within the Project Site in Figure 4.3-2 are considered jurisdictional under Section 404 of the Clean Water Act (CWA) and therefore also qualify for jurisdiction under Section 401 of the CWA administered by the RWQCB, and Section 1600 of the California Fish and Game Code administered by CDFW (CH2M Hill 2013).	Please be specific if ALL (i.e. all features indicated within the map key under Wetlands) of the resources included in Figure 4.3-2 are considered jurisdictional under Section 404 of the Clean Water Act (CWA).	T7-059
36	TABLE 4.3-3 SPECIAL-STATUS SPECIES POTENTIALLY OCCURRING IN THE PROJECT SITE p. 4.3-27		It is unclear why bird species which have been documented in riparian areas around the Project Site are listed as "could occur" and not "likely to occur". The level of Potential for Occurrence appears inconsistent within the evaluation. "Could occur" has been assigned to species such as the desert tortoise and the Nelson's bighorn sheep both of which have never been sighted within the APE and is defined within the DEIR report as "Suitable habitat is available in the Project Site; however, there are few or no other indicators that the species might be present". Bird species such as the Southwestern Willow Fly Catcher are also listed as "could occur" even though the Project Site provides suitable nesting and foraging habitat within the large stands of salt cedar along the banks of the Colorado River. This species has been documented in riparian areas around the Project Site, primarily at Topock Marsh, and has been detected near Park Moabi Lagoon. It is suggested that bird species that have been sighted within the APE be listed as "likely to occur"	Т7-060
37	4.3.1.6 Sensitive Biological Resources Special-Status Marnmal Species p. 4.3-39	Nelson's bighorn sheep and signs thereof (tracks, scat, etc.) were not observed within or near the Project Site during the various biological survey; however, according to the CNDDB (2013), Nelson's bighorn sheep have been documented in the mountains south of the Project Site (Figures 4.3-3, 4.3-4 and 4.3-4c). The species may use the foothill portions of the Project Site for foraging and movement, but no lambing habitat occurs within the Project Site.	The language in the DEIR suggests that only the foothill portions of the site may be used by the Nelson's bighorn sheep. This is inconsistent with the soils risk assessment work plan, which intends to evaluate risk for the bighorn sheep as if exposures in the floodplains and Bat Cave Wash are occurring. The assumptions in the RAWP and the EIR and any other related documents must be made consistent.	T7-061

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38	4.3.2 Regulatory Background		The lack of discussion of the designated Area of Critical Environmental Concern (ACEC) which is a conservation ecology program in the western United States, managed by the Bureau of Land Management conceived in the 1976 Federal Lands Policy and Management Act (FLPMA), and established the first conservation ecology mandate for the BLM appears to be a significant oversight in this section of the document. Please include a discussion on the ACEC and the jurisdiction of the management plan developed under the ACEC program.
39	4.3.3.3 Impact Analysis Regulatory Requirements and Avoidance Measures p.4.3-52	However, PG&E must still comply with avoidance and minimization measures (AMMs) attached to the March 6, 2013, letter and any additional mitigation measures in this DEIR.	Please include the AMM attached to the March 6, 2013, letter as appendix to the DEIR.
40	4.3.3.3 Impact Analysis Regulatory Requirements and Avoidance Measures p. 4.3-52	Project-related activities that could be hazardous to aquatic life or waters of the state, shall be prevented from contaminating the soil and/or entering the waters of the state and shall not be deposited within 150 feet of the high water mark, unless containerized.	 Please provide a map of soil investigation activities and the 150ft above high watermark to ensure compliance with the Regulatory Requirements and Avoidance Measures. Hualapai understands that CEQA defines mitigation measures as: Methods or Methods or plans to reduce, offset, or eliminate adverse project impacts. Action taken to avoid, reduce the severity of, or eliminate on adverse impact. Mitigation can include one or more of the following: Avoiding impacts. Minimizing impacts by limiting the degree or magnitude of an action.
41	4.3.3.3 Impact Analysis Mitigation Measure BR-1: No net-loss of Wetland, Riparian or other Sensitive Habitat Function or Value p. 4.3-56	Before undertaking ground-disturbing activities within East Ravine and Bat Cave Wash, a qualified biologist shall coordinate with PG&E to ensure that the footprints of investigation activities, including drill pads, staging areas, and access routes, are designed to avoid disturbance to sensitive habitats to the extent feasible.	Please provide a more quantitative definition of "extent feasible". Who defines this and who ensures compliance? Any evaluation should include ethnobotanical uses by the Tribes. Hualapai and other Tribes specifically requested that tribal consultation occur in-tandem to ensure that the footprints of investigation activities are designed to avoid disturbance. Please provide a suggested protocol that involve Hualapai and other Tribes if they so choose.

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42	Mitigation Measure BR-4: Disturbance of Special-Status Birds p. 4.3-59	Where possible, vegetation trimming, pruning, or clearing and other activities shall be timed to avoid the nesting season for special-status bird species that may be present (March 15 through September 30)	Please provide a more quantitative definition of "Where possible". Who defines this and who ensures compliance? Ethnobotanical uses and gathering practices of the Tribes should be taken into consideration. <i>Hualapai and other Tribes specifically requested that tribal consultation occur in-tandem to ensure that the footprints of investigation activities are designed to avoid disturbance. Please provide a suggested protocol that involve Hualapai and other Tribes if they so choose.</i>	T7-067
43	Fish Mortality, Interference with Spawning Habitat, and Other Adverse Aquatic Effects Regional and Local Plans p. 4.3-65	No conflicts with BLM's management plan are anticipated with implementation of the proposed Project. The proposed Project is not considered a prohibited activity and the Project activities would not degrade the biological resources element of the ACEC.	Please provide reference to BLM's ACEC management plan and describe what are the biological resource elements of the ACEC. Prohibited activities are not the only activity of concern, nor the only kind of activities with potential impacts or land use inconsistencies. Please expand this discussion.	T7-069
44	4.5.3.2 Thresholds of Significance p. 4.5-11	No new access roads would be built for the proposed Project and no increases in traffic volumes are anticipated that would conflict with an adopted emergency response plan or emergency evacuation plan.	It is not clear what this is intended to suggest. New access roads are planned for sampling efforts (e.g. access to the mouth of Bat Cave Wash) and increased traffic volumes will occur along National Trails Highway as well as other secondary dirt roads on the site during sampling activity. Please clarify why this is not considered within the impact analysis. In addition it appears that the impact analysis did not consider the potential spill of contaminated soils and waste water that are being transported off- site. Why is this possible occurrence omitted from discussion? <i>Hualpan</i> are concerned about the properties and waste water that are being transported off- site.	T7-070
			into many of the proposed access pathways for vehicular trainic into many of the proposed soil testing areas. How does the project intend to provide for emergency contingencies? How is the project going to calculate for foot-print expansion due to contingencies that are not in the documented existing EIR? Every emergency action on the ground is a disturbance to this sacred site. How is the project going to demonstrate protection? Avoidance is the preferred mitigation measure.	T7-071

mments on	the Pacific Gas	& Electric Company	FROM: Hualapai Tribe/TRC	
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45	Potential for Hazardous Materials Release p. 4.5-12	As a part of the grading and site preparation elements of the Project, PG&E will implement and conduct the following actions: Complete a Risk Assessment to determine pollution prevention requirements pursuant to the three Risk Levels as established in the CGP and relevant for the proposed Project.	Is this intended to suggest that the Soils Risk Assessment which will be conducted after the soils investigation will be used to determine pollution prevention requirements? Sequentially this does not make sense.	
46	p. 4.5-17		A flood-induced washout of a pilot test site in Bat Cave Wash would be a significant impact, but this possibility has not been discussed or evaluated, and it needs to be.	
47	Sect. 4.6.1.2 p. 4.6-5	Surface Water	The DEIR states that the Colorado River is a losing reach at this location; however, it needs to be clarified that the IM-3 pumping might draw some water from the river, but the water is returned to the aquifer through injection wells. Topock modeling reports indicate that about 610 acre-feet per year exit the Mohave Valley. Regardless of the groundwater pumping and circulation established by IM-3, there would still be a net groundwater discharge from the basin.	
48	Sect. 4.6.3.2 Thresholds of significance p. 4.6-16	"Project site is not in an area that would be subject to inundation."	The project area is subject to frequent floods, especially Bat Cave Wash. Field workers, equipment, drill rigs, stockpiled soils, and sampling activities are at risk for flash floods in the project area. In an extreme case of dam failure, the Bureau of Reclamation (1993) indicated a flood elevation of 545 feet at the Topock site, which would inundate many areas of the soil investigation.	.
49	Surface Water quality – Colorado River p. 4.6-6	"As noted previously and discussed further in this document, the IM-3 extraction system prevents groundwater from entering the Colorado River."	This statement is not true and needs to be reworded to be factually correct, e.g., As noted previously and discussed further in this document, between river miles XX and YY, the IM-3 extraction system acts to significantly diminish groundwater flow into the Colorado River on the California side of the river."	
50	Ephemeral Drainages Section p. 4.6-6		Mo and Se concentration ranges are presented but not discussed. Please discuss the significance of these analytical results.	Ī

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51	Ephemeral Drainages Section p. 4.6-6	2 nd full paragraph, last 2 sentences	Please state the background concentrations and MCLs for TDS (as specific conductance), As, Mo, Se and Nitrate.	T7-079
52	NPDES Construction General Permit p. 4.6-12	First two (or more paragraphs)	This section of text appears to repeat verbatim content presented elsewhere in the Draft EIR (see page 4.5-6). Was this intentional?	T7-080
53	SOP-B4 (Boring Abandonment) p. 4.6-14	"The proposed Project will follow the SOPs in the Topock Program Sampling, Analysis, and Field Procedures Manual, PG&E Topock Compressor Station, Needles, California (CH2M HILL 2005b), which are included as Appendix G of the Work Plan."	As part of the GW remediation work, the Hualapai have worked with PG&E and their consultants to prepare well and boring abandonment procedures. During this process, the Tribes have expressed a preference to avoid bentonite or other non-native materials as abandonment materials if possible. To the extent possible, these same preferences are valid for the soil sampling program. Where possible, natural materials should be used, at a minimum, to abandon the approximate top two feet of a boring. Note that the SOP-B4 does not match the language under p. 3-30, Section 3.5.2.12 – which does allow for: " <i>native soil would be used to fill the top 6 to 12 inches</i> ." The soil sampling program needs to be flexible regarding the placement of filler material within boreholes on a case-by-case basis (<i>please refer to HDCR2014-670 dated May 2, 2014</i>) and incorporating Tribal preferences. In additional, the surface expression of any abandoned boring should not pose a hazard to animals or humans, consistent with well abandonment procedures developed for the GW remediation program. Care should be taken to restore surface soils and plants to ensure that long-term visual disturbance does not occur.	T7-081

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54	p. 4.6-16 4 th bulleted item		It is stated that the failure of either Hoover Dam or Davis Dam would not inundate the Project Site area. While the inundation mapping for a catastrophic failure at Hoover Dam is highly classified information, and the probability of such an event is extremely low, the statement would seem to be untrue, especially for the river bank wells and IRZ area which are at the lower elevations for the project inundation might not be in the forecast. Generally speaking, there needs to be a straightforward and complete discussion in the EIR of Colorado River and Bat Cave Wash flood hydraulics and flooding potential which includes the very small risk of inundation from upstream dam failure. This discussion should address how a flood on the river is not the same as a flood on the wash. Please critically evaluate the validity of the referenced County General Plan Hazard Maps regarding inundation zones shown for a failure at Davis or Hoover Dams.	T7-08
55	p. 4.6-22	"Because the Project does not include the construction of impervious surfaces that would impede surface water infiltration into the subsurface, the Project will not impact the recharge of groundwater."	Does this suggest that none of the activities (i.e., compaction of soils in soil sampling/drilling/injection/extraction locations, or infiltration galleries) would affect recharge of groundwater in associated areas, unless the surface was paved? The literature suggests otherwise.	T7-08
56	p. 4.6-23	"These grading and ground disturbance activities could disturb soil and alter drainage patterns such that rain events could result in the discharge of polluted runoff to drainages and eventually to the Colorado River. These grading and ground disturbance activities could alter drainage patterns of localized areas such that rain events could exceed the capacity of existing or planned stormwater drainage systems. The alteration of drainage patterns could also increase the potential for on-site or off-site flooding."	This statement seems to support the opposite conclusion cited in the previous Impact-Hydro1 statement in page 4.6-22, mentioned in previous comment. Though, the text then says that PG&E will implement SOPs and BMPs, will efforts be made to reduce the potential for creating areas of focused groundwater recharge (and unnecessary spread/transport of contaminants into undesired areas)? The text in this section suggests the focus would only be to prevent surface drainage routes to the Colorado River, or potential onsite/offsite flooding. Though SOPs and BMPs may reduce direct drainage to the Colorado River, they should also reduce the potential for concentrating any storm-water surface flows into non-impacted areas – to avoid expanding the current impacted soil/groundwater areas.	Т7-08

Comment No.	Section/ Page	Reference Text	DEIR Comment (Please provide sufficient detail, include specifically what you are looking for)
57	p. 4.7-4 last paragraph	A typical ratio is 10, so that marks on the scale read: 1, 10, 100, 1,000, 10,000, etc., which doubles the variable plotted on the x-axis. The human ear perceives sound in a non-linear fashion, hence the decibel scale was developed. Because the decibel scale is based on logarithms, two noise sources do not combine in an additive fashion,	Please modify to read; A typical ratio is 10, so that marks on the scale read. 1, 10, 100, 1,000, 10,000, etc. The human ear perceives sound in a non-linear fashion, hence the decibel scale was developed. Because the decibel scale is based on logarithms, sound pressure (noise) levels from two noise sources do not combine in a linear additive fashion.
58	Section 4.7.1.4 (Noise Attenuation)		Please include a sentence/paragraph addressing how noise attenuation can, in some circumstances, be diminished, leading to noise levels that are greater than would otherwise be expected or observed.
59	Section 4.7.1.5 (Vibration)		This 1-pargraph section needs to include a sentence such as the following: Certain ground conditions, for example, caliche layers, can enhance vibration transmission (by agency of reduced attenuation), relative to conditions that would exist in the absence of such conditions. In rare situations, standing waves and other wave phenomena may result in amplification of vibration amplitude.
60	Section 4.7 1.6 (Existing Noise Environment)		There needs to be a discussion of the fact that the "intervening mesas" do not block all noise from the Topock Compressor Station. For example, at the location of ST-1, an area of great relevance to Tribal members, the compressor station is quite possibly the most significant noise source, during either day or night.
61	Section 4.7.1.8 (Existing Noise Environment) and Figure 4,7-2		Please provide an explanation as to why the 2013 ST-1, ST-2 & ST-3 (green symbol) measurement locations are not even close (especially for ST-2 and ST-3) for different epochs of measurements. The legend should indicate month and year of the data acquisition, as there were measurements in early 2013 by PG&E, and again in late 2013 by DTSC contractors for the EIR development.
62	Section 4 7.1 6 (Existing Noise Environment)		Please add a chronology for the 3 separate noise level measurement campaigns (2008, for the groundwater EIR; 12/2012-1/2013 for groundwater remedy design development; 12/2013 for soils EIR), rather than mixing them all together.

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Comment No.	Section/ Page	Reference Text	DEIR Comment (Please provide sufficient detail, include specifically what you are looking for)
63	Section 4.7.1.6 (Existing Noise Environment)	Local roadway traffic, rail operations, aircraft overflights and wind gusts dominated the noise environment at each of the noise measurement sites	This interpretation is not correct. For example, at the location of ST-1, Topock Compressor Station noise does at times dominate the noise environment, and, at LT-C, ST-4, ST-8 and LT-A, the compressor station noise is likely to be a significant or dominant component of measured noise.
64	Section 4.7.1.6 (Existing Noise Environment)		Please include explanations of the rationale for noise measurement site selection for, at a minimum, the 12/2013 noise measurements made as part of the soils EIR development, identification of the equipment used, and provision of the measurement protocols followed.
65	Table 4,7-1		Please consistently indicate the source of the data by month/year, e.g., 12/2013, or December, 2013. For sites 4 thru 9, a footnote should be added, indicating that a single 15-minute measurement was made at each location in December of 2013.
66	p. 4.7-9 (Vibration-Sensitive Land Uses)		Please add a statement to the effect that Tribal uses at various locations across the TCP would also be considered vibration sensitive.
67	p. 4.7-10 (State of California). 2 rd paragraph		In the second sentence, it is stated that "Caltrans recommends a more conservative threshold" Please clarify the meaning of more conservativei.e., conservative RELATIVE to what?
68	p. 4.7-18 first complete paragraph	soil investigation sampling activities could lead to	Please modify to read:soil investigation sampling activities AT WHICH LOCATIONS could lead to
69	p. 4.7-18 first complete paragraph	The nearest sensitive residence to the active soil sampling area	Please add a sentence to be more specific about the residence location and the soil sampling location.
70	p. 4.7-19, second bulleted item	Pneumatic powered socketshielded.	Please modify to read: Pneumatic-powered socket wrenches shall be low- noise (<85 dBA when operating - such as pneumatic-powered air pulse wrenches), and all intake and exhaust ports on power equipment, such as engine driven air compressors, shall be muffled and shielded using best-

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Comment No.	Section/ Page	Reference Text	DEIR Comment (Please provide sufficient detail, include specifically what you are looking for)
71	p. 4.7-19, fourth bulleted item		Please modify to add: The PG&E Disturbance Coordinator will also verify and document (sub)contractor and (sub)consultant compliance with all EIR Noise and Vibration Mitigation Measures. For example, the Disturbance Coordinator will verify and document that (sub)contractors possess at the site and are using the required low-noise pneumatic wrenches, and that intake and exhaust ports on power equipment are mulfiled and shielded while such equipment is in operation.
72	Table 4.7-5 p. 4.7-20	VIBRATION VELOCITIES FOR CONSTRUCTION EQUIPMENT	Based on footnote <i>b</i> , this table appears to have been prepared with consideration only for adjoining residential land use. It needs to be modified to also take into consideration non-residential Tribal use locations, even hypothetical locations identified by the EIR authors, as those locations are highly relevant and they could be much closer to the source(s).
Other CEQA Section	ns (Section 5)		
73 .	5.1.1 Cultural Resources Topock Traditional Cultural Property p. 5-2	The Project is being proposed notwithstanding these effects because the soil investigation activities are necessary to gather sufficient information to reliably characterize the nature and extent of soil and sediment contamination within the Project Site, enabling completion of the Final RFI/RI Report Volume 3 (Soil) and risk assessment as required by the 1996 Consent Agreement as soon as practicable and consistent with applicable state laws and regulations.	We would like a better understanding of the validity of this statement. It is possible that there is enough soil data to adequately characterize risk? The PG&E risk assessment team has already acknowledged that they have determined that current dataset adequate. The additional step out sampling proposed under the soil investigation will only result in less conservative EPC values because these step-out samples will have lower contaminant concentrations. It is important that the requirements needed to reliably characterize the nature and extent of soil and sediment contamination within the Project Site be clearly defined and included in the DEIR document. If the assumption is true that additional sampling will only decrease the EPC values and the subsequent calculated risk then it would appear that a conservative alternative for reducing impacts would be less sampling and this must be evaluated in the DEIR as a reasonable alternative to achieve project goals.

pock Comp	ressor Station S	Soil Investigation Project Dra	ft EIR September 5, 2014
Comment No.	Section/ Page	Reference Text	DEIR Comment (Please provide sufficient detail, include specifically what you are looking for)
74	5.3.1 Agricultural Resources p. 5-6	The proposed Project Site is characterized by arid conditions and high temperatures. While there are agricultural uses north of the Project Site and in Needles along the Colorado River, the landscape at the Project Site consists of considerably eroded small to moderately sized terraces with very steep slopes. These conditions are not conducive to agriculture uses. The National Resource Conservation Service has not mapped soils in the Project Site; therefore, no soils in the area have been designated as agricultural soils (NRCS 2013).	The statement that the conditions of the area are not conducive to agriculture uses contradicts the inclusion of a sustenance farm scenario in the risk assessment. The assumptions in the RAWP and the EIR and any other related documents must be made consistent.
75	Sect. 5.3.10, and Appendix E p. 5-13	Transportation and Traffic	Traffic impact analysis does not describe the condition of current roads and whether the roads can handle the additional traffic.
75	Sect. 5.3.10, and Appendix E p. 5-13	Transportation and Traffic	Few descriptions were provided for traffic on the historical Route 66 past the IM-3 facility and Park Moabi South road to the Compressor Station. Both of these roads pass through important cultural areas. How many vehicle trips would be added to these segments?
77	Sect. 5.3.10, and Appendix E p. 5-13	Transportation and Traffic	The DEIR indicates that roads and access routes will be improved, graded, or cleared; where other sections of the report indicate that there will be no disturbance, or kept to a minimum. Is there a possibility that there will be no need for any grading or clearing?
78	5.3.11.1 Soil Waste p. 5-17	The waste soil will be stored in U. S. Department of Transportation-compliant drums or lined, steel roll-off soil bins that would be temporarily staged in previously used staging areas to the extent practicable.	Please provide displaced soil volumes associated with all aspects of the soil sampling plan.
79	5.3.11.1 Soil Waste p. 5-18	As shown in Table 5-3, the maximum projected waste stream of up to 20 cubic yards would not exceed the available capacity of relevant landfills.	Please provide more detail on the assumptions used to develop this quantity. Additionally, supporting documentation, calculations, and assumptions need to be included in the report. If these projected estimates are exceeded, what action will be taken?

oock Comp	ressor Station S	oil Investigation Project Dra	ft EIR September 5, 2014
Comment No.	Section/ Page	Reference Text	DEIR Comment (Please provide sufficient detail, include specifically what you are looking for)
80	5.3.11.2 Water and Wastewater Soil Sampling Activities and Geotechnical Evaluation p. 5-19	It is expected that up to 2,000 gallons of wastewater would be generated from soil sampling (plus 500 additional gallons of wastewater for contingency sampling if required).	Please provide more detail on the assumptions used to develop this quantity. Additionally, supporting documentation, calculations, and assumptions need to be included in the report. If these projected estimates are exceeded, what action will be taken?
81	5.3.11.2 Water and Wastewater - Pilot Studies, In Situ Soil Flushing p. 5-20	The amount of water required for the flushing would range between 700,000 to 1,000,000 total gallons of water (approximately 8,000 gallons per day).	Please provide more detail on the assumptions used to develop this range. Additionally, supporting documentation, calculations, and assumptions need to be included in the report. If these projected estimates are exceeded, what action will be taken?
82	5.3.11.2 Water and Wastewater - Pilot Studies In Situ Soil Flushing p. 5-21	PG&E's existing Lower Colorado River Water Supply Project contracted entitlement is 422 AFY. Water at the Station is supplied by wells located on the Arizona side of the Colorado River, and these wells would also supply water needed for in situ soil flushing Up to 1,000,000 gallons of water (approximately 3 AFY) generated from soil flushing is a fraction of the 70 to 100 AFY of water used at the Station.	Please discuss the elevated arsenic and fluoride levels associated with the Arizona groundwater and whether this would trigger any regulatory requirements for the use of this water for soil flushing and in situ soil treatment. Would one need to ensure that arsenic is not migrating to groundwater?
83	5.3.11.2 Water and Wastewater - In Situ Stabilization/Chemic al Fixation p. 5-21	The in situ stabilization/chemical fixation pilot study would involve the application of water or additives containing water to soil to enhance contaminant solubility.	What are the additives and what level of assurance will be provided that these additives will not become a new soil contaminant?
mulative Analysis	(Section 6)		
84	Section 6.4.2 (List of Related Projects in the Vicinity)		Prospective pipeline company (PG&E – other than remediation-related, Southern California Edison, Kinder-Morgan, Southwest Gas), City of Needles electrical, and BNSF improvement projects are not included but should be considered in this section.

Comments on t	he Pacific Gas	& Electric Company	FROM: Hualapai Tribe/TRC	
Topock Compre	essor Station S	oil Investigation Project Dra	aft EIR September 5, 2014	
Comment No.	Section/ Page	Reference Text	DEIR Comment (Please provide sufficient detail, include specifically what you are looking for)	
85	Section 6.4.2 p. 6-6	Baseline/existing conditions: "The existing infrastructure within the Project Site, including roads, bridges, railroads, and utilities are not included in the Table 6-3, since these past projects in the vicinity of the proposed Project are part of the baseline/existing conditions"	Please explain how the EIR is differentiating between environmental baseline and past projects contributing to cumulative effects, particularly to soil. It is important to specifically mention large land usage/disturbances that have involved soil removal and/or expansion of the TCS foot print outside of the facility fence line when discussing what is included in this "baseline". Presumably, the term "baseline conditions" used herein incorporates major expansions of the facility foot print represented by the area used for the former evaporation ponds, the 1989 construction, on BLM land, of new evaporation ponds, the 1989 construction ponds utilized large tracts of previously open lands, and the soils removal action at AOC4 resulted in a large area of disturbance and soils removal. While each of these occurred prior to the initiation of this EIR document, they all constitute significant and permanent or long lasting damage of the landscape which significantly increased the impact to the area, and encroached upon the most sensitive of the cultural areas included in this	T7-113
			EIR. Please include each of these past projects in the cumulative impact analysis evaluated within this document. <i>Hualapai are concerned with</i> <i>cumulative impacts and baseline/existing conditions contributing to over-all</i> <i>cumulative impacts.</i> According to CEQA, "minimizing impacts by limiting the degree or magnitude of an action needs to be considered." By not listing all infrastructure impacts on Table 6-3, CEQA is not being addressed. CEQA guidelines are very specific in this regards (CEQA §15002(h). Please provide how the project will address unavoidable significant environmental damage? What and where are the mitigation measures? (see CEQA § 15370).	T7-114

Comments on t	he Pacific Gas	& Electric Company	FROM: Hualapai Tribe/TRC	
Comment No.	Section/ Page	Reference Text	DEIR Comment (Please provide sufficient detail, include specifically what you are looking for)	
86	6.4.2 List of Related Projects in the Vicinity p. 6-6	The soil characterization and investigation proposed as part of this DEIR will by nature be completed by the time the soil remedy is identified and implemented and therefore no temporal overlap between the soil investigation Project and the soil remediation would occur. As such, the potential effects of any future soil remediation are not included in this cumulative analysis.	The DEIR text states that: "This chapter presents an analysis of the cumulative effects of the proposed Pacific Gas and Electric Company (PG&E) Topock Compressor Station Soil Investigation Project (Project) in combination with other past, present, and reasonably foreseeable future projects within the Project Site and surrounding area that could cause related environmental impacts similar to those anticipated to occur under the proposed Project and discussed in this draft environmental impact report (DEIR)" It would appear that the final soils remedy would fall under the category of past, present, and reasonably foreseeable future projects and therefore it is not clear why it isn't being considered in the cumulative analysis. Please include the final soils remedy under the cumulative impact analysis	T7-115
87	TABLE 6-3 LIST OF PROJECTS LOCATED AT OR WITHIN THE VICINITY OF THE PROPOSED PROJECT		Why is the development of the ACEC management plan not listed?	T7-110
88	TABLE 6-3 LIST OF PROJECTS LOCATED AT OR WITHIN THE VICINITY OF THE PROPOSED PROJECT		The time-critical removal action which resulted in significant soil excavation from AOC-4 should be included in this table.	T7-117

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Comment No.	Section/ Page	Reference Text	DEIR Comment (Please provide sufficient detail, include specifically what you are looking for)
89	6.4.2.1 PG&E Topock Compressor Station Projects Ongoing Operation of Interim Measure 3 Emergency Groundwater Extraction and Management (1B) p. 6-10		Why is removal of IM3 not considered as a PG&E project and subsequently discussed in the cumulative impact analysis??
90	6.4.2 1 PG&E Topock Compressor Station Projects Groundwater Remediation Project at the Station (1C). p. 6-11	It is not anticipated that construction of the Groundwater Remediation Project would overlap with the proposed Project's soil investigation activities.	Groundwater activities currently and will be occurring at the site. For example current activities associated with freshwater source characterization are ongoing and will likely overlap with soil investigation work. Please correct this statement.
91	6.5.8 Hazards and Hazardous Materials p. 6-26	The PG&E projects are restricted to the area local to the Station, and would not be expected to be compounded by other projects in the area due to the physical separation.	Please confirm that the release of hazardous materials through transportation to waste disposal sites has this been considered.
ernatives to the P	roposed Project (Sect	ion 7)	
92	Section 7 5 1 p. 7-6 to 7-8	Rejection of Tribal Land Use Alternative	DTSC presents their basis for rejection of the Tribal Land Use Alternative with respect to the selection of soil screening levels to direct the soils sampling program. However, in order to reduce the drastic and ultimate potential for significant damage to the landscape due to soil remediation and/or removal activities, the various reasonable and realistic scenarios described in the Tribal Land Use Alternative should be fully considered during the evaluation and interpretation of the soils data collected in this program.

Comment No.	Section/ Page	Reference Text	DEIR Comment (Please provide sufficient detail, include specifically what you are looking for)
93	Table 7-1 p. 7-5	"Impact CR-2","No known unique archaeological resource have been identified within the Project Site."	The assumption that areas outside of loci A, B, and C do not contain unique archaeological resources is incorrect. The participating Tribes submitted a TCVA amendment in April 2014 to address an area outside of the defined loci A, B and C that was designate highly sensitive for its elements of cultural patrimony and association with the Topock TCP. Because of the highly cultural, spiritual, and religious nature of this area it goes beyond archaeological manifestations and therefore cannot be addressed solely through archaeological methodology. The TCVA exclusion area has been adopted by BLM and activities within the exclusion area have been modified to reduce the project activity footprint in this area. Please clarify what constitutes a unique archaeological resource. Hualapai is concerned that the importance of intangible elements are being disregarded. The CIMP was to be a cultural impact mitigation measure/program, not strictly archaeological. What measures are going to be acted upon in order to protect culturally significant aspects, both tangible and in-tangible? We attempted to place an exclusion zone that would protect one specific area. That is not being acknowledge. We hope that a collaborative process will be considered that will acknowledge tribal concerns and provide meaningful implementation processes PRIOR to any infrastructure construction activities or soil testing activities.
94	7.5.2 p 7-10	" a commenter presented an alternative that would go beyond the proposed investigative and data collection activities, and would also incorporate cleanup actions into the proposed Project. Under this alternative, toxins and chemicals of concern would be removed when found, thereby expediting the cleanup process."	Practical experience has shown that soil removal actions that progress as the characterization samples are taken typically result in much greater soil removal than would have occurred with a more deliberate and considered course of action where sufficient time is allowed to fully study and understand the characterization data. A careful consideration of the data, and evaluation of whether or not removal is even necessitated, and if so how it may be controlled and minimized is preferred.

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Comment No.	Section/ Page	Reference Text	DEIR Comment (Please provide sufficient detail, include specifically what you are looking for)
95	7.6.1 Reduction of Project Footprint Alternative (Avoid Mouth of Bat Cave Wash) p. 7-11 to12	"If DTSC were to eliminate sampling in this area, the information necessary to fully evaluate the nature and extent of contamination known to be present in this area would not be collected and the fundamental objectives of the Project would not be met."	The EIR argues that elimination of soil sampling at the mouth of Bat Cave Wash is unavoidable in order to achieve the goals of the project. However, every effort to avoid unnecessary sampling should be considered, given the wholesale impact that drilling and sampling at the planned 23 locations would have to this part of Bat Cave Wash. The seven samples that this additional sampling event was based upon only show nominal exceedances above background and/or threshold concentrations. It would seem logical to try to avoid unnecessary sampling in this area if data supported it. Therefore, if sampling were to occur in a phased manner, such as sampling at the northern most and southern most locations first, an evaluation of this data might indicate that the full 23 sample locations

Hualapai Indian Tribe Loretta Jackson-Kelly September 5, 2014

T7-001

Letter

Response

T7

The commenter indicates that their concerns regarding Topock were not fully addressed, that the Hualapai Tribe's perspectives were not applied throughout the draft environmental impact report (DEIR), and that there is a lack of integrating intangible concepts into the discussion. The California Department of Toxic Substances Control (DTSC) thanks the Hualapai Tribe for commenting on the DEIR. DTSC understands that the Topock area is very sacred to the Hualapai Tribe and that any physical disturbances are unacceptable to the Hualapai Tribe. DTSC attempted to include the Hualapai Tribe's perspective throughout the DEIR, particularly in the Introduction (see Section 2.2.4), Aesthetics section (see pages 4.1-8, 4.1-9, 4.1-20, 4.1-44), and Noise section (see pages 4.7-7, 4.7-19, and 4.7-20), in addition to the Cultural Resources section. However, the California Environmental Quality Act (CEQA) does not provide an avenue to analyze impacts to intangible elements. CEOA requires an agency to consider the effects of a project on the environment, which is defined as "the physical conditions that exist within the area" (see Public Resources Code [PRC] Section 21060.5). Nevertheless, DTSC attempted to recognize Tribal views of the Topock area and the intangible aspects of the Topock Traditional Cultural Property (TCP) in its analysis of impacts to the TCP, which found that the Pacific Gas and Electric Company (PG&E) Topock Compressor Station (Station) Soil Investigation Project (Project) would result in a significant and unavoidable impact to cultural resources, including the Topock TCP, and significant and unavoidable noise due in large part to the sacred nature of the area to Interested Tribes.

The commenter expresses concern with the conclusions in the DEIR T7-002 about the environmentally superior Reduction of Project Footprint Alternative being rejected as infeasible. The DEIR identifies this alternative as the environmentally superior alternative, as required by CEQA Guidelines Section 15126.6, and as noted by the commenter. CEQA does not require lead agencies such as DTSC to adopt the environmentally superior alternative if there are specific legal, social, technological, or other considerations that make the alternative infeasible (CEQA Guidelines Section 15091(a)(3)). It should also be noted that none of the alternatives included in the DEIR have been rejected by DTSC. Rather, the environmental impact report (EIR) explains whether, and to what extent, the alternatives would be able to meet the Project objectives, and compares the environmental impacts of the alternatives to the proposed Project. The discussion in the DEIR is for informational purposes only. DTSC will consider the analysis in the EIR before making a decision and adopting any CEQA Findings of Fact or Statement of Overriding Considerations.

The commenter also states that the DEIR describes activities occurring on previously disturbed locations for which the Hualapai Tribe specifically requested exclusion zone applicability. The letter does not identify the sites to which the commenter refers, however. For additional clarification on exclusion zone applicability in Bat Cave Wash, please refer to responses to comments T7-033 through T7-035.

The commenter expresses dissatisfaction with the mitigation measures included in the DEIR, summarizing the definition of mitigation in Section 15370 of the CEQA Guidelines. The particular comment provides no detail or differing opinions regarding particular environmental impacts disclosed in the DEIR and does not provide suggestions for additional or revised mitigation measures. The DEIR provides a comprehensive evaluation of environmental impacts associated with the proposed Project and substantial evidence is provided in each section supporting the environmental determinations made. Where necessary, detailed mitigation measures have been provided; in all instances except Cultural Resources (Section 4.4) and Noise (Section 4.7), implementation of the provided mitigation measures would reduce impacts to less than significant. Please see Table 1-1, "Summary of Environmental Impacts and Mitigation Measures" for a complete listing of the DEIR's conclusions regarding the significance of the environmental impacts of the Project and mitigation measures for those impacts found to be significant and adverse. The mitigation measures include timing, responsible parties, and procedures for ensuring enforcement, which varies depending on the impact and environmental resource being protected. The lead agency will prepare a Mitigation Monitoring Reporting Program (MMRP) to be approved along with the EIR, if DTSC determines appropriate, that will be used to track and enforce mitigation measure compliance.

T7-004 The commenter expresses the opinion that the mitigation measures presented under impacts CR-1 through CR-4 in regard to the National Registry determinations are inconsistent, do not consider intangible cultural elements, fail to provide mitigation, and fail to protect tribal interests. National Register determinations for cultural resources within the Project Site are listed in Table 4.4-1 and are taken from existing documentation, with citations provided as footnotes. For this Project and pursuant to CEQA Section 15064.5(a), all resources within the Project Site that have not been evaluated for listing in the National Register or the California Register have been discretionarily determined to be historically significant by DTSC and are considered historical resources for purposes of this DEIR. Impacts to all known historical resources are analyzed in the DEIR and mitigation measures are provided (CR-1 and CR-2) to reduce impacts to those resources. With the exception of the Topock TCP, all known historical resources have been avoided through Project design. Impacts to unknown historical resources are addressed in Mitigation Measure CR-2 as well. Nevertheless, the DEIR concludes that impacts to historical resources would remain significant and unavoidable. DTSC has included Tribal interests in the conclusions and

T7-003

	mitigation, which, among other things, affords the Tribes the opportunity to participate in, review, and comment on cultural and scientific studies (CR-1a-1 and CR-1c-2); provides for Tribal access to the Project Site (CR-1a-2); requires continued communication and ample notification of activities to the Tribes (CR-1a-3); allows the Tribes the opportunity to participate in the worker cultural resources sensitivity program (CR-1b); and affords the Tribes the opportunity to monitor Project-related ground disturbance (CR-1d).
T7-005	The commenter requests that PG&E not have a role in the decision to extend, reduce, or terminate the Technical Review Committee (TRC) and that the TRC be extended through soil remediation and 5 years after groundwater remediation implementation. The duration of the TRC and its future continuation is guided by the certified Groundwater Remediation Project Final Environmental Impact Report (FEIR) Mitigation Measure CUL-1a-4 (DTSC 2011). Reference to the TRC was included in the Soil Investigation Project EIR to clarify that it applied to the Soil Investigation Project as well. If the soil investigation concludes that a soil remedy is needed, the applicability and continuation of the TRC for the soil remedy would be addressed at that time during the CEQA process. The necessity and dollar value of the TRC will also be assessed at a later date by the parties identified in the measure.
T7-006	The commenter notes that the Hualapai previously presented draft conceptual mitigation measures and the DEIR failed to address any of the suggested measures related to cultural, religious, social, and economic impacts. Comments T7-009 through T7-019 are contained within an attachment titled "DTSC/Tribal Coordination Meeting – December 16, 2013, Conceptual Cultural Resources Mitigation." This information was circulated to DTSC as part of a focused meeting held with Interested Tribes in December 2013 to discuss conceptual mitigation measures (meeting referenced on page 4.4-47 of the DEIR) and was a discussion point during that meeting. These suggested measures were provided without the benefit of having seen the DEIR or the identified significant adverse impacts to the physical environment that would trigger mitigation, including mitigation which reflects the constitutionally required "nexus" and "rough proportionality" to the identified significant adverse impacts on the physical environment as required by CEQA. These measures were considered by DTSC as part of the DEIR preparation, and do not present new information as it relates to potential impacts and mitigation measures. Responses to each of the suggested measures are provided in subsequent comments.
T7-007	The commenter states that a table prepared with the assistance of the TRC has been attached to the comment letter, with Hualapai comments in italicized font. The comment is noted for the record and responses to the TRC table are included in this FEIR.
T7-008	The commenter identifies Secretary Jewell's August 20, 2014, Order No. 3335, which reaffirms the Federal Trust Responsibility to federally

recognize Tribes, and suggests that the Order be incorporated into the consultative process between Tribes and agencies for the Topock Remediation Project. The commenter also states appreciation for the ongoing consultations and collaborations with the Topock Remediation Project and remains available to provide further clarification on the comment letter. This comment is noted. Although Secretary Jewell's U.S. Department of the Interior (DOI) guidance, including Order No. 3335, does not apply to DTSC as a state agency, DTSC's decision-making will continue to reflect the spirit of the Order, including respect for Tribal sovereignty and self-determination, and being responsive and informative in all communications and interactions with Indian Tribes and members of Interested Tribes. DTSC defers to DOI and "all bureaus and offices of the Department" that are directed by the Order in their consideration of Secretary Jewell's Order No. 3335 and its applicability to their decision-making as part of the proposed Project.

The commenter requests that a biological survey of riparian habitat be conducted biannually with Tribal representatives and that survey findings of all biological surveys be submitted to the Tribes. The analysis presented in Section 4.3, "Biological Resources," of the DEIR indicates that the Project would not require substantial grading or permanent vegetation removal, but would instead be limited to trimming, pruning, or limited clearing (see page 4.3-47). Mitigation Measure BR-1 is therefore adequate to address the potential impacts to riparian habitat from the Project under these circumstances. The Project would not impact the entire riparian system that exists in the TCP, and any impacts to the riparian system would be limited in scale and reduced through Mitigation Measure BR-1. Accordingly, the mitigation measure suggested by the commenter entailing surveys of the entire TCP for the life of soil remediation, if any is required, lacks the constitutionally required nexus and rough proportionality to the Project's impacts (see CEQA Guidelines Section 15041). For this reason, DTSC cannot legally impose such a requirement (see PRC Sections 21081.6, subd. (b), 21004 [CEOA does not expand agency authority to impose conditions]; see also CEQA Guidelines Section15126.4, subd.(a)(2),(4) [same].) Additionally, in accordance with DEIR Mitigation Measures CR-1a-1 and CR-1d, Interested Tribes are afforded the opportunity to participate in biological surveys and review and comment on all resulting documentation.

T7-010 The commenter suggests mitigation that identifies the nesting bird season from February 15 through August 31; requires that a Tribal monitor be present during the pre-investigation surveys; requires that the surveys be conducted no more than 3 days prior to beginning work; and implements a minimum 300-foot no-disturbance buffer (500 feet for raptors) around active nests using fencing.

The nesting bird season currently described in the DEIR (March 15 through September 30) was taken directly from the *Programmatic Biological Assessment for Pacific Gas and Electric Topock Compressor Station Remedial and Investigative Actions* (PBA) and the Final Bird

T7-009

T7-011

Impact Avoidance and Minimization Plan (BIAMP; CH2M HILL 2014; **Appendix J** to this FEIR); both documents were written based on scientific research and reviewed by U.S. Fish and Wildlife Service (USFWS). In order to retain consistency between the Soil Investigation Project EIR and the PBA, no revisions to the nesting bird season within the mitigation measure will be made. Mitigation Measure BR-4 requires preconstruction field surveys for bird species and, depending on the results of those surveys, that mitigation and avoidance measures in the BIAMP be implemented.

Please see Cultural Resources Mitigation Measure CR-1d, which affords Interested Tribes the opportunity to participate in all scientific surveys, including biological resources surveys, as requested by the commenter.

As described in Mitigation Measure BR-4 of the DEIR, surveys shall be conducted no more than 72 hours prior to beginning investigation activities. Furthermore, species-specific avoidance buffers shall adhere to Table 6-1 of the BIAMP. The BIAMP is included as an appendix to the FEIR (Appendix J). The BIAMP recommends buffers from 15 feet to 300 feet, depending on the bird species. Species such as Anna's hummingbird and mourning dove would require a 20- to 50-foot buffer, whereas raptors would require a 100- to 300-foot buffer, depending on the species. Applying a general 300-foot buffer for all bird species is impractical and unrelated to the Project's potential impacts. Accordingly, the mitigation measure suggested by the commenter lacks a nexus and rough proportionality to the Project's impacts, and is not required to reduce any significant impacts.

The commenter presents a mitigation measure related to the suppression of dust emissions. Dust suppression is standard practice in areas where a surface will be disturbed by a project. As discussed in the DEIR on page 4.2-11, all work for the Project will comply with Mojave Desert Air Quality Management District Rule 403, which requires that dust emissions from earthmoving activities or any other construction activity be prevented. Many of the dust suppression techniques discussed in the DEIR are the same techniques proposed by the comment (e.g., using water for dust suppression). In addition, as discussed in the DEIR on pages 4.6-18 and 4.6-19, prior to any soil investigation activities, an erosion control plan will be prepared and implemented as part of the Project; this plan will include erosion control measures such as hydraulic mulch, straw mulch, and wood mulch, as well as geotextiles, plastic covers, and erosion control mats. The above listed regulations and Project features are adequate to ensure that potential environmental impacts from dust are maintained at a less than significant level. To the extent that the suggested mitigation measure proposes dust suppression on surfaces not disturbed by Project activities, the measure would lack a nexus and rough proportionality to the Project's impacts and cannot be imposed by DTSC. The commenter is referred to CEQA Guidelines Section 15041 for further information.

T7-012	The commenter presents a mitigation measure related to the transport of soil off-site, and identifies specific parameters related to the screening of cultural resource materials that may be present. As described in the DEIR on pages 4.6-18 through 4.6-20, the Best Management Practices of the
	Project include many of the dust control measures listed in the suggested mitigation measures including removing mud track out and covering or
	wetting soil to limit visible dust. In addition, Mitigation Measure CR-1e-
	7 requires PG&E to comply with the <i>Management Protocol for Handling</i> and Disposition of Displaced Site Material Topock Remediation Project
	Needles, California (the "Displaced Soil Protocol") in Appendix J of the
	Soil RCRA Facility Investigation/Remedial Investigation Work Plan
	(Soil Work Plan). This protocol requires processes to ensure input from
	the Tribes regarding the management of the material that will be
	displaced as a result of the work (see Displaced Soil Protocol, page 2).

The commenter opines that the Project would disturb significant trails and cut off the ability of the Tribes to travel physically and spiritually along these trails. Trails are analyzed in Section 4.4, "Cultural Resources" as contributors to the TCP. The DEIR states that several Interested Tribes have indicated that trails mark the pathways that ancestors traveled, both in the physical and dream realms (DEIR pages 4.4-15 and 4.4-25). Within Mitigation Measure CR-1c-2, Interested Tribes are afforded the opportunity "to identify, and DTSC to consider, for the purposes of avoidance, any physical features of Tribal significance within the field verification area, including but not limited to *trails*, rock features, desert pavement, and cleared circle areas that might be considered contributors to the TCP" (emphasis added).

> The commenter further suggests that extant trails in the Topock Cultural Landscapes should be field mapped. The extant trails in the TCP have been surveyed and those that may be significant were field-mapped by a qualified archeologist as part of various inventory and survey efforts conducted in and around the Station. Specifically, the extant trails in the TCP were recorded during a survey conducted in 2004 when the Department of Interior expanded the Area of Potential Effects ("APE"). The trail segments were field mapped by a qualified archaeologist (McDougall and Horne 2007). The Tribes were invited to monitor the mapping exercise; the Chemehuevi Tribe was the only Tribe to be present during to monitor the mapping exercise. The mapping covered the proposed Project boundary; therefore no further mapping is required as a result of the Soil Investigation Project. As a result of the mapping for the efforts described, it was determined that the proposed Project would not disturb any trails identified by the mapping. Further, even if the Project were to disturb a trail, the Project would not disturb all trails in the Topock Cultural Landscape. For this reason, the mitigation measure suggested by the commenter of field mapping all trails in the Topock Cultural Landscape and preservation of all such trails lacks a nexus and rough proportionality to the Project's identified impacts (see CEQA Guidelines Section 15041). DTSC would not be able to legally impose such a requirement (see PRC Sections 21081.6, subd.

T7-013

T7-015

(b) and 21004 [CEQA does not expand agency authority to impose conditions]; CEQA Guidelines Section 15126.4, subd.(a)(2),(4) [same]).

T7-014 The commenter indicates that the Project would disturb significant cultural resources and requests that the entire Topock Cultural Landscape be documented. The portions of the TCP that the Project may disturb have been field surveyed and significant cultural resources were mapped by a qualified archeologist. The Tribes were invited to monitor the mapping and the Chemehuevi Tribe did so. No additional mapping is required. The archeologist identified significant cultural resources, which would be avoided. The Project has been designed to avoid direct physical impact to known prehistoric resources and Mitigation Measure CR-2 provides for the treatment of any unknown resources that may be encountered as a result of the Project. In the event that the Project disturbs a significant cultural resource, the resource would be treated in accordance with the requirements from the agencies and CEQA (PRC Section 21083.2).

The Project would not disturb the entire TCP and therefore the proposal to map and preserve the entire area lacks a nexus and rough proportionality to the Project's identified impacts (see CEQA Guidelines Section 15041). For this reason, DTSC cannot legally impose such a requirement (see PRC Sections 21081.6, subd. (b), 21004 [CEQA does not expand agency authority to impose condition]; CEQA Guidelines Section 15126.4, subd.(a)(2),(4) [same]).

The commenter suggests a mitigation measure to provide financial support for Tribal interpretive centers on tribal lands that describe, educate, and engage Tribal communities in disseminating and preserving traditional cultural identity through Tribal languages. This measure would provide support through grants and phased funding, for Tribal interpretive facilities/museums, language programs, and healthy food systems. This suggested mitigation measure does not have a nexus or rough proportionality to the significant adverse impacts of the Project to the physical environment (see CEOA Guidelines Section 15041). The comment does not provide evidence to establish that the proposed Project may undermine the public or the Tribes' awareness of the Tribes' cultural heritage, and explain how the Project would cause reasonably foreseeable significant adverse effects on the physical environment. Further, the evidence does not demonstrate a rough proportionality between the scope of the impacts of the Project and request to provide financial support for tribal interpretative centers (see CEOA Guidelines Section 15126.4, subd. (a)(4) [there must be an "essential nexus between the mitigation measure and a legitimate government interest," and the measure must be "roughly proportional to the impacts of the project"]).

This comment is similar to comments that were submitted on the groundwater remedy mitigation measures, after the public review period on the Groundwater Remediation Project FEIR. See the response set forth on page 49 of DTSC's January 31, 2011, Findings of Fact
	document. DTSC made a number of changes in the groundwater remedy mitigation measures, but found that funding of a heritage or interpretive center would not have a nexus or rough proportionality to the Groundwater Remediation Project. This rationale applies to the Soil Investigation Project as well, which DTSC notes is a project of substantially smaller scope and impact.
T7-016	The commenter suggests a mitigation measure that ensures tribal compensation for involvement in monitoring, attending meetings, participating in project development and the Consultative Work Group, Technical Work Group, and Clearinghouse Task Force. Mitigation Measures CR-1e-8 and CR-1e-9 specify that the open grant funding for the TRC and TRC itself will continue through the Project at least until the selection of the soil remedy, if any, and/or construction phase of the groundwater remedy. DTSC will determine the appropriate mitigation measures for the soil remediation project if one is deemed needed in the future, when that project is proposed and DTSC analyzes its potential significant environmental impacts. To the extent that the suggested mitigation measure proposes mitigation for potential future projects, including the soil remediation project, but not the Project at issue, the measure lacks a nexus and rough proportionality to the Project's impacts and cannot be imposed by DTSC (see CEQA Guidelines Section 15041).
	The statement that funding should continue through the life of the Project is noted and will be taken into consideration by DTSC.
T7-017	The commenter lists, as part of its suggested conceptual cultural resources mitigation, the creation of a trust fund for a Cultural Preserve at Topock to help preserve the Topock Cultural Landscape in view of the encroaching Park Moabi tourist facility for future generations.
	The mitigation measure does not have a nexus, nor would it be roughly proportional, to the identified significant adverse impacts of the Project. It is therefore unable to be constitutionally imposed as a mitigation measure by DTSC (see <i>Nollan v. California Coastal Commission</i> , 483 U.S. 825 (1987); <i>Dolan v. City of Tigard</i> , 512 U.S. 374 [1994]). The establishment of a "Cultural Preserve" outside of the Project Site would not mitigate any of the significant adverse impacts of the Project to the physical environment. The Project also will not permanently remove or otherwise develop surface lands within the Project Site as would a commercial, retail, or other types of permanent buildings for which a similar open space or agricultural preservation measure could be required (see CEQA Guidelines Section 15041 [mitigation under CEQA must have a nexus and rough proportionality to the project impacts]; see also CEQA Guidelines Section 15126.4, subd. (a)(4) [there must be an "essential nexus between the mitigation measure and a legitimate government interest," and the measure must be "roughly proportional to the impacts of the project"]). This is the same reason DTSC rejected a similar mitigation request made during the Groundwater Remediation

EIR process (see 2011 CEQA Findings of Fact and Statement of
Overriding Considerations, pages 39 through 40.)

Further, the comment indicates that the proposed measure is intended to mitigate impacts from Park Moabi tourism rather than the Project. The proposal is therefore not tied to the reasonably foreseeable significant adverse impacts of the Project on the physical environment and cannot be required by DTSC under CEQA.

T7-018The commenter suggests requiring funding for increased security
measures around the Topock Cultural Landscape because of tourism and
increasing numbers of visitors to the Topock area. According to the
commenter, this also relates to recent vandalism at Grapevine Canyon.

As similarly explained in response to comment T7-017, this suggested mitigation measure also lacks a nexus or rough proportionality to the significant adverse impacts of the Project to the physical environment (see CEQA Guidelines Section 15041.) There is no evidence that the proposed Project will increase tourism, trespassing, or vandalism in the area. There also is no evidence linking PG&E's work in the area and the vandalism at Grapevine Canyon. Because the Project would not cause a reasonably foreseeable increase in tourism, the EIR cannot require such mitigation (see CEQA Guidelines Section 15126.4, subd. (a)(4) [there must be an "essential nexus between the mitigation measure and a legitimate government interest," and the measure must be "roughly proportional to the impacts of the project"]). This is the same reason DTSC rejected a similar request from the FMIT during the Groundwater Remediation EIR process (see 2011 CEQA Findings of Fact and Statement of Overriding Considerations, pages 40–41).

T7-019 The commenter suggests funding support for education and technical training for Tribal members, including requiring PG&E to provide for full higher-education tribal scholarships (two per educational year per participating tribe) for biology and/or ethnobotanical degrees, archaeology, hydrogeology, and museum studies.

Again, the suggested mitigation measure lacks a nexus and rough proportionality to the identified impacts of the Project (see CEQA Guidelines Section 15041). The funding of education for members of the Hualapai Tribe, while a benefit to the Hualapai Tribe, would not mitigate any significant adverse impacts of Project activities on the physical environment of the TCP beyond what can be despite the worthy nature of the request, DTSC would be unable to legally impose such a requirement on PG&E (see PRC Sections 21081.6, subd. (b), 21004 [CEQA does not expand agency authority to impose condition]; CEQA Guidelines Section 15126.4, subd.(a)(2),(4) [same]).

This comment is also similar to a comment submitted on the groundwater mitigation measures after the public review period on the groundwater EIR, also suggesting scholarships (see 2011 CEQA Findings of Fact and Statement of Overriding Considerations, on

pages 43–47). DTSC found that providing scholarships would not have a nexus or rough proportionality to the Groundwater Remediation Project. This rationale applies to the Soil Investigation Project as well, which is a project of substantially smaller scope and impact.

The commenter states that there is no evidence presented in the DEIR that documents that the DEIR incorporated the Soil Staging/Storage/Construction areas developed through discussions between Interested Tribes and the U.S. Department of the Interior (DOI)/U.S. Bureau of Land Management (BLM)/U.S. Bureau of Reclamation and detailed in the January 2014 Cultural and Historic Properties Management Plan (CHPMP) Meeting. As an example, the commenter states that some of the black hatch mark staging areas shown in Figure 3-3 the Tribes are in agreement with (#18) and others they are not (#20). The example is noted for the record and included in this FEIR. It should be clarified that these discussions were held to specifically discuss staging/storage/construction areas related to the Groundwater Project. As described in Section 7.4 of the DEIR (see page 7-4), prior to the publication of the draft Soil Work Plan, and as part of the soil data gap evaluation process, the California Department of Toxic Substances Control (DTSC) held multiple coordination meetings and site walks with Native American representatives and stakeholders in an effort to coordinate on what would be included in the planned soil investigation activities. This included consideration of the staging areas to be used for soil investigation activities. DTSC did not receive comments requesting modifications to the proposed soil investigation staging areas during the review of the Soil Work Plan. These efforts (dates and specifics) are documented in the Soil Work Plan (CH2M HILL 2013), Appendix A Part A Data Gaps Investigation Program, Section 1.0 Introduction (see Appendix A to the DEIR). Prior to and since the publication of the initial draft Soil Work Plan (CH2M HILL 2011). DTSC and Pacific Gas and Electric Company (PG&E) worked with agency and Tribal stakeholders to minimize the footprint and impact of the proposed soil investigation activities. Specific examples of how PG&E, under the direction of DTSC, was able to refine the design of the investigation and limit the amount of ground disturbance or other intrusion can be found on page 4.4-49 and 7-4 of the DEIR. Further, based on the groundwater related discussions referred to by the commenter. DTSC has had follow-up conversations with PG&E regarding the use of certain staging areas for the Soil Investigation Project. PG&E has agreed to avoid using the following staging areas during the soil investigation activities: areas at the east side of the evaporation ponds and 2) the small staging area across from Interim Measure 3 (IM-3). Avoidance of these staging areas will become conditions of approval for the Soil Investigation Project. With respect to staging area 25, assuming the historic resource of concern to the Tribe is the Route 66 sign, no impacts to the sign are anticipated from use as a staging area. As described in the DEIR section 3.5.2.7, page 3-23, in areas where natural boundaries or fencing are not sufficient to define a staging area, PG&E would temporarily mark the boundaries of the staging areas with traffic cones, caution tape, or straw

T7-020

wattles. The sign would fall outside of this boundary and would not be affected by the Project.

T7-021	The commenter states that a primary objective of the DEIR is to evaluate cumulative impacts (past, present, and foreseeable future) of the soil sampling program; however, previously drilled soil-sample boreholes are not shown or even mentioned in the DEIR. The purpose of the EIR is to evaluate the Project-specific and cumulative impacts from the proposed Project, which is the implementation of the current (2011) Soil Work Plan as well as additional activities described in the DEIR. Past soil investigation activities are described in the DEIR to provide context for the baseline/existing conditions at the Project Site. As explained in Master Response Cumulative Project, past projects that involved soil- sample boreholes have been added to the discussion of cumulative impacts (see new cumulative project 1G).Historical soil investigations that occurred at the Project site, such as those carried out in 1988, are considered as part of the baseline. See Master Response Cumulative Projects for more information on the past projects included in the DEIR.
T7-022	The commenter is concerned that CEQA is not being addressed in regard to describing how the Project will minimize impacts by limiting the degree or magnitude of the activities. A summary of the environmental impacts and mitigation measures for all activities and resource areas is included in the DEIR Table 1-1. The commenter does not point to any specific analysis, finding, or mitigation measure they are concerned about.
T7-023	The commenter states that the threat of soil contamination to groundwater and the approach to assess it as defined in the Project objective are not well described, and questions how modeling fits into the assessment. Appendices A and B (Data Quality Objectives) of the Soil Work Plan (which is provided as Appendix A to the DEIR) describes this item in detail. The use of vadose zone modeling is the third step in the multi-step evaluation process to evaluate the threat of soil contamination leaching into the underlying groundwater. Vadose zone modeling has not increased the number and depth of boreholes proposed in the Soil Work Plan (and correspondingly the Project Description presented in the DEIR). Modeling results are discussed in detail in Appendix C (sub-appendices) of Appendix A of the Soil Work Plan. Additional modeling and model refinement, if needed would be performed after results of the soil investigation activities are received.
T7-024	The commenter inquires as to what "existing data" is referred to regarding soil contamination, and questions whether it is limited to soil data or is it inclusive of all data collected as part of the groundwater and soil investigation/remediation. Chapter 1 of the DEIR (page 1-2) explains that the investigation of soil (i.e., the Project analyzed in the DEIR), along with existing data at the Project Site will enable the evaluation and selection of corrective measures, if necessary, in a future <i>Soil Corrective Measures Study/Feasibility Study</i> (Soil CMS/FS). The existing data referred to in the DEIR has been gathered from previous sampling

activities, including historic soil and groundwater-related sampling activities.

T7-025 The commenter seeks clarification regarding maps showing the extent of the project area that was analyzed in the DEIR, within which potential environmental impacts could occur (see in particular Figures 3-2 through 3-6 of the EIR). DTSC asserts that the DEIR is explicit in discussing and showing graphically where Project activities would occur. DTSC confirms that the "Project Site" is the term used throughout the DEIR to describe where Project activities would occur. However, Project graphics indicate "Project area" where "Project Site" should be used. Accordingly, all applicable figures have been updated in the FEIR. Additionally, there are a few instances where the term "Project area" is used in the DEIR. In response to the comment, the DEIR text in the following locations is revised in the FEIR:

DEIR text on page 4.1-10:

(Note that a contingency of up to 25 percent additional sampling locations is contemplated as part of this draft environmental impact report (DEIR) which could increase the level of activity in some portions of the Project <u>Site area</u>.

DEIR text on page 4.1-45:

As previously noted, a contingency of up to 25 percent additional sampling locations is contemplated as part of this DEIR, which could increase the level of activity in some portions of the Project <u>Site</u> area.

DEIR text in Table 4.4-1, page 4.4-30 (table title):

ARCHAEOLOGICAL AND HISTORIC-PERIOD BUILT RESOURCES WITHIN THE PROJECT $\underline{SITEAREA}$

DEIR text on page 6-32:

The proposed Project does not include residential development and would not bring any new, fulltime employees to the Project <u>Site area</u> that would require the expansion of public facilities.

DTSC agrees with the commenter that maps provided in the Soil Work Plan show the historic Area of Concern (AOC)/ Solid Waste Management Unit (SWMU)/ Undesignated Area (UA) boundaries as well as soil investigation locations (which are in many specific situations extend outside of the original AOC/SWMU/UA boundaries). As part of the DEIR process, DTSC developed a larger "Project Site" within which all Projectrelated activities would occur. This is a larger area than that identified within the Soil Work Plan, in order to capture all work areas (including access to each investigation site, ample room for individual types of work equipment, etc.) and any direct environmental impacts. No Project

	activities would occur outside this larger Project Site boundary. As described on page 3-3 of the DEIR, the Project Site totals approximately 128.5 acres (shown in its entirety in gray) and includes equipment staging (in black hatching), access/haul routes (in yellow), and observation areas (in blue hatching), in addition to the AOCs (shown in green), SWMUs (shown in purple), and UAs (shown in orange). Using "layering" is a common way for presenting multiple types of geographic information, and DTSC considers the EIR Project maps to be a clear and concise way of presenting the otherwise complex and overlapping information.
T7-026	The commenter requests that DTSC define the specific requirement used to determine if the nature and extent of contamination has been adequately fulfilled. Appendices A and B (Data Quality Objectives) of the Soil Work Plan (see Appendix A of the DEIR) describe this item in detail. The following factors are, for example, considered in the assessment of nature and extent: data usability, potential fate and transport mechanisms, and screening values. Evaluation of nature and extent consists of identifying newly detected compounds, point-by-point comparison to screening values, assessing lateral and vertical extent and trends of detected compounds, and central tendency comparisons between site data and background data. DTSC, as the state lead agency tasked with overseeing the investigation and cleanup of hazardous substance release sites, has broad discretion when conducting remedial investigations as provided under the Resource Conservation and Recovery Act (RCRA) as well as the Hazardous Waste Control Laws.
T7-027	The commenter expresses an objection to the potential infiltration gallery in Bat Cave Wash that is described on page 1-5 of the DEIR (also see pages 3-31 through 3-34 for more detail). It should be clarified that the infiltration gallery as discussed in the DEIR is proposed as a pilot study (soil flushing) in the event that soil cleanup is needed based on the results of the soil investigation. This proposed pilot study also has the option of using injection wells instead of an infiltration gallery. DTSC acknowledges the commenter's opinion regarding this issue. It is premature to discount this alternative at this time as it may later be determined that this is a less intrusive option when compared to other options such as soil excavation. The advantages and disadvantages of different remedial alternatives will be evaluated during the corrective measures study. DTSC also notes that this potential remedial technology may also be applicable at other portions of site, and cannot at this stage discount this potential remedy. In the event that soil cleanup pilot studies are necessary, work plans will be made available to all interested parties for review and comment, at which time more details would be provided for stakeholder consideration.
T7-028	The commenter states that the inclusion of plant sampling to evaluate potential risk is inconsistent with the Groundwater Risk Assessment and updated soil site conceptual models, and further questions what level of consistency is to be maintained between the Groundwater Risk Assessment and the DEIR. The risk assessment would be performed after

the results of the soil investigation are received. If the risk assessment indicates that additional data may be required to verify its results, plant sampling may be an option instead of collecting more soil samples. It should be noted that the previous Groundwater Risk Assessment only focused on the contamination from groundwater, and did not include soil contamination data.

The commenter also expresses concern that there would be no plant or other sampling conducted and gives the reasoning that Hualapai community members no longer visit the area. The commenter expresses an opinion about the involvement of the Hualapai in relation to the proposed Project activities. Although the Hualapai Tribe may disagree with the inclusion of plant and biota sampling as described in the DEIR on page 1-5, that does not mean the DEIR lacks substantial evidence in support of its conclusions. It has long been held that an EIR is not legally inadequate simply because experts in a particular environmental subject matter dispute the conclusions reached by the experts whose studies were used in drafting the document, even where different conclusions can reasonably be drawn from a single pool of information. In such instances, the EIR need only summarize the main points of disagreement and explain the lead agency's reasons, if any, for accepting one set of judgments instead of another (see CEQA Guidelines Section 15151; Greenebaum v. City of Los Angeles (1984) 153 Cal.App. 3d 391, 413; Browning-Ferris Industries v. City Council (1986) 181 Cal.App. 3d 852, 862-863).

T7-029

The commenter asks for specific detail on which polycyclic aromatic hydrocarbons (PAHs), polychlorinated biphenyls (PCBs), volatile organic compounds (VOCs), semivolatile organic compounds (SVOCs), dioxins and furans, and pesticides have been detected above screening levels. As shown in the DEIR Appendix A Soil Work Plan, Appendix C (sub-appendices) of Appendix A and Appendix B (sub-appendices), which contains the historic soil data that was used in the preparation of the Soil Work Plan, the following exceedances are provided:

- PAHs: Benzo (a) anthracene, Benzo (a) pyrene, Benzo (b) fluoranthene, PAH High Molecular weight, B(a)P Equivalent, Benzo (k) fluoranthene, Dibenzo (a,h) anthracene, Indeno (1,2,3- cd) pyrene
- PCBs: Aroclor 1254, Aroclor 1260
- Pesticides: 4,4-DDE, 4,4-DDT, Dieldrin
- Dioxin/Furans: 1,2,3,7,8- PeCDD, TEQ Avian, TEQ Human, TEQ Mammals
- SVOCs: Di-n-butyl phthalate

T7-030 The commenter states that there are no background data for dioxins and furans, and further questions how the Project proposed to establish background levels? As indicated in Appendix C (sub-appendices) of Appendix A and Appendix B (sub-appendices) of the Soil Work Plan (which can be found in Appendix A to the DEIR), dioxins/furans toxicity equivalence quotients (TEQs) will be compared to the DTSC dioxin TEQs.

T7-031 This comment states that the groundwater and soil remediation projects have similar impacts within similar areas; therefore, they should be considered together. While it is often a valid approach to consider two projects within the same project area within one project description and analysis in an EIR, it is not the case for the Topock Soil Investigation and Groundwater Remediation Projects. A discussion regarding the independent nature of the groundwater remediation and soil investigation projects is presented in Section 2.2.3, "Groundwater Remediation" of the DEIR. As described in that section, the soil investigation activities will not change the scope of the Groundwater Remediation Project. The proposed Soil Investigation Project is not an expansion of the Groundwater Remediation Project and will not change the nature or scope of the Groundwater Remediation Project. Nor are the two projects dependent on each other. The Groundwater Remediation Project is a separate project from the proposed Soil Investigation Project, in part, because one activity (e.g., groundwater remediation) does not cause the need for the other (e.g., soil remediation). The two projects have different purposes, soil investigation versus groundwater remediation. The two projects also have independent utility in that one does not cause the need for the other. That is the fundamental test regarding segmentation under CEQA. Therefore, the projects are properly considered separately for purposes of CEOA. Please also see Master Response Groundwater regarding the relationship of the two activities and the status of the Groundwater Remediation Project. Cumulative impacts associated with implementation of both the proposed Project and the Groundwater Remediation Project are disclosed in the EIR in Chapter 6, "Cumulative Projects." Specifically, refer to page 6-11 of the Soil Investigation Project DEIR for a description of the Groundwater Remediation Project (labeled as project 1C), and the supporting analysis that follows.

T7-032

The commenter requests that staging areas be mapped and listed appropriately. Figures 3-2 through 3-7 provide this mapping. Staging and storage areas are shown in black line hatch, as shown within the legend.

The commenter also requests that overlap of the staging areas needs to be identified through a clear statement in the EIR and visually noted within the document for clarity. As detailed in Master Response Cumulative Projects, updates have been made to the implementation schedule for the Groundwater Remediation Project. Based on the updated schedule, there is potential for activities from the Groundwater Remediation Project and the proposed Project to overlap, which may include concurrent use of the staging areas. The proposed Project has a 12-month schedule for the soil investigation activities, beginning in early (March) 2015, with additional activities supporting a Soil CMS/FS (pilot studies, bench scale tests, geotechnical evaluations, and plant and biota sampling), if needed, occurring from late 2016 and lasting for 13 to 27 months. If overlap

	occurs, the initial field preparation and surveys for the Groundwater Remediation Project may overlap with the tail end of the additional soil investigation activities if they are deemed needed based on the soil sampling (e.g., pilot studies). The additional activities supporting a future Soil CMS/FS, if needed, could overlap with the construction of the Groundwater Remediation Project, both occurring from 2016 through 2018. To the extent that pilot studies/bench tests could overlap with the early stages of implementation of the groundwater remedy (e.g., in late 2016 through early 2018), the potential effects of the pilot studies/bench test activities, as identified in the DEIR, in conjunction with implementation of the groundwater remedy would not change the cumulative impact conclusions reached in the Soil Investigation DEIR, that the only cumulatively considerable and significant and unavoidable impact of the proposed Project would remain to cultural resources (see DEIR pages 6-22 through 6-24). Please refer to Master Response Cumulative impact analysis. Finally, the comment refers to comment #1 in the Hualapai Tribe's submitted comments document. This is enumerated as comment T7-020
	in this document. Please refer to the response to comment T7-020.
T7-033	The commenter seeks clarification regarding maps showing the extent of the Project area that was analyzed in the Soil Investigation Project DEIR, within which potential environmental impacts could occur. Please see response to comment T7-025 regarding maps showing the Project Site.
T7-034	The commenter specifically questions Figures 3-3, 3-4, and 3-5 indicating "Final Project Areas" and questions how large it is, exactly. Figures 3-3 through 3-5 are "Detail Maps" that are intended to be used alongside the main Project Site Map, Figure 3-2, which shows box "inset" areas that, due to the level of detail in particular areas, are helpful to show in greater detail. Text provided on page 3-3 preceding the figures states: "The Project Site totals approximately 128.5 acres."
T7-035	The commenter states that a suggested "exclusion zone" in the northern mouth of Bat Cave Wash was not acknowledged. It is incorrect that an exclusion zone in the northern mouth of Bat Cave Wash has been incorporated into the Project. Although DTSC reviewed the suggestion to avoid sampling within the mouth of Bat Cave Wash (as presented as an alternative to the Proposed Project in Chapter 7, "Alternatives to the Proposed Project"), DTSC has not determined that this Alternative should be adopted or that the proposed Project should be modified. Page 7-11 provides a definition of the "Reduction of Project Footprint (Avoid Mouth of Bat Cave Wash)" alternative and pages 7-12 through 7-16 provide a discussion of the relative environmental impacts as compared to the Proposed Project. The presentation of potential alternatives and comparative analysis thereof in order to comply with CEQA requirements does not mean the lead agency must adopt the alternatives that have been analyzed.

T7-036	The commenter questions Site AOC-BCW7 as it is near an identified IM-3 Restoration Area in the Draft IM-3 Decommissioning Report, and questions what the overlap and relationship are between IM-3 decommissioning and soil sampling. Appendix A Sub Appendix C2 (AOC 1) of the Soil Work Plan (see Appendix A to the DEIR) states that AOC1-BCW7 is proposed to resolve data gaps #5 (nature and extent of contamination within the impoundment areas near the railroad bridge culvert and IM-3 road crossing) and #6 (soil physical properties to support the <i>Corrective Measures Study/Feasibility Study</i> [CMS/FS]). It is not related to the decommissioning of IM-3. Decommissioning of IM-3 is tied to the successful implementation of the Groundwater Remediation Project. If this data is useful and relevant for the purposes of IM-3 decommissioning, however, it can be used to reduce the number of samples for that future effort if deemed appropriate.
T7-037	The commenter questions the estimates of soil sample material to be removed from the Project area for laboratory testing (5 to 20 cubic yards, as described on page 3-29 of the DEIR), and provides an estimate of 2 cubic yards based on their understanding. The commenter is correct in suggesting that the IDW estimates in the DEIR include drill cuttings and would therefore be more than the volume calculated by the Technical Review Committee, which includes only the soil for laboratory analysis. IDW also includes decontamination water, incidental trash, disposable tools, and personal protective materials such as gloves (see page 3-29 of the DEIR).
T7-038	The commenter questions whether x-ray fluorescence (XRF) can be used to reduce soil removal and whether there are plans to reuse the clean investigation-derived waste (IDW). The use of XRF is limited to constituents such as metals, and other constituents, including organic analytes, cannot be analyzed using an XRF. Therefore, the use of an XRF to decide the immediate reuse of displaced soil may not be applicable. The Displaced Soil Protocol, which describes the handling and potential reuse of displaced soil generated from site investigations can be found in Appendix J of the Soil Work Plan (see Appendix A to the DEIR).
T7-039	The commenter states that the soil flushing operations as described in the DEIR are minimally described in the Soil Work Plan. The commenter is correct in that the in situ soil flushing pilot studies are not part of the Soil Work Plan. Please see Master Response Additional Testing and Sampling Activities for additional information on the inclusion of these activities in the Project Description.
T7-040	The commenter expresses that the Tribes oppose locating an infiltration basin within Bat Cave Wash. The Tribal preference against such a construction in Bat Cave Wash is noted. Please see response to comment T7-027.

T7-041	The commenter requests a revision to Section 3.5.2.7 Staging Areas regarding boundary marking in the DEIR. The DEIR text on page 3-23 is modified in this FEIR as follows:
	For example, during the operation of IM-3 injection wells, the Native American Tribes expressed a preference for unobtrusive, low-visibility boundary markers, so straw wattles were used as the primary means of boundary marking, with wattles were used as a means of boundary marking as they were generally low- visibility and less obtrusive. Θ ther delineation devices have been used only in strategic locations. The proposed Project would follow this same general means of marking work boundaries.
T7-042	The commenter requests clarification on whether the exclusion zones would be moved in the event that wind changes direction upwind of the exclusion zone, and whether or not this change would increase the footprint of the proposed Project. The exclusion zones would not be adjusted if the wind changes direction. However, as noted in Figure 3-9, ⁵ a support zone would be established upwind of the exclusion zone and would be adjusted as needed. This is not expected to happen frequently, since the exclusion zone would be fairly small (i.e., around a boring location or trench) and temporary. The exclusion zones would only be needed for a short duration, from a few hours up to a few days. The footprint of the proposed Project, which constitutes 128.5 acres as identified in Figure 3-2, includes all exclusion zone boundaries and associated support zones. No additional work would occur outside of the Project boundaries.
T7-043	The commenter requests that details be provided on how "least intrusive" survey methods will be quantified, who will make this decision, how it will be implemented, and if consultation with Tribes will occur. The phrase "least intrusive," in this instance, refers to issues related to the health and safety protocols that PG&E, in coordination with DTSC, will undertake for sampling activities. Based on the presence of existing underground utilities, PG&E experts in the field may have to modify the preferred sampling technique to be less intrusive to account for underground utilities in a given location that may pose a health and safety concern. The Tribes would not be consulted on such adjustments. The DEIR text in Section 3.5.2.9 of the DEIR on page 3-24 is revised in this FEIR to provide this clarification:
	Soil samples would be taken using one or more of the following options: (1) small hand tools (trowel, shovel, slide-hammer, and hand auger); (2) a sonic or hollow-stem auger drilling rig; (3) a hydrovac truck in conjunction with hand tools; or (4) a backhoe or excavator. Because of potential health and safety concerns posed by underground utilities, <u>Ee</u> fforts will be made to use the

⁵ This figure has been added to Chapter 3, "Project Description," as Figure 3-9. Subsequently, the original Figure 3-9 is changed to 3-10.

	least intrusive method feasible <u>depending on the conditions</u> <u>encountered</u> on location. Hand tools would be used in areas of limited access, areas with topographic constraints, or areas with other constraints.
T7-044	The commenter states that use of the IM-3 facility for treatment of soil derived wastewater as described in the DEIR should not in any way delay scheduled removal of the facility, and questions the dates for IM-3 removal and the use of the facility to process wastewater related to soil investigation. Currently, the soil investigation activities are planned to occur prior to the decommissioning of IM-3. The field implementation for the proposed Project, which includes the use of IM-3, would occur for approximately 9 months beginning in Spring 2015. According to PG&E, once the groundwater remedy design is approved, contracting and construction will occur over 2.5 years before remedy startup. The IM-3 facility would be shut down with the startup of the groundwater remedy, even though full decommissioning would not occur until the remedy is determined to be operating properly and successfully. Regardless of the schedule, DTSC concurs that the decommissioning of IM-3 should not be delayed if IM-3 is used to treat investigation-derived wastewater from the Project.
T7-045	The commenter requests clarification on what parameters will be evaluated under the bench scale test for In Situ Soil Flushing. At this time, it is not known whether bench scale tests would be conducted; therefore precise detail regarding parameters is not known. However, the following is a preliminary list of parameters that may be evaluated under bench-scale and/or pilot studies:
	• In situ (undisturbed) porosity and hydraulic conductivity
	• Permeability
	Particle-size distribution
	Total Organic Carbon
	Cationic Exchange Capacity (measurement of soil-clay content)
	• pH/buffering capacity
	 Pre- and post-treatment concentrations of: Chromium Hexavalent Chromium Viscosity Density pH salinity hardness temperature water solubility octanol/water partition coefficient
	• Critical Micelle Concentration (measurement of solubility of surfactant by reducing the water interfacial tension)

- Toxicity characteristic leaching procedure metals
- Synthetic precipitation leaching procedure metals

Prior to implementation of any bench scale tests or pilot studies, PG&E would prepare a work plan(s) that describes the specific location, extent, configuration, parameters to be evaluated, and rationale for such activities. The work plan(s) would be provided to stakeholders for review and comment. See Master Response Additional Testing and Sampling Activities for more information.

T7-046 The commenter requests clarification on whether the flushed contaminant fluid may redistribute within the unsaturated zone, rather than assuming 100 percent of the fluid is recoverable at extraction wells. The soil flushing pilot test does not assume that 100 percent of the contaminants would necessarily migrate to groundwater and be captured and treated by the groundwater treatment system. The purpose of the flushing test would be to evaluate the effectiveness of the treatment method. The flushing test would be conducted in an area known to have soil contamination. The action of the flushing test is anticipated to flush some portion of the contaminants from the soil downward to groundwater, where groundwater flow would then transport the contaminants to the IM-3 groundwater treatment system. The soil at the site is largely sandy and gravelly, so the primary flow direction in the unsaturated zone is expected to be downward. The flushing of contaminants in the soil column would reduce the concentrations in the soil, resulting in a beneficial impact. As noted by the commenter, there is the possibility that heterogeneities in soil may result in some lateral spreading of contaminants within the soil unsaturated zone. The extent of lateral spreading, if any, is expected to be minimal because of the relatively high soil permeability. To further address this issue, the following text is added to the FEIR on page 3-31 of the Project Description as follows:

> The width of the infiltration gallery (i.e., the width perpendicular to the groundwater flow direction) will be limited to the center one-half of the known width of the contaminated area. Thus, if any lateral spreading were to occur, the extent of the spreading would be anticipated to be within the existing contaminated unsaturated zone.

T7-047 The commenter requests clarification on the number of injection and recovery wells that would be part of the pilot studies, and whether these wells would be added to the total number of wells that are drilled. The commenter also questions what the approximate total depths and screened intervals are for each well. DTSC would like to clarify that, as described in the DEIR on page 3-32, up to 10 injection and recovery wells would be required to conduct the In Situ Soil Flushing Pilot Study and up to 10 borings for the In Situ Stabilization/Chemical Fixation Study, if warranted. Additionally, up to eight geotechnical borings may be required. The potential effects from pilot studies and geotechnical

	investigations, to the extent they are reasonably foreseeable, are considered in the EIR on a programmatic level. The up to 28 borings would be in addition to the 292 investigation borings plus the 73 contingency borings required for soil sampling, should they be used. Depths and screened intervals of wells installed to support the In Situ Soil Flushing Pilot Study will depend upon the depth of contamination and the depth to groundwater at the location of the pilot study. As stated in the DEIR on page 3-32, injection wells will be screened within impacted soil zones that will be defined during the soil investigation. Extraction wells will be screened across the top of the shallow aquifer, with 10- to 20-foot screen intervals. The depths of the wells will depend upon the depth to water at the pilot study locations. For example, if a pilot study is performed in the area of the Bat Cave Wash adjacent to the PG&E Topock Compressor Station (Station), the depth to groundwater is approximately 70 to 80 feet bgs. Extraction wells would be installed to approximately 90 to 100 feet bgs, and screened from 70 to 80 feet bgs.
	Prior to implementation of any pilot studies, PG&E would prepare a work plan(s) that describes the specific location, extent, configuration, parameters to be evaluated, and rationale for such activities, subject to DTSC review and approval. The work plan(s) would also be provided to stakeholders for review and comment. See Master Response Additional Testing and Sampling Activities for more information.
T7-048	The commenter requests that a specific inventory be provided for borings/drillings associated with the In Situ Soil Flushing pilot study. As explained in the DEIR on page 3-33, if it is determined necessary, up to 10 soil borings would be drilled for the In Situ Soil Flushing pilot study component of the Project. The exact locations of these borings is not known at this time; however, as described in the Master Response Additional Testing and Sampling Activities, the impact analysis and mitigation measures have been prepared to include, to the extent feasible, the potentially significant adverse environmental impacts that may result from such future actions should they be found necessary; thus, rendering the DEIR as useful of a document as possible for DTSC's ability to efficiently obtain an adequate characterization of the scope and extent of soil contamination within the Project Site.
T7-049	The commenter requests that a specific inventory is provided for borings/drillings associated with the geotechnical evaluations. As described in the DEIR on page 3-34, there may be eight geotechnical evaluations performed that would be drilled using a hollow-stem auger drill. For more information about the additional activities that may occur, please refer to the Master Response Additional Testing and Sampling Activities.
T7-050	The commenter states that the inclusion of plant sampling to evaluate potential risk is inconsistent with the Groundwater Risk Assessment and updated soil site conceptual models, and the commenter further questions

	what level of consistency is to be maintained between the Groundwater Risk Assessment and the DEIR. Please see response to comment T7-028.
T7-051	The commenter asks how site restoration would be quantified and evaluated and who would do the monitoring and verification of outcomes. The site restoration activities described on page 3-36 of DEIR will be evaluated by the DTSC as the lead agency. However, as described in that section, no complete vegetation removal is anticipated; therefore no revegetation would be required. DTSC will monitor work progress to ensure no vegetation removal is conducted. Restoration in the context provided on page 3-36 is geared toward removal of all equipment, raking/brushing of soil to remove tire tracks, and general cleaning of individual work areas. These restoration activities will ensure that there are no environmental impacts. The term "substantially similar" is used to indicate that the site conditions may not be identical before and after the described activities. DTSC will monitor natural vegetation regrowth following work activities.
T7-052	The commenter requests that when and if pilot studies in the bottom of Bat Cave Wash are planned, the Tribes should be involved in scheduling, monitoring, construction specifications and all phases of such studies. The Tribes will be involved in the scheduling, monitoring, construction specifications, and all phases of any future pilot studies in Bat Cave Wash. As described in Master Response Additional Testing and Sampling Activities, prior to implementation of any pilot studies, DTSC will prepare a work plan that describes the specific location, extent, and configuration of such activities, including any necessary resource management plans as requested in the comment. The work plan will be provided to stakeholders, including the Tribes, for review and comment.
T7-053	The commenter questions why several specific boreholes are considered separate from the Groundwater Remediation Project EIR borehole count, and suggests that the projects be considered together. The boreholes referenced by the commenter that are presented in Table 3-3 of the DEIR are taken directly from the Soil Investigation Work Plan (see Appendix A), which is a distinctly separate project from the Groundwater EIR, which was approved by DTSC in 2011. Please see response to comment T7-031 regarding the independent nature of the groundwater remediation and soil investigation projects (and also Section 2.2.3, "Groundwater Remediation" of the Soil Investigation Project DEIR), and how the cumulative effects of the combined projects was considered (see page 6-11 of the DEIR).
T7-054	The commenter requests clarification on how the anticipated vehicle use and trips were calculated in Table 3-5. The following are the assumptions used to present the vehicle trip estimates in Table 3-5, and text has been added to clarify these assumptions on page 3-39 of the DEIR:
	Most of the trips to the Project Site are expected to occur either early morning or end of day; deliveries may occur throughout the day. Anticipated vehicle use and trips are outlined in Table 3-5 .

	Duration of sampling via drilling, hydrovac, or backhoe was assumed to be 2 months. As shown in the table, it was assumed each piece of sampling equipment and associated support truck would be mobilized to the site 2 to 4 times during that period. The drill rig support truck would make 1 to 2 trips per week (for 7 to 14 total trips) of drill rig sampling. It was assumed waste would be picked up two to six times over the course of the investigation. The total duration of the field effort was assumed to be 5 months (100 work days). The total number of staff to be on-site each day is up to 13 to 15 staff. This results in 1,300 to 1,500 worker truck/car daily trips to the site over the life of the Project.
T7-055	The commenter expresses concern that unforeseen off-site emissions might arise from implementation of the proposed Project. Although some level of forecasting is often necessary, CEQA does not require analysis of unforeseen or speculative impacts. While it is possible that some unforeseen emissions may arise from the Project, this is speculative and out of the scope of this environmental analysis.
T7-056	The commenter questions why Davis Dam was not included in the description of the Lower Colorado River. In response to the comment, the text in the Partially Recirculated DEIR on pages 4.3-1 and 4.3-2 is revised as follows:
	Starting in the 1930s, federal actions in the region consisted of the construction of several dams, including the Hoover Dam, <u>Davis Dam</u> , and Parker Dam. Construction of the Hoover Dam, located 108 miles upstream of Topock, was completed in 1936. <u>Completion of the Davis Dam, located 41 miles upstream of</u> <u>Topock, occurred in 1951.</u> Completion of the Parker Dam, located 42 miles downstream of Topock, occurred in 1938. The changes that resulted from dam construction to the natural river flows substantially altered available fish habitats and reduced the river's ability to meander and create or destroy backwaters and marshes. Alleviating the threat of floods also allowed for conversion of riparian areas to agricultural uses.
T7-057	The commenter states that there needs to be development of erosion control plan specifics for pilot-scale testing in Bat Cave Wash. As described in Master Response Additional Testing and Sampling Activities, prior to implementation of any pilot studies, DTSC will prepare a work plan that describes the specific location, extent, and configuration of such activities, including any necessary resource management plans as requested in the comment. The work plan will be provided to stakeholders, including Tribes, for review and comment. The need for an erosion control plan for pilot-scale testing will be determined in the future by DTSC and provided to stakeholders for review and input. Moreover, as discussed in Section 4.6.3.1 of the DEIR, the Soil Work Plan describes and references Standard Operating Procedures (SOPs) and Best Management Practices

	(BMPs) that have been developed during the previous investigations. Among other things, the SOPs and BMPs will reduce potential impacts to hydrology and water quality during the Project activities (see DEIR Section 4.6, "Hydrology and Water Quality"). In addition, PG&E will meet the substantive provisions of the state Construction General Permit (CGP) in accordance with the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) exemption (see DEIR Section 2.3), and prepare and implement an erosion control plan as part of the Project (see DEIR pages 4.6-12 through 4.6-13).
T7-058	The commenter questions why the Habitat Typing Survey Technical Memorandum is not listed or discussed in the DEIR. As discussed in the DEIR Section 4.3.1.5 on page 4.3-18 (and referenced in the bibliography), the results of the Habitat Typing Survey Technical Memorandum are incorporated into the discussion of aquatic wildlife potentially occurring within the Colorado River.
T7-059	The commenter asks whether all features indicated within the map key on Figure 4.3-2 are considered jurisdictional under Section 404 of the Clean Water Act (CWA) and states that the DEIR should be specific. All resources included on Figure 4.3-2 are considered jurisdictional under Section 404 of the CWA. The map key on Figure 4.3-2 in the FEIR has been updated for clarification.
T7-060	The commenter states that special-status bird species that have been documented in riparian areas around the Project Site (specifically southwestern willow flycatcher) be listed as "likely to occur" instead of "could occur." As stated on pages 4.3-34 and 4.3-35 of the DEIR, protocol USFWS presence/absence surveys for southwestern willow flycatcher were conducted around the Project site from 2005 to 2012. Transient (not nesting) individuals were observed near the Project Site on multiple occasions; therefore, the potential for occurrence status does necessitate a change to "likely to occur." In response to the comment, the text in DEIR Table 4.3-3 is revised in this FEIR as follows:
	Could Likely to occur; the Project Site provides suitable nesting and foraging habitat within the large stands of salt cedar along the banks of the Colorado River. This species has been documented in riparian areas around the Project Site, primarily at Topock Marsh, and has been detected near Park Moabi Lagoon (GANDA 2009a: Figure 5, page 7, 2010, and 2012); <u>however, no nests or nesting behaviors have been observed. All observed</u> individuals have been transient.
	This text change does not change the analysis or conclusions in the DEIR regarding special status bird species (see the DEIR pages 4.3-59 and 4.3-60).
T7-061	The commenter states that the DEIR suggests that only the foothill portions of the site may be used by Nelson's bighorn sheep, which is inconsistent with the Groundwater Risk Assessment. Page 4.3-40 of the

DEIR notes that, Nelson's bighorn sheep "may use the foothill portions of the Project Site for foraging and movement, but no lambing habitat occurs within the Project Site." However, the DEIR does not suggest that the foothill portions of the site are the only areas used by the species. For clarification, the text in the FEIR is revised as follows:

Nelson's Bighorn Sheep

Habitat requirements for Nelson's bighorn sheep include mountainous terrain with areas of gentle terrain such as valley floors and alluvial fans that provide important linkages between adjacent mountainous regions. These gentle terrain areas also provide temporary access to resources such as forage and water, particularly in the drier summer months (PG&E 2015a). Steep, rugged terrain, also called escape terrain, is a crucial component of bighorn sheep habitat because bighorn sheep use running speed coupled with their climbing abilities to evade predators (PG&E 2015a). BLM research indicates that flight and cardiac response is activated within 50 to 100 meters (160 to 330 feet) of disturbance (BLM 2001). Males and females will also often occupy different habitats outside the breeding season. Females tend to choose steep, safe areas for bearing and initial rearing of lambs, while males occupy much flatter areas during the lambrearing season (BLM 2013). Nelson's bighorn sheep forages on a broad variety of plants species (at least 34 and up to 121 different species) including forbs, shrubs, new shoots from shrubs and trees, grasses, shrubs, and barrel cactus (PG&E 2015a).

Nelson's bighorn sheep have a potential are known to occur in the Project Site. A family of six Nelson's bighorn sheep were observed next to Maze Locus A during a FMIT annual prayer ceremony in June 2013. Also, a FMIT Tribal Monitor reported observances of sheep in monitoring logs during the Time Critical Removal Action at AOC 4. Bighorn sheep prefer visually open habitat that is steep and rocky in mountainous terrain above the desert floor. They use their eyesight as the primary sense for detecting predators at sufficient distances to ensure adequate time to reach safe terrain. Males and females will also often occupy different habitats outside the breeding season. Females tend to choose steep, safe areas for bearing and initial rearing of lambs, while males occupy much flatter areas during the lambrearing season (BLM 2013). Nelson's bighorn sheep and signs thereof (tracks, scat, etc.) were not observed within or near the Project Site during the various biological surveys; however, a According to the CNDDB (2013), Nelson's bighorn sheep have

	been documented in the mountains south of the Project Site (Figures 4.3-3, 4.3-4 and 4.3-4c). The species may use the foothill portions of the Project Site for foraging and movement, but no lambing habitat occurs within the Project Site.
These	observations, and the additional discussion of Nelson's bighorn
sheep	in the FEIR, are consistent with the discussion in the Groundwater
Risk A	assessment.
The co	ommenter notes the lack of discussion of the designated Area of
Critica	al Environmental Concern (ACEC) in Section 4.3.2 of the DEIR.
The co	In menter also asks about the management plan developed under
the AC	CEC program. Reference to the Beale Slough Riparian and Cultural
ACEC	a can be found on page 4.3-64 of the DEIR (in Biological
Resour	rces Impact BR-8, Regional and Local Plans). However, DTSC
acknow	wledges the importance of this land management plan and the
protect	tion of the resources within in the ACEC, and in response to the
common	ent the following text has been added to the DEIR Section 4.3.2.1,
page 4	.3-44, in this FEIR as follows:
	The Project Site is located within the Beale Slough Riparian and Cultural Area of Critical Environmental Concern (ACEC). This ACEC was designated through the BLM Lake Havasu Field Office Record of Decision and Approved Resource Management Plan (BLM 2007). ACEC designations highlight areas where special management attention is needed to protect, and prevent irreparable damage to important historical, cultural, and scenic values, fish, or wildlife resources or other natural systems or processes; or to protect human life and safety from natural hazards (Section 202I(3) of the Federal Land Policy and Management Act of 1976). The Beale Slough ACEC has been designated to protect both cultural and natural resources. This large ACEC contains regional rare riparian resources and wildlife habitat at Beale Slough to the north of the Project Site and a cultural element on the Project site (BLM 2007: 106, Map 28).

The BLM's 2007 Lake Havasu Resource Management Plan states that "ACEC management plans will be developed in the future with associated monitoring plans." According to the BLM Lake Havasu Field Office (Liebhauser 2014) at this time the BLM does not have the resources to pursue the development of a management plan for any of its ACECs. The BLM will continue to pursue funding opportunities to develop management plans for all of its ACECs in the future.

T7-063

T7-062

The commenter requests inclusion of the avoidance and minimization measure attached to the March 6, 2013, letter as an Appendix to the DEIR. The referenced document is the "Confirmation of Application of the CERCLA 121(e)(1) Permit Exemption to Pacific Gas and Electric Company's Soil and Groundwater Investigation and Remediation Project" from the California Department of Fish and Wildlife (CDFW 2013). All of the measures presented in that letter that are applicable to the Soil Work Plan have been included in the DEIR, verbatim. The commenter is directed to the Project website, where the subject letter can be found in its entirety, at http://dtsc-topock.com/documents/other-and-environment-impact-review/sitewide/approval-letters-and-communications.

T7-064 The commenter requests a map illustrating the soil investigation activities relative to the high water mark to ensure compliance with regulatory requirements and avoidance measures, specifically, Mitigation Measure BR-7 on page 4.3-53 of the DEIR. In response to the comment, Figure 4.3-2 has been revised by adding the soil investigation activities to Figure 4.3-2 and adding Figures 4.3-2a through 4.3-2d to the FEIR to include detailed exhibits at a smaller scale that illustrate the soil investigation activities relative to jurisdictional resources. The respective figure references and clarifying text in the DEIR Section 4.3.1.3 on page 4.3-14 has been modified in the FEIR as follows:

Several jurisdictional wetlands and other waters under the jurisdiction of the U.S. Army Corps of Engineers (USACE), CDFW, and the Regional Water Quality Control Board (RWQCB) were identified along the Colorado River (**Figures 4.3-2 through 4.3-2d**) and throughout the Project Site. Jurisdictional wetlands identified during the delineation include palustrine scrub-shrub wetlands associated with ephemeral washes (PSSA); palustrine emergent, permanently flooded wetlands (PEMH); and palustrine emergent, seasonally flooded wetlands (PEMC). Other waters identified during the delineation include non-wetland riverine features such as the Colorado River itself and the ephemeral desert drainages that traverse the Project Site (riverine intermittent bed cobble-gravel, temporarily flooded) (CH2M Hill 2013).

It is assumed that the resources mapped within the Project Site in Figures 4.3-2 through 4.3-2d are considered jurisdictional under Section 404 of the Clean Water Act (CWA) and therefore also qualify for jurisdiction under Section 401 of the CWA administered by the RWQCB, and Section 1600 of the California Fish and Game Code administered by CDFW (CH2M Hill 2013). <u>An additional 0.4 acre of riparian vegetation was mapped</u> <u>along the fringes of these resources, which only fall under the</u> <u>jurisdiction of CDFW....</u>

As previously discussed, wetland vegetation within the Project Site consists primarily of common reed. Several of these wetland patches are located at the confluence of Bat Cave Wash and below the I-40 overcrossing. A number of intermittent drainages mapped on-site were found to connect to the Colorado River (Figures 4.3-2 through 4.3-2d). Near their confluence with the Colorado River, these drainages include tamarisk, catclaw acacia, honey mesquite, and screwbean mesquite.

The DEIR text on page 4.3-41 is revised in the FEIR as follows:

A wetland delineation was completed in 2013 by CH2M Hill. The Colorado River is considered waters of the United States and subject to regulation under CWA Section 404. Other waters of the United States may also include ephemeral drainages if they are connected to waters of the United States (Colorado River), as shown in Figures 4.3-2 through 4.3-2d.

While the high water mark is delineated on the figures, the 150 feet above high water mark is not shown on the figures as this will be delineated in the field prior to each investigation activity.

The commenter also states that the DEIR did not address CEQA to the extent that CEQA regulations require EIRs to define mitigation measures. They further summarize the definition of mitigation measures as defined in Section 15370 of the CEQA Guidelines. Please see response to comment T7-003. Additionally, the commenter asks specifically how avoidance will be accomplished. It is noted that "avoidance" is not always a requirement of a mitigation measure. However, where avoidance of resources is possible while still meeting the objectives of the Project, it has been proposed or considered through the Project design. See for example Mitigation Measure BR-1 regarding avoidance of impacts to jurisdictional resources associated with the TCP. These measures will be placed into a MMRP to be adopted and tracked by DTSC, as the lead agency, to ensure compliance.

T7-065 The commenter requests a more quantitative definition of "extent feasible," and questions who defines this term, and who ensures compliance. The commenter also suggests that any evaluation should include ethnobotanical uses by the Tribes. Text is added to Mitigation Measure BR-1 on DEIR page 4.3-56 in this FEIR for clarification as follows:

> Mitigation Measure BR-1: No-net-loss of Wetland, Riparian or other Sensitive Habitat Function or Value. The Project shall be implemented to avoid effects to the habitat values and functions of identified jurisdictional areas (i.e., floodplain and riparian areas, wetlands, and waters of the United States and habitats designated by CDFW as sensitive, including ephemeral washes and western honey mesquite bosque). Before undertaking ground-disturbing activities within East Ravine and Bat Cave

Wash, a qualified biologist shall coordinate with PG&E to ensure that the footprints of investigation activities, including drill pads, staging areas, and access routes, are designed to avoid disturbance to sensitive habitats to the extent feasible. Where complete avoidance to sensitive habitat is not feasible <u>DTSC</u> <u>shall be notified and</u> Project activities shall be implemented to ensure no-net-loss of habitat value or function <u>under the</u> <u>direction of a qualified biologist</u>. The following avoidance measures shall be implemented when working in Bat Cave Wash and East Ravine:

- a. No plants or vegetation shall be completely removed only pruning, trimming, clearing, or similar approaches which allow the natural regrowth of the plant will be allowed;
- b. Vegetation pruning, trimming, or clearing shall only occur to access investigation sites and clear around the sample areas where absolutely necessary;
- c. The only vegetation to be cut off at the base (cleared rather than pruned or trimmed) will be salt cedar at the mouth of Bat Cave Wash. The roots of the salt cedar at the mouth of Bat Cave Wash will be left in place where possible to allow for natural, rapid regrowth of vegetation;
- d. No more than 20 percent of the crown on all native trees, such as palo verde, shall be trimmed, and no main branches shall be trimmed. This is consistent with what is recommended by the International Society of Arboriculture (ISA 2011);
- e. Complete removal of vegetation in any work area shall be prohibited; and
- f. Project equipment and materials from work areas shall be completely removed and, if the area is not paved, it shall be raked/brushed to remove tire tracks.

"No net loss" shall be achieved through any combination of the following, in descending order of desirability: (1) avoidance; (2) where avoidance is not possible, minimization of impacts on the resource (a – f above); or (3) 1:1 like kind habitat compensation, including use of a mitigation banking program that provides the opportunity to mitigate impacts to rare, threatened, and endangered species and /or the habitat which supports these species in wetland and riparian areas. A biological monitor shall

	be present for all vegetation trimming, pruning, and clearing to ensure the above measures are implemented and that vegetation is protected to the extent feasible.
	Regarding ethnobotanical uses by the Tribes, a discussion of indigenous plants of biological and cultural significance (identified in the Ethnobotany Survey Report included as Appendix D-3 of the DEIR) can be found in Section 4.3 "Biological Resources" of the DEIR under "Disturbance of Special-Status Plant Species" (page 4.3-57) and proposed mitigation measures for these plants can be found in Section 4.4, "Cultural Resources" (Section 4.4.3.3), specifically, Mitigation Measure CR-1e-4.
T7-066	The commenter requests that appropriate consultation occur to ensure that the footprints of investigation activities are designed to avoid disturbance. The existing mitigation measures, specifically CR-1a-1 and CR-1c-2, described in the DEIR provide for this opportunity.
	In accordance with CR-1a-1 Tribal Document Review and Comment, interested Tribes shall continue to be afforded the opportunity to review and comment on all cultural resources-related documentation prepared as a result of this Project. Tribal comments shall be considered to the extent feasible by DTSC, in coordination with Interested Tribes, PG&E, and representative landowners (U.S. Bureau of Land Management, Bureau of Reclamation, FMIT, PG&E, and USFWS). Cultural resources documents shall include, but not be limited to, pre-investigation verification survey memoranda; daily archaeological monitoring logs; monitoring report to be prepared at the close of ground-disturbing activities; annual monitoring reports; and any documentation arising as a result of the inadvertent discovery of potential historical resources of a Tribal nature pursuant to CR-2d (Inadvertent Discovery of Potential Historical Resources and Unique Archaeological Resources). Interested Tribes shall also be afforded the opportunity to review and comment on technical documents including, but not limited to, soil investigation-related plans and reports, bench and pilot study implementation plans, and biological resources reports.
	In addition, in accordance with CR-1c-2 Pre-Investigation Historical Resources Field Check, a pre-investigation historical resources field verification shall be conducted by PG&E not less than 4 weeks prior to the commencement of ground-disturbing activities. The field verification shall include all sampling locations, including any future pilot study areas, new access areas, and equipment and materials staging areas, plus a 50-foot buffer surrounding sampling areas where topography allows. Sampling activities may occur within the buffer area without additional field verification. Interested Tribes shall be afforded the opportunity to participate and shall be provided 2 weeks (14 calendar days) notice prior to the start of the field verification. The objective of the field verification will be to verify that additional resources qualifying as historical resources under CEQA are not present within the investigative location areas. Interested Tribes shall be afforded the opportunity to identify, and DTSC to consider, for the purposes of avoidance, any physical features

of Tribal significance within the field verification area, including but not limited to trails, rock features, desert pavement areas, and cleared circles that might be considered contributors to the TCP. A Pre-Investigation Historical Resources Field Check Memorandum following the California Office of Historic Preservation's (OHP's) Archaeological Resource Management Reports (ARMR) guidelines, shall be prepared by PG&E that documents the methods of the field verification, participants involved in the field verification, and the results of the field verification. Interested Tribes shall be invited to prepare a section that reports Tribal observations during the field verification, and asked to provide any observations to PG&E within 2 weeks.

T7-067 The commenter requests a more quantitative definition of "where possible," who defines this, and who ensures compliance. Also, ethnobotanical uses and gathering practices of the Tribes should be taken into consideration. In response to the comment, the following edits to the DEIR on page 4.3-59 have been made to Mitigation Measure BR-4: Disturbance of Special-Status Birds in the FEIR:

> Mitigation Measure BR-4: Disturbance of Special-Status Birds. The following measures shall be implemented to avoid impacts to active nests and nesting birds and to ensure compliance with the Migratory Bird Treaty Act and California Fish and Game Code:

- a) Where possible, v Vegetation trimming, pruning, or clearing and other activities shall be timed to avoid the nesting season for special-status bird species that may be present (March 15 through September 30) except as provided for in item b, below.
- b) If vegetation removal or other Project activities are necessary in vegetated areas between March 15 and September 30, DTSC shall be notified and focused surveys for active nests of special-status birds (including Arizona Bell's vireo, California black rail, Yuma clapper rails and other species identified in Table 4.3-3) shall be conducted no more than 72 hours before such activities begin. A qualified biologist shall conduct preinvestigation surveys to identify active nests that could be affected. The appropriate area to be surveyed and the timing of the survey may vary depending on the activity and species that could be affected and shall be determined by the qualified Project biologist. For the Yuma clapper rail, the pre-investigation surveys shall specifically identify habitat within 300 feet of investigation areas, in accordance with measures set forth in the Bird Avoidance and Minimization Plan (BIAMP) which was finalized on April 30, 2014 (CH2M HILL 2014).

	Regarding ethnobotanical uses and gathering practices of the Tribes, a discussion of indigenous plants of biological and cultural significance (identified in the Ethnobotany Survey Report included as Appendix D-3 of the DEIR) can be found in Section 4.3 "Biological Resources" of the DEIR under "Disturbance of Special-Status Plant Species" (page 4.3-57) and proposed mitigation measures for these plants can be found in Section 4.4, "Cultural Resources" (Section 4.4.3.3), specifically, Mitigation Measure CR-1e-4.
T7-068	The commenter requests that appropriate consultation occur to ensure that the footprints of investigation activities are designed to avoid disturbance. The commenter is referred to Response T7-066.
T7-069	The commenter requests that a reference to BLM's ACEC management plan and a description of its biological resource elements are included in the DEIR. The Beale Slough Riparian and Cultural ACEC is described in Section 4.3.3.3 of the DEIR under the heading "Regional and Local Plans" (page 4.3-65). The BLM's 2007 <i>Lake Havasu Resource Management Plan</i> states that "ACEC management plans will be developed in the future with associated monitoring plans." According to the BLM Lake Havasu Field Office, at this time the BLM does not have the resources to pursue the development of a management plan for any of its ACECs. There is, therefore, no adopted ACEC management plan. The BLM will continue to pursue funding opportunities to develop management plans for all of its ACECs in the future. The DEIR text on pages 4.3-64 and 4.3-65 has been edited in the FEIR as follows in response to the commenter's request to expand the discussion of land use consistency:
	BLM's <i>Lake Havasu Land Management Plan</i> outlines guidance for managing habitat, fish, wildlife, and special-status species. The plan also requires BLM to protect water quality or other potentially harmful conditions for resident wildlife, fish, and human populations. The Project Site is located within an Area of Critical Environmental Concern (ACEC), designated the Beale Slough Riparian and Cultural ACEC. This area is designated to protect both cultural and natural resources. This large ACEC contains regional rare riparian resources and wildlife habitat at Beale Slough to the north of the Project Site (BLM 2007:106, Map 28), but the Project Site contains the cultural element of the ACEC. <u>Per BLM's <i>Lake Havasu Resource Management Plan</i>, the Beale Slough ACEC would be managed to protect and prevent irreparable damage to the relevant characteristics or important values:</u>

Relevance

• <u>Regional rare riparian resources and wildlife habitat.</u>

- Significant cultural resources, cultural sites within part of a regional cultural complex.
- Place of traditional Native American importance.

Importance

- The area has regional importance as it was set in reserve to stop the gradual decline of aquatic and associated riparian and terrestrial habitat along the Colorado River.
- The area's fragile and irreplaceable prehistoric sites are eligible for inclusion on the NRHP.
- Ensure that the public will continue to have an opportunity to interact with the natural environment and cultural values of the area.
- This area was part of mitigation for the channelization by Reclamation in 1951 and identified by the LCRMSCP for its fish and wildlife values.

No conflicts with BLM's management plan or the ACEC management prescriptions described in the BLM's 2007 Lake Havasu Resource Management Plan are anticipated with implementation of the proposed Project. The proposed Project activities are is not considered a prohibited in the ACEC per the Lake Havasu Resource Management Plan and the Project activities would not cause irreparable damage to the ACEC's relevant characteristics or important values described above degrade the biological resources element of the ACEC. In addition, Aactions associated with cleanup of the contaminated soil would not conflict with management goals because these actions would reduce the potential for long-term adverse effects on sensitive resources in the ACEC.

The commenter expresses concern that new access roads are planned for sampling efforts and that traffic would be impacted by the proposed Project. No new access roads would be constructed as a result of the proposed Project. Existing access roads may be improved to create access to certain locations (DEIR page 4.4-68). The commenter is referred to Section 5.3.10 "Transportation and Traffic" for a discussion of traffic impacts.

> The commenter also states that the DEIR analysis did not consider spill of contaminated soil and wastewater that are being transported off-site. The potential for accidental spills is discussed in the DEIR on pages 4.5-12 through 4.5-15. The text discusses the procedures for handling waste that would reduce the potential for spills. Within this subsection is Spill Prevention and Control (WM-4), which requires that spills and releases of materials are cleaned up immediately and thoroughly. To further

T7-070

	clarify procedures related to spills from contaminated soil and wastewater, the following DEIR text on page 4.5-14 is revised in the FEIR as follows:
	Ensure that spills and releases of materials are cleaned up immediately and thoroughly, including soil or water being transported off-site for disposal.
	Further, as discussed in the DEIR on page 3-29 and 3-30, the potential for spill of contaminated soil and wastewater that are being transported off-site will be limited because most waste water is anticipated to be disposed of on-site at the IM-3 treatment system. In addition, soil waste that meets reuse standards will be reused on-site.
T7-071	The commenter expresses concern regarding the proposed access pathways for vehicular traffic on the Project Site and questions how the Project intends to provide for emergency contingencies and how undocumented contingencies will impact footprint expansion. As described in the Project Description, Chapter 3, of the DEIR, soil investigation activities and workers would be conducting most of their work along or near established access roads. All of the work would be accessed by workers using approved access routes. Emergency response vehicles/responders would access the site using same access routes as site workers and equipment. It is not clear there would be a scenario whereby the emergency response vehicles/responders would need to use previously undisturbed areas to access an emergency related to Project implementation. All activities associated with the proposed Project would occur within the well-defined Project Site, as shown graphically throughout the DEIR. Medical or safety emergencies are not predictable events and, should they occur during proposed Project activities, they would be handled using well-established PG&E safety protocols.
T7-072	The commenter states that every emergency action on the ground is a disturbance to the sacred site. The commenter wonders how the Project is going to protect against such emergencies, and states that avoidance is the preferred measure. The commenter is referred to Response T7-071 for a discussion on potential access to the Project Site for emergency vehicles. Emergency access to the Project Site would be extremely rare and would represent a fraction of the activities to be conducted for soil investigation.
T7-073	The commenter questions the timing of the risk assessment identified for preparing pollution prevention requirements listed in the DEIR on page 4.5-13. The commenter seems to be confusing the Soil Risk Assessment with specific requirements within Section 4.5, "Hazards and Hazardous Materials." The "risk assessment" described in the DEIR on page 4.5-13 is not the Soil Risk Assessment. Rather, the risk assessment described on page 4.5-13 will be prepared as part of the grading and site preparation elements of the Project to determine pollution prevention requirements pursuant to the three Risk Levels as established in the CGP

and relevant for the proposed Project. For more information on the Soil Risk Assessment, please see Master Response Additional Testing and Sampling Activities.

T7-074 The commenter states that a flood-induced washout of a pilot study site in Bat Cave Wash would be a significant impact, and suggests further clarification in the DEIR. In response to the comment, the following DEIR text is added on page 4.5-17 to the FEIR as follows:

Potential for Flood Damage

In the event that a flood were to occur in Bat Cave Wash at the same time that a pilot study was being conducted, the flood waters would be expected to inundate the pilot study area. However, because the majority of infrastructure (infiltration galleries or trenches) for the pilot study (In Situ Soil Flushing or In Situ Soil Stabilization) would predominantly be flush with or buried below ground. Injection wells would have stovepipe well heads set in concrete well pads that would resist damage from floods. In the event that the surface area of an infiltration gallery or trench is scoured by the flood, the area would be reworked with a backhoe. In the event that a flood damages a well head, the damage would be repaired after the flood receded. This is consistent with current protocols practiced in Bat Cave Wash. Therefore, the potential for flood-induced damage is minimal and therefore less than significant.

T7-075 The commenter requests clarification that while pumping at IM-3 might draw water from the Colorado River, the water is returned to the aquifer through injection wells resulting in a net groundwater discharge from the basin. In response to the comment, the following DEIR text on page 4.6-5 is revised in the FEIR as follows:

However, the groundwater extraction wells (that are part of Interim Measure 3 [IM-3] extraction system) located along the National Trails Highway (Route 66) from the railroad tracks north to near where Bat Cave Wash enters the Colorado River maintain losing stream conditions to prevent contaminated groundwater from entering the river. The water pumped by the IM-3 treatment system is returned to the aquifer through injection wells.

T7-076 The commenter expresses concern that the Project activities, including field workers, equipment, drill rigs, stockpiled soil, and sampling activities are at risk for flooding at the Project Site. In accordance with SOPs (see pages 3-36 through 3-38), and existing practice, in the event of a sudden rain storm, the field team would cease work in washes or low-lying areas. During times when rain storms are likely or have been predicted for the area, the field team would monitor one or more weather websites with radar on a computer or smartphone to track the potential rain storm. If a rain storm is expected during the time frame work is being conducted in

	washes and low-lying areas, the field team would try to avoid working in washes and low-lying areas (PG&E 2014a). As discussed in Section 4.6.3.2, Thresholds of Significance, the low probability event the commenter notes would originate from Davis Dam or Hoover Dam, located approximately 55 and 108 miles upstream of the Project Site, respectively. In the event of a catastrophic dam failure, the federal, state, and local agencies with emergency response responsibilities would implement emergency notifications that would provide sufficient time for field personnel to leave the site to areas outside of the potential flood zone.
T7-077	The commenter indicates that a statement in the DEIR is incorrect that IM-3 <i>prevents</i> (emphasis added) groundwater from entering the Colorado River, whereas it diminishes groundwater flow from entering the Colorado River at certain river miles. DTSC notes this and has made the following revision to the DEIR on page 4.6-6 in the FEIR as follows:
	As noted previously and discussed further in this document, the goal of the IM-3 extraction and treatment system prevents is to contain and reverse the flow of groundwater away from entering the Colorado River.
T7-078	The commenter requests clarification on the significance of the molybdenum and selenium concentration ranges presented in the EIR. In response to the comment, the DEIR text on page 4.6-6 FEIR is revised in the FEIR as follows:
	Molybdenum concentrations ranged from 1.0 to 5.6 ug/L. <u>Water</u> <u>quality standards have not been assigned for molybdenum</u> (Table 4.6-1 in the Groundwater Remediation Project FEIR, <u>Vol. II; DTSC 2011</u>). Selenium was detected in four of five samples at concentrations ranging from 1.7 to 3.4 ug/L, <u>all below</u> the 50 ug/L water quality standard cited in the Groundwater Remediation Project FEIR (DTSC 2011).
T7-079	The commenter requests clarification on the background concentrations and maximum contaminant levels (MCLs) for total dissolved solids (TDS) (as specific conductance), arsenic, molybdenum, selenium, and nitrate. The Ephemeral Drainages section cited by the commenter discusses 2010 DTSC surface water data collected in low-lying depressions at the Station area. Sampling occurred after a storm event. Background samples were not taken from areas that fed the low-lying areas as water was not flowing into the depressions at the time of sampling. The January 2010 data was provided for informational purposes and was not being compared to groundwater MCLs. The commenter may be referring to the next page (Section 4.6.1.3, Page 4.6-7, last paragraph) where TDS (as specific conductance), arsenic, molybdenum, selenium, and nitrate groundwater data are being compared to regional background concentrations and MCLs. This portion of the paragraph is simply summarizing elevated constituent concentrations other than chromium. More detailed information can be found in the 2009 RCRA Facility Investigation

Volume 2 and Volume 2 Addendum Reports included in the reference section of the DEIR.

T7-080 The commenter expresses concern that part of the Regulatory Setting language appears to be the same in the Hazards section as it is in the Hydrology section. The commenter is correct; both sections require consideration of the National Pollutant Discharge Elimination System CGP in the analysis.

T7-081 The commenter expresses that the Tribes' input into well and boring abandonment procedures that have been provided as part of the Groundwater Remediation Project should be used for the proposed Project, particularly in the use of natural materials as opposed to non-native materials (i.e., bentonite). The recently developed "Standard Operating Procedure for Well and Borehole Decommissioning" (PG&E 2014b) was developed primarily to support the Groundwater Remediation Project; however, it was developed with the soil investigation in mind. The SOP would be applied to the proposed Project, and includes the preferential use of natural materials over bentonite, depending on the type of well or boring conditions and subsurface materials. This SOP was issued after the release of the DEIR. DEIR text is revised in the FEIR to incorporate this information as follows:

Section 3.5.2.12, page 3-30:

Standard well and boring decommissioning procedures required by San Bernardino County and the California Department of Water Resources (DWR) (DWR 1991) would be followed for the decommissioning of all borings. After sampling has been completed, boreholes would be grouted from the total depth to within 6 to 12 inches of the ground surface with a bentonitecement grout installed continuously in one operation to effectively seal the hole. Native soil would be used to fill the top 6 to 12 inches. In addition, guidance from the "Standard Operating Procedure for Well and Borehole Decommissioning" (PG&E 2014) would also be followed for the decommissioning of all wells and boreholes associated with the proposed Project. This document was developed in coordination with DTSC and the Tribes, and identified decommissioning requirements for various scenarios that may be encountered at the Project Site. The maximum area around a boring that may be disturbed for excavation and restoration activities is estimated to be a maximum of approximately 20 feet in diameter, excluding the access route used by the drilling rig that installed the borehole. The borehole abandonment rig would use that same access route.

Section 3.5.7, page 3-37:

Section 2.2.1 of the Soil Work Plan, Best Management Practices, provides a general description of BMPs associated with dust

control, noise control, worker safety, access routes, general
housekeeping practices, and other potentially undesirable effects
associated with the investigation. Appendix J of the Soil Work
Plan provides additional details for the management of displaced
soil and hazardous waste. The "Standard Operating Procedure
for Well and Borehole Decommissioning" (PG&E 2014)
provides details regarding well and borehole decommissioning
and can be found in SOP B-4 to the "Basis of Design Report/Pre-
Final (90%) Design Submittal for the Final Groundwater
Remedy" (PG&E 2014) (see Appendix B to the Operation &
Maintenance Plan, Volume I).

The commenter also states that the surface expression of any abandoned boring should not pose a hazard to animals or humans and that care should be taken to ensure that long-term visual disturbance does not occur. As described in Section 3.5.7, "Standard Operating Procedures and Best Management Practices" (page 3-36), the soil investigation activities will adhere to SOPs and BMPs to ensure protection of health, safety, and the environment. Relevant BMPs and SOPs as defined in Section 2.2 of the Soil Work Plan (see Appendix A of the DEIR) will become conditions of Project approval.

T7-082 The commenter expresses concern over the potential of dam failure to impact the Project Site, as well as flooding potential from Bat Cave Wash. The potential for flooding due to the "very small risk" (as characterized by the commenter) of inundation from upstream dam failure is part of the existing environmental conditions and is therefore not a reasonably foreseeable significant impact of the Project requiring the additional detailed analysis requested by the commenter in the EIR. As explained in the EIR, the Project could be impacted by flooding (see page 4.6-2), as the site is today, but that does not warrant, for example, an evaluation of the validity of the referenced County General Plan Hazard Maps regarding inundation zones, or for DTSC to second guess those maps since flood control issues are not within the purview of DTSC's expertise or jurisdiction. The commenter is also referred to responses to comments T7-074 and T7-076 for information regarding potential impacts from flooding on the Project Site.

T7-083 The commenter requests clarification of the proposed Project's impact on recharge of groundwater in some areas (i.e., compaction of soil). In response to the comment, text has been added to the DEIR on page 4.6-22 in the FEIR as follows:

Although some compaction of dirt roads and staging areas may occur and that compaction may reduce the permeability within the footprint, the extent of the roads and staging areas compared to the adjacent open desert areas is small in comparison. Rain falling on the dirt roads and staging areas would run off into adjacent unaffected areas and infiltrate downward to the aquifer. T7-084 The commenter states that the analysis in Impact Hydro-2 "Groundwater" contradicts analysis presented in Impact Hydro-3 "Drainage, Runoff, and Erosion." Both analyses are correct: the Project does not include construction of any impervious surfaces (paved surfaces like roads, parking lots, etc.) that would prevent groundwater recharge, while the grading and ground disturbing activities could alter drainage patterns through the simple movement of dirt and vegetation. Each impact statement is addressing a different threshold and as such the discussion is not meant to be exactly the same. Further, grading and ground disturbing activities do not prevent groundwater recharge. The commenter also questions whether efforts will be made to reduce the potential for creating areas of focused groundwater recharge and unnecessary spread/transport of contaminants into undesired areas. The commenter further suggests that although the SOPs and BMPs may reduce direct drainage to the Colorado River, they should also reduce the potential for concentrating any stormwater surface flows into nonimpacted areas. To provide further clarification, additional BMPs will be included in the list of BMPs presented in Section 4.6.3.3, "Impact Analysis," in the subsection on Water Quality, under Grading and Site Preparation Activities. Text is added on page 4.6-19 of the DEIR in this FEIR as follows: Fiber Rolls/Sediment Wattles (SE-5): A temporary erosion • control method that consists of aspen wood excelsior, straw,

- <u>control method that consists of aspen wood excelsior, straw, flax, or other similar materials that are rolled and bound into tight tubular rolls and placed on the face of slopes at regular intervals depending on steepness of slopes to intercept runoff and reduce flow velocity.</u>
- Straw Bale Barriers (SE-9): A temporary erosion control method that intercepts and slows down sheet flow runoff, causing temporary ponding. The temporary ponding provides quiescent conditions allowing sediment to settle. Straw bale barriers also interrupt the slope length and thereby reduce erosion by reducing the tendency of sheet flows to concentrate into rivulets (which erode rills) and ultimately gullies, into disturbed, sloped soil.
- T7-085 The commenter suggests clarification regarding the description of the logarithmic scale presented in the DEIR. DTSC concurs with this description of the decibel scale, and modifications to the DEIR on page 4.7-4 are made in this FEIR as follows:

A typical ratio is 10, so that the marks on the scale read: 1, 10, 100, 1,000, 10,000, etc., which doubles the variable plotted on the x-axis. The human ear perceives sound in a nonlinear fashion; hence the decibel scale was developed. Because the decibel scale is based on logarithms, <u>sound pressure (noise)</u>

	<u>levels</u> from two noise sources do not combine in a <u>simple linear</u> additive fashion , rather they combine logarithmically .
T7-086	The commenter requests clarification regarding the possibility for noise attenuation to diminish, leading to greater noise levels than are expected or anticipated. In response to this comment, the following discussion under Existing Setting in the Noise section has been added on page 4.7-5 of the DEIR in the FEIR as follows:
	Atmospheric effects can also result in noise level fluctuations, either increasing or decreasing noise levels relative to typical propagation and attenuation (Caltrans 2009). For instance, receivers located downwind from a source can be exposed to increased noise levels relative to calm conditions, whereas receivers upwind from the source can have lowered noise levels. In addition to these effects produced by wind, sound levels can increase at large distances from the source (e.g., more than 500 feet) as a result of atmospheric temperature inversions (i.e., increasing temperature with elevation) or can decrease with distance from the source at a higher rate than the typical spreading loss with distance rate as a result of a temperature lapse condition (i.e., decreasing temperature with elevation). Other factors such as air temperature, humidity, and turbulence can also have significant effects on sound propagation (Caltrans 2009).
T7-087	The commenter requests clarification regarding vibration and caliche layers in the Existing Setting discussion of the DEIR. DTSC has added the following information on page 4.7-6 of the DEIR to the FEIR as follows:
	Notably, soil and subsurface conditions can have a substantial influence on ground-borne vibration, with stiffness and internal damping (which is affected by soil type, moisture content, temperature, and the frequency of the vibration source) of the soil and the depth to bedrock being some of the most important factors (FTA 2006). According to the FTA, vibration levels do not attenuate as rapidly in stiff clay soil or rock, and vibration levels can thereby be greater and travel further in those materials than in other soil types, such as loose sandy soil (FTA 2006).
T7-088	The commenter requests clarification that intervening mesas on the Project Site do not block all noise from the Station. In response to the comment, the DEIR text on page 4.7-6 is revised in this FEIR as follows:
	Noise associated with the operation of the PG&E Topock Compressor Station (Station) is audible within the vicinity of the Station and the Interim Measure 3 (IM-3) Groundwater Extraction and Treatment Facility (IM-3 Facility); however, because of the existing topography (intervening mesas) noise- sensitive receptors in the Project Site vicinity do not have direct

exposure to these noise sources. <u>The intervening mesas do not</u> <u>block all Station noise</u>, but do result in some attenuation.

T7-089	The commenter requests clarification on why the 2013 measurement locations are not even close for different epochs of measurements (specifically, ST ⁶ -2 and ST-3) and suggests the legend presented in Figure 4.7-2 and Table 4.7-1 of the DEIR should indicate the month and year of the data acquisition. The noise measurement locations included in Figure 4.7-2 present noise monitoring results from 2008, 2012, and 2013. The 2008 and 2012 measurements taken at ST-3 (Locus C) and questioned by the commenter were taken approximately 450 feet away from each other. The 2008 and 2012 measurements taken at ST-3 (Park Moabi) and questioned by the commenter were taken approximately 120 feet away from each other. The 2008 and 2012 measurements recorded at ST-2 (Locus C), and at ST-3 (Park Moabi), were taken in the general vicinity of one another. As such, the measurements are a reasonable representation of noise relevant to the Locus C and Park Moabi areas. Each of the long-term and short-term locations identified in Figure 4.7-2 of the DEIR correlates to the sites described in Table 4.7-1 of the DEIR. As noted in Table 4.7-1, sites ST-1, ST-2, and ST-3 were monitored multiple times in December 2008, August 2012, December 2012–January 2013. Separately, sites ST-4 through ST-9 were monitored in December 2013.
T7-090	The commenter requests clarification on the chronology for the noise monitoring events. In response to the comment, the DEIR text on page 4.7-6 is revised in this FEIR as follows:
	Ambient noise surveys were conducted in and around the Project Site in December 2008 (for the groundwater EIR), August 2012, December 2012 to January 2013 (for the groundwater remedy design development), and December 2013 for the analysis conducted for the Soil Investigation Project.
T7-091	The commenter disagrees with the existing noise environment in Section 4.7.1.6. In response to the comment, the following sentence in the DEIR on page 4.7-6 is deleted in this FEIR as follows:
	Local roadway traffic, rail operations, aircraft overflights, and wind gusts dominated the noise environment at each of the noise measurement sites. The results of the ambient noise survey are summarized in Table 4.7-1 .
T7-092	The commenter requests clarification regarding the noise monitoring survey completed in December 2013. DTSC's consultant Environmental Science Associates used Metrosonics dB-3080 noise meters, calibrated before and after the monitoring. The locations for short-term (15-minute) monitoring were determined with input from a qualified archaeologist to gather existing noise levels at culturally sensitive areas where known Project activities would occur. The following variables were considered

⁶ ST refers to "short term" noise measurement site as depicted in the DEIR on Figure 4.7-2.

	for noise monitoring location selection: areas of high Project activity, proximity to cultural resources, and locations where data previously had not been collected. The long-term (24-hour) measurement was conducted near the Station to describe day and night noise levels from Station operations. Data collected is processed and summarized in Table 4.7-1 in the DEIR.
T7-093	The commenter requests that the data in Table 4.7-1 be sourced appropriately. In response to the comment, a footnote is added to Table 4.7-1 on DEIR page 4.7-8 to this FEIR as follows:
	^b Single 15-minute measurements were collected at these locations in December 2013.
T7-094	The commenter requests that Tribal uses be considered vibration- sensitive. Tribal members were not specifically identified in the DEIR analysis as vibration-sensitive receptors because they would be on-site only temporarily and at unknown locations, in contrast to residences or residential uses which are permanently located. Therefore, specific assessment of vibration impacts to any individual Tribal members visiting the site would be speculative and does not require further evaluation. Please see also response to comment T7-100.
T7-095	The commenter requests clarification on why the DEIR states that California Department of Transportation (Caltrans) recommends a more conservative threshold. In response to the comment, the DEIR text on page 4.7-10 is revised in this FEIR as follows:
	Caltrans recommends a more conservative threshold of 0.2 inches/second PPV for normal residential buildings and 0.08 inches/second PPV for old or historically significant structures (Caltrans 2004).
T7-096	The commenter requests that location-specific information be included for the noise levels listed. In response to the comment, the DEIR text on page 4.7-18 is revised in this FEIR as follows:
	Using the Federal Highway Administration (FWHA) Roadway Construction Noise Model (RCNM) and conservatively assuming an attenuation of 6 dBA per doubling of distance and that a drill rig truck, backhoe, and vacuum truck would operate at the same site location concurrently (a conservative assumption since equipment use at a site would be staggered rather than used concurrently), the <u>nearest potential</u> soil investigation sampling activities <u>to Topock Maze Loci</u> could lead to noise levels of 78 dBA Leq at Topock Maze Loci B or C, 72 dBA Leq at Locus A.
T7-097	The commenter requests clarification on the particular residences identified as sensitive receptors in Table 4.7-5. As described in Table 4.7-5, the nearest sensitive residence to the active soil sampling

	area is a home located approximately 685 feet away across the Colorado River and south of Interstate 40 (I-40). For a discussion of nonresidential Tribal sensitive receptors, please see response to comment T7-100.
T7-098	The commenter suggests revisions to Mitigation Measure NOI-1, which is intended to reduce potential noise impacts. Edits have been made to the mitigation measure to respond to this comment. Though the revisions to the Mitigation Measure have been incorporated, the identified impact and the impact conclusion (Significant and Unavoidable) do not change. The DEIR text in Mitigation Measure NOI-1: Potential Impacts to Noise Levels and Noise Standards on page 4.7-19 is revised in the FEIR as follows:
	 Investigation equipment shall be properly maintained per manufacturer specifications and fitted with the best available noise suppression devices (e.g., mufflers, silencers, wraps). Pneumatic powered socket wrenches shall be <u>low noise</u> (85 dBA or less measured at 75 feet) when operating, shrouded or shielded, and all intake and exhaust ports on power equipment, such as engine-driven air compressors, shall be muffled or shielded <u>using best available technology</u>.
T7-099	The commenter suggests revisions to Mitigation Measure NOI-1, which is intended to reduce potential noise impacts. The suggested edits have been applied to the fourth bulleted item in order to further strengthen the measure to reduce noise levels from Project-related equipment. Though the revisions to the Mitigation Measure have been incorporated, the identified impact and the impact conclusion (Significant and Unavoidable) do not change. The DEIR text in Mitigation Measure NOI-1: Potential Impacts to Noise Levels and Noise Standards on page 4.7-19 is revised in the FEIR as follows:
	• A disturbance coordinator shall be designated by PG&E, which will post contact information in a conspicuous location near investigation areas so that it is clearly visible to nearby noise-sensitive receptors as labeled in Figure 4.7-2. In addition, mailing of the same information will be sent to nearby noise-sensitive receptors as labeled in Figure 4.7-2 and Interested Native American Tribes (Chemehuevi Indian Tribe, Cocopah Indian Tribe, Colorado River Indian Tribes, Fort Mojave Indian Tribe, the Fort-Yuma Quechan Indian Tribe, and the Hualapai Indian Tribe). The coordinator will manage complaints resulting from the investigation noise. Reoccurring disturbances will be evaluated by a qualified acoustical consultant retained by PG&E to ensure compliance with applicable standards. The disturbance coordinator will contact nearby noise-sensitive receptors as labeled in Figure 4.7-2 and Interested Tribes, advising them of the investigation schedule. The disturbance coordinator will also consider the timing of soil investigation activities in
	relation to Tribal ceremonial events that are sensitive to noise, which will be accommodated by PG&E to the <u>maximum</u> extent practicable. <u>The disturbance coordinator</u> will also verify and document that all activities at the Project Site are in compliance with all items presented in Mitigation Measure NOI-1.
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T7-100	The commenter expresses concern that Table 4.7-5 does not include nonresidential Tribal use locations. Specific nonresidential Tribal use locations were not included because they would be outside of the work area exclusion zone for all activities (see Section 3.5.2.8), resulting is a less than significant impact. Sampling activities at 50 feet or greater distance would result in vibration levels that would be below the Federal Transit Administration (FTA) threshold of human annoyance and would be a less than significant impact (see page 4.7-21). This conclusion does not negate the significant noise impact, which would still necessitate implementation of Mitigation Measure NOI-1. However, ground-borne vibration impacts are much more localized than noise and drop off substantially with distance.
T7-101	The commenter questions whether there is enough soil data to adequately characterize risk, and states that PG&E has acknowledged that the current data set is adequate. They emphasize the importance that the requirements needed to reliably characterize the nature and extent of soil and sediment contamination within the Project Site be clearly defined and included in the DEIR. Please see response to comment T7-026 regarding evaluating the nature and extent of contamination. It should also be clarified that although PG&E's risk assessors have previously indicated that they have an adequate number of soil data to calculate a risk for that dataset, the current soil data set has data gaps, including not having defined the nature and extent of soil contamination, and more important, not having any soil data for some of the investigation areas. Therefore, any calculated risk from the current data set may not be completely accurate. These data gaps are planned to be filled by performing the activities proposed in the Soil Work Plan, as described in the DEIR.
T7-102	The commenter questions the level of consistency to be maintained with the risk assessment documents. The commenter also expresses concern that the conclusions reached in the DEIR for agricultural resources

the risk assessment documents. The commenter also expresses concern that the conclusions reached in the DEIR for agricultural resources contradict the inclusion of a sustenance farm scenario in the risk assessment. The commenter is referred to the Master Response Future Land Use Scenario for details about the association between the risk assessment and the Soil Investigation EIR. DTSC has established specific thresholds for the analysis of this Project's effect on agricultural resources, which are derived from the CEQA Guidelines Appendix G. As stated in DEIR Section 5.3.1, "Agricultural Resources," the proposed Project would not convert farmland identified by the Farmland Mapping and Monitoring Program to non-agricultural use, conflict with a Williamson Act contract, or otherwise result in conversion of farmland to

non-agricultural use, which are the established CEQA thresholds for agriculture. As a result, the DEIR finds that there would be no impact to agricultural resources resulting from Project implementation. T7-103 The commenter expresses concern that the condition of current roads is not described in the DEIR and questions whether the roads can accommodate additional traffic. The condition of current roadways are presented in Table 5-1 on page 5-15, which includes the existing year roadway segment volumes, and Table 5-2 on page 5-15, which includes existing year 2014 LOS volumes. As discussed in Section 5.3.10 on pages 5-14 and 5-15, the existing condition represented by Average Daily Traffic (ADT) volumes on Park Moabi Road are well below San Bernardino County's threshold of 7,000 ADT. As described on page 5-14, the maximum amount of vehicle trips associated with Project implementation is 1,540 trips over the lifetime of the Project. As a result, the DEIR finds that impacts to traffic volumes would be less than significant. T7-104 The commenter expresses concern that traffic impacts were not analyzed on historical Route 66 past the Interim Measure 3 Groundwater Extraction and Treatment Facility (IM-3 Facility) and Park Moabi Road south to the Station, and that traffic would pass through important areas for cultural resources. As described in Section 5.3.10, the study area for the traffic impact analysis includes Park Moabi Road, I-40, and National Trails Highway (also known as historic Route 66). The two intersections analyzed, Park Moabi Road and the east/west on/off ramps to the I-40, represent the main access points to the Project Site and surrounding roadways. To access historic Route 66 or Park Moabi Road south toward the Station from I-40, the studied intersections would be used. As such, the traffic impact analysis for intersections and roadway segments accounts for Project-related traffic on the Park Moabi Road south to the Station and historical Route 66 past the IM-3 facility. The traffic volumes on roadways surrounding the proposed Project presented in Section 5.3.10, page 5-14, include all trips associated with the proposed Project. In terms of impacts to cultural resources, Project-related vehicles and trucks would stay on established roads, haul routes, and access routes, limiting the impact to cultural resources. The commenter is referred to Section 4.4.3.3 for impacts related to cultural resources. T7-105 The commenter requests clarification regarding access road improvements, specifically whether routes would be improved, graded, or cleared as a result of Project implementation, or whether no grading or clearing would occur. As discussed on DEIR page 3-16, the proposed sampling locations are accessible by the existing network of roads throughout the Project Site; however, access roads may need to be improved for access to certain locations and to protect subsurface utilities from heavy equipment needed for sampling activities. As discussed on page 3-16, unpaved access roads that cross over utilities may require additional cover material to be placed on the roadbed to protect the utilities. Clean fill material stored in or around the Station would be used for this purpose. In addition, some areas outside the Station fence line may require trimming, pruning, or clearing of

	vegetation or movement of boulders to access proposed sampling locations. After sampling activities are complete, all Project equipment and materials would be removed from the work area and, if the area is not paved, the area would be raked/brushed to remove tire tracks. The specific access road conditions and need for improvement are described in detail on pages 3-16 through 3-19.
T7-106	The commenter requests that the DEIR provide soil volumes associated with all aspects of the soil sampling plan on page 5-17. The DEIR Section 3.5.2.11 identifies the amount of IDW that would result from implementation of the proposed Project. IDW materials involve drill cuttings, sampling equipment wash water (decon water), personal protective equipment, and incidental trash. Approximately 5 to 20 cubic yards of IDW would be generated from the proposed Project, as identified on page 5-17. To further clarify the soil volumes associated with each component of the Soil Investigation Project, the DEIR text on page 5-17 is revised in this FEIR as follows:
	The estimated amount of solid waste that may be generated ranges from less than 5 cubic yards up to 20 cubic yards. <u>The soil</u> <u>sampling would produce between 7 to 10 cubic yards, the bench</u> <u>scale tests would produce between 9 to 15 5-gallon buckets, the In</u> <u>Situ Soil Flushing and In Situ Stabilization/Chemical Fixation</u> <u>would each produce 4 cubic yards, the Geotechnical Evaluations</u> <u>would produce 1 to 2 cubic yards, and the Plant and Biota</u> <u>Samples would not produce any IDW. All Project-related</u> <u>activities would produce no more than 20 cubic yards.</u>
T7-107	The commenter requests more detail on the assumptions used to develop displaced soil quantities. The volume of total IDW (5 to 20 cubic yards) was calculated based on the number of samples, sampling method, diameter of borings, and boring depths. The range reflects the variety of sampling methods that may be used in some locations. Note, the volume of total IDW is only for soil cuttings, personal protection equipment and trash would be disposed of separately. See also response to comment T7-106.
T7-108	The commenter requests clarification regarding how the 2,000-gallon and 500-gallon volumes were calculated. The 2,000-gallon volume of wastewater was estimated based on PG&E's experience regarding the amount of wastewater generated during previous soil sampling events at the Station. The 500-gallon volume for the 25 percent contingency reflects 25 percent of the total volume (2,000 gallons) of wastewater generated by the proposed soil sampling activities.
T7-109	The commenter requests clarification regarding the amount of water (between 700,000 and 1,000,000 gallons) required to conduct soil flushing. As discussed in the DEIR in Chapter 3, "Project Description," page 3-32, assuming an application rate of 1 to 1.5 gallons per minute per well, the amount of flush solution for a 120-day test would range

between 700,000 to 1,000,000 total gallons of water (approximately 8,000 gallons per day).

T7-110 The commenter requests clarification on whether the elevated arsenic and fluoride levels associated with the Arizona groundwater would trigger any regulatory requirements for the use of this water for soil flushing and in situ soil treatment. As described in Section 3.5.3.1 of the DEIR, initial bench scale treatability tests (conducted off-site in a laboratory environment) for soil flushing and in situ soil fixation/stabilization would evaluate candidate reagents using representative PG&E site soil. While this comment is not directly related to the environmental analysis presented in the DEIR, the following technical information is provided for clarification and full disclosure. Testing would be performed using current water supply from Arizona to verify the effectiveness of the treatment and to assess the quantity and quality of the resulting flushed water. This information would be used to inform the management plan for the resulting flushed water and associated regulatory requirements.

> Soil flushing would involve leaching contaminants out of the soil and into the underlying groundwater. During the on-site pilot test, these contaminants would be pumped out through nearby wells and managed in accordance with applicable regulations. Aquifer conditions during the on-site soil flushing pilot test would remain aerobic; therefore, it is expected that much of the arsenic in the source water would be attenuated by adsorption to iron oxides and other minerals as it passed through the unsaturated zone, so the concentration reaching groundwater would likely not be above regulatory limits. Regardless, arsenic reaching the groundwater would be extracted via pumping along with other contaminants leached from the soil.

Arsenic management would be part of a fixation/stabilization pilot test regardless of whether or not arsenic was elevated in the source water. In an in situ soil fixation/stabilization, where geochemically reducing conditions were established in the unsaturated zone, there could be considerable amounts of arsenic liberated as a byproduct; therefore, the presence of elevated arsenic in the source water is not anticipated to trigger any additional regulatory requirements for the pilot test.

The fluoride concentration in Arizona groundwater is less than the fluoride concentration in groundwater in the anticipated area of soil flushing/stabilization pilot test (near MW-10). Fluoride has not been identified as a concern for injection of Arizona groundwater into the aquifer during the operation of the groundwater remedy. It is not anticipated to be a concern or trigger any additional regulatory requirements for a soil flushing or in situ soil fixation/stabilization pilot test.

Prior to implementation of any bench scale tests or pilot studies, PG&E would prepare a work plan(s) that describes the specific location, extent,

	configuration, reagents to be used, parameters to be evaluated, and rationale for such activities. The work plan(s) would be provided to stakeholders for review and comment. See Master Response Additional Testing and Sampling Activities for more information.
T7-111	The commenter questions what additives will be used for the In Situ Stabilization/Chemical Fixation pilot study, and questions the level of assurance provided that these additives will not become a new soil contaminant. The potential reagents for investigation are described in DEIR Section 3.5.3.2 and include: reduction/oxidation solutions; sodium dithionite; calcium/sodium polysulfide; sodium metabisulfite; complexing solutions; diphenyl carbazide; and ECOBOND® solution. Selection will be made of the most effective reagents and their anticipated concentrations. One or more of these reagents may be used in the pilot studies. As described on page 3-33, the reagent selection and percent addition will be determined based on the bench scale tests.
	As described in Section 3.5.3.1, initial bench scale treatability tests (conducted off-site) for soil flushing and in situ soil fixation/stabilization will evaluate candidate reagents using representative PG&E site soil. Testing will be performed to verify the effectiveness of the treatment and to assess the quantity and quality of the resulting flushed water and stabilized soil. This information will be used to inform the management plan for the resulting flushed water and associated regulatory requirements. For the on-site soil flushing pilot test, reagents will be flushed and the underlying groundwater will be pumped until remaining concentrations of both the contaminants and the flushing reagents are removed to levels deemed acceptable by the regulatory agencies.
	Prior to implementation of any bench scale tests or pilot studies, PG&E would prepare a work plan(s) that describes the specific location, extent, configuration, reagents to be used, parameters to be evaluated, and rationale for such activities. The work plan(s) would be provided to stakeholders for review and comment. See Master Response Additional Testing and Sampling Activities for more information.
T7-112	The commenter suggests other prospective projects, specifically pipeline projects from Southern California Edison, Kinder Morgan, and Southwest Gas, City of Needles electrical, and Burlington Northern Santa Fe Railway (BNSF) improvement projects, that should be included in the cumulative analysis. The DEIR made a concerted effort of gathering information as it pertains to cumulative projects, including past, present, and reasonably foreseeable projects. In response to the comment, DTSC contacted each of the parties suggested in the comment. Of these projects, only one – the Southwest Gas project – was a viable past project that should be considered in the cumulative analysis. See Master Response Cumulative Projects regarding the inclusion of this additional project. Kinder Morgan confirmed they do not have any pipelines in the Project area (the nearest being in Las Vegas). The City of Needles (who was previously contacted during preparation of the DEIR)

confirmed that, although upgrades to the electrical system at Park Moabi are needed, there is no funding and they will not be replaced for another 20 years. The lead agency does not consider this to be reasonably foreseeable for purposes of having meaningful analysis in the EIR, and it was therefore was not included. BNSF was contacted (as they were for the preparation of the DEIR) and no specific response regarding potential projects was provided.

T7-113 The commenter asks for an explanation of how the EIR is differentiating between environmental baseline and past projects contributing to cumulative effects, particularly to soil, and states that it is important to specifically mention large land usage/disturbances that have involved soil removal and/or expansion of the Station footprint outside of the facility fence line when discussing what is included in this "baseline." As explained in the DEIR and updated as part of this FEIR (see Master Response Cumulative Projects), a summary of the projects identified at or within the general vicinity of the Project Site were listed in Table 6-3 and considered in the cumulative impacts analysis as those that may have related environmental impacts similar to those of the proposed Project and are either: (1) recently completed; (2) currently under construction or implementation or beginning construction or implementation; (3) proposed and under environmental review; or (4) reasonably foreseeable, consistent with CEQA Guidelines Section 15130. (See DEIR, page 6-6, Table 6-3.) Historical soil investigation activities such as those that occurred in 1988, are considered to result in conditions that form the baseline. More recent soil investigation activities, such as those conducted in 2008 (see cumulative project 1G) are considered cumulative projects. Please see Master Response Cumulative Projects for more information.

> The DEIR explains that some soil investigations have occurred on-site in the past, including, for example, those directed by DTSC as part of additional soil and groundwater characterization activities conducted during the East Ravine Groundwater Investigation Phase 2. During those Phase 2 activities, an addition of 20 groundwater monitoring wells (MWs) were installed and soil samples were also collected at six investigation sites in the area of the compressor and at one site in the East Ravine. This is explained in the Cumulative Impacts section of the DEIR (see DEIR page 6-12). The Soil Work Plan also includes a summary of past soil sampling at pages B2-2 through B2-3 (see Appendix A to the DEIR).

> The cumulative impacts analysis within the FEIR has been expanded to further describe the past soil sampling and investigation activities previously conducted within the Project area. As described in detail in Master Response Cumulative Projects, DTSC has decided based on comments received on the DEIR to include two of PG&E's past projects (Time Critical Removal of AOC 4 and the Part A Soil Investigation) to the extent such information is relevant to the understanding of the

environmental impacts of the proposed Project considered cumulatively with other ongoing, pending, and reasonably foreseeable future projects.

The additional information about past soil sampling does not result in a substantial increase in the significant and unavoidable cumulative impacts already found in the DEIR, nor does it result in a finding of any new cumulatively considerable impacts. It therefore does not change the EIR's impact conclusions but is nevertheless offered also within the context of the FEIR in the interest of full disclosure. (See Environmental Protection Information Center v. Cal. Dept. of Forestry and Fire Protection (2008) 44 Cal.4th 459, 524 [finding petitioner's argument that an EIR substantially understated the effects of past timber harvest practices on various species unpersuasive]; see also City of Long Beach v. Long Beach Unified School Dist. (2009) 176 Cal.App.4th 889, 910-911 [rejecting City's argument that the cumulative impacts analysis for a school construction project omitted "closely related past projects," including two already completed freeways, ports, petroleum refineries and chemical plants, in part, because it failed to show how the EIR's conclusion would have been different].)

T7-114 The commenter asks for an explanation of how the EIR differentiates between environmental baseline and past projects contributing to cumulative effects, particularly to soil, and states that it is important to specifically mention large land usage/disturbances that have involved soil removal and/or expansion of the Station footprint outside of the facility fence line when discussing what is included in this "baseline." The DEIR, Table 6-3, on page 6-6, includes a list of the projects identified at or within the general vicinity of the Project Site. These projects are considered in the cumulative impacts analysis as those that may have related environmental impacts similar to those of the proposed Project and are either: (1) recently completed; (2) currently under construction or implementation or beginning construction or implementation; (3) proposed and under environmental review; or (4) reasonably foreseeable, consistent with CEQA Guidelines Section 15130. Thus, the previously completed soil sampling and investigation activities were necessarily included in the cumulative impacts analysis because they were analyzed as past projects that depict the existing physical conditions (i.e., environmental setting), which sets the baseline against which the DEIR compared the proposed Project's anticipated cumulative impacts.

The DEIR explains that some soil investigations have occurred on-site in the past, including, for example, those directed by DTSC as part of additional soil and groundwater characterization activities conducted during the East Ravine Groundwater Investigation Phase 2. During those Phase 2 activities, an addition of 20 groundwater monitoring wells were installed and soil samples were also collected at six investigation sites in the area of the compressor and at one site in the East Ravine. This is explained in the cumulative impacts section of the DEIR (see DEIR page 6-12). The Soil Work Plan also includes a summary of past soil sampling on pages B2-2 through B2-3.

The cumulative impacts analysis within the FEIR has been expanded to further describe the past soil sampling and investigation activities conducted within the Project area. As described in detail in Master Response Cumulative Projects, DTSC has decided based on comments received on the DEIR to include some of PG&E's past projects (primarily large land usage/disturbances that have involved soil removal and/or expansion) to the extent such information is relevant to the understanding of the environmental impacts of the proposed Project considered cumulatively with other ongoing, pending, and reasonably foreseeable future projects.

The additional information about past soil sampling does not result in a substantial increase in the significant and unavoidable cumulative impacts already found in the DEIR, nor does it result in a finding of any new cumulatively considerable impacts. It therefore does not change the EIR's impact conclusions, but is nevertheless offered also within the context of the FEIR in the interest of full disclosure (see Environmental Protection Information Center v. Cal. Dept. of Forestry and Fire Protection [2008] 44 Cal.4th 459, 524 ["EPIC"] [finding petitioner's argument that an EIR substantially understated the effects of past timber harvest practices on various species unpersuasive]; see also City of Long Beach v. Long Beach Unified School Dist. [2009] 176 Cal.App.4th 889, 910-911 [rejecting City's argument that the cumulative impacts analysis for a school construction project omitted "closely related past projects," including two already completed freeways, ports, petroleum refineries and chemical plants, in part, because it failed to show how the EIR's conclusion would have been different]).

T7-115 The commenter states the final soil remedy should fall under the category of past, present, and reasonably foreseeable future projects and be considered in the cumulative analysis. Please see Master Response Cumulative Projects.

The commenter makes a reference to the previous comment. Accordingly, for responses to the previous comment, see Response T7-113 and T7-114.

T7-116 The commenter asks why the development of the Beale Slough Riparian and Cultural ACEC management plan are not listed in Table 6-3 "List of Projects Located At or Within the Vicinity of the Proposed Project." The BLM's 2007 *Lake Havasu Resource Management Plan* states that "ACEC management plans will be developed in the future with associated monitoring plans." According to the BLM Lake Havasu Field Office, at this time the BLM does not have the resources to pursue the development of a management plan for any of its ACECs. The timeline for development of an ACEC management plan for the Beale Slough Riparian and Cultural ACEC is uncertain. No ACEC-specific management plan or management projects currently exist for the Beale Slough Riparian and Cultural ACEC and it is therefore not included in Table 6-3.

T7-117	The commenter asks that the time-critical removal action which resulted in significant soil excavation from AOC-4 be included in this table. This project has been included in the cumulative analysis. Please see Master Response Cumulative Projects.
T7-118	The commenter asks why removal of IM-3 is not considered as a PG&E project in the cumulative impact analysis. Future removal of IM-3 is a component of the Groundwater Remediation Project at the Station. The description of Project 1C in Section 6.4.2.1 of the DEIR has been modified to clarify this (see Master Response Cumulative Projects). The cumulative analysis includes the Groundwater Remediation Project, and therefore considers removal of IM-3. For questions regarding what is included in the Groundwater Remediation Project, please refer to the Groundwater FEIR (DTSC 2011), which can be accessed on the project website at: http://dtsc-topock.com/groundwater-remedy-selection. No changes to the DEIR text are necessary.
T7-119	The commenter states that groundwater activities are currently occurring at the site (specifically refers to the freshwater source evaluation) and will likely overlap with soil investigation work, and that this statement in the DEIR should be corrected. The commenter is correct in that the freshwater source evaluation efforts, which were evaluated in Addendum No. 1 to the Groundwater FEIR, were completed with the drilling of a test well in Arizona in April 2014. The timing of this effort was necessary in order move forward with the Groundwater Remediation Project, and the environmental analysis, including a cumulative assessment, was conducted by DTSC as part of the Groundwater FEIR and the subsequent EIR Addendum No. 1. Please see Master Response Cumulative Projects regarding the timing of the overall Groundwater Remediation Project and the proposed Project.
T7-120	The commenter requests confirmation that the release of hazardous materials through transportation to waste disposal sites has been considered in the DEIR. The commenter is referred to Section 4.5, "Hazards and Hazardous Materials," pages 4.5-15 through 4.5-18 under the heading "Management of Waste Soil from Investigation Activities," where the handling, transport, and disposal of waste soil are described. All soil and IDW would be handled in accordance with applicable local, state, and federal laws, and in accordance with the <i>Management Protocol for Handling and Disposition of Displaced Site Material, Topock Remediation Project, Needles, CA</i> provided in Appendix J of the Soil Work Plan (CH2M HILL 2013). As a result, impacts would be less than significant related to the transport of soil waste. Regarding Cumulative Impacts, the DEIR text on page 6-26 identifies the fact that the Project, in combination with the other projects mentioned in the geographic scope for hazards and hazardous materials, would contribute incrementally to the cumulative baseline; however, adherence to applicable laws and the SOPs and BMPs mentioned previously would not result in a cumulatively considerable impact on hazards and hazardous materials.

T7-121 This commenter expresses that the Tribal Land Use Alternative should be considered fully by DTSC as a reasonable and realistic scenario. DTSC understands that there is interest from many of the Tribes to consider this alternative, which would require land use restrictions be put in place at the site, as described on page 7-7 of the DEIR. Because this Project addresses only the investigation stage of the remedial process, the Tribal Land Use Alternative does not meet the primary objective of the Project, which is to gather sufficient soil samples to be able to reliably characterize the nature and extent of soil and sediment contamination within the Project Site. After the gathering of information occurs through an investigation project, DTSC will then, and only then, consider remedial design options and alternatives. The soil investigation activities would not predetermine remedial design options or alternatives. Furthermore, considering land use restrictions at the investigation stage of a remediation planning effort is premature. DTSC will evaluate different remedial options, including land use restrictions, as part of the CMS/FS phase of the remedial process, which will occur after DTSC has characterized the nature and extent of soil and sediment contamination at the Project Site.

T7-122 The commenter indicates that the assumption that areas outside of Topock Maze loci A, B, and C do not contain unique archaeological resources is incorrect and asks for clarification on what constitutes a unique archaeological resource. The commenter also indicates that the Tribal Cultural Values Assessment (TCVA) exclusion area had been adopted by the BLM. The commenter is referred to PRC Section 21083.2(g) for the definition of what constitutes a unique archaeological resource, which is described in detail on page 4.4-61 of the DEIR. The DEIR does not assert that areas outside of the Topock Maze do not contain unique archaeological resources, as stated by the commenter. Page 4.4-79 of the DEIR states that "None of the 14 known archaeological resources have been assessed for qualification as unique archaeological resources under CEOA Section 15064.5 and PRC Section 21083." These resources were not assessed for qualification as unique archaeological resources because, as historical resources, they are already afforded protection under the law as prescribed by CEQA. Additionally, in an email dated September 23, 2014, DTSC has confirmed with BLM that, in contrast to the commenter's assertion, the TCVA exclusion area has not been adopted by the BLM (BLM 2014). The TCVA was prepared by the Tribes to document the boundaries of the Topock Maze Loci (CA-SBR-219/H) as they are viewed by the Tribes. The TCVA was submitted to BLM for their review and approval; however, to date the BLM has not adopted the TCVA findings. To DTSC's knowledge, the California Department of Parks and Recreation 523 form and site boundary for CA-SBR-219/H have not been updated or revised through the California Historical Resources Information System (CHRIS). Therefore, DTSC has relied on the formally-established boundary for site CA-SBR-219/H as it is currently documented at the CHRIS San Bernardino Archaeological Information Center during the preparation of the DEIR.

T7-123 The commenter expresses concern that the importance of intangible elements is being disregarded, and asks what measures are going to be acted upon in order to protect culturally significant aspects, both tangible and intangible. The commenter is referred to response to comment T7-001. Although the Hualapai Tribe would have reached additional significant adverse impact conclusions than those identified in the EIR, that does not mean the EIR lacks substantial evidence in support of the significance conclusions that were reached pursuant to CEQA. (See National Parks & Conservation Assn. v. County of Riverside (1999) 71 Cal.App.4th 1341, 1352-1353 [an agency's conclusions or methodology must be upheld if substantial evidence supports them, even if there is a difference of opinion among experts].) CEQA does not provide an avenue to analyze impacts to intangible elements. CEQA requires an agency to consider the effects of a project on the environment, which is defined as "the physical conditions that exist within the area" (see PRC Section 21060.5). Nevertheless, DTSC recognized Tribal views of the Topock area and the intangible aspects of the Topock TCP in its analysis of impacts to the TCP, which found that the Project would result in a significant and unavoidable impact to noise and cultural resources, including the Topock TCP.

The commenter is referred to the cultural resource mitigation measures presented 4.4-73 to 4.4-87.

The commenter further states that a suggested "exclusion zone" in the northern mouth of Bat Cave Wash was not acknowledged. It is incorrect that an exclusion zone in the northern mouth of Bat Cave Wash has been incorporated into the Project. Although DTSC reviewed the suggestion to avoid sampling within the mouth of Bat Cave Wash (as presented as an alternative to the Proposed Project in Chapter 7, "Alternatives to the Proposed Project"), DTSC has not determined that this alternative should be adopted or that the proposed Project should be modified. Page 7-11 provides a definition of the "Reduction of Project Footprint (Avoid Mouth of Bat Cave Wash)" alternative and pages 7-12 through 7-16 provide a discussion of the relative environmental impacts as compared to the proposed Project. The presentation of potential alternatives and comparative analysis thereof (in order to comply with CEQA requirements) does not mean the lead agency must adopt the alternatives that have been analyzed. DTSC will continue its outreach and collaboration with the Tribes as part of the Project. Additionally, the submeasures presented in Mitigation Measure CR-1a, Tribal Coordination, will ensure that this coordination continues.

T7-124 The commenter is concerned that soil removal actions that occur during characterization activities could result in much greater soil removal than might occur if a more deliberate course of action is considered. The commenter does not specify a particular course of action; however, the commenter is referring to Section 7.5.2 of the DEIR, which addresses an alternative that would incorporate cleanup actions. This alternative was rejected by DTSC as being a viable Project alternative for several

reasons, as specified on pages 7-10 and 7-11 of the DEIR. DTSC is proposing the characterization of the soil conditions at the site through implementation of the Soil Investigation Project; remediation and cleanup activities are not proposed as part of the soil investigation activities. Soil remediation activities, if determined to be warranted, would only be proposed after consideration of the data that would be obtained through the implementation of the Soil Investigation Project. Those soil cleanup activities would also be subject to CEQA.

T7-125 The commenter suggests that the Reduction of Project Footprint Alternative (Avoid Mouth of Bat Cave Wash) would avoid sampling and that it would seem logical to try to implement this alternative if data supported the presumption that this sampling was unnecessary. DTSC agrees that unnecessary sampling should not occur. The soil sample data that is currently available for this area is limited to areas *adjacent* to the Mouth of Bat Cave Wash. As noted on page 7-12 of the DEIR, the sample results that currently exist for this area indicate that surface soil and sediment in and adjacent to the heavily vegetated area is known to have chemical concentrations above background and action levels. If soil sampling was limited to the areas surrounding this vegetated area, as suggested in the Reduction of Project Footprint Alternative, the conditions of soil or sediment contamination within the vegetated areas would remain unknown. Furthermore, if sampling was conducted only in a portion of the Mouth of Bat Cave Wash area (e.g., the northern most and southern most locations) full characterization would not be possible and there would not be comprehensive data upon which to determine potential remedial alternatives. The primary objective of the of the Soil Investigation Project is to gather sufficient soil samples to be able to reliably characterize the nature and extent of soil and sediment contamination within the Project Site to support the preparation of the future CMS/FS. The Reduction of Project Footprint Alternative would not provide enough information for this area to meet that objective.

Letter T8: Agua Caliente Band of Cahuilla Indians



The Agua Caliente Band of Cahuilla Indians (ACBCI) appreciates your efforts to include the Tribal Historic Preservation Office (THPO) in the PG& E Topock Compressor Station Soil Investigation project. A records check of the ACBCI cultural registry revealed that the project area is not located within the Tribe's Traditional Use Area (TUA). We currently have no concerns regarding this project. This letter shall conclude our consultation efforts.

T8-001

Again, the Agua Caliente appreciates your interest in our cultural heritage. If you have questions or require additional information, please call me at (760)699-6829. You may also email me at keskew@aguacaliente.net.

Cordially,

THIBAL HISTORIC PRESERVATION

[VIA EMAIL TO aaron.yue@dtsc.ca.gov]

California Department of Toxic Substances Control

July 17, 2014

Aaron Yue 5796 Corporate Ave. Cypres, CA 90630

Dear Aaron Yue,

Katie Ehen?

Katie Eskew Archaeologist Tribal Historic Preservation Office AGUA CALIENTE BAND OF CAHUILLA INDIANS

WHI PIDAD BOOMS DOLL, CALS BEDROOM, DA BERON.

Letter	Agua Caliente Band of Cahuilla Indians		
T8	Katie Eskew		
Response	July 17, 2014		
T8-001	The commenter states that the proposed Project is not located within the Traditional Use Area and therefore the Agua Caliente Band of Cahuilla Indians have no concerns regarding the proposed Project. The comment is noted for the record.		

CHAPTER 6 Bibliography

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Volume 2

Partially Recirculated Draft EIR Response to Comments

CHAPTER 1 Introduction

1.1 Overview of Volume 2

Volume 2 of this final environmental impact report (FEIR) contains a list of persons, organizations, and public agencies commenting on the Partially Recirculated draft environmental impact report (DEIR); comments received on the Partially Recirculated DEIR; and responses to significant environmental points raised in the review and communication process.

As lead agency, the Department of Toxic Substances Control (DTSC) exercised its discretion by affording agencies and the general public an opportunity to review additional information incorporated into the DEIR subsequent to the original public review period. DTSC recirculated the Biological Resources section of the DEIR to ensure agency and public input is incorporated into the decision-making process. Modifications to the Biological Resources section were made in response to comments received on the DEIR through the public review process, including from the California Department of Fish and Wildlife.

1.2 CEQA Requirements for Recirculation

As defined under the California Environmental Quality Act (CEQA) Guidelines Sections 15204 and 15088, response to comments is typically reserved to those that specifically pertain to the sufficiency of an environmental document under CEQA, and ways in which the significant effects of the project might be avoided or mitigated. Public notice and circulation of a Recirculated DEIR is subject to the same notice and consultation requirements that applied to the original DEIR, per CEQA Guidelines Sections 15086 and 15087. Lead agencies need only respond to significant environmental issues and do not need to provide all information requested by reviewers, as long as a good faith response is made.

1.3 Public Review of the Partially Recirculated DEIR

On April 15, 2015, DTSC exercised its discretion by affording agencies and the general public an opportunity to review additional information incorporated into the DEIR subsequent to the original public review period. DTSC recirculated the Biological Resources section of the DEIR to ensure agency and public input is incorporated into the decision-making process. The 45-day review period ended on June 1, 2015.

A total of 12 written comment letters were received by DTSC on the Partially Recirculated DEIR. **Table 1-1** lists the individual comment letters received by DTSC on the Partially Recirculated DEIR.

TABLE 1-1 LIST OF COMMENTERS

Letter #	Commenter	Date of Comment		
Agency				
A1	Arizona Department of Environmental Quality Danielle Taber, Project Manager	May 15, 2015		
A2	Arizona Department of Transportation Kris Gade, Roadside Resources Specialist	May 22, 2015		
A3	California Department of Fish and Wildlife Chris Hayes, Deputy Regional Manager	May 29, 2015		
A4	State of California Governor's Office of Planning and Research, State Clearinghouse and Planning Unit	June 1, 2015		
Individual				
l1	Michelle Atta	April 21, 2015		
12	Phyllis Allen	May 2, 2015		

11		April 21, 2015
12	Phyllis Allen	May 2, 2015
13	Susan Furnas	May 5, 2015
14	Russell Morse	May 21, 2015
15	Pacific Gas & Electric Company (PG&E)	June 1, 2015
16	Dr. Pat Brown	June 2, 2015

Tribes

T1	Agua Caliente Band of Cahuilla Indians Katie Eskew	April 24, 2015
T2	Hualapai Indian Tribe Loretta Jackson-Kelly	May 29, 2015
Т3	Fort Mojave Indian Tribe Timothy Williams	June 1, 2015

CHAPTER 2 Agency Responses

This chapter contains the comment letters received from public agencies on the Pacific Gas and Electric Company Topock Compressor Station Soil Investigation Project Partially Recirculated draft environmental impact report (DEIR) (Section 4.4, Biological Resources) and the Department of Toxic Substances Control's responses to significant environmental points that were raised in those comments. Each letter, as well as each individual comment within the letter, has been given an assigned letter and number for cross-referencing. Responses are sequenced to reflect the order of comments within each letter. **Table 2-1** lists all public agencies who submitted comments on the Partially Recirculated DEIR during the public review period.

Letter #	Commenter	Date of Comment	Comment Page Number	Response Page Number
A1	Arizona Department of Environmental Quality Danielle Taber, Project Manager	May 15, 2015	2-2	2-3
A2	Arizona Department of Transportation Kris Gade, Roadside Resources Specialist	May 22, 2015	2-4	2-5
A3	California Department of Fish and Wildlife Chris Hayes, Deputy Regional Manager	May 29, 2015	2-6	2-9
A4	State of California Governor's Office of Planning and Research, State Clearinghouse and Planning Unit	June 1, 2015	2-13	2-14

TABLE 2-1 LIST OF AGENCY COMMENTERS

Letter A1: Arizona Department of Environmental Quality

Letter A1



ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY



Via U.S. Mail and E-Mail

May 15, 2015 VRP 15-225

Mr. Aaron Yue Project Manager, Geological Services Branch California Department of Toxic Substances Control 5796 Corporate Avenue Cypress, California 90630

Re: Review of Notice of Availability and Partially Recirculated Draft Environmental **Impact Report** Topock Groundwater Site Needles, California

Dear Mr. Yue,

The Arizona Department of Environmental Quality (ADEQ) Voluntary Remediation Program (VRP) has received the information referenced above and appreciates the opportunity to review and comment on this matter. The VRP would like to acknowledge receipt and inform the California Department of Toxic Substances Control (DTSC) that the VRP has no comments on the Partially Recirculated Draft Environmental Impact Report (EIR).

Although the VRP is associated with the Topock Compressor Station remediation project via the Volunteer, Pacific Gas and Electric Company, the VRP is adhering to the Notice of Availability of Partially Recirculated Draft EIR received via mail on April 15, 2015 by submitting this letter directly to the DTSC. If you have any questions, please contact me by electronic mail at dt3@azdeq.gov or by telephone at (602) 771-4414.

Sincerely,

Danielle Taber, Project Manager Voluntary Remediation Program, Waste Programs Division

Ms. Yvonne Meeks, Pacific Gas and Electric Company - Topock Project Manager CC:

Main Office 1110 West Washington Street • Phoenix, AZ 85007 (602) 771-2300

Southern Regional Office 400 West Congress Street • Suite 433 • Tucson, AZ 85701 (520) 628-6733

www.azdeq.gov printed on recycled paper

VRP Site Code: 506252-01

A1-001

Letter	Arizona Department of Environmental Quality	
A1	Danielle Taber	
Response	May 15, 2015	
A1-001	The commenter acknowledges receipt of the Partially Recirculated draft environmental impact report and states that the Arizona Department of Environmental Quality has no comments. The comment is noted for the record.	

Letter A2

Letter A2: Arizona Department of Transportation

Douglas A. Ducey, Governor John S. Halikowski, Director Dallas Hammit, State Engineer Steve Boschen, Division Director

1611 W. Jackson Street, MD EM02 Phoenix, AZ 85007

May 22, 2015

Intermodal Transportation

Mr. Aaron Yue Project Manager California Department of Toxic Substances Control 5796 Corporate Avenue Cypress, CA 90630 Transmitted by email to aaron.yue@dtsc.ca.gov

Subject: Partially Recirculated DEIR for the PG&E Topock Compressor Station Soil Investigation Project

Dear Mr. Yue:

On behalf of the Arizona Department of Transportation (ADOT), I would like to thank you for providing information regarding the partially recirculated Draft Environmental Impact Report (DEIR) for the soil investigation project at the PG&E Topock Compressor Station. We reviewed the documents available on the project website at http://dtsc-topock.com. The project activities will include soil sampling and analysis and may include bench scale tests, pilot studies, geotechnical evaluations, and plant or other biota sampling. The project location is in California, adjacent to Interstate 40 (I-40), east across the Colorado River from Arizona.

ADOT manages the right-of-way (ROW) for I-40 within the state of Arizona. The information provided in the DEIR will be useful to us for future construction or maintenance work we may undertake in the vicinity in the future. It does not appear that the planned investigation will impact any ROW managed by ADOT. Please keep us informed regarding the project and particularly if future activities related to this project may affect traffic operations or physically affect ADOT-managed ROW.

Thank you again for sharing this information. If there are any questions, please contact me at (602) 292-0301, kgade@azdot.gov, or the address above.

Sincerely,

Gade Kustu Kris Gade, PhD

Kris Gade, Pht Roadside Resources Specialist Environmental Planning Group

ARIZONA DEPARTMENT OF TRANSPORTATION 206 S. 17th Ave. | Phoenix, AZ 85007 | azdot.gov A2-001

Letter A2	Arizona Department of Transportation Kris Gade
Response	May 22, 2015
A2-001	The commenter states that the information contained in the Recirculated draft environmental impact report will be used

The commenter states that the information contained in the Partially Recirculated draft environmental impact report will be useful to the agency when considering future construction or maintenance work, and states that it does not appear that the Project would impact any right-ofway managed by the agency. The lead agency concurs with this statement, and the comment is noted for the record.

Letter A3: California Department of Fish and Wildlife



State of California - Natural Resources Agency DEPARTMENT OF FISH AND WILDLIFE Inland Deserts Region PO Box 2160 Blythe, CA 92226 (760) 922 - 9189 www.wildlife.ca.gov EDMUND G. BROWN JR., Governor CHARLTON H. BONHAM, Director

Letter A3



May 29th, 2015

Aaron Yue Project Manager Department of Toxic Substance Control 5796 Corporate Ave. Cypress, CA 90630

Subject: Partially Recirculated Draft Environmental Report, SCH#2012111079

Dear Mr. Aaron Yue:

The Department of Fish and Wildlife (Department) appreciates this opportunity to comment on the Partially Recirculated Draft Environmental Impact Report (DEIR) for the PG&E Topock Compressor Station Soil Investigation Project (Project), dated April 15th, 2015. The Department is responding as a Trustee Agency for fish and wildlife resources [Fish and Game Code sections 711.7 and 1802 and the California Environmental Quality Act Guidelines (CEQA) section 15386] and as a Responsible Agency regarding any discretionary actions (CEQA Guidelines section 15381), such as a Lake or Streambed Alteration Agreement or an Incidental Take Permit, pursuant to the California Endangered Species Act (CESA). In these capacities, the Department provides the following comments on the proposed Project.

 The first paragraph of section 4.3.2.2 states that CESA is cited as the source for the definition of 'take'. 'Take' is not defined in CESA but in the Fish and Game Code section 86. The definition of take is to "hunt, pursue, catch, capture or kill or attempt to hunt, pursue, catch, capture or kill". The California Fish and Game Code should be cited as the source for the definition of take.

Additionally, the 'California Fish and Game Code' is referred to as the 'California Fish and Wildlife Code' in the titles of following sub-sections. California Fish and Game Code should replace 'California Fish and Wildlife Code' for accuracy and consistency throughout the document.

2. The 'Invasive Species Recruitment' paragraph in section 4.3.3.3 states that "Because these areas are already dominated by aggressive, quick growing invasive species (e.g., salt cedar), however, impacts to sensitive habitats as a result of high invasive species recruitment would be less than significant". This sentence is confusing. Please clarify to eliminate any confusion as to why this area would not be impacted by invasive species.

Conserving California's Wildlife Since 1870

A3-002

A3-003

Mr Ma	. Aa ay 29	ron Yue 9 th , 2015	
	3.	In table 4.3-5, ephemeral washes have been removed and is not included as [Department] jurisdictional habitat. Desert washes are considered ephemeral streams and are under the Department's jurisdiction pursuant to Fish and Game Code section 1600. The Department requests that ephemeral streams be included to the DEIR under the Department's jurisdiction. The Department also requests that both temporary and permanent impacts be quantified and included in the document.	A3-004
	4.	The DEIR mentions that mitigation will be at a "1:1 like kind habitat compensation" for impacts that cannot be either avoided or minimized. The Department considers a 1:1 ratio to be inadequate for both temporary and permanent impacts to desert washes. If the acquisition and preservation of additional habitat is unfeasible. Restoration (e.g., re-vegetation) or enhancement (e.g., removal of invasive species) within the Chemehuevi Mountain Range and its associated drainages should be considered. If restoration occurs after ground-or vegetation-disturbing activities, the mitigation ratio should increase to account for temporal losses of habitat. In addition, the mitigation.	A3-005
£		Both the proposed restoration and enhancement sites should include a success criteria compared to an appropriate reference site with as good or better quality habitat. The success criteria should include percent cover (both basil and vegetative), species diversity, abundance, and any other appropriate success measures. In addition, success criteria should be separated into vegetative layers (tree, shrub, grass, and forb) and each layer should be compared to the success criteria of the reference site to ensure one species or layer does not disproportionally dominate a site but rather mimics the conditions of the reference site. Monitoring and reporting measures should be included with appropriate contingency measures.	A3-006
	5.	In section 4.3.3.3 under the 'Regulatory Requirements and Avoidance Measures' section, there are Avoidance and Minimization Measures (AMM) from the Department. Number 3 of the AMM's states that there shall be no impacts to state or federally listed threatened, endangered or candidate species. In light of new information ascertained through spring bat surveys, the Project has the potential to impact Townsend's big-eared bat (<i>Corynorhinus townsendii</i>), a candidate species protected under CESA. If the Project, Project construction, or any Project-related activity during the life of the Project cannot completely avoid impacts and will result in take of the species protected under CESA, then a CESA incidental take permit may be required.	A3-007
	6.	All occurrence data from the various bat and other species biological surveys should be uploaded into the California Natural Diversity Database (CNDDB) to facilitate data sharing between agencies and the public. Sensitive information can be restricted from the public upon request. The sharing of data will enable all parties to be able to make more informed comments for the management of the	A3-008

Mr. Aaron Yue May 29th, 2015

Topock area. The CNDDB form to report findings can be found at http://www.dfg.ca.gov/biogeodata/cnddb/submitting_data_to_cnddb.asp.

7. The Department recommends that the DEIR include a discussion of potential direct and indirect impacts from the drilling of boreholes to biological resources. The Department is specifically concerned with the diameter of the various holes, how long they will be in place before decommissioning, and what temporary and permanent impacts to vegetation would occur from the footprint of the machinery and the vehicles used to support them.

Should you have any questions or concerns, please contact Mr. Richard Kim, Environmental Scientist, at (760) 922-6783 or <u>Richard.Kim@wildlife.ca.gov</u>.

Sincerely,

Chris Hayes Deputy Regional Manager Inland Deserts Region

ESA / 120112 August 2015

A3-008

3 '

A3-009

Letter A3 Response

California Department of Fish and Wildlife Chris Hayes May 29, 2015

A3-001

The commenter states that Section 4.3.2.2 cites an incorrect definition and source for defining "take" under the California Endangered Species Act (CESA). The definition of "take" on page 4.3-54 of the Partially Recirculated draft environmental impact report (DEIR) is modified in this final environmental impact report (FEIR) to correctly cite California Fish and Game Code (or CFG Code) Section 86 as follows:

California Endangered Species Act

Pursuant to CESA, a permit from CDFW is required for projects that could result in take of a plant or animal species that is statelisted as threatened or endangered. CESA defines "take" as an activity that would directly or indirectly kill an individual of a species. Authorization for take of state-listed species can be obtained through a California Fish and Wildlife Code Section 2080.1 consistency determination or a Section 2081 incidental take permit.

The California Endangered Species Act (CESA) is similar in many ways to the FESA, as described above. However, CESA is administered at the state level by the CDFW. CESA provides a process for CDFW to list species as threatened or endangered in response to a citizen petition or by its own initiative (Fish and Game Code § 2070 et seq.). Section 2080 of CESA prohibits the take of species listed as threatened or endangered pursuant to the Act (Fish and Game Code Section 2080). Section 2081 allows CDFW to authorize take prohibited under Section 2080 provided that: (1) the taking is incidental to an otherwise lawful activity; (2) the taking will be minimized and fully mitigated; (3) the applicant ensures adequate funding for minimization and mitigation; and (4) the authorization will not jeopardize the continued existence of listed species (Fish and Game Code § 2081).

California Fish and Game Code—Take of Species

Take is defined in California Fish and Game Code Section 86 as to hunt, pursue, catch, capture or kill or attempt to hunt, pursue, catch, capture or kill. Additionally, The CFG Code regulates the taking of birds, mammals, fish, amphibians, and reptiles. It includes the CESA (Sections 2050-2115), as well as provisions

	for legal hunting and fishing, and tribal agreements involving take of native wildlife. Any project activities that would result the take of any State-listed species within or adjacent to a projesite would require a permit under CESA.				
A3-002	The commenter states that the California Fish and Game Code is referred to incorrectly as the California Fish and Wildlife Code. The Department of Toxic Substances Control (DTSC) acknowledges this nomenclature and all references to the Code in the FEIR have been changed to the California Fish and Game Code (or CFG Code).				
A3-003	The commenter states the last sentence in the 'Invasive Species Recruitment' paragraph in Section 4.3.3.3 is confusing as written. Thus, the text on page 4.3-62 of the Partially Recirculated DEIR is modified in this FEIR to provide further clarification. This modification clarifies that, due to the existing presence of invasive species in the area, Project- related activities would not result in an additional influx of invasive species such that there would be a significant effect.				
	<u>However</u> , <u>Bb</u> ecause these areas are already dominated by aggressive, quick-growing invasive species (e.g., salt cedar). however, <u>Project-related activities would not result in an</u> additional influx of invasive species. Therefore, impacts to sensitive habitats as a result of high invasive species recruitment <u>during implementation of the Project</u> would be less than significant.				
A3-004	The commenter questions why ephemeral washes were removed from Table 4.3-5 which shows jurisdictional habitat in the Project Site. Tables 4.3-2 and 4.3-5 were modified in response to a comment on the DEIR circulated in July 2014 (see FEIR Volume 1, Chapter 4 Individual Responses, response to comment I11-021 provided by Pacific Gas & Electric Company [PG&E]). Based on available Geographic Information System data, the July 2014 DEIR incorrectly categorized riparian vegetation as being under the jurisdiction of the U.S. Army Corps of Engineers, California Department of Fish and Wildlife (CDFW), and the Regional Water Quality Control Board, when the habitat was actually only under the jurisdiction of CDFW. In addition, some of the jurisdictional acreages presented in the July 2014 DEIR included overlapping data for wetlands resources, which is why the total amount of jurisdictional acreage was reduced after reclassification in the Partially Recirculated DEIR. Regarding ephemeral washes, Tables 4.3-2 and 4.3-5 were revised in the April 2015 Partially Recirculated DEIR to more accurately characterize CDFW habitat. Ephemeral washes under the jurisdiction of CDFW were not removed, but merely re-categorized in the Partially Recirculated DEIR.				
	The commenter also requests that temporary and permanent impacts be				

The commenter also requests that temporary and permanent impacts be quantified and included in the document. All potential impacts to

potentially jurisdictional features are considered temporary as no permanent impacts will occur from Project implementation (see page 4.3-18, which states that "Impacts to jurisdictional resources as a result of soil samplings are anticipated to be temporary" Temporary impacts are quantified and included in Table 4.3-5.
The commenter states that mitigation included in the DEIR for "1:1 ratio for like kind habitat compensation" for impacts that either cannot be avoided or minimized is inadequate for both temporary and permanent impacts to desert washes, but does not suggest what ratio would be
considered adequate. CDFW also suggests that restoration or
drainages should be considered. Mitigation Measure BR-1 requires "no
net loss" of habitat which shall be achieved through any combination of
the following, in descending order of desirability: (1) avoidance; (2)
where avoidance is not possible, minimization of impacts on the
resource; or (3) 1:1 like kind habitat compensation, including use of a
mitigation banking program that provides the opportunity to mitigate
impacts to rare, threatened, and endangered species and /or the habitat
which supports these species in wetland and riparian areas. Only in the
unlikely event that avoidance and minimization of impacts to desert
washes are not possible would 1:1 like kind habitat compensation be
implemented. The details of 1:1 like kind habitat will be determined in
the future as necessary and will depend on the location and quality of the
nabitat to be impacted. Engagement with CDFW would be expected if
1:1 like kind habitat compensation is employed including the use of

A3-006 The commenter states that a mitigation monitoring and reporting program should be included with the proposed like kind habitat mitigation to include success criteria, monitoring and reporting for restoration, and enhancement mitigation. As described in A3-005, the details of any 1:1 like kind habitat will be determined in the future as necessary and will depend on the location and quality of the habitat to be impacted. Consideration for mitigation monitoring and reporting would occur at that time as well. Engagement with CDFW would be expected if 1:1 like kind habitat compensation is employed.

mitigation banks.

A3-007 The commenter states that in light of recent survey information, the Project has the potential to impact Townsend's big-eared bat, which is a candidate for listing under the CESA. If the Project would result in take of the candidate species, then an incidental take permit may be required. The commenter is referencing the spring 2015 focused bat surveys that were attended by CDFW. As noted by CDFW, a single male Townsend's big-eared bat was observed and therefore, the Project has the potential to impact a candidate species for listing under the CESA. The measures prescribed in Mitigation Measure BR-8, as revised in this FEIR, would reduce potential impacts to this species and avoid take. Since take of this species will be avoided, no CESA incidental take permit would be necessary.

A3-005

A3-008	The commenter states that all occurrence data from the various bat and other species biological surveys should be uploaded into the California Natural Diversity Database (CNDDB) to facilitate data sharing between agencies and the public, to enable all parties to make more informed comments for the management of the Topock area. DTSC notes that this is a similar comment that was provided on the DEIR as part of the agency's initial review (see FEIR Volume 1, Chapter 4 Individual Responses, CDFW response to comment A6-003). PG&E has confirmed that, in accordance with CDFW and CNDDB protocol, all special-status species occurrence data will be uploaded to the CNDDB by the observing biologist after observation during various biological surveys.
A3-009	The commenter recommends that the EIR include a discussion of potential direct and indirect impacts from drilling of boreholes to biological resources. In particular, the commenter is concerned with the size and duration of the boreholes before decommissioning and the impacts to vegetation from the footprint of the machinery and vehicles used to support them. Section 3.5.2.9 in the Project Description describes the equipment that would be used to drill boreholes including the approximate footprint of such equipment. DEIR Section 3.5.2.1 describes the borehole decommissioning procedures that would take place following drilling. As stated on page 3-30, the maximum area around a boring that may be disturbed for excavation and restoration activities is 20 feet in diameter. This information in the Project Description was used as the basis for the analysis of direct and indirect impacts in Chapter 4 of the DEIR. Specifically, Section 4.3 "Biological Resources" analyzes the direct and indirect impacts to both general biological resources (special-status described how the status described how the status described how the biological resources (special-status described how the biological resources (special-statu

A4-001

Letter A4: State Clearinghouse



Governor

STATE OF CALIFORNIA Governor's Office of Planning and Research State Clearinghouse and Planning Unit



June 1, 2015

Aaron Yue Department of Toxic Substances Control 5796 Corporate Avenue Cypress, CA 90630

Subject: PG&E Topock Compressor Station Soil Investigation Project EIR SCH#: 2012111079

Dear Aaron Yue;

The State Clearinghouse submitted the above named Draft EIR to selected state agencies for review. The review period closed on May 29, 2015, and no state agencies submitted comments by that date. This letter acknowledges that you have complied with the State Clearinghouse review requirements for draft environmental documents, pursuant to the California Environmental Quality Act.

Please call the State Clearinghouse at (916) 445-0613 if you have any questions regarding the environmental review process. If you have a question about the above-named project, please refer to the ten-digit State Clearinghouse number when contacting this office.

Sincerely, Scott Morgan

Director, State Clearinghouse

1400 TENTII STREET P.O. BOX 3044 SACRAMENTO, CALIFORNIA 95812-3044 TEL (016) 445-0613 FAX (016) 323-3018 www.opr.ca.gov

Document Details Report State Clearinghouse Data Base

SCH# Project Title Lead Agency	2012111079 PG&E Topock Compressor Station Soil Investigation Project EIR Toxic Substances Control, Department of					
Type	EIR Draft EIR					
Description	Soil within the PG&E Topock Compressor Station fence line and surrounding vicinity has been affected by historical releases of contaminants of potential concern. The proposed Project involves soil investigation activities including soil sampling and sample analysis, bench scale tests, pilot studies, geotechnical evaluations, and plant and other biota sampling to support ecological risk assessment. This document is the revised Biological Resources section of the PG&E Compressor Station Soil Investigation Project DEIR. As lead agency, the Department of Toxic Substances Control is exercising its discretion by affording agencies and the general public an opportunity to review additional information incorporated into the DEIR subsequent to the original public review period. Modifications to the Biological Resources section resulted primarily from new information and surveys related to several bat species, conducted, in part, in response to comments on the DEIR from the CDFW and additional information discovered during the environmental impact report process regarding Nelson's bighorn sheep.					
Lead Agenc	cy Contact					
Name	Aaron Yue					
Agency	Department of Toxic Substances Control					
Phone	714 484-5439 Fax					
email						
Address	5796 Corporate Avenue					
City	Cypress State CA Zip 90630					
Project Loc	ation					
County	San Bernardino					
City	Needles					
Region						
Lat/Long	34° 43' 15" N / 114° 29' 45" W					
Cross Streets	National Trails Highway					
Parcel No.	Various Desition F.O. MDB&M					
Township	7N Range 24E Section 5,5, Base MDBam					
Proximity to):					
Highways	SR 66/I-40					
Airports						
Railways	BNSF					
Waterways	Colorado River					
Schools						
Land Use	Institutional/Open Space/Recreational					
Project Issues						
Reviewing Agencies	Resources Agency; Department of Conservation; Department of Fish and Wildlife, Region 6; Office of Historic Preservation; Department of Parks and Recreation; Department of Water Resources; California Highway Patrol; Caltrans, District 8; Air Resources Board; Regional Water Quality Control Board, Region 7; Department of Toxic Substances Control; Native American Heritage Commission; Public Utilities Commission; State Lands Commission					
Date Received	04/15/2015 Start of Review 04/15/2015 End of Review 05/29/2015					

Note: Blanks in data fields result from insufficient information provided by lead agency.

Letter	State of California Governor's Office of Planning and		
A4	Research, State Clearinghouse and Planning Unit		
Response	June 1, 2015		
A4-001	The commenter states that the Partially Recirculated DEIR was submitted by the State Clearinghouse to identified agencies for review. The comment is noted for the record.		

CHAPTER 3 Individual Responses

This chapter contains the comment letters received from individuals on the Pacific Gas and Electric Company Topock Compressor Station Soil Investigation Project Partially Recirculated draft environmental impact report (DEIR) (Section 4.4, "Biological Resources") and the Department of Toxic Substances Control's responses to significant environmental points that were raised in those comments. Each letter, as well as each individual comment within the letter, has been given an assigned letter and number for cross-referencing. Responses are sequenced to reflect the order of comments within each letter. **Table 3-1** lists all individuals who submitted comments on the Partially Recirculated DEIR during the public review period.

Letter #	Commenter	Date of Comment	Comment Page Number	Response Page Number
11	Michelle Atta	April 21, 2015	3-2	3-3
12	Phyllis Allen	May 2, 2015	3-4	3-5
13	Susan Furnas	May 5, 2015	3-6	3-7
14	Russell Morse	May 21, 2015	3-8	3-12
15	Pacific Gas & Electric Company (PG&E)	June 1, 2015	3-13	3-15
16	Dr. Pat Brown	June 2, 2015	3-18	3-38

TABLE 3-1 LIST OF INDIVIDUAL COMMENTERS
Letter I1: Michelle Atta

Sarah Spano	
Surun Spuno	
From:	Addie Farrell
Sent:	Tuesday, April 21, 2015 11:09 PM
Subject:	FW: Form submission from: Topock Website Comments/Questions Form
Addio Earroll	
ESA Community Dev	velopment
AFarrell@esassoc.cor	<u>n</u>
Original Message-	
Sent: Tuesday April 2	1 2015 10:00 PM
To: Marcos, Jose@DT	SC: Addie Farrell: Shannon Stewart: Lear. Stacev@DTSC
Subject: FW: Form sul	pmission from: Topock Website Comments/Questions Form
Not soil, or bio DEIR r and questions come i	elated, but came through the website. We need to figure out what to do when these comments n.
Aaron	
From: gabi@suntouch Needles, California [F	
To: Yue Aaron@DTS	1, 2015 11.02 AM
Subject: Form submis	sion from: Topock Website Comments/Questions Form
Submitted on Tuesda	y, April 21, 2015 - 11:02 Submitted by anonymous user: [66.87.64.156] Submitted values are:
First Name: Michelle Last Name: Atta	

The results of this submission may be viewed at: http://dtsc-topock.com/node/1384/submission/454

1

Letter I1 Michelle Atta Response April 21, 2015

I1-001

The commenter questions what harm has been done in the past and in the future, and questions why Lake Havasu has not had a meeting to discuss impacts from the site. The comment is assumed to be regarding groundwater contamination. The commenter is referred to the final environmental impact report Volume 1, Chapter 2 Master Responses, Master Response Groundwater for a full discussion of impacts related to groundwater contamination.

Letter I2: Phyllis Allen

N/>
DTSC; Garza, Yolanda@DTSC
e Comments/Questions Form
n] On Behalf Of PG&E Topock Compressor
n - 1

First Name: phyllis MAXINE Last Name: Allen

Comments/Questions: RCRA need address to mail Booney Investation. I was taken to the clearner by them! |2-

12-001

The results of this submission may be viewed at: http://dtsc-topock.com/node/1384/submission/477

1

Letter I2 P Response M

Phyllis Allen May 2, 2015

I2-001

The commenter states that the Resource Conservation and Recovery Act needs to address the Booney Investigation. The comment is not related to the Soil Investigation Project draft environmental impact report (DEIR) or the Partially Recirculated DEIR. To exercise good faith, the Department of Toxic Substances Control responded to the commenter on May 6, 2015, providing information on filing complaints with the Better Business Bureau and the purpose of the Resource Conservation and Recovery Act. No further response is warranted.

Letter I3: Susan Furnas

Letter 13		
Sarah Spano		
From: Sent:	Yue, Aaron@DTSC <aaron.yue@dtsc.ca.gov> Tuesday, May 05, 2015 1:59 PM</aaron.yue@dtsc.ca.gov>	
To: Cc: Subject:	Susan Furnas Sarah Spano; Shannon Stewart RF: Commonts on Partially Resinculated DEIP for Topock Soils Investigation Project	
Subject.	RE, Comments on Partially Recirculated DER for Topock Solis Investigation Project	
Susan,		
If you can look up you comments to ESA for	ir record for the site number, we can follow up with ESA and PG&E for answer. I will forward your inclusion in final EIR. Thanks.	
Aaron		
From: Susan Furnas Sent: Tuesday, May (To: Yue, Aaron@DTS Subject: Comments	05, 2015 1:51 PM C on Partially Recirculated DFIR for Topock Soils Investigation Project	
Hi, Aaron.		
I have reviewed the	above-referenced document provided on April 15 and have a couple of comments to offer:	
(1) In the new (und	erlined) text regarding bighorn sheep:	
Table 4.3-3 (Page 4.3-48	(on Page 4.3-36), and (last paragraph)	13-001
FMIT members saw	the sheep near Maze Locus A (the text incorrectly uses the plural form of locus: "Loci A").	

(2) Desert Tortoise Shell Fragments (Page 4.3-43): Does the total number of sets of shell fragments include the shell fragments observed by Applied Earthworks archaeologists during annual site monitoring in 2013 and 13-002 2014? There is at least one small piece of shell, maybe two, at an archaeological site near the edge of a narrow wash we visited most recently in December 2014. I'll look up the site number to pinpoint the location.

Susan

Susan (Wilcox) Furnas

1

Letter I3 Response	Susan Furnas May 5, 2015
I3-001	The commenter states that "loci" is incorrectly used and that "locus" should be used to describe the location where a bighorn sheep was found. In response to the comment, the Partially Recirculated draft environmental impact report (DEIR) text on page 4.3-36 and 4.3-48, respectively, is revised as follows:
	Fort Mojave Indian Tribe members observed two adult and two juvenile sheep next to Maze Locus A during the annual prayer ceremony in June 2013.
	<u>Two adult and two juvenile Nelson's bighorn sheep were</u> observed next to Maze Locus A during a FMIT annual prayer ceremony in June 2013.
I3-002	The commenter questions whether the desert tortoise shell fragments referenced in the Partially Recirculated DEIR are those observed by Applied Earthworks archaeologists during the annual site monitoring in 2013 and 2014. The referenced desert tortoise shell fragments were observed during the 2013 and 2014 monitoring events.

Letter I4: Russell Morse

Letter 14

Russell Morse Sr.

May 21, 2015

Arron Yue, Project Manager Department of Toxic Substance Control 5796 Corporate Ave., Cypress CA 90630 Fax: Fax 714-484-5329

Dear Sir,

I have the Property in upper portion of Section 16 on the Bureau of land Management land maps, which is the right next to Section 9 (The PG&E Compressor Station) and is colored in Blue on the map indicated as State Land. The Property has several washes that feed together and flow in to the Colorado River around Detail 2, Soil investigation Project Site Wetlands, Figure 4.3-2. East Ravine Sediment 3 Pore Water Sampling. I am in the Project Site 5 mile Buffer and know locations of Special Status Species as shown on figure 4.3-23. Please inform me if the Habitation, Soil or waterways, are contaminated in or around property.

14-001

Signature: /

- Anoull Mosse





Para información de su factura de impuestos de propiedad en español, por favor visite www.colecciondeimpuestos.com o llamo al (609) 387-8308. weca acter presententente venera v



Letter I4 Ru Response Ma

Russell Morse May 21, 2015

I4-001

The commenter states that that his property is located in the upper portion of Section 16, which is adjacent to Section 9 on which the Pacific Gas and Electric Company (PG&E) Compressor Station is located, and is familiar with the washes and special-status species shown in Figures 4.3-2 and 4.3-3. Based on the property information provided by the commenter, the Department of Toxic Substances Control has determined that in fact the commenter's property is located approximately one mile southeast of the PG&E Compressor Station. Because the proposed Project involves soil investigation and is localized to the confines of the Project boundary indicated on Figure 4.3-2, any impacts from the Soil Investigation Project would not extend to the commenter's property, approximately a mile away. The commenter is referred to the final environmental impact report Volume 1, Chapter 2 Master Responses, Master Response Groundwater for a detailed response on groundwater contamination and potential associated risks.

Letter I5: Pacific Gas & Electric

Letter 15

comments from PG&E

		-	
Comment	Section/	Comment	
No.	Page		
2	Introduction/p. 1-3, 2nd full sentence 4.3 Biological Resources/p. 4.3-1,	The text states: "In addition, the occurrence of Nelson's bighorn sheep, a Fully Protected Species under the state's Endangered Species Act, was also documented on the Project Site.' This statement appears to be taken from the Four Species Memo which stated the remains were 'potential skeletal remains' of a Nelson bighorn sheep, but was not conclusive. The Four Species Memo preceded the availability of the technical memo from Transcon Environmental, Inc. In the technical memo, the biologist concluded that the remains belonged to an 'unidentified large ungulate' and not to a Nelson bighorn sheep. Accordingly, the statement quoted above concerning Nelson bighorn sheep on the Project Site should be deleted from the EIR. There is no mention of the 2015 protocol survey for western yellow-billed cuckoo nor of the 2015 winter bat survey. It seems that these are important enough to bear direct	15-001
	2nd paragraph	reference. Please add the following reports: "2014 Western Yellow-Billed Cuckoo Presence/Absence Surveys for the PG&E Topock Compressor Station, Needles, California. GANDA" and "December 22, 2014 and Preliminary Habitat Analysis for Bat Use at PG&E Topock Remediation Project, San Bernardino County, California. Pat Brown. March 2, 2015."	15-002
3	4.3.1.2 General Biological Resources/p. 4.3-3 and 4, Bullets	Bullets provide a list of documents reviewed and should also include the surveys listed in previous comment (i.e., 2015 protocol survey for western yellow-billed cuckoo and the 2015 winter bat survey).	15-003
4	4.3.1.2 Jurisdictional Resources/p.4.3-14, 3rd paragraph, 2nd sentence	The text states: "An additional 0.4 acre of riparian vegetation was mapped along the fringes of the resources, which only fall under the jurisdiction of CDFW." The 0.4 acres of riparian vegetation was previously delineated or mapped but was incorrectly categorized during GIS calculations as USACE, CDFW and RWQCB jurisdictional for the Soil Investigations EIR when it was only CDFW jurisdictional. Suggest changing sentence as follows: 'An additional 0.4 acre of riparian vegetation previously mapped would fall only under the jurisdiction of CDFW.'	15-004
5	Biological Resources/ Table 4.3-3/ p4.3-36, 1st row, 1st column	The California Fish and Game Commission listed Townsend's big-eared bat (Corynorhinus townsendii) as a candidate species not Pale Townsend's big-eared bat (Corynorhinus townsendii pallescens). Suggest changing.	15-005
6	Biological Resources/ Table 4.3-3/ p4.3-36, 1st row, 4th column	Townsend's big-eared bat was detected on site during May 2015 surveys. Change the beginning of first sentence from 'Could occur' to 'Present'. Add 'This species was detected on the Project Site in May 2015 (per PG&E.)'	15-006
7	Special-Status Bats/ p.4.3-47, 1st inserted paragraph, 1st sentence	This sentence states that there is suitable roosting and foraging habitat for all bat species listed in Table 4.3-3 and references PG&E 2015a. This is incorrect. The referenced PG&E document states that 'potential roosting habitat occurs in locations scattered throughout the project area'. Please change the word 'suitable' to 'potential' so that the sentence reads, 'as summarized in Table 4.3-3 due to the presence of potential roosting and foraging habitat (PG&E 2015a).'	15-007
8	Special-Status Bats/p.4.3-47, 1st inserted paragraph, 4th sentence	There are no 'stands' of palo verde in the washes. While there are stands of Tamarisk, there are only scattered individuals of palo verde. Please revise text as follows to clarify: " <u>Scattered individuals of Stands</u> of palo verde (<i>Parkinsonia</i> sp.) and <u>stands of</u> salt cedar (<i>Tamarix</i> sp.) occur within washes and drainages on the Project Site, including the East Ravine and Bat Cave Wash."	15-008
9	Special-Status Bats/p.4.3-47, 1st inserted paragraph, 6th sentence	Replace "suitable" with "potential" so the text reads "potential roosting habitat." See Comment 7 above.	15-009
10	Special-Status Bats/p.4.3-47, 1st inserted paragraph, 7th sentence	The 2015 spring survey did not indicate that bats were foraging within East Ravine. While they were observed mostly flying above the East Ravine, there were relatively few bat sightings near tree and ground level within the ravine. We are still awaiting the Spring Bat Survey report. Accordingly, revise the text as follows: "Additionally, the desert scrub habitat stands of trees, and channel bottom of the drainages provide	15-010
		<u>potentially</u> suitable foraging habitat for special-status bat species known to occur in the area."	13-010
11	Special-Status	One, male Townsend's big-eared bat was detected during the May 2015 bat surveys.	15-011

	Bats/p.4.3-47, last inserted paragraph, 1st sentence	Suggest revising text as follows: "Al though not detected during the bat habitat accessment, <u>A</u> Townsend's big-eared bat (<i>Corynorhinus townsendii</i>) also has the rectantial to accur on the Project Site was detected during the May 2015 bat surveys."	15-011
12	Special-Status Bats/p.4.3-48, 1st inserted paragraph, sentences 8-11	One, male Townsend's big-eared bat was detected during the May 2015 bat surveys. Suggest revising text as follows: "No published information currently exists for the presence/absence of Townsend's big-eared bat on Project Site or the Immediate vicinity. However, <u>during the May 2015 bat surveys a single male Townsend's big eared bat was</u> <u>detected</u> . In <u>addition</u> , through personal communication with Dr. Pat Brown during the January 2015 assessment, lactating female Townsend's big eared bats were captured in July and August 2014 in mist-nets across the Colorado River in the HNWR (Brown 2015). This occurrence of the Townsend's big-eared bat is within 5 miles of the Project Site. Therefore, due to the availability of suitable potential habitat and the presence of the species <u>on and</u> in the vicinity of the Site, the Townsend's big-eared bat has the potential to occur at the Project Site."	15-012
13	Disturbance or Loss of Special status Bat Species, p.4.3-74, 2nd paragraph, last sentence	Update as follows to reflect the one, male Townsend's big-eared bat that was detected during the May 2015 bat surveys: "Although One male Townsend's big-eared bats have was detected not been determined to be present at the Project Site <u>during the May</u> 2015 bat surveys, and the potential for the occurrence of this species exists due to the presence of <u>potential sweather</u> habitat."	15-01:
14	Disturbance or Loss of Special status Bat Species, Foraging subsection/p.4.3-74, 1st paragraph, last sentence.	See Comment 10, above. As observed during the 2015 spring survey, bats were not foraging within East Ravine, but rather were flying over it. Thus, replace 'suitable foraging habitat' with 'potential foraging habitat'.	15-014
15	Disturbance or Loss of Special status Bat Species Roosting subsection/p.4.3-75, 2 ^{od} paragraph, 1st sentence.	See comment 7. above. Replace 'suitable roosting habitat' with 'potential roosting habitat.'	15-015
16	Species, Roosting subsection/p.4.3-75, 2nd paragraph, 2nd sentence	Update as follows: "Day roosts may be used by bats during the day time for sleeping (torpor) and can consist of individuals, groups of males (bachelor roost), or a colony of bats. Bats were observed emanating from crevice on western wall of Bat Cave Wash about 200 feet south of the I-40 culverts during the May 2015 surveys."	15-016
17	Disturbance or Loss of Special status Bat Species Maternity Roosting subsection/p.4.3-75, 1st paragraph, 1stsentence.	Replace 'suitable roosting habitat' with 'potential' roosting habitat.	15-017
18	IMPACT BR-8 / p.4.3-	Update to reflect the one, male Townsend's big-eared bat was detected during the May 2015 bat surveys	15-018
19	Mitigation Measure BR-8a/p.4.3-76, 2nd paragraph (a.), 1st sentence	Replace 'suitable' with 'potential'	15-019
20	Mitigation Measure BR-Sa/p.4.3-77, 2nd paragraph (b,), Insert sentence at end of	"Results from the focused bat survey may further refine areas of potential roosting habitat on the Project Site and lead to the modification of the avoidance area in Figure 4.3-5."	15-020
21	Mitigation Measure BR-Sa/p.4.3-76, 2nd paragraph, 4th sentence	Update the sentence to read, 'If an active maternity roost is found, a 50-foot exclusion zone shall be established around the maternity roost; no Project activities <u>that could</u> <u>harm bats</u> shall occur within the exclusion zone ¹ .	15-021

Letter I5 Response	Pacific Gas & Electric Company (PG&E) June 1, 2015
I5-001	The commenter states that the Partially Recirculated draft environmental impact report (DEIR) should remove the statement that Nelson's bighorn sheep were found on the Project Site in 2015. The final environmental impact report (FEIR) includes revised information regarding the presence of Nelson's bighorn sheep on the Project Site.
15-002	The commenter states there is no mention of the 2015 protocol survey for western yellow-billed cuckoo or of the 2015 winter bat survey on page 4.3-1. In response to the comment, the text on page 4.3-1 of the Partially Recirculated DEIR has been modified in this FEIR accordingly.
15-003	The commenter states that the western yellow-billed cuckoo and bat surveys mentioned in the previous comment should also be added to the list of surveys provided on page 4.3-3 and 4.3-4 of the Partially Recirculated DEIR. These report references have been added to the bullet points listed in this FEIR.
15-004	The commenter suggests that text in the Partially Recirculated DEIR be modified to more accurately characterize the jurisdictional acreage calculations. In response to the comment, the text on page 4.3-14 of the Partially Recirculated DEIR is modified in this FEIR as follows:
	An additional 0.4 acre of riparian vegetation was mapped along the fringes of these resources, which only fall under the jurisdiction of CDFW. Table 4.3-2 lists the acreages for resources that would be subject to state and/or federal jurisdiction.
15-005	The commenter states that the California Fish and Game Commission listed Townsend's big-eared bat, not Pale Townsend's big-eared bat as a Candidate species. The mention of Pale Townsend's big-eared bat on page 4.3-36 of the Partially Recirculated DEIR has been changed in this FEIR accordingly.
I5-006	The commenter states Townsend's big-eared bat was detected on site during the spring 2015 focused bat surveys and the potential of "Could Occur" should be changed to "Present" in Table 4.3-3. Results of the spring 2015 focused bat surveys have been incorporated into the FEIR, including updating the potential for occurrence for Townsend's big-eared bat in Table 4.3-3.
I5-007	The commenter states the Partially Recirculated DEIR (page 4.3-47) is incorrect in stating there is suitable roosting and foraging habitat for all

	bat species listed in Table 4.3-3. However, the first sentence in the first paragraph states that a "number" of special-status bats not "all" special-status bats, and therefore, there is "suitable" roosting and foraging habitat for special-status bats such as pallid bat on the Project Site, not "potential." Therefore, no change is necessary.
15-008	The commenter states there are no "stands" of palo verde in the washes on the Project Site and only scattered individuals. In response to the comment, the text on page 4.3-47 of the Partially Recirculated DEIR is modified in this FEIR as follows:
	Scattered individuals of palo verde (<i>Parkinsonia</i> sp.) and stands of salt cedar (<i>Tamarix</i> sp.) occur within washes and drainages on
	the Project Site, including the East Ravine and Bat Cave Wash.
15-009	The commenter suggests replacing "suitable" with "potential" on page 4.3-47 in reference to comment I5-007. However, the observation of special-status species on the Project Site reveals that there is in fact suitable habitat for special-status bat species, not potential habitat. No change is necessary.
15-010	The commenter states that the spring 2015 focused bat surveys did not indicate that bats were foraging within East Ravine and makes claims to the level of activity observed within East Ravine. Results of the spring 2015 focused bat surveys have been incorporated into this FEIR.
15-011	The commenter suggests revising the text on page 4.3-47 to indicate that a Townsend's big-eared bat was detected during the spring 2015 focused bat surveys. Results of the spring 2015 focused bat surveys have been incorporated into this FEIR.
15-012	The commenter suggests revising the text on page 4.3-48 to reflect the finding of Townsend's big-eared bat during the spring 2015 bat surveys. Results of the spring 2015 focused bat surveys have been incorporated into this FEIR.
15-013	The commenter suggests revising the text on page 4.3-74 to reflect the observation of Townsend's big-eared bat during the spring 2015 focused bat surveys. Results of the spring 2015 focused bat surveys have been incorporated into this FEIR.
15-014	The commenter suggests replacing "suitable foraging habitat" with "potential foraging habitat" on page 4.3-74 based on observation during the spring 2015 focused bat surveys. Results of the spring 2015 focused bat surveys have been incorporated into this FEIR.
15-015	The commenter suggests replacing "suitable roosting habitat" with "potential roosting habitat" on page 4.3-75. Due to the observed bat activity on the Project Site during the spring 2015 focused bat surveys, there is 'suitable' habitat on the Site and not merely 'potential' habitat.

	Results of the spring 2015 focused bat surveys have been incorporated into this FEIR.
15-016	The commenter suggests revising the page 4.3-75 based on the results of the spring 2015 focused bat surveys. Results of the spring 2015 focused bat surveys have been incorporated into this FEIR.
15-017	The commenter suggests replacing "suitable roosting habitat" with "potential roosting habitat" on page 4.3-75. Due to the current site conditions and observed presence of bats there is suitable roosting habitat on the Project Site. Results of the spring 2015 focused bat surveys have been incorporated into this FEIR.
15-018	The commenter suggests revising the text on page 4.3-76 to reflect the recent findings of Townsend's big-eared bat during the spring 2015 focused bat surveys. Results of the spring 2015 focused bat surveys have been incorporated into this FEIR.
15-019	The commenter suggests replacing "suitable" with "potential" on page 4.3-76. Due to the observed bat activity during the spring 2015 focused bat surveys, there is suitable habitat on the Project Site, not merely potential habitat. Results of the spring 2015 focused bat surveys have been incorporated into this FEIR.
I5-020	The commenter suggests the results of the spring 2015 focused bat surveys may be able to refine areas of potential roosting habitat on Figure 4.3-5. Based on the spring 2015 focused bat surveys, there is evidence of suitable roosting habitat and observed bat use within the areas identified on Figure 4.3-5, therefore this figure will not be revised for the Soil Investigation Project.
I5-021	The commenter suggests including the language "that could harm bats" into Mitigation Measure BR-8a on page 4.3-76. This language was added to Mitigation Measure BR-8a in the FEIR.

Letter I6: Dr. Pat Brown

Letter	16
Louoi	10

4.3 Biological Resources

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Comme	ents	from Dr.	Pat Bro	own			50		16-001			1 22 40
RING IN THE PROJECT SITE	Potential for Occurrence ²	Could occur; documented along river on Arizona side near Needles and within HNWR (CNDDB 2013; GANDA 2008/EH-I, 2009, 2010, 2012), but Project Site provides little suitable nesting habitat.	Could accurr, documented in Arizona near Needles and the Topock Marsh (CNDDB 2015; GANDA 2008b:35-1, 2009, 2010, 2012), but Project Site provides little suitable nesting habitat.	Could accur: documented along river near Needles (CNDDB 2013), but Project Site provides little suitable nesting habitat.	Could occur: documented within the Topock Marsh, but the Project Site provides little suitable resting and foraging habitat (CNDDB 2013, GANDA 2009æ6, 2010, and 2012).	Unlikely to occur; suitable habitat does not occur in the Project Site.	Likely to neeur, the species was observed within the vicinity of the Project during sevenal of the licensed wildlife surveys (GANDA 2009ah, 2007). Potentially suitable habitat is available in the Project Site. Historic CNDDB record approximately 3 index southeast of the Project Site (CNDDB 2013).		Could accur Present; potentially suitable habitat available in the Project Site. Historic CNDDB record near Needles (CNDDB 2011 101 102 102 102 102 102 102 102 10	Present. An individual was observed within the Topock Station on October 25, 2007. A second mig-satied cat sighting was made at the Station a few years later. No other ing-ailed cat sightings have been reported in the Project Site before or after these dues.	Unlikely to recent; little suitsfyle labhat in area only documented CNDDB record is near Parker, more than 50 miles downriver (CNDDB 2013).	ESA / 1201
TABLE 4.3-3 IL-STATUS SPECIES POTENTIALLY OCCUR	Habitat	Nests within desert ripatian and wash tabitats.	Associated with willow thickets with baccharis.	Historically nests in riparian forests associated with open water but along the LCR; tamariskis a habitat component.	Riparian forest nester in flood bottoms of larger river systems. Requires multistory habitat for foraging.	Winter in southern California and Arizona and inlabits sparsely covered chenopod scrub and valley and foothill grassland habitats.	Nests in a variety of habitats, including broad-leaved upland forest, desert washes, Joshna tree woodland, Mojavean desett scrub, pinon and juniper woodlands, riparian woodland, and Sonoran desert scrub.		Occurs in a variety of sites; most common in open dry habitars. Roosts in undisturbed rocky sites.	Suitable liabitat for ingtuils consists of a mixture of forest and shirth land in close association with rocky areas or riparian habitats.	Occupies narrow band of grassy, riparian, and cultivated vegetation along banks of Colorado River.	4.3-35
SPECIA	Status ¹	State: CSC	State: E LCR MSCP	State: CSC LCR,MSCP	State: E Fed: C LCR MSCP	csc	csc		State: CSC	State: FP	State: CSC LCR MSCP	Dist FID
	Species	Crissal thrasher Toxostoma crissale	Arizona Bell's vireo Vireo bellii arizonae	Sonoran yellow warbler Dendroica petechia sonorana	Western yellow-billed cuckoo Coccyzas americanus occidentalis	Mountain plover Charadrius montanus	Loggerhead shrike Lamius ludovicianus	Mammals	Pallid bat Antrozous pullidus	Ring-tailed cat Bassariscus astutus	Colorado River cotton rat Sigmodon arizonae plenus	id &E. Trapock Compressor Station and invastination Protect Partially Rectinulated

 Number: 1
 Author: Pat Brown
 Subject: Sticky Note
 Date: 5/30/2015 12:55:43 PM

 and both reproductive females and males mist-netted in April 2015.
 Date: 5/30/2015 12:55:43 PM

priori Butuit Hotus Hotus Function on Townsout's hystered has Sourc GACG You for you folding and constant and the important of the importent of the important of the importent of the important of the imp		SPECIAL	L-STATUS SPECIES POTENTIALLY OCCUR	RING IN THE PROJECT SITE
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alifornal tachended Start CSC Habit include temperta detert. Does nor migras Lettide variable service means frecence caliporation LCRMSCP Habit include temperta detert. Does nor migras Lettide variable service means include temperta detert. Does nor migras Local variable service means Local variable service means Local variable service means outbreatern reve one CSC Hobit of the variable service means Local variable service means Local variable service means outbreatern reve one CSC Hobit of the variable service means Local variable service means Local variable service means outbreatern reve one CSC Hobit of the variable service means Local variable service means Local variable service means Local variable service means outbreat endore CSC Hobit of the variable service means Local variable service means Local variable service	le Townsend's big-aned bat vynorhinus townsendii pallescens	State: GSG C LCR MSCP	Variety of habitats, including oth streams, riparian, and grassland, roost in miles, coves, and buildings.	Unlikely-on Could occur, patential suitable for using and roasting habitat present on the steep shores and clifts on the Project She (PCiNE) 2015a1 but worspinitly unlikely-resented that present. No CNDDB records in a real, but known to accur unlikely-resented the characteristic Dynamical near Usic Mead and near Bythe (BOR 2008-116)
Outboarten two orea CSC Babra define, within the Coloriado River basin onto connidense seriores Coloriado River basin orea Coloriado River and orea Coloriado River basin orea Coloriado River and orea Coloriado River and orea <thcoloriado river<br="">orea <thcoloriado river<br="">or</thcoloriado></thcoloriado>	difornia leaf-nosed bat acretus zalijornisus	State CSC LCR MSCP	Habitat includes temperate deserts. Does not migrate or inhermate but linds warm daytime roosts in caves. mines, <u>ar b</u> uildings. Generally forages only 2 hours at night.	Conficety to Could Not be a superstanding tablest exists, however, few suitable moesting sites in the vicinity. Recorded in a nume near Lake Havasu (CNDDB 1000) is the sites in the vicinity.
Genon's hydron sheep Due considerer regions weren Mojore Para FP within the rester Mojore Para Lambing indust excense within the receptionents by the instant of a minimum state of the protect Site. Name of the montains and no densine event densing physical regions. Appresent densine event densing physical regions in the institution of the montains and no densine event densing physical regions. Appresent densine event densing physical regions. Appresent model physical regions appresent and physical regions. Appresent densine event densing physical regions. Appresent model physical regions appresent and physical regions appresent and montains. Appresent densing physical regions. Appresent densing physical regions. Appresent and montains. Appresent densing physical regions. Appresent and montains. Appresent densing physical regions. Appresent and montains. Appresent densing physical regions. Appresent densing physical regions. Appresent densing physical regions. Appresent and montains. Appresent densing physical regions. Appresent densing physical regions. Appresent and montains. Appresent densing physical regions. Appresent densing physical regions appresent densing physical regions. Appresent densing physical regions appresent densing physical regions. Appresent densing physical regions appresented densing physical regions appresent	uthwestern fiver other thra cuntification summar	csc	Habitat others within the Colorado River basin in flowing waters and tiparian woodlind.	Unlikely to neary, suitable habitat flows not occur in the Project Site.
Ave mode CSC Caves are the main roots for this acoultweatern forth-reflice Could occur, limited caves on the Project Site, but antable torsting atter in Bat buildings and bridges. If is minuth a "create and holds in the cellings of its underground retreats." This species is a factorn to need in him available model for the section of the main vegetation and in dire decent washes. Could occur, limited caves on the Project Site, but antable torsting atter in Bat Cove Wash and on cliff. Tervices. No CNDDB records in area, but potential to precime and holds in the cellings of its underground retreats. This species is a factorn to need in him available main doent washes. Cove Wash and on cliff. Tervices. No CNDB records in area, but potential to precime and holds in precime and holds in the cellings of its underground retreats. This species is a factorn to need in him available washes.	ilson's biglioni shep, us conadowis stelanti	FP within the Western Mojave Plan	Lambing ladviat coerne within the steep provisions individue, and feneging-ladviat sourcedue of un-lower individues and feneging-ladviat sourcedue to an lower individue and the signer, alpine dwarf scrub, Unitized habitats include alpine, alpine dwarf scrub, Mogaeun deest result, monture therar scrub, pinon and jurdper woodback, inpution woodbard, and Sourcen deest scrub. <u>Fonging thabitat extends to the</u> lower deteriorities and the structure for the lower deteriorities and the structure for the lower deteriorities and the structure for the lower deteriorities and the structure of the problem events and lambing.	Could recent Present: surable lambing habital occurs in the mountains south of the Project Site. but not action the Project Site. Southele for aging and morecoment habitat extends from the foodilist of the mountain advant into the Boophinia and updatal areas of the Project Site. Fort Moinse Indant Tithe members observed two adult and areas of the Project Site. Fort Moinse Indant Tithe members abserved two adult and areas of the Project Site. Fort Moinse Indant Tithe members abserved two adult and two incomits sheep next to Marce Loci A during the annual prace ectenoon in Lue 2013. Also, Felton Bricker, Tribal Monito, has treatted observances of sheep in this monitoring loss during the ACC cleanty.
	ve myodia orfa velificy	CZRC	Caves are the main roots, for this southwestern precise, although it also uses mines, and occasionally buildings and bridges. It is trunnally a "teroite dweller," preform "creviets, poskets, and holes in the celings of its underground retreats. This species for ages over dense ription west than wellow nests. Also for ages over dense ription west than wellow nests. Also for ages over dense ription west that are	Could been: lumited saves on the Protect Site, but addable reosting aites in Bal Cave Wash and on cliff creates: Ao CNDDB records in area, but potential to preem near the Protect Site (PGA E 2015a).
	E Tepock Compressor Slaten		4.3-36	THE PARTY OF THE P

4.3 Biological Resources

- Number: 1 Author: Pat Brown: Subject: Sticky Note Date: 6/9/2015 11:19:48 AM A large colony roosts year round in the Jackpot Mine on Lake Havasu NWR on AZ side within 10 miles of Topock and definitely could forage in bat Cave Wash and along the LCR.
- Number: 2 Author: Pat Brown Subject: Sticky Note Date: 5/30/2015 8:57:20 AM
 IS THIS THE TIME TO ADD THAT A MALE WAS CAPTURED ON THE PROJECT SITE?
- Number: 3 Author: Pat Brown Subject: Sticky Note Date: 5/30/2015 12:54:14 PM Forages longer depending on time of year and reproductive condition



ESA / 120112 August 2015

 Number: 1
 Author. Pat. Brown: Subject: Sticky Note
 Date: 5/30/2015 12:50:26 PM

 Red bats are a tree roosting species and would not roost and probably only randomly occur in Bat Cave wash or along LCR while foraging
 Number: 2

 Number: 2
 Author. Pat Brown: Subject: Sticky Note
 Date: 5/30/2015 12:52:26 PM

 When first described in 1905. (Hollister, 1909), it was named Hollister's bat, and the topotype was collected in May 1905.

ten miles north of Needles at Ft. Mojave on the California side of the LCR in the "dense cottonwood bottomlands of the Colorado River". They were not recorded along the LCR for some time after the conversion and loss of the cottonwood and willow riparian. Now a colony is roosting in a palm tree adjacent to a restoration sire south of Parker AZ.

Number: 3 Author: Pat Brown: Subject: Sticky Note Date: 5/30/2015 8:54:22 PM Echolocation signals of this species have been recorded by us along the LCR close to project site.

Statisti Habitat Potential for Occurrence ² Bigr free-calidedan CSC Indubite rugged, trocky labitats in and landscenses 1 Potential for Occurrence ² Metermonyer macrosts CSC Indubite rugged, trocky labitats in and landscenses 1 Potential for Occurrence ² Metermonyer macrosts Could accert antible fragment in a variety to featur second that and construction Protential fragment accounter with the vectorizations Protential fragment accounter with the vectorizations Metermonyer macrosts Metermonyer and construction Stote 11 in New Protent Site. No COUNT new Metermonyer macrost Metermonyer and construction Metermonyer and construction Protential accounter with the services of cools in the Protect Site. No COUND in New Metermonyer protein Metermonyer and fragments and fragments and transmenting in New Metermonyer and fragments and transmenting in New Metermonyer protein CSC Primarity active second hundred muter Primarity active second hundred muter Construction CSC Primarity a construct second hundred muter Protect Site. No COND in Second colings and transmenting and construct active second hundred muter Protect Site. No COND in Second colings and construct active second hundred muter Contreatermonyer Protect Site and freate		SPEC	TABLE 4:3-3 SIAL-STATUS SPECIES POTENTIALLY OCCUR	RING IN THE PROJECT SITE
Bit. Tree-miledum CSC Induitie rugged tooky Johitots in and Jondscense. If Conditionent in a variety of plant associations. Mortmonore macretie Conditionent associations. Induitie rugged tooky Johitots in and Jondscense. If Induitie rugged tooky Johitots in and Jondscense. Mortmonore macretie Conditionent associations. Induitie rugged tooky Johitots in and Jondscense. Induitie rugged tooky Johitots in and Jondscense. Mortmonore macretie Exercise and Mit in a variety of Plant associations. Induities and tooks and tooky and toky and tooky and t	Species	Status ¹	Habitat	Potential for Occurrence ²
Weature material CSC Primarity a cliff-dwelling species that forms maternity Could accur aniAble forming and rossing to colonies of several dozer to several hundred muler Enurone porority Could accur aniAble formation and counces of several dozer to several hundred muler Could accur aniAble formation and counces of several dozer to several hundred muler Extensions porority Counces of several dozer to several hundred muler Count accur aniAble formation and counces of several dozer to several hundred muler ecolonies of several bases (1, 3, 1, 2	big free-ailed but Netwonoge matralle	No.	Intrabile rugged, nocy labrings in and landscropes. If his been found in a variety of plant associations including desertisation, woodingla and exergreen foresist. I appeare to be associated with lowlands but has been documented at around 8,000 ft in New Mesico. If roots minitly in the crevices of roots in effits, as well as building, acres and the carrifes Materniv roots have been documented in rock erevices and high site fidelity.	Could neem: aniable furnising and musting labitual present on the steep stores and effls: on the Project Site. No. C. 2004 records in area, but potential to occur usar the Broject Site. (PGARE 2015a, Data
	Western mestel but	S	Primarti's a chif-dwelling species that forms maternity colonies of several dozen to several hundred mater scholing rock tables (e.g. agnub, sandshne, or contairun rock tables (e.g. agnub, sandshne, or contairun alses and ferrides. Roosis arc/loared high above the ground allowing a dear vertical drop of at least, 7 mutors. Fronges in dry deart versites, flooriblaires and writin a mix of vecentrion.	Could accur, much the formating and reasoning habitat present on the accur and office and the Project Site. (PGSR 2015a)
Legal Status Dative Real Mark (California Native Prant Society's Starte Plant Reactive Starte Plant Kaetty's Revert Plant Kaetty in Rank (California Starte (USFWS) Federal Listing Categories 2 - Plant species considered rate or endangered in California Candingread in California (over 80 percent oce and immediaty of the same of the Alifornia Categories Endangered (CaPIW) Starte Listing Categories 0.1 - Seriously threatened in California (20-80 percent oce and immediaty of threat) (20-80 percent oce and	Legal Status Definitions (.S. Fista and Widdiffe Servic Endinge Candida Candida Candida Candida Department of Fis Endinge Reduy Fr Deditoria SC Constant	e (USFWS) Federal L and Jogally protected) and Jogally protected) and the propession for iterated in propession for iterated in and Wildlife (CDFN wired (legally protected) or extended (legally protected) in Structed of Contextual	Joing Categories Califor Joint no 2 = Pl3 (Gauly protected) 0.1 - St (Gauly protected) 0.2 - F (State Listing Categories 0.2 - F (State Listing Categories 0.3 - S ed, no take allowed) 0.3 - A (International) 0.3 - A (International) 0.4 - A	min Native Plant Snetery's Rare Plant Rank (CRPR) Categories at species somidered rare or endangered in California but more common elsewhere Uregally protected mater the fasteril and California Endangered Species Acts Duosly Hareatened in California (over 80 prevent of nocurrences directioned/light and inmediasy of Otreal) and inmediasy of Otreal) and Shere and California (20-80 prevent occurrences threatened/logd mediacy of Dreat) (or very filtreat effect of a nocurrences threatened/low degree mediacy of Otreat on no current threats known).
	CSC = Californ C = Californ	in Species of Concern te proposed for listing	(no formal protection) (lecally protected)	Colorado River Multi-Species Conservation Program (LCR MS

A N NUMBER

ESA / 120112 August 2015

CTT CLARE

4.3-38

Actinuated Draft E. P.

FIGBE Toppolik Compresent Surron

 Number: 1
 Author: Pat Brown
 Subject: Sticky Note
 Date: 5/30/2015 8:57:00 PM

 Echolocation signals of this species have been recorded by us along the LCR close to project site.
 PA
 PA

 Number: 2
 Author: Pat Brown
 Subject: Sticky Note
 Date: 5/30/2015 8:56:43 PM

 Less likely to occur than western mastiff or pocketed free-tailed bats.
 Date: 5/30/2015 8:56:43 PM

females may drive males away 3 to 4 days before giving birth. Ring-tailed cats are usually not found more than 0.6 mile from permanent water.

Special-Status Bats

One species of special status bat has been documented near the Project Site. The pallid bat is a widely distributed species generally occurring in lower elevation sites, most often in dry rocky habitats. Little is known and scant documentation exists regarding the pallid bat within the Lower Colorado River. Bat surveys were not conducted as part of the Project and no documented surveys have been conducted in the HNWR. The river and the Topoek Marsh could provide auitable foraging habitat for a number of migratory and resident bat opecies, and the rocks of Topock Gerge to the south of the Project Site may provide limited roost sites.

A number of special-status bat species have the potential to occur near the Project Site, as summarized in Table 4.3-3 due to the presence of suitable roosting and foraging habitat (PG&E 2015a). The Project Site is located adjacent to the Colorado River on undulating hillsides with several ephemeral drainages, rocky slopes, and cliff faces. The Project Site mostly contains bare rocky ground with scattered desert scrub vegetation. Stands of palo verde (Parkinsonia sp.) and sall cedar (Tamartx sp.) occur within washes and drainages on the Project Site, including the East Ravine and Bat Cave Wash. Wetland habitat occurs within Topock Marsh on the eastern boundary of the Project Site, outside of any proposed work areas. The drainages, rocky slopes, and cliff faces on and immediately adjacent to the Project Site, particularly within East Ravine and Bat Cave Wash, provide suitable roosting habitat for a number of special-status bat species known to occur in the area. Additionally, the desert scrub habitat, stands of trees, and channel bottom of the drainages provide suitable foraging habitat for special-status bat species known to occur in the area. The lack of riparian and woodland habitats on the Project Site, particularly adjacent to potential roost sites, reduces the quality of the habitat on the Site to support special-status bats because it limits the available foraging opportunities for b to the rotential roosting habitat 16-010 also occurs within the rocks of Topock Gorge approximately 1 mile to the south of the Project Site.

A bat habitat assessment survey was conducted on the Project Site by Dr. Pat Brown, a biologist	16-011
specializing in bats, on January 29 and 30, 2015 (PG&E 2015) The of the special-status bat species identified in Table 4.3-3, the pallid bat (Antrozous pallidus) addected on the Project	16-012
Site during this survey using Anabat acoustic monitoring equipment. The pallid bat is a widely	1. S.
distributed species generally occurring in lower elevations, most often in dry rocky habitats,	1
roosting in crevices in rocky outcrops and cliffs, caves, mines, trees, and structures, and foraging	16.012
ov sslands and wooded areas gleaning insects from surfaces and capturing insects on the	10-015
wing. Pallid bats form maternity roosts in day roost sites that protect bats from high temperatures.	
Maternity colonies form in early April and consist of a dozen to 100 individual bats. Little is	1.00
known about pallid bat populations and use of the Project Site and scarce documentation exists	16-014
	1

Although not detected during the bat habitat assessment surt where the project site is big-eared bat (Corvnorhinus townsendii) also has the potential to occur on the Project Site. The petition to list

PG&E Tribook/Compressor Station Son Investigation Provide Redictive Records and Dratt EIR 4.3-47

ESA/ 120117

Number: 1	Author: Pat Brown	Subject: Sticky Not	e Date: 5/30/2015 9:01:08 PM
This statement preferentially for	is not true! The dry was orage in this habitat.	h/microphyll woodl	and is one of the most productive desert habitats. California leaf-nosed and pallid bats
Number: 2	Author: v1s4	Subject: Highlight	Date: 5/14/2015 3:49:21 FM
Number: 3	Author: Pat Brown	Subject: Sticky Not	e Date: 5/30/2015 9:21:29 PM
and April 27 M	lay 1, 2015.		a support of the second s
Number: 4	Author: Pat Brown	Subject: Sticky Not	e Date: 5/30/2015 9:09:44 PM
On April 28, 20	15, a male and two pres	nant pallid bats wer	e mist-netted in Bat cave Wash.
Number: 5	Author: Pat Brown	Subject: Sticky Not	e Date: 5/30/2015 9:10:59 PM
desert scrub.			

 Number: 6
 Author: Pat Brown: Subject: Sticky Note
 Date: 5/30/2015 9:19:08 PM

 There have been abundant surveys documenting pallid bats along the LCR, they are mist-netted across the river from Topock at Bureau of Reclamation area. Brown, P. E., and R. D. Berry. 2003. Baseline surveys and the development of monitoring protocol for Lower Colorado River bat species. Report prepared for NFWF, Washington D.C. for the Lower Colorado River Multi-Species Conservation Program. Project # 2000-0304 002, 76 pp.

Calvert, A. W. 2009a. [ABS]. Three years of intensive mist-netting at riparian restoration sites along the Lower Colorado River. Bat Res. News 50(4):97-98.

Calvert, A. 2009b. 2007 Preliminary results for the capture of bats at riparian habitat creation areas along the lower Colorado River. Bureau of Reclamation, Lower Colorado Region, Lower Colorado River Multi-Species Conservation Program Office, Bouldar City, NV.

Calvert, A. 2010. Post-Development Bat Monitoring of Habitat Creation Areas along the Lower Colorado River – 2009 Capture Surveys. Lower Colorado River Multi-Species Conservation Program. Bureau of Reclamation, Lower Colorado Region, Lower Colorado River Multi-Species Conservation Program Office, Boulder City, Nev. 26 pp.

Calvert, A. 2011. Post-Development Bat Monitoring of Habitat Creation Areas along the Lower Colorado River – 2010 Capture Surveys. Lower Colorado River Mülti-Species Conservation Program. Bureau of Reclamation. Lower Colorado Region. Lower Colorado River Multi-Species Conservation Program Office, Boulder City, Nev. 23 pp.

Number: 7	Author: Pat Brown	Subject: Sticky	Note	Date: 5/30/2015 9:22:51 PM
in January, a male	Townsend's big eare	d bat was mist-	netted in the	culvert under the railroad in bat Cave Wash on April 30, 2015.

4.3 Biological Resources

Townsend's big-eared bat as a Candidate species for listing under the CESA was accepted in April 2013, and until a decision to list the species is finalized, this species is afforded protection by CDFW similar to other CESA listed (threatened or endangered) species (CDFW 2013a). Any potential Project-related impacts to this species would require consultation with CDFW before impacts occur. The January 2015 assessment of the Project Site identified potential suitable roosting and foraging habitat for the Townsend's big-eared bat within the rocky slopes and cliff faces along ephemeral drainage features, particularly those associated with Bat Cave Wash. Townsend's big-eared bat is a colonial species, with females aggregating in nursery sites in the early spring and giving birth to one young in the late spring or early summer (CDFG 1998). Maternity roosts stay intact until the young are independent in late summer or early fall. These bats demonstrate high site fidelity and will return to a roost multiple seasons. Townsend's bigeared bat generally roost in caves, but can also roost in man-made structures, buildings, and in the open hanging from walls and ceilings. They forage along streams and a variety of wood habitats catching insects on the wing. No published information currently exists for the presence/absence of Townsend's big-eared bat on the Project Site or the immediate vicinity. However, through personal communication with Dr. Pat Brown during the January 2015 assessment, lactating female Townsend's big-eared bats were captured in July and August 2014 in mist-nets acrophe Colorado River in the HNWR (Brown 2015). This occurrence of the Townsend's big-eared bat is within 5 miles of the Project Sip of suitable habitat and the presence of the species in the vicinity of the Site, the Townsend's bigeared bat has the potential to occur at the Project Site.

Nelson's Bighorn Sheep

Habitat requirements for Nelson's bighorn sheep include mountainous terrain with areas of gentle terrain such as valley floors and alluvial fans that provide important linkages between adjacent mountainous regions. These gentle terrain areas also provide temporary access to resources such as forage and water, particularly in the drier summer months (PG&E 2015b). Steep, rugged terrain, also called escape terrain, is a crucial component of bighorn sheep habitat because bighorn sheep use running speed coupled with their climbing abilities to evade predators (PG&E 2015b). BLM research indicates that flight and cardiac response is activated within 50 to 100 meters (160 to 330 feet) of disturbance (BLM 2001). Males and females will also often occupy different habitats outside the breeding season. Females tend to choose steep, safe areas for bearing and initial rearing of lambs, while males occupy much flatter areas during the lamb-rearing season (BLM 2013). Nelson's bighorn sheep forages on a broad variety of plants species (at least 34 and up to 121 different species) including forbs, shrubs, new shoots from shrubs and trees, grasses, shrubs, and barrel cactus (PG&E 2015b).

Nelson's bighorn sheep have a potential are known to occur in the Project Site. <u>Two adult and</u> two juvenile Nelson's bighorn sheep were observed next to Maze Loci A during a FMIT annual prayer ceremony in June 2013. Also, a FMIT Tribal Monitor reported observances of sheep in monitoring logs during the Time Critical Removal Action at AOC 4. Bighorn sheep prefer visually open habitat that is steep and rocky in mountainous terrain above the desert floor. They use their eyesight as the primary sense for detecting predators at sufficient distances to ensure adequate time to reach safe terrain. Males and females will also often occupy different habitats

PG&E Thorock Compressor Station Sou Investigation Provid Padiativ Reproductive Oran ETR 4.3-48

ESA/ 17011

16-016

16-017

16-018

Number, 1	Author, v1s4	Subject: Highlight Date:	5/14/2015 3:48:50 PM
Number: 2	Author: Pat Brown	Subject: Sticky Note	Date: 5/30/2015 9:25:17 PM
in the desert th	ey forage in microphyll	woodland.	
Number 3	Author: Pat Brown	Subject: Sticky Note	Date: 5/30/2015 9:27:05 PM
on the Arizona	side of the LCR near be	al Lake 9the nets were not	t spread across the LCR).
in the large of	Author Pat Brown	Subject: Sticky Note	Date: 5/30/2015 9:31:03 PM

PG&E Topock Compressor Station Soil Investigation Project Final Environmental Impact Report, Volume 2

4.3 Biological Resources		
Responsibility:	PG&E would be responsible for the implementation of these	
	measures. DTSC would be responsible for ensuring compliance.	
Significance after Mitigation:	Following the avoidance measure for Nelson's bighorn sheep	
	described in Mitigation Measure BR-7 would reduce the impact	
	on the species to a less than significant level.	
Disturbance or Loss of Spec	ial-status Bat Species	
he primary risk to special-sta	tus bat species would be from potential Project-related disturbances	
to foraging habitat and active c	lay and maternity roost sites during soil investigation activities.	
The operation of machinery in	desert washes could disturb the vegetation that attracts insects for	
bats to prey on, thus impacting	their foraging habitat. In addition, activities adjacent to slopes and	
cliff faces on the Project Site,	which provide potential roosting habitat for bats, could result in	
disturbance to bats during the I	maternity roosting season of mid-March through August.	
D. 1 . 1 . 11	1	
Project-related impacts to spec	ial-status bats would be considered significant if the action would	
result in the loss of a maternity	roost or result in the greater population of the species to drop	
CESA and as such is offerdad	ownsend's big-eared bat is a candidate species for listing under the	
CESA, and as such, is anorded	Protection by CDF w similar to other CESA listed species. This	
big-eared bat any Project-relat	and impact to this species would be considered a significant impact	
Although Townsond's big-ours	ad bats have not been determined to be present at the Project Site	Ê .
the potential for the occurrence	c of this species exists due to the presence of suitable habitat. O^2	10.04
5		16-01
Ploraging	and the second	1
Suitable foraging habitat for sp	ectal-status bal species occurs in the bolloms of drainages and	
areas that contain scattered par	o verde and fromwood frees on the Project Site, adjacent to	
proposed work areas. Special-s	hatus bais with a potential to occur on the Project site generally	
alagning instate from surfaces	and approximation instants, and within the number of wooded habitats	1.30.40
greating insects from surfaces	Site by Dr. Pat Brown, a biologist manipulation in bate on January	16-02
29 and 30, 2015 and identified	suitable forgoing apportunities within the desert weekee such as	
Bat Cave Wash and the Fast P	aving on well as the Torock March and arge adjacent to the	
Colorado River	avine, as wen as the ropock marsh and areas adjacent to the	
Contraine retrent		1
The proposed Project would re	move some vegetation, primarily salt cedar at the mouth of Bat	
Cave Wash. Up to two acres of	f the vegetation in this area would be trimmed, pruned, or cleared	
using hand tools and a wood cl	hipper. Complete vegetation removal is not anticipated in any work	
areas. Trimming, pruning, or c	learing of vegetation may be needed to access some sites and clear	
around sample areas. No action	n would be taken to revegetate work areas, instead (as described in	
the Soil Work Plan) roots would	Id be left in place to allow for regrowth, which includes the area at	
the mouth of Bat Cave Wash. I	Revegetation is expected to occur naturally and rapidly within one	
to two growing seasons based	on past project experiences. As such, any potential impact to	
foraging habitat would be cons	sidered temporary.	

PG&E Topock Compressor Station Soil Investigation Project Partially Recirculated Dratt EIR

Final Environmental Impact Report, Volume 2

4.3-74

ESA/ 120112 April 2015

Number: 1 Author, v1s4 Subject: Highlight Date: 5/14/2015 3:50:44 PM Number: 2 Author: Pat Brown Subject: Sticky Note Date: 6/9/2015 11:38:57 AM Townsend's big eared bat was mist-netted in Bat Cave Wash on April 30. 2015, indicating that roosting and foraging habitat for this species are present on the Project Site.

T Number: 3 Author v1s4 Subject Highlight Date 5/14/2015 3:51:17 PM

 Number: 4
 Author: Pat Brown
 Subject: Sticky Note.
 Date: 5/30/2015 9:42:44 PM

 This previous sentence is not accurate for desert bat populations. Bat cave Wash supports a rich microphyll woodland community (no surface streams, or grasslands). Bats do glean from the vegetation as well as aerial insectivory.
 Date: 5/30/2015 9:42:44 PM

4.3 Biological Resources

The Project has also been designed to avoid work from dusk till dawn when bats are most active and foraging. Drilling would be limited to daytime hours. Daytime is generally defined as the time between sunrise and sunset when there is enough natural light to conduct Project activities without assisted lighting.

Project-related disturbance that results in the temporary loss of foraging habitat is not considered a significant impact to special-status bat species because the action will not result in injury or mortality to bats. Additionally, due to the amount of available foraging habitat in offsite areas surrounding the Project Site there are adequate alternative foraging opportunities for bat species known to occur in the area. The temporary effects to the vegetation that would be removed or trimmed would not be significant and would not cause any resident or migratory bat species to drop below self-sustaining levels. Because there would be no permanent loss of foraging habitat and bats are able to utilize adjacent offsite areas for forag

2 oosting

The special-status bat species with a potential to occur and known to occur on the Project Site generally roost (day roost) in crevices located in rocky outcrops and cliffs, caves, mines, trees, and structures such as builtings and bridges, hanging from walls and ceilings, and with an available drop off for filiping Day roosts may be used by bats during the day time for sleeping (torpor) and can consist of individuals, groups of males (bachelor roost), or a colony of bats.

The Project Site provides suitable roosting habits for special-status bat species particularly within the crevices and small mammal burrow ong cliff faces and slopes associated with the desert washes on the Site. At the time of the January 2015 bat habital assessment, no roosting activity was observed on the Project Site, which is typical given the time of year, but suitable roosting habitat was observed on the Project Site that could support day roosting for special-status bats. Project activities are proposed primarily within upland areas and the channel bottom of desert washes; however some permanent roosting habitat loss may occur as a result of Project activities along slopes that contain rock crevices and cliff faces, as well as a temporary disturbance to vegetation, washes and slopes, as discussed in Chapter 3, "Project Description." Project-related impacts to a day roost (bachelor roost) of a Townsend's big-eared bat would be considered significant because potential impacts to a Candidate species that may result in injury or mortality require consultation with CDFW.

daternity Roosting

Due to the presence of suitable roosting habitat and observed bat activity during the winter season, there is a potential for maternity roosting to occur opproject Site. Maternity roosting habitat is similar to day roosting habitat, but a maternity roosts are afforded additional protection female bats raising their young (pups). Maternity roosts are afforded additional protection because they are considered bat nursery sites that contains the next generation of bats (pups) that are unable to fly or feed themselves. Project activities that occur during the maternity roosting season of mid-March through August may result in potential direct and indirect impacts to a bat maternity roost.

16-024

16-021

16-022

16-023

PG&E Topock Compressor Station Spill Investigation Project Partially Recirculated Dratt EIR 4.3-75

ESA/ 120112

Number: 1	Author: Pat Brown	Subject: Sticky Note	: E	Date: 5/30/2015 9:51:16 PM
assumes that of	r site foraging habitats	are not at carrying c	apacity for	the off site bats that forage there.
Number: 2	Author: v1s4	Subject: Highlight	Date: 5/14/	/2015 4:29:56 PM
Number: 3	Author: Pat Brown	Subject: Sticky Note	, r	Date: 5/30/2015 9:54:37 PM
Most bats do no outcrops and cli	at need "drop off" for fi iffs/bank washes with o	ight only the molos avities (no bridges, m	sids. The b nines, build	ats on the project site would not be roosting in anything other than rock; ings, trees, structures, etc).
Number: 4	Author: v1s4	Subject: Highlight	Date: 5/14/	/2015 4/30:22 PM
Number: 5	Author: Pat Brown	Subject: Sticky Note	C C	Date: 5/30/2015 9:56:34 PM
Number: 5 most of the cavi	Author: Pat Brown ties in the banks of Eas	Subject: Sticky Note t Ravine and Bat Cav	e Wash are	Date: 5/30/2015 9:56:34 PM enatural erosion features and not small mammal burrows.
Number: 5 most of the cavi Number: 6	Author: Pat Brown ities in the banks of Eas Author: v1s4	Subject: Sticky Note t Ravine and Bat Cav Subject: Highlight	e Wash are Date: 5/14/	Date: 5/30/2015 9:56:34 PM natural erosion features and not small mammal burrows. /2015 4:30:07 PM

Maternity roosts are defined from the time when pregnant females congregate as much as two months prior to parturition, through birth and lactation to weaning of juveniles. This period can span 5 months.

4.3 Biological Resources Dotential Project-related impacts to maternity roosting bats from increased human activity, noise and vibration can be considered a significant impact if the level of disturbance results in the abandonment of a maternity roost (CalTrans 2004). For example, Townsend's big-eared bats are very sensitive to site disturbance and entering a known maternity roost can result in females leaving the roost and abandoning their pups, thereby reducing population growth and propagation of subsequent generations. Project-related impacts, even indirect and temporary in nature, that results in the disturbance to a maternity roost for special-status bat species is considered a significant impact. IMPACT Disturbance or Loss of Special-status Bat Species. Effects to special-status bat species (which includes the pallid bat, the Townsend's big-eared bat, and any other BR-8 special-status bat species that may be found at the site) would be considered significant if project activities would result in the loss or abandonment of a maternity roost or nursery site, which could result in significant effects to the overall population of the species. The Project could result in disturbance to maternity roosts on the Project Site given the presence of potential maternity roosting habitat. Potential direct and indirect impacts to the maternity roost of any special-status bat species would be significant. Implementation of the proposed Project could also result in the disturbance of day roosts and other harassment, injury or mortality of individual Townsend's big-eared bats. Although Townsend's big-eared bats have not been detect of the Project Site, suitable habitat exists and this species has the potential to use the site for foraging and roosting. Due to their heightened sensitivity as a Candidate species 16-025 under CESA (as of April 2013), any harassment, injury or mortality of individual Townsend's big-eared bats would be considered significant. The Project's potential to result in direct and indirect impacts to active Townsend's big-eared bat roosts and individuals would therefore be significant. Mitigation Measure BR-8: Disturbance or Loss of Special-status Bat Species. The following measures shall be implemented to avoid impacts to active maternity roosts of special-status bat species during the maternity roosting season (mid-March through August) and direct harassment, 16-026 injury or mortality to Townsend's big-eared bats, consistent with the California Fish and Code. amplementation of soil investigation activities within suitable maternity roosting habitat for special-status bat species as shown in Figure 4.3-5 shall not occur during the maternity season (mid-March through August). However, if soil investigation activities critical to meeting the project objectives are determined necessary during the maternity season, a qualified biologist specializing in bats shall conduct a pre-investigation survey 16-027 to identify active roosts. The since structure in the second structure in the second structure in the second structure in the second structure is found, a 50-foot exclusion is found, a 50-foot exclusion is found as the second structure in the second structure is the second structure in the second structure is the second structure in the second structure is the sec zone shall be established around the maternity roost; no Project activities shall occur within the exclusion zone until it is determined that all bats (including pups) are able to 4.3-76 PG&E Topock Compressor Station Soil Investigation Project Padially Recirculated Draft EIR: ESA/ 120112

Number: 1	Author, v1s4	Subject: Highlight	Date: 5/14/2015 3:52:26 PM
Number: 2	Author: Pat Brown	Subject: Sticky Not	e Date: 5/30/2015 10:02:25 PM
Townsend's big	g eared bats has been d	etected on site.	
Number: 3	Author: Pat Brown	Subject: Sticky Not	e Date: 5/30/2015 10:08:42 PM
Fish and Wildli	fe code		
Number: 4	Author: v1s4	Subject: Highlight	Date: 5/14/2015 3:54:14 PM
Number: 5	Author: Pat Brown	Subject: Sticky Not	e Date: 5/30/2015 10:08:14 PM
I think that ever roost sites are feet may not b	n the most competent b very difficult to find. It's e enough to avoid distu	bat biologist could r better to assume the rbance to a materni	niss identifying a crevice on a cliff or wash face that is an active maternity roost. These at they are present. Depending on the type of activity (i.e. loud noise and vibration), 5 ty colony.
Number 6	Author: v1s4	Subject: Highlight	Date: 5/14/2015 3:54:51 PM

		of bours lafe the mount (no determined by a considered biological manifolding)	1
	in bats) or when t	he maternity season has ended (August D	16-02
).	A focused bat sur	vey shall be conducted in the spring of 2015. The focused bat survey	
	bat survey shall d	letermine if active roosts are present on the site, particularly maternity	16-02
	roosts, which can	be directly observed or ascertained from mist-netted lactating female	10.02
	bats.		4
	Project activities	occurring after February 2016 will require additional pre-investigation	
	focused bat surve	vs. since changes in the presence or absence of Townsend's big-eared	
	bats could occur.	For all Project activities occurring after February 2016, a pre-	
	investigation focu	used bat survey shall be required no more than 30 days prior to the start	
	of Project field in	nplementation to specifically determine if any Townsend's big-eared	
	bats are present o	n or immediately adjacent to work areas. If Townsend's big-eared bats	
	are found, Mitiga	tion Measure BR-8d shall be required.	
d.	If Townsend's bi	g-eared bat, a Candidate species under CESA, is observed or detected or	4
	the Project Site d	uring the surveys described in Mitigation Measures BR-8a, BR-8b, or	
	BR-Se the Projec	t shall be modified, if necessary, with input from a qualified biologist	
	specializing in ba	is, to avoid all potential harassment, impact or injury to this species. If	
	ine Project canno	to be modified to avoid impacts to the Townsend's big-eared bat,	10.000
	le vacant Prior to	disturbance of the poort, the CDEW will be notified to review and	10-030
is vacani. Prior		procedures (such as the use of exclusion devises or other post	
	modification) to e	ensure that no injury or impact occurs as a result of the action.	1.
Timi	ng:	Before and during Project activities.	1
Responsibility:		PG&E would be responsible for the implementation of these	
		measures. DTSC would be responsible for ensuring compliance.	
		ion Conducting any investigation survive for bots and following	
Sign	ificance after Mitigat	tion. Conducting pre-investigation surveys for bars and following	
Sign	ificance after Mitigat	avoidance and minimization measures as described in Mitigation	
Sign	ificance after Mitigat	avoidance and minimization measures as described in Mitigation Measure BR-8 would reduce the impact on maternity roosts for	
Sign	ificance after Mitigat	avoidance and minimization measures as described in Mitigation Measure BR-8 would reduce the impact on maternity roosts for special-status bat species and direct injury or mortality to	

Riské Trocicky, impressor Station Son Investigation Privilet Partially Repretation of Prat EIR 4.3-77

ESA (120117 April 2018

TNumber: 1 Author: v1s4 Subject: Highlight Date: 5/14/2015 3:55:04 PM

Number: 2 Author: Pat Brown Subject: Sticky Note Date: 5/30/2015 10:19:55 PM Even if the bats were observed exiting from a cavity on a cliff face, any activity near that cavity to determine if volant pups are present could be too much disturbance for the colony.

Number: 3 Author: Pat Brown: Subject: Sticky Note Date: 5/30/2015 10:17:15 PM No active maternity roost of Townsend's discovered, but may require more netting in Bat Cave Wash. However, pallid bat and Yuma myotis maternity colonies inferred by mist-netting of pregnant and lactating bats in April 2015.

Number: 4 Author: Pat Brown Subject: Sticky Note Date: 5/30/2015 10:13:53. PM Usually roosts in cliff faces and rock cavities will only be identified by capturing a bat, placing a transmitter on the bat and tracking to roost. Without a considerable effort (and luck) protecting the roost may not be possible, especially since bats can switch roosts within a season and as a result of disturbance.
Letter	
I6 Response	Dr. Pat Brown June 2, 2015
I6-001	The commenter suggests addition of text to the discussion of pallid bat in Table 4.3-3 on page 4.3-35, based on recent findings of the spring 2015 focused bat surveys. Results of the spring 2015 focused bat surveys have been incorporated into this final environmental impact report (FEIR).
I6-002	The commenter asks if Table 4.3-3 on page 4.3-36 of the Partially Recirculated DEIR is the appropriate place to mention that a male Townsend's was captured on the Project Site. The Potential for Occurrence in Table 4.3-3 has been updated in this FEIR to reflect the results of the spring 2015 focused bat surveys.
I6-003	The commenter has provided additional occurrence information to be added to the discussion of California leaf-nosed bat in Table 4.3-3 on page 4.3-36 of the Partially Recirculated DEIR. In response to the comment, the text in Table 4.3-3 for California leaf-nosed bat is modified in this FEIR as follows:
	Unlikely to Could occur; foraging habitat exists; however, few suitable roosting sites in the vicinity. Recorded in a mine near Lake Havasu (CNDDB 2013). <u>A large colony roosts year round</u> in the Jackpot Mine on Lake Havasu NWR in Arizona within 10 miles of the Project Site and this species could forage within Bat Cave Wash and along the Lower Colorado River (Brown 2015a, 2015b).
I6-004	The commenter has provided additional information regarding the foraging habits of the California leaf-nosed bat in Table 4.3-3 on page 4.3-36 of the Partially Recirculated DEIR. In response to the comment, the text in Table 4.3-3 for California leaf-nosed bat is modified in this FEIR as follows:
	Habitat includes temperate deserts. Does not migrate or hibernate but finds warm daytime roosts in caves, mines, or buildings. Generally forages only 2 hours at night <u>and can forage</u> <u>longer depending on the time of year and reproductive condition</u> .
I6-005	The commenter has provided additional information regarding the history of Arizona myotis occurrences in the vicinity of the Project Site to be included in the discussion of the species in Table 4.3-3 on page 4.3-37 of the Partially Recirculated DEIR. In response to the comment, the text in Table 4.3-3 for Arizona myotis is modified in this FEIR as follows:

	Could occur; known to occur in lower elevations along the
	Colorado River which is immediately east of the Project Site. No
	CNDDB records in area, but potential to occur near the Project
	Site (PG&E 2015b). When first described in 1905 (Hollister
	1909), it was named Hollister's bat, and the specimen was
	collected in May 1905, ten miles north of Needles at Ft. Mojave
	on the California side of the LCR in the "dense cottonwood
	bottomlands of the Colorado River". They were not recorded
	along the LCR for some time after the conversion and loss of the
	cottonwood and willow riparian. Now a colony is roosting in a
	palm tree adjacent to a restoration sire south of Parker AZ
	<u>(Brown 2015b).</u>
16-006	The commenter has provided additional information regarding the
	potential for occurrence of western red bat on the Project Site in Table
	4.3-3 on page 4.3-37 of the Partially Recirculated DEIR. In response to
	the comment, the text in Table 4.3-3 for western red bat is modified in
	this FEIR as follows:
	Could occur; potentially suitable foraging habitat occurs within
	Bat Cave Wash and cliff faces adjacent to the Colorado River.
	<u>No CNDDB records in area, but potential to occur near the</u> Project Site (PG & E 2015b). Red bats are a tree roosting species
	and would not roost and probably only randomly occur in Bat
	Cave Wash or along Colorado River while foraging (Brown
	<u>2015b).</u>
16 007	The commenter has provided additional information regarding the
10-007	occurrence of pocketed free-tailed bat in the vicinity of the Project Site to
	be added to the discussion of the species in Table 4.3-3 on page 4.3-37 of
	the Partially Recirculated DEIR. In response to the comment, the text in
	Table 4.3-3 for pocketed free-tailed bat is modified in this FEIR as
	TOHOWS:
	Present; suitable foraging and roosting habitat present on the
	steep slopes and cliffs on the Project Site. No CNDDB records in
	area, but potential to occur near the Project Site (PG&E 2015b).
	Echolocation signals of pocketed free-tailed bat were recorded
	along the Lower Colorado River in the vicinity of the Project
	Site and on the Project Site during spring 2015 focused bat
	surveys (PG&E 2015c).
I6-008	The commenter has provided additional information regarding the
	occurrence of big free-tailed bat in the vicinity of the Project Site to be
	added to the discussion of the species in Table 4.3-3 on page 4.3-38 of

	the Partially Recirculated DEIR. In response to the comment, the text in Table 4.3-3 for big free-tailed bat is modified in this FEIR as follows:
	Could occur; suitable foraging and roosting habitat present on the steep slopes and cliffs on the Project Site. No CNDDB records in area, but potential to occur near the Project Site (PG&E 2015b). This species is less likely to occur on the Project Site than western mastiff bats or pocketed free-tailed bats (Brown 2015b).
I6-009	The commenter has provided additional information regarding the occurrence of western mastiff bat in the vicinity of the Project Site to be added to the discussion of the species in Table 4.3-3 on page 4.3-38. In response to the comment, the text in Table 4.3-3 for western mastiff bat is modified in this FEIR as follows:
	Present ; suitable foraging and roosting habitat present on the steep slopes and cliffs on the Project Site. No CNDDB records in area, but potential to occur near the Project Site (PG&E 2015b). Echolocation signals of this species were recorded along the Lower Colorado River in the vicinity of the Project Site and on the Project Site during the spring 2015 focused bat surveys (PG&E 2015c).
I6-010	The commenter suggests a re-write of the first inserted paragraph on page 4.3-47 to include that microphyll woodland communities provide suitable foraging habitat for bats. In response to the comment, the text on page 4.3-47 of the Partially Recirculated DEIR is modified in this FEIR as follows:
	The lack of riparian habitats-on the Project Site, particularly adjacent to potential roost sites, reduces the quality of the habitat on the Site to support special-status bats, however, the dry wash and microphyll woodland habitat present on-site provides suitable foraging opportunities for special-status bats such as pallid bat and California leaf-nosed bat. Potential roosting habitat also occurs within the rocks of Topock Gorge approximately 1 mile to the south of the Project Site.
I6-011	The commenter requests that the dates for the spring 2015 focused bat surveys be added on page 4.3-47 of the Partially Recirculated DEIR. Results of the spring 2015 focused bat surveys have been incorporated into this FEIR.
I6-012	The commenter suggests adding information regarding pallid pat from the spring 2015 focused bat surveys on page 4.3-47 of the Partially

	Recirculated DEIR. Results of the spring 2015 focused bat surveys have been incorporated into the FEIR.	
I6-013	The commenter suggests adding the words "desert scrub" to the list of communities pallid bats can forage over on page 4.3-47 of the Partially Recirculated DEIR. In response to the comment, the text is modified in this FEIR as follows:	
	The pallid bat is a widely distributed species generally occurring in lower elevations, most often in dry rocky habitats, roosting in crevices in rocky outcrops and cliffs, caves, mines, trees, and structures, and foraging over desert scrub, grasslands and wooded areas gleaning insects from surfaces and capturing insects on the wing.	
I6-014	The commenter suggests revising the second inserted paragraph on page 4.3-47 of the Partially Recirculated DEIR to include background information on the presence of pallid bat around the Project Site through other previous studies. In response to the comment, the text is modified in this FEIR as follows:	
	The pallid bat is a widely distributed species generally occurring in lower elevations, most often in dry rocky habitats, roosting in crevices in rocky outcrops and cliffs, caves, mines, trees, and structures, and foraging over desert scrub, grasslands and wooded areas gleaning insects from surfaces and capturing insects on the wing. Pallid bats form maternity roosts in day roost sites that protect bats from high temperatures. Maternity colonies form in early April and consist of a dozen to 100 individual bats. There have been abundant surveys documenting pallid bats along the Lower Colorado River. This species has been mist-netted north of the Colorado River at a BOR area by Dr. Pat Brown and Dr. Berry in 2003, and have been documented numerous times along the Colorado River through habitat creation monitoring conducted for the LCR MSCP (Calvert 2009a, 2009b, 2010, 2011).	
I6-015	The commenter suggests adding the information from the spring 2015 focused bat surveys that a single male Townsend's was captured on site. Results of the spring 2015 focused bat surveys have been incorporated into this FEIR.	
I6-016	The commenter suggests adding foraging information from the spring 2015 focused bat surveys to the discussion of Townsend's big-eared bat on page 4.3-48 of the Partially Recirculated DEIR. Results of the spring 2015 focused bat surveys have been incorporated into this FEIR.	

I6-017	The commenter suggests updating the background information regarding occurrences of Townsend's big-eared bat near the Colorado River on page 4.3-48 of the Partially Recirculated DEIR based on the spring 2015 focused bat surveys. Results of the spring 2015 focused bat surveys have been incorporated into this FEIR.
I6-018	The commenter suggests adding the information from the spring 2015 focused bat surveys that a single male Townsend's was captured onsite on page 4.3-48 of the Partially Recirculated DEIR. Results of the spring 2015 focused bat surveys have been incorporated into this FEIR.
I6-019	The commenter suggests updating the second paragraph on page 4.3-74 of the Partially Recirculated DEIR to include the observation of Townsend's big-eared bat during the spring 2015 focused bat surveys. Results of the spring 2015 focused bat surveys have been incorporated into this FEIR.
I6-020	The commenter suggests the third inserted paragraph on page 4.3-74 of the Partially Recirculated DEIR be revised to reflect that bats can forage within microphyll habitats. In response to the comment, the text is modified in this FEIR as follows:
	<i>Foraging</i> Suitable foraging habitat for special-status bat species occurs in the bottoms of drainages and areas that contain scattered palo verde and ironwood trees on the Project Site, adjacent to proposed work areas. Special-status bats with a potential to occur on the Project Site generally forage within desert microphyll woodland communities that exist within Bat Cave Wash gleaning insects from vegetation, and catching insects on the wing. A bat habitat assessment survey was conducted on the Project Site by Dr. Pat Brown, a biologist specializing in bats, on January 29 and 30, 2015 and identified suitable foraging opportunities within the desert washes such as Bat Cave Wash and the East Ravine, as well as the Topock Marsh and areas adjacent to the Colorado River.
I6-021	The commenter states that the last sentence of the second inserted paragraph on page 4.3-75 of the Partially Recirculated DEIR is based on the assumption that offsite foraging habitat are not at carrying capacity. In response to the comment, the text is modified in this FEIR as follows:
	Project-related disturbance that results in the temporary loss of foraging habitat is not considered a significant impact to special- status bat species because the action will not result in injury or mortality to bats. Additionally, due to the amount of available foraging habitat in offsite areas surrounding the Project Site there are adequate alternative foraging opportunities for bat

	species known to occur in the area. The temporary effects to the vegetation that would be removed or trimmed would not be significant and would not cause any resident or migratory bat species to drop below self-sustaining levels. Because there
	would be no permanent loss of foraging habitat and bats are able to use adjacent offsite areas for foraging, and given the thousands of acres of open habitat along the Colorado River that provides ample suitable foraging habitat in offsite areas, impacts from the Project would be less than significant on bat foraging habitat.
I6-022	The commenter disagrees with the statement on page 4.3-75 of the Partially Recirculated DEIR that states that bats on the Project Site need areas for "drop off" to begin flight. This statement is a relative statement regarding the biology and roosting habitat requirements of bat species in general, and does not relate to the potential for impacts. No change is necessary.
I6-023	The commenter suggests an edit to the fourth paragraph on page 4.3-75 of the Partially Recirculated DEIR concerning available roosting habitat on the Project Site within small mammal burrows based on the results of the spring 2015 focused bat surveys. Results of the spring 2015 focused bat surveys have been incorporated into this FEIR.
I6-024	The commenter suggests adding additional information regarding the discussion of maternity roosting habitat in the last paragraph on page 4.3-75 of the Partially Recirculated DEIR. In response to the comment, the text is modified in this FEIR as follows:
	<u>Maternity Roosting</u> <u>Due to the presence of suitable roosting habitat and observed bat</u> <u>activity during winter and spring 2015 surveys, there is a</u> <u>potential for maternity roosting to occur on the Project Site.</u> <u>Maternity roosting habitat is similar to day roosting habitat, but a</u> <u>maternity roost contains one or several lactating female bats</u> <u>raising their young (pups). Maternity roosts are defined from the</u> <u>time when pregnant females congregate as much as two month</u> <u>prior to parturition, through birth and lactation to weaning of</u> <u>juveniles until the time they are able to fly (volant). This period</u> <u>can span 5 months.</u>
16-025	The commenter suggests including the finding of Townsend's big-eared bat based on the spring 2015 focused bat surveys in the Impact BR-8 text on page 4.3-76 of the Partially Recirculated DEIR. Results of the spring 2015 focused bat surveys have been incorporated into the FEIR.
I6-026	The commenter suggests changing the reference of the California Fish and Game Code to California Fish and Wildlife Code in Mitigation

Measure BR-8 on page 4.3-76. While the California Department of Fish and Game has recently updated their name to the California Department of Fish and Wildlife, the Code is still referred to as the California Fish and Game Code. No change is necessary.

I6-027 The commenter questions whether a pre-investigation survey would be capable of determining if an active roost is present on the Project Site because even a competent biologist could misidentify an active roost due to the topography on the site. The commenter also indicates that the 50foot exclusion required in Mitigation Measure BR-8a may not be a sufficient distance to protect bats. Results of the spring 2015 focused bat surveys have been incorporated into this FEIR which has resulted in revisions to the pre-investigation survey referenced in Mitigation Measure BR-8. These revisions resulted in the incorporation of the use of thermal imaging cameras to detect if bats are exiting crevices and cavities in the vicinity of proposed work areas and the removal of the reference to a 50-foot exclusion. Per the revised Mitigation Measure BR-8, if active roosts are observed via thermal imaging cameras (i.e., bats exiting from semi-consolidated sediment or rock) within 100 feet of a proposed work area, no soil investigation activities may take place in the proposed work area the following day and not until it can be verified with thermal imaging that bats have left the area or the maternity roosting season is over.

I6-028 The commenter states that even if bats were observed exiting a roost location, any activity near the roost to determine if pups are present could be too much disturbance for the colony. As described in I6-028, results of the spring 2015 focused bat surveys have been incorporated into this FEIR which resulted in revisions to the pre-investigation survey referenced in Mitigation Measure BR-8. These revisions would result in less disturbance to potential maternity roosts since all pre-investigation observations will be conducted using thermal imaging cameras.

I6-029 The commenter suggests including the results of the spring 2015 focused bat surveys in Mitigation Measure BR-8b on page 4.3-77 of the Partially Recirculated DEIR. Note that this Mitigation Measure is removed in the FEIR since this survey has already taken place. The results of this survey are discussed in other areas of this FEIR accordingly.

I6-030 The commenter notes the difficulty in determining active roost locations of Townsend's big-eared bat as stated in Mitigation Measure BR-8d on page 4.3-77. While it is understood that locating the Townsend's big-eared bat and active roosts of the bat is difficult, it is reasonable to consider that a pre-investigation survey conducted by a knowledgeable and qualified biologist would be able to determine if Townsend's big-eared bat and/or any active roosts are located within close proximity to soil investigation areas.

CHAPTER 4 Tribal Responses

This chapter contains the comment letters received from tribal governments on the Pacific Gas and Electric Company Topock Compressor Station Soil Investigation Project Partially Recirculated draft environmental impact report (DEIR) (Section 4.4, "Biological Resources") and the Department of Toxic Substances Control's responses to significant environmental points that were raised in those comments. Each letter, as well as each individual comment within the letter, has been given an assigned letter and number for cross-referencing. Responses are sequenced to reflect the order of comments within each letter. **Table 4-1** lists all tribal governments who submitted comments on the partially recirculated DEIR during the public review period.

Letter #	Commenter	Date of Comment	Comment Page Number	Response Page Number
T1	Agua Caliente Band of Cahuilla Indians Katie Eskew	April 24, 2015	4-2	4-3
T2	Hualapai Indian Tribe Loretta Jackson-Kelly	May 29, 2015	4-4	4-11
Т3	Fort Mojave Indian Tribe Timothy Williams	June 1, 2015	4-15	4-19

TABLE 4-1 LIST OF TRIBAL GOVERNMENT COMMENTERS

Letter T1: Agua Caliente Band of Cahuilla Indians





April 24, 2015

[VIA EMAIL TO:aaron.yue@dtsc.ca.gov] California Department of Toxic Substances Control Aaron Yue 5796 Corporate Ave. Cypres, CA 90630

Re: Topock Compressor Station Partially Recirculated Draft EIS

Dear Aaron Yue,

The Agua Caliente Band of Cahuilla Indians (ACBCI) appreciates your efforts to include the Tribal Historic Preservation Office (THPO) in the PG&E Topock Compressor Station Soil Investigation project. A records check of the ACBCI cultural registry revealed that the project area is not located within the Tribe's Traditional Use Area (TUA). We currently have no concerns regarding this project. This letter shall conclude our consultation efforts.

Again, the Agua Caliente appreciates your interest in our cultural heritage. If you have questions or require additional information, please call me at (760)699-6829. You may also email me at keskew@aguacaliente.net.

Cordially,

Katie Ehen?

Katie Eskew Archaeologist Tribal Historic Preservation Office AGUA CALIENTE BAND OF CAHUILLA INDIANS

T1-001

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Agua Caliente Band of project area is not
e a

no further response is warranted.

concerns regarding the project. The comment is noted for the record and

Letter T2: Hualapai Indian Tribe



Hualapai Department of Cultural Resources P.O. Box 310 Peach Springs, Arizona 86434 Office: 928.769.2223 FAX: 928.769.2235

VIA ELECTRONIC MAIL

May 29, 2015

HDCR File: 2015-916

Mr. Aaron Yue California Department of Toxic Substances Control 5796 Corporate Ave. Cypress, CA 90630

Ms. Pamela Innis U.S. Department of the Interior, Office of Environmental Policy and Compliance P.O. Box 25007 (D-108) Denver Federal Center, Building 56 Denver, Colorado 80225

Reference: A) Notice of Preparation for a Subsequent Environmental Impact Report (May 5, 2015); B) the 90% and Addendum – 2011 Final Environmental Impact Report (FEIR)/2013 Addendum Comparison Table (May 2015); C) the Pacific Gas & Electric Company Topock Compressor Station Soil Investigation Project Partially Recirculated Draft EIR (SCH#2012111079, April 2015), and D) Hualapai Proposed Mitigation Measures

Dear Mr. Yue, and Ms. Innis,

The Hualapai Tribe appreciates being able to comment on the Notice of Preparation for a Subsequent Environmental Impact Report (May 5, 2015);) the 90% and Addendum – 2011 Final Environmental Impact Report (FEIR) 2013 Addendum Comparison Table (May 2015), and Pacific Gas & Electric Company Topock Compressor Station Soil Investigation Project Partially Recirculated Draft EIR (SCH#2012111079, April 2015).

The Hualapai considers the Topock Maze and surrounding landscape to be of great importance to Hualapai. The air, the earth's surface, and the subsurface of the landscape are all part of a sacred continuum. Wells, buried pipes, and soil samples are intrusions and descerations, especially near T2-001

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the Topock Maze. Regardless of the intrusions already carried out, the Hualapai have deep connections with the Colorado River and recognize that it is important to keep the river clean.

Regarding chromium contamination at the PG&E Topock Compressor Station, the preference of the Tribe would be no more drilling or intrusions into the landscape. However, this may not be possible given the current regulatory setting. Therefore, if the work must be done, the Tribe wants to protect cultural resources as much as possible. During on-the-ground activities, monitoring of cultural sites must be done, and a recognition of the importance of cultural sites must be emphasized. After the work has been completed, the landscape must be returned to its original condition.

A). Regarding the Notice of Preparation (NOP) for the Subsequent Environmental Impact Report (SEIR), dated May 5, 2015: We would like to understand the DTSC's explanations for the NOP for a SEIR. If we knew specifically, the Hualapai Tribe would then be better able to assist DTSC in the additional scoping process. We understand that the California Environmental Quality Act (CEQA) guidelines (§15162) provided a basis for DTSC's decision, however, in reviewing that section we would like a fuller explanation regarding §15162 (3 A-D), as to the following questions:

1. What are the "significant effects" not discussed in the previous EIR?

2. How will these "significant effects be more severe" than shown in the previous EIR? What are the specifics? Are culturally significant areas going to be destroyed? Are there going to be impacts to the areas known as the Maze (Loci A-C)? Is the area designated by the Tribes as an "Exclusion Zone," (TCVA February 2014), going to be impacted? If so, will those impacts destroy the area?

T2-001

3. What mitigation measures specifically are now feasible that were not feasible in the originally accepted EIR? Did Pacific Gas & Electric (PG&E) object to proposed (not considered feasible, but now feasible) mitigations? Was PG&E allowed to comment on proposed draft mitigation measures in the original EIR? If so, Hualapai would like to comment on proposed draft mitigation measures.

4. Did PG&E specifically object to proposed mitigations that could have reduced significant effects on the environment?

5. Did DTSC officially prepare an Initial Study related to the SEIR? If so, Hualapai would appreciate receiving a copy.

6. How will the SEIR address project components in the 90% Design and the Supplemental 90% Design that "may be revised as part of the SEIR process?" (NOP May 5, 2015 page 4). If this is done, what are the specifics that will be revised and will Hualapai be informed prior to the revisions being made final?

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7. Hualapai would appreciate DTSC requesting that site delineations be finalized regarding the Tribal Cultural Values Assessment (TCVA) prior to the SEIR being released. Avoidance is the best alternative. This is in consideration of the project's extending into Park Moabi; PG&E using staging areas (and work zones) despite expressed opposition from Hualapai and other interested tribes; and due to "new discoveries."

B). In reference to the 90% and Addendum – 2011 Final Environmental Impact Report (FEIR)/2013 Addendum Comparison Table (May 2015), one of the items that has changed between 2011 and 2013 are Cultural Resources that "have since [been] identified as a result of the 2014 annual field verification and from the 2015 Moabi Regional Park survey." It would be more appropriate to also include, "and potential discoveries by Hualapai and other interested Tribes."

1. Will the comparison table be used as a basis of analysis? If so, will Hualapai and other interested Tribes be able to receive a draft copy of that completed table prior to the SEIR being finalized? Will PG&E also receive a copy?

2. Is PG&E receiving copies of draft SEIR documents? If so, please copy Hualapai and other interested Tribes.

C). Regarding Pacific Gas & Electric Company Topock Compressor Station Soil Investigation Project Partially Recirculated Draft EIR (SCH#2012111079, April 2015).

1. Is the biological finding described in the Soils Partially Recirculated Draft EIR being incorporated into the SEIR for Ground Water? This information is critical for analyzing cumulative environmental impacts and mitigation measures that are the results of the biological findings regarding culturally sensitive species considered sacred to Hualapai, in particular the Big Horn Sheep and Bat species.

2. Per the Notice of Availability, "As explained in the Recirculated Biological Resources section, after implementation of the EIR mitigation measures, all impacts would be reduced to a less than significant level." What determines a "less than significant level?" Who is making that determination? Will Hualapai and other interested Tribes provided the opportunity for input into determinations of significance?

3. Are both documents being subject to CEQA requirements in regards to §15064.7 *Thresholds* of Significance? In particular, are the two (Subsequent GWEIR, and Partially Soils) EIRs going to be held up to a tailored "threshold of significance that the agency uses in the determination of the significance of environmental effects..." or are the two documents going to be held up to CEQA's *Appendix G: Environmental Checklist Form*? If a tailored threshold of significance document, (§15064.7 (b)), is going to be incorporated, please provide or make available to Hualapai and other interested Tribes, the adopted ordinances, resolutions, rules or regulations developed "through a public review process" and that are to "be supported by substantial evidence."

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T2-001

D). Regarding mitigation during the Topock Remediation design, construction and decommissioning phases, to our knowledge, the Department of the Interior (DOI) has not put forth mitigations for the Topock Remediation Project. Why not? Why was the Federal agency not at the scoping meeting on May 19th 2015? A specific concern is how will mitigation measures not only be implemented, but how will quality control of the mitigation measures be over-seen?

CEQA¹ states (\$15370 a-e) that Mitigation, are "Methods or plans to reduce, offset, or eliminate adverse project impacts. Action taken to avoid, reduce the severity of, or eliminate an adverse impact." can include any one or more of the following:

a). Avoiding the impact altogether by not taking a certain action or parts of an action.

b). Minimizing impacts by limiting the degree or magnitude of an action and its implementation.

c). Rectifying the impact by repairing, rehabilitating, or restoring the impacted environment.

d). Reducing or eliminating impacts over time by preservation and maintenance operations during the life of the action.

e). Compensating for the impact by replacing or providing substitute resources or environments.

T2-005

As we have stated previously for several years, while the Topock Groundwater EIR considered a variety of mitigation measures without Tribal input, we do have at this time, an opportunity to express Tribal preferences during the SEIR for Groundwater and for the *Soil Investigation Project Partially Recirculated Draft EIR*. We can point out that DTSC in considering the GW mitigation measures, did so to the degree that the Topock GW remediation project may have reduced significant impacts while meeting the needs of PG&E's project objectives, but did not consider many proposed mitigation measures that would meet the needs of the Hualapai Tribe and other interested Tribes.

In this situation, Tribal concerns and requests for mitigation measures to meet the needs of a Tribal community in relation to preserving a cultural identity are linked spiritually and physically to the Topock area. Redress and compensation should be given to Tribes in the face of damaged cultural-spiritual resources. In the United Nations Declaration on the Rights of Indigenous Peoples, Article 8, states that "Indigenous peoples and individuals have the right not to be subjected to forced assimilation or destruction of their culture," and that compensation should be given in face of any action "which has the aim or effect of depriving them of their integrity as distinct peoples, or of their cultural values...". Compensation should include funding support for education and technical training for tribal members and have PG&E provide for full higher-education tribal scholarships (two per educational year per participating tribe) for biology and / or ethnobotanical degrees, archaeology, hydrogeology, and museum studies. There is no replacement possible for the loss of spiritual connectivity. The only way Tribes can maintain

¹ 2014 California Environmental Quality Act Statute and Guidelines

4 | Page

cultural integrity is through education programs that promote cultural identity and activities that engage tribal communities within their present-day lands and within ancestrally vested lands. We need to educate future generations now, as they will be the responsible entities having to live with the Topock legacy in the very near future.

From previous suggestions, the following mitigation proposals have not been accepted within either the Groundwater or Soils EIR. We would appreciated DTSC's consideration in accepting and implementing the following suggested mitigation measures during the course of review for both the SEIR and the partially released Soils EIR:

1. Physical disturbance within the Project area will occur to significant trails and will cutoff the ability of participating Tribes to travel physically and spiritually along these trails. Physical disturbance within and outside of the Project area will occur to significant intangible and tangible cultural resources including but not limited to, stone circles, rock cairns, stone scatters, tool refining stations, spiritual teaching areas, mineral resource areas etc. In consultation with participating Tribes, extant trails and the entire Topock Cultural Landscapes in Topock Cultural Landscapes should be field mapped, and documented by qualified Tribal cultural resource personnel in collaborative management with the BLM/DOI. Low-level aerial photography and video photography should be used to document trails that are within the APE and throughout the Topock Cultural Landscape. It appears from present information that certain trail corridors can be preserved, including routes to Spirit Mountain, Boundary Cone, and the Needles.

T2-005

- 2. Provide financial support for Hualapai tribal interpretive centers on tribal lands that describe, educate, and engage tribal communities in disseminating and preserving traditional cultural identity through tribal languages and culture expressing past, present and future. Provide support through grants and phased funding, for tribal interpretive facilities/museums, language programs, healthy food systems (i.e. traditional ethnobotanical harvesting and cooking techniques) and archival research. Resulting programs could then be components for continued outreach, sensitivity training, and education to Hualapai community members, and stakeholder/agency staff by linking into cultural information at Topock. These programs would help Tribal members and others maintain the spiritual significance of this area through their own cultural traditional ties to the Topock area. Grants to be phased over life of the remediation project.
- 3. Continue on-going reasonable compensation for tribal participation in monitoring, attending meetings, and participating in project development, as with the present Consultative Work Group, Technical Work Group, Clearinghouse Task Force, and subcommittee involvement. Funding support to continue through the life of the remediation clean-up project, i.e. 50 years.
- 4. Create a trust fund for a Cultural Preserve at Topock. This would help in attempting to preserve the Topock Cultural Landscape in view of the encroaching Park Moabi tourist facility and the Topock Remediation Project. This is in consideration for future

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T2-005

generations. This project would be a strategic partnership and collaborative management process between the Tribes, PG&E, BLM, DOL Havasu Wildlife and other stakeholders.

- Funding for increased security measures around the Topock Cultural Landscape. This
 mitigation measure is due to tourism and increasing numbers of visitors to the Topock
 area.
- Tribe's preference that avoidance and NOT data recovery or capping be used in this sacred cultural landscape. That the resources here are NOT mere archaeological sites of interest only to archaeologists.
- Request that BLM and other agency land resources be cleaned-up. Garbage dumps need to be removed. This would be a beneficial healing for the entire Topock Cultural Landscape.
- 8. Fund co-management of the entire ACEC/Topock Cultural Landscape. Tribal and agency co-management and planning of the entire area through strategic partnerships and planning. It should be that tribal participation goes further into co-management of this area to meet the needs of future generations. The Colorado River Corridor is of upmost significance both spiritually and economically to all stake holders, including the public. Tribal input should not be relegated to lower level management plans, rather Tribes should be treated with equanimity regarding management plans for protecting and preserving this entire area.
- Continue Funding for the Technical Review Committee through a minimum of fifty years after the Soils remediation Selection startup due to modeling adjustment data requirements.
- Continue Funding for the Open Grant Funding for tribal Topock project management participation through a minimum of 50 years after the Soils remediation selection startup.

Thank you for consulting with the Hualapai Tribe on these matters. The Hualapai Department of Cultural Resources and the Hualapai Tribe appreciates the efforts by all parties to address our concerns. If you have any questions, or concerns, please do not hesitate to contact Dawn Hubbs, HDCR Program Manager, or myself at (928) 769-2223.

Sincerely,

pretta Jackson-Kelly, Directo

Tribal Historic Preservation Officer

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Ce: Ms. Sherry J. Counts, Chairwoman, Hualapai Tribal Council Dr. Carol Roland-Nawi, CA SHPO Mr. Brandon Greenway, CASHPO Mr. James Garrison, AZSHPO Ms. Ann Howard, AZSHPO Ms. Valerie Hauser, ACHP Ms. Nancy Brown, ACHP Ms. Karen Baker, DTSC

7170.00

Hualapai Indian Tribe Loretta Jackson-Kelly May 29, 2015

T2-001

Letter

Response

T2

The commenter states that the Topock Maze and surrounding landscape are of great importance to the Hualapai, and that wells, buried pipes and soil samples represent intrusions and desecrations. The Hualapai also assert their preference that no more drilling or intrusions into the landscape occur, while also recognizing that this might not be possible given current conditions. The California Department of Toxic Substances Control (DTSC) acknowledges the Hualapai perspective and appreciates the narrative. It should be noted that the Hualapai Indian Tribe also provided a comment letter regarding the original draft environmental impact report (DEIR) (submitted on September 5, 2014), and DTSC responses to all of those comments can be found in the final environmental impact report (FEIR) Volume 1, Chapter 5 Tribal Responses, Letter T7.

The commenter states that monitoring of cultural sites must be conducted during Project-related activities and that the landscape must be returned to its original condition after work has finished. Regarding the Pacific Gas and Electric Company (PG&E) Topock Compressor Station Soil Investigation Project (Project) environmental impact report (EIR), the commenter is referred to Mitigation Measure CR-1d, which includes provisions for archaeological monitoring during all Project-related ground-disturbing activities, and affords all tribes the opportunity to monitor during all scientific surveys. The commenter is also referred to Section 3.5.6 of the DEIR, "Work Area Restoration," which includes specifications for borehole and pilot study decommissioning (removing facilities and backfill with native materials).

Within the same letter, the commenter also provides comments on the Notice of Preparation (NOP) recently issued by DTSC for preparation of a subsequent environmental impact report (SEIR) for the pending final groundwater remedy design. The commenter also provides comments on the 90% Design and Addendum – 2011 Final Environmental Impact Report (FEIR)/2013 Addendum Comparison Table (May 2015)

DTSC issued the NOP for purposes of soliciting comments on the scope of the SEIR required for the final groundwater remedy design, a separate independent project from the Soil Investigation Project at issue. As such, the responses to comments contained in this FEIR are not required to address comments received on the NOP or other processes unrelated to the information contained within the Partially Recirculated DEIR.

T2-002 The commenter questions whether the biological findings included in the Partially Recirculated DEIR will be incorporated into the future SEIR for the Final Groundwater Remediation Project. The commenter also states

that the findings are critical for analyzing cumulative environmental impacts and mitigation measures as related to culturally sensitive species, including Bighorn sheep and bat species. DTSC acknowledges the importance of this information for the California Environmental Quality Act (CEQA) process and is aware of the Hualapai views regarding both species. DTSC will incorporate all new biological resources information into the SEIR for the Final Groundwater Remediation Project. The biological findings and impact conclusions of the SEIR for the final groundwater remedy design have yet to be determined and will be identified in the SEIR. The commenter asks what determines a less than significant impact, who T2-003 makes that determination, and if Interested Tribes are provided an opportunity for input into the determination of significance. As defined in CEQA Guidelines Section 15382, a less than significant impact is one that does not result in a substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the project, including land, air, water, minerals, flora, fauna, ambient noise, and objects of historic or aesthetic significance. The determination of significance is made by the lead agency based thresholds of significance and on the analysis identified in the EIR. The environmental checklist included as Appendix G of the CEQA Guidelines, for example, provides additional guidance for determining which impacts would be regarded as significant. Input on the Agency's determinations of significance occurs through the public review period. The Interested Tribes have been offered the opportunity to comment on all findings related to the soil investigation activities in the DEIR and the revised findings in the Partially Recirculated DEIR. Consideration of that input was made by DTSC and recorded in the response to comments. T2-004 The commenter asks if the SEIR for the Final Groundwater Remediation Project and the Soil Investigation Project EIR will use tailored thresholds of significance or the thresholds of significance in Appendix G of the CEQA Guidelines. The Subsequent Groundwater EIR is not the subject of this effort; therefore, no response regarding the thresholds of significance for that document is necessary. As described in Section 2.7 of the DEIR, this document applies the thresholds contained within Appendix G of the CEOA Guidelines. These thresholds of significance are listed in each resource section in Chapter 4 of the EIR under the "Environmental Impacts" subheading. T2-005 The commenter questions why the U.S. Department of the Interior (DOI) has not put forth mitigation for the Topock Remediation Project, and why the DOI was not present at the Final Groundwater Remediation Project SEIR scoping meeting on May 19, 2015. The commenter also restates suggested mitigation measures and proposes new mitigation measures to be considered for the SEIR and the Soil Investigation Project EIR. Regarding the Soil Investigation Project, as stated in the DEIR on page 3-2, DTSC anticipates that DOI will issue an approval letter for the

Project for access to the Havasu National Wildlife Refuge and other federal property.

The Hualapai Indian Tribe previously presented five of the ten mitigation measures in similar form as comments on the DEIR published in July 2014. It should be noted that none of the comments presented in T2-005 are made in response to the information contained within the Partially Recirculated DEIR. The commenter is referred to responses to these comments T7-013, T7-015, T7-016, T7-017, and T7-018 from the Hualapai on the July 2014 DEIR (see FEIR Volume 1, Chapter 5 Tribal Responses, responses to comments T7-013, T7-015, T7-016, T7-017, and T7-018).

The commenter recommends a mitigation measure specifying that avoidance and not data recovery/capping be used in the sacred cultural landscape. The Hualapai's preference is noted. A similar comment was made by the Fort Mojave Indian Tribe on the DEIR published in July 2014 (see FEIR Volume 1, Chapter 5 Tribal Responses, response to comment T6-101). In response to that comment, DTSC modified the DEIR text on page 4.4-83 to indicate that the Tribes generally prefer avoidance over data recovery or capping. The commenter is referred to the FEIR Volume 1, Chapter 5 Tribal Responses, response to comment T6-101, to see edits made related to this comment.

The commenter presents the following mitigation measures for consideration in the Final Groundwater Remediation Project SEIR and the Soil Investigation Project EIR:

- The Bureau of Land Management and other agency land resources be cleaned up and garbage dumps would be removed. This would be beneficial healing for the entire Topock Cultural Landscape.
- Fund co-management of the entire Area of Critical Environmental Concern/ Topock Cultural Landscape

The two suggested mitigation measures above do not have a nexus or rough proportionality to the significant adverse impacts of the Project on the physical environment (see CEQA Guidelines Section 15041). Specifically, no substantial evidence in the record supports the imposition by DTSC of the additional suggested mitigation measures (see CEQA Guidelines Section 15126.4, subd. (a)(4) [there must be an "essential nexus between the mitigation measure and a legitimate government interest," and the measure must be "roughly proportional to the impacts of the project"]).

The last two mitigation measure suggestions regarding the Technical Review Committee and Open Grant Funding are also similar to mitigation measures previously suggested by the Hualapai Indian Tribe in comments on the July 2014 DEIR (see FEIR Volume 1, Chapter 5 Tribal Responses, response to comment letter T7). The commenter is referred to the FEIR Volume 1, Chapter 5 Tribal Responses, response to comment T7-016, to see edits made related to these comments.

Letter T3: Fort Mojave Indian Tribe



Fort Mojave Indian Tribe TIMOTHY WILLIAMS - Chairman SHAN LEWIS - Vice Chairman COLLEEN GARCIA - Secretary MARTHA McCORD - Council Member • NICHOLE GARCIA - Council Member NORVIN McCORD SR. - Council Member • JOHNNY HEMMERS - Council Member 500 Merriman Avenue • Needles, CA 92363 (760) 629-4591 • FAX (760) 629-5767

June 1, 2015

Mr. Aaron Yue Project Manager Department of Toxics Substance Control 5796 Corporate Ave. Cypress, CA 90630

Re: Topock Partially Recirculated Soil DEIR FMIT Comments SCH# 2012111079 prepared for DTSC April 2015

Dear Mr. Yue,

These comments are provided by the Fort Mojave Indian Tribe (FMIT or Tribe). As you know, the Tribe has the closest reservation lands to the Topock area, is a land owner within the Project boundaries and is culturally and religiously affiliated with the Topock area.

The Tribe would like to thank DTSC for providing the document in redline which helped to expedite our review. We respectfully request that the FEIR also be provided in redline. We offer the following comments on the Topock Compressor Station Soil Investigation Project Partially Recirculated Draft EIR (RDEIR):

 1. The front cover of the environmental document looks like a PG&E-produced document. Please clarify
 T3-001

 if PG&E was involved in the production of the document or if this is wholly an ESA or DTSC-produced document.
 T3-001

 2. The past activities that resulted in the chemical releases (Project Overview, page 1-1) should clearly reference that these were PG&E activities.
 T3-002

 3. Will the bat analyses in this document (i.e., RDEIR pages 4.3-47 to 4.3-48) be updated with the most-recent survey information (April - May 2015)? If so, how will this be accomplished? Will another recirculation of the environmental document be required?
 T3-003

 4. The RDEIR states that bat surveys were not conducted as part of the Project. (RDEIR, page 4.3-47). Why weren't bat studies conducted or required for the prior environmental analyses related to the Project area? How might that affect an accurate baseline or cumulative impact analysis?
 T3-004

5. How might the need to avoid harassment of the bat species affect Project implementation timelines?	T3-005
6. If the agency determines that bats present in the Project area are evaluated in the Risk Assessment then the Tribe requests full participation in the selection of risk assessment parameters related to toxicity and exposure. Moreover, the Tribe considers the bats as an ecological community that should be protected from the impacts of potential soil investigation and remediation activities that could occur on those areas.	T3-006
7. To memorialize the FMIT correction to the PowerPoint (and RDEIR text) at the April 22, 2015, CWG meeting, <i>a family of six</i> bighorn sheep were observed by Tribal members next to Maze Loci A during the FMIT annual prayer ceremony in June 2013. Please revise the RDEIR text and Tables accordingly.	T3-007
8. Also, to memorialize the FMIT questions at the April 22, 2015, CWG meeting, please describe who found the ungulate skeletal remains observed in January 2015 in the wash adjacent to I-40 just northeast of the evaporation ponds. Also, please see if a cause of death can be determined. It was stated at the meeting that the remains had been dragged. Has this discovery been reported to the appropriate wildlife agencies?	T3-008
9. FMIT requests that any information regarding finds of big horn sheep be directly reported to the Tribe through its Topock Project Manager. This could be part of Mitigation Measure BR-7 recommended in the Draft EIR document.	T3-009
10. Please provide the scientific basis for the 250 foot halt work measure in vicinity of a big horn sheep. (Mitigation Measure BR-7). Please provide the different ranges for buffers and related literature citations. For example, the RDEIR, page 4.3-48, mentions a BLM reference that disturbance to the sheep can happen up to 330 feet. Why wasn't a 330 foot or more threshold used? Also, one of the DPR site	T3-010
forms attached to the Addendum 11 Report (for CA-SBR-17219) states that a wild burro or desert big horn sheep trail bisects the site. Has this been considered in the big horn sheep analysis and treatment measures? The health and vitality of big horn sheep, a very sacred animal, is very important to the Tribe.	T3-011
It is also known that the Big Horn Sheep in this area could be threatened by a respiratory disease that has already been noted to occur in the Mojave preserve area, a location approximately 45 miles west of the site. So, any potential threat from additional stressors on the population is a concern.	T3-012
11. What is the scientific basis for the assertion at RDEIR, page 4.3-75, that big horn sheep have already habituated to human activities in and around the Station, vehicle traffic on roads, and the general presence of people in the area? Was this assertion used to rationalize the 250 foot halt work distance?	T3-013
12. Please clearly explain why the jurisdictional habitats were revised, i.e., at Table 4.3-2 and to USACE/DCFW habitats at Table 4.3-5. The text does not appear to fully discuss the changes in the Tables.	T3-014
13. Table 4.3-3. Please explain the revision from "Known to occur" to "Present", "Could occur" to "Likely to occur" and "Present", and "Unlikely to occur" to "Could occur" in the Table. Do these changes in status affect Project design, construction or operations? If so, where is this analysis in the RDEIR text?	T3-015

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14. RDEIR page 4.3-53 has added a paragraph describing the Beale Slough Riparian and Cultural Area of Critical Environmental Concern (ACEC). Why was this important designation not included in the original DEIR? Is a study warranted to ensure that the Project does not threaten the ACEC by its implementation?	T3-016
15. RDEIR page 4.3-83 added management prescriptions from the BLM 2007 Lake Havasu Resource Management Plan. The RDEIR then offers unsubstantiated conclusions that the proposed Project: 1) does not conflict with those prescriptions, 2) would not cause irreparable damage to the ACEC's characteristics or values (including tribal cultural values), and 3) would not reduce the potential for long- term adverse effect on sensitive resources in the ACEC. BLM is the land manager. Do they agree with these three conclusions? Has BLM (or DTSC) consulted with the Tribe on these new conclusions? Without such consultations, these conclusions are unsubstantiated in the record. In fact, the Tribe's comments on the DEIR offer opinion and evidence to the contrary. Moreover, the RDEIR offers evidence to support that the Project could harm the values within the ACEC, i.e., regional rare wildlife habitat for sensitive bat species. (RDEIR, page 4.3-85). Please explain. Has there been an independent review of the Lake Havasu Resource Management Plan to identify potential conflicts?	T3-017
16. When will an ACEC management plan be funded and developed for this area? It is of critical importance for such a plan to be developed soon to help guide remedy and management decisions, including those related to the soil investigation and potential remedial actions. Such a plan needs to be developed in consultation with the Tribe given the cultural and religious values of the Topock area to the Tribe. If there is no plan in place, an independent study should be conducted to ensure that the Project is not precluding adoption of an effective plan.	T3-018
17. RDEIR, page 4.3-60, states that if "unacceptable risk" is predicted for carnivorous receptors, a "validation study" would be required. Who determines such risk and on what basis? Would the tissue sampling result in mammal mortality? Which species would this relate to? Takes of any mammal from the Topock sacred area would be a spiritual violation and adverse affect to the Tribe given the animals' clan associations and the Tribe's stewardship role in this area. The Tribe does not support a validation study for those reasons and requests that intermediate evaluation steps be done before any validation study is considered. These include: 1) the evaluation of both toxicity and exposure assumptions, 2) evaluation of the risk estimate values and 3) performing a quantitative uncertainty analysis. Each of these evaluations would provide the risk managers with additional information prior to the decision to perform an unacceptable field validation study.	T3-019
18. RDEIR page 4.3-66 states that no net loss shall be achieved through measures including a 1:1 like kind habitat compensation. What is the scientific basis for that ratio?	T3-020
19. RDEIR page 4.3-71 has been revised to provide PG&E at least 24 hours notice of spot checks for desert tortoise. Is a spot check notice deemed appropriate by DTSC and BLM, and if so why? It would seem to undercut the very purpose of the compliance spot check.	T3-021

20. RDEIR page 4.3-75 defines "daytime" as the time between sunrise and sunset when there is enough natural light to conduct Project activities without assisted lighting. Is this a common definition for the entire DEIR?	T3-022
21. RDEIR, page 4.3-76 states that if soil investigation activities critical to meeting the Project objectives are determined necessary during the bat maternity season, that a 50 foot exclusion zone would be established around active maternity roosts. Who would determine the criticality of meeting Project objectives? Which Project objectives? What is the scientific basis for the 50 foot exclusion zone?	T3-023
22. The text regarding sediments reaching aquatic habitats in the Colorado River was revised at RDEIR page 4.3-81 without explanation. Please explain the purpose of this revision.	T3-024
23. The sentence stating that buildings associated with the Station and bridges that occur within and adjacent to the Project site could support maternity roosting site for bats was struck from the RDEIR without explanation (page 4.3-85). Please explain the scientific basis for this revision.	T3-025

Thank you for the opportunity for comment. The Tribe will look forward to receiving hard and electronic copies of the FEIR and responses to comments as indicated in its comment letter on the DEIR.

Sincerely,

Timothy Williams, Chairman Fort Mojave Indian Tribe

CC: Linda Otero, ACS Janice Hinkle, Project Manager Nora McDowell, FMIT Consultant Leon Leonhart, Hargis + Associates Michael Sullivan, Consultant Courtney Ann Coyle, Legal Counsel Steve McDonald, Legal Counsel Tribal Representatives, Hualapai, Chemehuevi, CRIT and Cocopah TRC Representatives Pam Innis, DOI Kim Liebhauser, Field Manager, BLM Renee Kolvet, BLM Archaeologist

Fort Mojave Indian Tribe
Timothy Williams
June 1, 2015

T3-001 It should be noted that the Fort Mojave Indian Tribe (FMIT) also provided a comment letter regarding the original draft environmental impact report (DEIR) (submitted on September 5, 2014), and the California Department of Toxic Substances Control (DTSC) responses to all of those comments can be found in the final environmental impact report (FEIR) Volume 1, Chapter 5 Tribal Responses, Letter T6. The commenter states that the front cover of the Partially Recirculated DEIR looks like a Pacific Gas and Electric Company (PG&E)-produced document and asks if PG&E was involved in the production of the document. The Partially Recirculated DEIR is wholly a DTSC document that was prepared with the assistance of Environmental Science Associates (ESA), an environmental consulting firm. PG&E was not involved in the production of the document. Note that DTSC has revised the cover of the FEIR in response to this comment. T3-002 The commenter requests that the introductory language of the document clearly state that the past activities that resulted in chemical releases were PG&E activities. In response to the comment, the text on page 1-1 of the Partially Recirculated DEIR is revised as follows: Past activities at the Topock Compressor Station (Station) undertaken by PG&E have resulted in the release of chemicals of potential concern (COPCs) into soil and groundwater. T3-003 The commenter asks if the bat analysis in the Partially Recirculated DEIR will be updated with the most recent survey information, and if so, how will this be accomplished. Results of the spring 2015 focused bat surveys have been incorporated into this FEIR. With respect to the commenter's question about an additional recirculation of the DEIR. DTSC has determined that the refined information related to the presence of bats on the site does not warrant additional recirculation. In accordance with Section 15088.5 of the California Environmental Quality Act (CEQA) Guidelines, the refinement of information about bats based on the recent surveys does not include significant new information because the EIR has not been changed in a way that deprives the public of a meaningful opportunity to comment upon a substantial adverse environmental effect of the project or a feasible way to mitigate or avoid such an effect. The mitigation identified in the Partially Recirculated DEIR adequately addresses the impacts to special-status bat species and has been revised in the FEIR to

reflect the spring 2015 focused bat surveys.

T3-004	The commenter states that bat surveys were not completed as part of the DEIR and asks why this was the case and how it might affect the baseline or cumulative impact analysis. The need for bat surveys was prompted in part by comments received on the DEIR from the California Department of Fish and Game (CDFW) (see FEIR Volume 1, Chapter 3 Agency Responses, response to comment A6-002) and the FMIT (see FEIR Volume 1, Chapter 5 Tribal Responses, response to comment T6-086). Prior to issuing the Partially Recirculated DEIR, a bat habitat assessment was conducted on the Project Site on January 29 and 30, 2015. The findings of that bat habitat assessment were incorporated into the Partially Recirculated DEIR including the baseline and impact analysis (see pages 4.3-47 and 48; and pages 4.3-74 to 77). Spring 2015 focused bat surveys were conducted in April 2015; those finding have been incorporated into this FEIR.
T3-005	The commenter asks how the need to avoid harassment of bat species will affect Project timelines. The Soil Investigation Project schedule is described in FEIR Volume 3, Chapter 3 "Project Description," Section 3.5.8. As indicated in that section, the soil sampling activities are estimated to take 12 months to complete and bench scale tests and pilot studies are to take place after soil sampling activities and would occur over up to 14 months. As described in the Partially Recirculated DEIR, Mitigation Measure BR-8 would require avoidance of all soil investigation activities within suitable maternity roosting habitat for special-status bat species (depicted on Figure 4.3-5) from mid-March through August. Since soil investigation activities in all other locations will not be impacted by this time restriction, it is not anticipated that the overall Project timelines will be impacted by this measure. PG&E will organize their field work plan to accommodate this measure while meeting the projected timelines.
T3-006	The commenter requests full participation in selection of risk assessment parameters related to toxicity and exposure if DTSC determines that bats present in the vicinity of the Project are evaluated in the risk assessment. DTSC has and will continue to work with the stakeholders and tribes in the risk evaluation process for the Project. DTSC agrees that special- status bat species located within the Project Site should be protected in accordance with the law. The Partially Recirculated DEIR included Mitigation Measure BR-8 for the protection of special-status bat species (Partially Recirculated DEIR pages 4.3-76 and 4.3-77). Mitigation Measure BR-8 has been revised in this FEIR to reflect the spring 2015 focused bat surveys and comments received on the Partially Recirculated DEIR
T3-007	The commenter requests a correction to the bighorn sheep observation made by Tribal members. In response to the comment the following changes have been made to the text in the FEIR Volume 3, Section 4.3, "Biological Resources," Table 4.3-3 (page 4.3-36) and the Existing Setting (page 4.3-48):

Could occur Present; suitable lambing habitat occurs in the mountains south of the Project Site, but not within the Project Site. Suitable foraging and movement habitat extends from the foothills of the mountains down into the floodplain and upland areas of the Project Site. Fort Mojave Indian Tribe members observed a family of six sheep next to Maze Locus A during the annual prayer ceremony in June 2013. Also, Felton Bricker, FMIT Tribal Monitor, has reported observances of sheep in his monitoring logs during the AOC 4 cleanup.

Nelson's bighorn sheep have a potential are known to occur in the Project Site. <u>A family of six Nelson's bighorn sheep were</u> observed next to Maze Locus A during a FMIT annual prayer ceremony in June 2013. Also, a FMIT Tribal Monitor reported observances of sheep in monitoring logs during the Time Critical Removal Action at AOC 4.

T3-008 The commenter questions who found the ungulate skeletal¹ remains observed in January 2015 in the wash adjacent to I-40 just northeast of the evaporation ponds, what the cause of death was, and if the discovery has been reported to the appropriate wildlife agencies. PG&E and associated consultants and Tribal members discovered the referenced remains at the survey in January 2015 (PG&E 2015). A representative from the FMIT was present at the survey in January 2015 when the referenced remains were found (PG&E 2015). It is DTSC's understanding that a cause of death was not determined in the field, but possibilities cited in the abovementioned report indicated that the "animal(s) may have been killed by predators within the wash or by a vehicle on the highway and subsequently moved by scavengers." Given the death of the animal was not due to PG&E activities at the Topock Compressor Station (Station), there is no requirement to further report or investigate its death.

T3-009 The commenter requests that any information regarding findings of bighorn sheep be reported directly to the Tribe through its Topock Project Manager and suggest this provision could be part of Biological Resources Mitigation Measure BR-7. DTSC does not believe that a change to BR-7 is warranted. In accordance with Cultural Resources Mitigation Measure CR-1a-1, Tribal Document Review and Comment, Interested Tribes shall be afforded the opportunity to review and comment on technical documents including, but not limited to, soil-

¹ The commenter refers to a Consultative Work Group (CWG) meeting held on April 22, 2015, in which skeletal remains were referenced. The information disseminated at the CWG meeting was derived from a PG&E February 11, 2015 report titled: Assessment of Potential Impacts to Four Special-Status Species for Soil Environmental Impact Report Investigation and Final Groundwater Remedy Areas, Topock Compressor Station, California. The skeletal remains referenced are not described as such in the Partially Recirculated DEIR Biological Resources section, because at the time the Partially Recirculated DEIR was drafted, the abovementioned report had not been modified, which it was at a later date to indicate the remains were not necessarily those of a bighorn sheep.

T3-010

investigation-related plans and reports, bench scale and pilot study implementation plans, and biological resources. Such biological resource reports would include a description of any findings of Nelson's bighorn sheep.

The commenter requests the scientific basis for providing a 250-foot halt work measure in vicinity of a big horn sheep, asks for different ranges for buffers and related literature citations, as well as clarification as to why a 330 foot or more threshold wasn't used as mentioned in a Bureau of Land Management (BLM) reference on page 4.3-48 of the Partially Recirculated DEIR. The scientific basis for providing the 250-foot buffer to halt work in the vicinity of a sheep is based on the BLM referenced Status of the Science report on Nelson's bighorn sheep, which summarizes multiple scientific studies on the effects of disturbance on bighorn sheep (BLM 2001). Qualified biologists determined that a 250foot buffer would provide a sufficient distance to protect bighorn sheep from potential disturbances. A minimum 165-foot buffer would be the minimum distance that bighorn sheep could be disturbed without causing a significant impact to the species, as noted in BLM's Status of the Science report. Additionally, as indicated in the Partially Recirculated DEIR on page 4.3-73, sightings near the Station indicate that bighorn sheep are highly accustomed to human presence (Russell 2015). All soil investigation activities will be conducted within desert washes which are situated topographically below ridgelines where bighorn sheep could occur, and along upland areas adjacent to existing disturbances reducing potential disturbance to bighorn sheep from potentially approaching from below.

T3-011 The commenter claims that one of the California Department of Parks and Recreation site forms attached to the Addendum 11 Report (for CA-SBR-17219) states that a wild burro or desert big horn sheep trail bisects the site, and asks if this trail has been considered in the bighorn sheep analysis and treatment measures. The commenter also states that the bighorn sheep is a very sacred animal to the Tribe. The Addendum 11 report was reviewed and referenced in the impact analysis for Nelson's Bighorn Sheep in the FIER. The wild burro or desert big horn sheep trail in question is located to the west of the northern Project boundary and will not be impacted by the Project. This trail was considered in the evaluation of potential impacts to big horn sheep and during development of mitigation measures. Additionally, the Partially Recirculated DEIR acknowledges that bighorn sheep is a very sacred animal to the Tribe, and this was taken into consideration when analyzing impacts and formulating mitigation to address potential impacts to this species.

T3-012 The commenter states that it is also known that the bighorn sheep in this area could be threatened by respiratory disease that has already been noted to occur in the Mojave preserve area, a location approximately 45 miles west of the site, and states that such additional stressors on the population is a concern. As described in a study published in the

	publication <i>California Fish and Game</i> in 2011, pneumonia in bighorn sheep is transmitted through contact with domestic sheep (Wehausen, Kelley, and Ramey 2011). The proposed soil investigation activities will have no effect on the factors that contribute to pneumonia in bighorn sheep. However, in response to the comment, the Partially Recirculated DEIR text on page 4.3-73 is modified in the FEIR to acknowledge the threat as follows:
	Additionally, Nelson's bighorn sheep in the region could be affected by respiratory disease (as evident in Mojave Preserve), however this respiratory disease (pneumonia) is passed to bighorn sheep from contact with domestic sheep, therefore, the Project has no potential to contribute to the potential spread of respiratory disease in bighorn sheep.
T3-013	The commenter asks for the scientific basis for the assertion in the Partially Recirculated DEIR (page 4.3-75) that bighorn sheep have already habituated to human activities in and around the Station, vehicle traffic on roads, and the general presence of people in the area, and if this assertion was used to rationalize the 250-foot halt work distance. The statement regarding bighorn sheep being habituated to human activities is based on existing knowledge of on Site personnel over years of observations (Russell 2015). The rationale for the 250-foot buffer took into consideration the fact that bighorn sheep are habituated to disturbance on Site but mostly scientific literature was reviewed to determine an appropriate halt work distance. The commenter is referred to response to comment T3-010 for further discussion of the buffer selection parameters.
T3-014	The commenter requests an explanation as to why jurisdictional habitats were revised in the Partially Recirculated DEIR. Tables 4.3-2 and 4.3-5 were modified in response to a comment on the DEIR circulated in July 2014 (see FEIR Volume 1, Chapter 4 Individual Responses, response to comment I11-021). Based on available Geographic Information System data, the July 2014 DEIR incorrectly categorized riparian vegetation as being under the jurisdiction of the U.S. Army Corps of Engineers, CDFW, and the Regional Water Quality Control Board, when the habitat was actually only under the jurisdiction of CDFW. In addition, some of the jurisdictional acreages presented in the July 2014 DEIR included overlapping data for wetlands resources, which is why the total amount of jurisdictional acreage was reduced after reclassification in the Partially Recirculated DEIR and why Tables 4.3-2 and 4.3-5 were modified.
T3-015	The commenter asks for clarification on the revisions to the "Potential for Occurrence" column of Table 4.3-3 in the Partially Recirculated DEIR. These changes were made to either: 1) bring about consistency in the categories being used; or 2) because updated information was available or was brought to light through comments on the DEIR that caused DTSC to revise a category; or 3) based on results of the spring

2015 focused bat surveys. For example, all "Known to Occur" entries were changed to "Present" for consistency, whereas the entry for Nelson's bighorn sheep was changed from "Could Occur" to "Present" based on updated information regarding a siting by the FMIT in June 2013. Updates that involved a changed potential for occurrence on the Site were analyzed in the Partially Recirculated DEIR.

T3-016 The commenter questions why a paragraph describing the Beale Slough Riparian and Cultural Area of Critical Environmental Concern (ACEC) was not included in the original DEIR. This comment is similar to one made by FMIT on the July 2014 Draft EIR (see FEIR Volume 1, Chapter 5 Tribal Responses, response to comments T6-264 and T6-269), and was also made by the Cocopah Indian Tribe (see FEIR Volume 1, Chapter 5 Tribal Responses, response to comments T4-038 and T4-043) and Hualapai Indian Tribe (see FEIR Volume 1, Chapter 5 Tribal Responses, response to comments T7-062 and T7-069). Following receipt of these comments, additional text regarding the Beale Slough Riparian and Cultural ACEC was incorporated into the Partially Recirculated DEIR. Text was added to Regulatory Background page 4.3-53 and Impact Analysis for Regional and Local Plans page 4.3-83. Regarding the commenter's question about the need for a study to ensure that the Project does not threaten the ACEC, DTSC finds on page 4.3-83 of the Partially Recirculated DEIR that no conflicts with BLM's management plan or the ACEC management prescriptions described in the BLM's 2007 Lake Havasu Resource Management Plan are anticipated with implementation of the proposed Project. The proposed Project activities are not prohibited in the ACEC per the Lake Havasu Resource Management Plan and the Project activities would not cause irreparable damage to the ACEC's relevant characteristics or important values. The U.S. Department of the Interior (DOI), as the agency responsible for preparing and implementing the ACEC, did not comment to the contrary on this finding which was presented in the Partially Recirculated DEIR.

T3-017 The commenter states that the findings regarding the BLM 2007 Lake Havasu Resource Management Plan are unsubstantiated and asks if the BLM, as the land manager, is in agreement with these conclusions. DTSC finds on page 4.3-83 of the Partially Recirculated DEIR that there are no conflicts with the BLM's management plan or the ACEC management prescriptions described in the 2007 Lake Havasu Resource Management Plan anticipated with implementation of the proposed Project. This is based on the fact that the proposed Project activities are not prohibited in the ACEC per the Lake Havasu Resource Management Plan and the Project activities would not cause irreparable damage to the ACEC's relevant characteristics or important values. The commenter is correct that impacts will occur to biological resources as a result of the soil investigation activities (such as impact to sensitive bat species); however these impacts are not considered irreparable. Impacts to biological resources associated with soil investigation activities are anticipated to be temporary and Mitigation Measures have been identified to reduce all significant impacts to biological resources to less

	than significant. The DOI was offered the opportunity to comment on these finding as part of the public review process for the Partially Recirculated DEIR and did not comment to the contrary. A review of the Lake Havasu Resource Management Plan was undertaken as part of the development of the Partially Recirculated DEIR.
T3-018	The commenter asks when a management plan will be funded and developed for the Beale Slough Riparian and Cultural ACEC and goes on to advocate for the development of such a plan. The BLM's 2007 Lake Havasu Resource Management Plan states that "ACEC management plans will be developed in the future with associated monitoring plans." According to the BLM Lake Havasu Field Office, at this time the BLM does not have the resources to pursue the development of a management plan for any of its ACECs. The timeline for development of an ACEC management plan for the Beale Slough Riparian and Cultural ACEC is uncertain.
T3-019	The commenter questions added text on page 4.3-60 of the Partially Recirculated DEIR related to the validation study. Specifically, the commenter questions who would determine risk and on what basis, which species would tissue sampling relate to, and would this result in mammal mortality. The commenter also states that "take" of any mammal from the Topock sacred area would be a spiritual violation. Further, the commenter states that the FMIT does not support a validation study for the reasons specified above, and that intermediate evaluation steps be completed before any validation study is considered. As discussed in Section 1.2.2 of the Partially Recirculated DEIR, in addition to changes made in association with bats and Nelson's bighorn sheep, additional modifications were made to the section in response to comments received on the DEIR through the public review process. Text on page 4.30-60 of the Partially Recirculated DEIR was added in response to a FMIT comment on the DEIR published in July 2014 (T6-047). The commenter is referred to the FMIT response to comment T6-047 and Master Response: Additional Testing and Sampling Activities for a discussion of validation study parameters and tissue collection methodology, if needed.
	DTSC has, and will continue to work with the stakeholders and tribes in the risk assessment for the Project. As a condition of approval for the Project, prior to implementation of any bench scale tests, pilot studies, geotechnical evaluations, or plant and biota sampling, PG&E would prepare a risk assessment work plan that describes the specific location, extent, configuration, and rationale for such activities at the level of detail requested in many of the comments, and would ensure that the mitigation measures presented in the DEIR are sufficient and applicable. The work plan(s) would be provided to stakeholders, including Tribes, for review and comment. In accordance with Mitigation Measure CR-1a- 1, "Tribal Document Review and Comment," Tribes will be afforded the opportunity to review and comment on all cultural-resources-related documentation prepared as a result of this Project. If the risk assessment

	determines that an unacceptable risk is present, a validation study may be considered to reduce uncertainty in the risk assessment. The Tribe's preference for intermediate evaluation steps prior to any validation study will be considered by DTSC, at its discretion, in the future.
T3-020	The commenter questions the scientific basis for the 1:1 like kind habitat compensation included in the Partially Recirculated DEIR on page 4.3-66. The basis for the 1:1 like kind habitat compensation was based on restoring similar habitat that was considered relatively low quality (i.e., desert washes). It should also be noted that Mitigation Measure BR-1 requires "no net loss" of habitat which shall be achieved through any combination of the following, in descending order of desirability: (1) avoidance; (2) where avoidance is not possible, minimization of impacts on the resource; or (3) 1:1 like kind habitat compensation, including use of a mitigation banking program that provides the opportunity to mitigate impacts to rare, threatened, and endangered species and /or the habitat which supports these species in wetland and riparian areas. Only in the unlikely event that avoidance and minimization of impacts to desert washes are not possible would 1:1 like kind habitat compensation be implemented.
T3-021	The commenter asks if the 24 hour notice of spot checks for desert tortoise is deemed appropriate by DTSC and the BLM, and if so why. All changes reflected in the Partially Recirculated DEIR have been reviewed and approved by DTSC. The BLM was offered the opportunity to comment on the Partially Recirculated DEIR as part of the public review and did not comment on this particular text edit. To clarify, the spot check referred to in this comment is intended to ensure desert tortoises are not present in the vicinity of soil investigation activities in the event that investigation boundaries change. Further, notification of PG&E for spot checks is intended to provide PG&E enough time to safely adjust equipment and to take necessary safety precautions for workers onsite.
T3-022	The commenter asks if the definition of "daytime" in the Partially Recirculated DEIR is the common definition for the entire DEIR. DTSC defined the term "daytime" in response to comments T6-073 and T6-113 made by the FMIT on the DEIR (see FEIR Volume 1, Chapter 5 Tribal Responses, response to comments T6-073 and T6-113). Edits have been made to all appropriate sections of the DEIR to ensure the definition is consistent throughout the EIR.
T3-023	The commenter asks who would determine the criticality of meeting Project objectives, which Project objectives, and what is the scientific basis for the 50 foot exclusion zone, as stated on page 4.3-76 of the Partially Recirculated DEIR. DTSC would be responsible, in coordination with PG&E, for determining which Project objectives are critical and must be conducted during the bat maternity season, and these Project objectives would be necessary for meeting Project goals. The 50- foot exclusion zone for bat roosts was based on scientific and professional knowledge of the roosting habitat onsite, relatively low-

	level of impact for soil investigation activities and locations of these activities, and review of similar buffers established for similar projects, such as ones discussed in the California Bat Mitigation Techniques, Solutions, and Effectiveness (Caltrans 2004).
T3-024	The commenter asks why text regarding sediments reaching aquatic habitats in the Colorado River was revised in the Partially Recirculated DEIR. As discussed in Section 1.2.2 of the Partially Recirculated DEIR, in addition to changes made in association with bats and Nelson's bighorn sheep, additional modifications were made to the section in response to comments received on the DEIR through the public review process. This subject change was made in response to comment I11-022 made by PG&E on the DEIR which asserted that the DEIR incorrectly states that there is an existing earthen dam across Bat Cave Wash (see FEIR Volume 1, Chapter 4 Individual Responses, response to comment I11-022).
T3-025	The commenter asks for explanation why the sentence discussing maternity roosting habitat on buildings and bridges on and adjacent to the Project site was struck from the Partially Recirculated DEIR on page 4.3-85. This sentence was struck and the discussion of bat habitat on the Project site was updated on page 4.3-85 in the Partially Recirculated DEIR based on new information obtained during the January 2015 bat habitat assessment survey on the Project site.

CHAPTER 5 Bibliography

Chapter 1, "Introduction"

No references cited.

Chapter 2, "Agency Responses"

No references cited.

Chapter 3, "Individual Responses"

No references cited.

Chapter 4, "Tribal Responses"

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- Pacific Gas & Electric Company (PG&E). 2015 (February). Assessment of Potential Impacts to Four Special-Status Species for Soil Environmental Impact Report Investigation and Final Groundwater Remedy Areas, Topock Compressor Station, California. February 11, 2015.
- Russell. 2015 (March). PG&E Topock Onsite Project Manager. Phone conversation. March 3, 2015.
- U.S. Department of the Interior, Bureau of Land Management (BLM). 2001 (March). Status of the Science: On Questions that Relate to BLM Plan Amendment Decisions and Peninsular Ranges Bighorn Sheep. Updated March 14, 2001.
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Volume 3 Revised Draft EIR
CHAPTER 1 Summary

1.1 Introduction

This summary provides an overview of the Pacific Gas and Electric Company (PG&E) Topock Compressor Station Soil Investigation Project (Project) and the environmental analyses that are contained within this draft environmental impact report (DEIR) as required by the California Environmental Quality Act (CEQA) (Public Resources Code, Section 21000 et seq. and California Code of Regulations Title 14 Section 15000 et seq. [CEQA Guidelines]). This DEIR is an informational document prepared by the lead agency that must be considered by decision makers before approving or denying a proposed project. The California Department of Toxic Substances Control (DTSC) is the lead agency for this Project.

1.2 Background

Past activities at the PG&E Topock Compressor Station (Station) have resulted in the release of chemicals of potential concern (COPCs) into soil and groundwater. Under certain exposure conditions, these COPCs are harmful to human health and the environment. Investigation and remediation at the Station and the surrounding area (Project Site) is being conducted under the Resource Conservation and Recovery Act of 1976 (RCRA) and the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA). Both RCRA and CERCLA are federal laws. RCRA provides a framework for the U.S. Environmental Protection Agency (USEPA) to remediate hazardous waste sites in the United States. The authority under RCRA, however, can be delegated to states. In California, DTSC implements RCRA under such delegated authority from the federal USEPA through state law.

1.3 Summary of the Proposed Project

DTSC is the lead agency under CEQA for the preparation of this DEIR, which addresses the potential environmental effects of actions associated with soil investigation activities at the Station. Soil within the Station fence line and in the vicinity of the Station has been affected by historical releases of COPCs, including hexavalent chromium [Cr(VI)]¹ and other metals, petroleum hydrocarbons, polycyclic aromatic hydrocarbons (PAHs), polychlorinated biphenyls (PCBs), volatile organic compounds (VOCs), semivolatile organic compounds (SVOCs), dioxins

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¹ Cr(VI) is a form of chromium. Chromium is a metal naturally found in rocks, soil, and the tissue of plants and animals. Cr(VI) is used in industrial products and processes and is a known carcinogen when inhaled (i.e., through breathing). On May 28, 2014, the California Department of Public Health adopted a new groundwater Maximum Contaminant Level for Cr(VI) of 0.01 mg/L, effective July 1, 2014.

and furans, pesticides, and asbestos (CH2M HILL 2013). Various other COPCs have also been detected at concentrations above screening levels.²

The proposed Project involves soil investigation activities within the Project Site. These investigation activities required to determine the nature and extent of soil contamination at the Station and surrounding area are evaluated and summarized in the *Soil RCRA Facility Investigation/Remedial Investigation (RFI/RI) Work Plan* (Soil RFI/RI Work Plan or Soil Work Plan) (CH2M HILL 2013; **Appendix A** to this DEIR) and the *Corrective Measures/Feasibility Study Work Plan* (CM/FS Work Plan) (CH2M HILL 2008). The proposed Project would provide sufficient data for the completion of the RFI/RI process that is consistent with applicable state law and would support evaluation of possible remedy action if determined necessary. The results of the investigation activities will be compiled and combined with all investigation data sets for the preparation of the Final RFI/RI Report Volume 3 (Soil). The investigation of soil which is the subject of this DEIR, along with existing data at the Project Site will enable the evaluation and selection of corrective measures, if necessary, in a future *Soil Corrective Measures Study/Feasibility Study* (Soil CMS/FS). If soil remediation is determined necessary, the remedial alternatives will be evaluated in a separate environmental review under CEQA.

1.3.1 Project Location

The proposed Project would be implemented at and in the vicinity of the Station, which is located in the Mojave Desert approximately 12 miles southeast of the City of Needles, California, and approximately 4 miles south of the community of Golden Shores, Arizona (see Figure 3-1 in Chapter 3 of this document). The Station is within a 66.8-acre parcel of land owned by PG&E that is located approximately 1,500 feet west of the Colorado River and less than 1 mile south of Interstate 40. The area of the Station that is developed (buildings and/or paving) is fenced and encompasses approximately 15 acres.

The areas within which soil investigation activities, such as equipment staging, access/haul routes, and observations, would occur includes the area inside the Station fence line as well as surrounding areas of the Station that may have been affected by historical operational practices (see Figures 3-2 through 3-6 in Chapter 3 of this document). The Project Site totals approximately 128.5 acres and encompasses areas beyond PG&E's property line.

The lands adjoining the PG&E parcel are owned and/or managed by a number of government agencies and private entities, including lands owned by the Fort Mojave Indian Tribe (FMIT); the Havasu National Wildlife Refuge, which is managed by the U.S. Fish and Wildlife Service (USFWS); lands managed by the Department of the Interior (DOI) (including the U.S. Bureau of Land Management and U.S. Bureau of Reclamation); California Department of Transportation

² Soil screening levels are used to identify chemical concentrations that would require further soil investigation and possible remediation. The screening levels are based on naturally-occurring background concentrations, DTSC California Human Health Screening Levels, USEPA Regional Screening Levels, or ecological comparison values. If human or ecological-based screening levels are lower than the background concentration, the background concentration is used as the screening level.

(Caltrans)—leased land; the Burlington Northern Santa Fe Railway (BNSF); and other privately owned lands (see Figure 3-7 in Chapter 3 of this document).

1.3.2 Project Objectives

The primary and fundamental objective of the soil investigation activities is to gather sufficient soil samples to be able to reliably characterize the nature and extent of soil and sediment contamination within the Project Site. If approved, soil and sediment would be analyzed for COPCs previously identified in the Project Site (inside and outside the Station fence line) that resulted from historical Station practices, as informed by prior soil sampling, thereby enabling completion of the Final RFI/RI Report Volume 3 (Soil) and risk assessment as required by the 1996 Corrective Action Consent Agreement³ as soon as practicable and consistent with applicable state laws and regulations. Additional Project objectives include:

- Finalizing the evaluation of soil properties and contaminant distribution to support preparation of the future Soil CMS/FS, including gathering a sufficient level of information to identify a range of remedial alternatives;
- Assessing whether soil contaminant concentrations pose a threat to groundwater; and
- Assessing whether soil and sediment contamination have the potential to migrate off-site and, if so, gathering sufficient information to assess measures that may be required to prevent and minimize such migration to ensure protection of health, safety, and the environment.

The soil investigation activities do not predetermine remedial design options or alternatives. Rather, the data collected from implementation of the Project would be combined with the existing data sets to address the Data Quality Objectives outlined in the Soil Work Plan and inform DTSC if additional action or remediation is necessary for the identified investigation areas. The investigation of soil would also inform and enable, if necessary, the evaluation and selection of corrective measures in a future Soil CMS/FS.

1.3.3 Description of the Proposed Project

The proposed Project includes soil sampling and analysis as described in the Soil Work Plan; potential bench scale tests, pilot studies, and geotechnical evaluations to support a future Soil CMS/FS; and potential plant or other biota sampling activities to support ecological risk assessment. Bench scale tests and pilot studies may be implemented after soil sampling analysis is completed to evaluate potential soil remedy options if remedial action is necessary.

1.3.3.1 Soil Sampling and Sample Analysis

The soil sample and sample analysis involves the collection of surface and subsurface soil and sediment samples, and the chemical analysis of those samples for COPCs based on the historical use of the area and previous soil investigations. The following list is a summary of activities that

³ In 1996, PG&E and DTSC entered into a Corrective Action Consent Agreement pursuant to DTSC's Resource Conservation and Recovery Act Corrective Action Program to more fully investigate the nature and extent of contamination at the Station and in the surrounding area, including soil contamination (see Section 2.3 for more information).

are included as part of the soil sampling and analysis. For a complete description of the activities, see Chapter 3, "Project Description."

- Acquire permission or permits to access certain restricted areas.
- Create physical access to certain locations (e.g., grading, boulder removal, or vegetation trimming, pruning, or clearing) where no or limited access currently exists.
- Establish temporary weather- and dust-monitoring stations, as determined necessary.
- Set up staging areas for equipment and displaced soil storage, maintenance/fueling, and decontamination; to the extent feasible, all of the staging areas will be located in previously disturbed and existing operational areas with either existing natural topographic boundaries or fencing that defines the staging area boundaries.
- Stake sample locations.
- Conduct pre-investigation field checks.
- Identify potential conflicts with subsurface utilities.
- Conduct video surveys and flow testing/dye testing of storm drain lines.
- Drill or excavate soil borings.
- Install Soil Vapor Probes.
- Collect and preserve soil, pore water, and sediment samples for laboratory analyses.
- Perform certain analyses in the field using field-testing equipment and methods.
- Properly abandon boreholes.
- Transport the samples to the analytical laboratory.
- Analyze the samples for selected COPCs.
- Evaluate for data gaps and ultimately present data and conclusions in a written report.
- Manage investigation-derived waste (IDW); any long-term storage of excavated soil would also be in existing operational areas.

1.3.3.2 Geotechnical Evaluations

Geotechnical evaluations would be performed on select samples to provide information to support the development of the Soil CMS/FS. In addition, some areas would be investigated using geophysical methods to identify the presence of subsurface objects or obstructions. It is anticipated that geotechnical evaluations would be undertaken within or near Areas of Concern (AOCs) that have steep slopes and where remediation is determined necessary. Geotechnical borings would be drilled using hollow-stem auger drills. Soil samples would be collected using the standard penetration test and modified California ring samplers for index properties, strength, and compaction characteristics.

1.3.3.3 Bench Scale Tests and Pilot Studies

Bench scale tests and pilot studies may be implemented to evaluate potential soil remedy options if remedial action is necessary. The bench scale tests and pilot studies to be considered will be guided by the results of the soil sampling activities and soil risk assessment.

Bench Scale Tests

A total of three bench tests may be proposed that would evaluate: soil washing; in situ soil flushing; and in situ fixation/chemical reduction/stabilization. The tests would consist of collecting three to five 5-gallon buckets of contaminated soil for each treatment methodology for off-site testing. The soil would be excavated using either hand tools or an excavator and would then be shipped to an off-site laboratory for testing. Soil used for bench scale testing would be disposed of by the laboratory and would not be reused on-site.

Pilot Studies

In Situ Soil Flushing

The in situ soil flushing pilot study would consist of a pilot test area plot located in an area known to have contamination, flushing it with water (possibly containing flushing reagents), and testing the then flushed soil to see if the contaminants are removed from the soil. The in situ soil flushing pilot study would include the construction of either an infiltration gallery or four injection wells for the application of water. Contaminants would be transferred from soil to water, which would then be recovered via six extraction wells. Recovered water would then be treated using the existing on-site treatment facility or it would be trucked to an off-site treatment facility. While the exact location for the soil flushing has not yet been determined, plausible areas where soil flushing would be a viable remedial technology would be within the bottom of Bat Cave Wash. Existing vegetation would be avoided.

In Situ Stabilization/Chemical Fixation

The in situ stabilization/chemical fixation pilot study would involve the addition of reagents to react with targeted constituents in the soil to chemically convert contaminants into insoluble minerals that are permanently stable at the Project Site. This would include construction of a small-scale on-site treatment delivery system (infiltration gallery or four injection wells) over an area known to have contaminated soil. Reagents would be applied to soil by infiltrating a liquid from the surface or through the injection wells. While the exact location has not yet been determined, plausible areas where in situ stabilization/fixation would be a viable remedial technology would be within the bottom of Cave Wash and within the Station. Existing vegetation would be avoided in the bottom of Bat Cave Wash.

Plant or Other Biota Sampling

Plant or other biota sampling may be conducted to evaluate the potential risk to herbivorous and invertivorous wildlife populations. To minimize additional soil sampling, tissue samples would be collected from locations where soil sampling has already been completed or planned provided adequate biomass is available from those locations. The tissue sampling methods recommended

would not require use of motorized equipment and tissue would be collected from areas providing foraging habitat.

1.4 Summary of Project Alternatives

The following provides a summary of each of the alternatives that are considered in this DEIR. Several alternatives were considered but rejected from further consideration because they would not meet the basic objectives of the proposed Project. For a full discussion of the alternatives selected for evaluation, and an evaluation of their potential environmental effects, and a discussion of the reasons for the rejection of those alternatives not evaluated, refer to Chapter 7, "Alternatives to the Proposed Project."

1.4.1 Reduction of Project Footprint Alternative (Avoid Mouth of Bat Cave Wash)

Under the Reduction of Project Footprint Alternative, the Project footprint would be reduced to omit soil investigation activities in the mouth of Bat Cave Wash. This would result in the elimination of 23 borehole locations in a grid pattern of generally about 100 feet between samples. Also, additional potential boreholes that are part of the 25 percent contingency would not be conducted. Under the current Project design, up to 3 acres of Salt Cedar habitat are anticipated to be temporarily impacted; 50 percent (up to 1.5 acres) of which would be impacted within the mouth of Bat Cave Wash through trimming, pruning, or clearing of vegetation for access and sampling/drilling. Under this alternative, the impacts to riparian habitat (i.e., Salt Cedar habitat) would be reduced by approximately 50 percent. This alternative would also reduce the extent of impacts to the Topock Traditional Cultural Property (see Section 4.4.1.6) by limiting the Project footprint.

1.4.2 Reduction of Project Noise Alternative

Under the Reduction of Project Noise Alternative, a Project restriction would be put in place such that only one piece of equipment would be allowed to be in operation at any given time, in comparison to three pieces of equipment that are assumed in the analysis for the proposed Project. Putting this restriction in place would likely result in an extension of the Project schedule by one month.

1.5 Summary of Known Controversial Issues

CEQA Guidelines require that the summary of an environmental impact report (EIR) include a synopsis of known issues of controversy that have been raised by agencies and the public (CEQA Guidelines, Section 15123). A notice of preparation (NOP) for the Project was released on November 28, 2012, and is included in this DEIR as **Appendix B**. The NOP and the scoping process are described in Chapter 2 of this DEIR. Agency and public scoping meetings were held from December 11 to December 13, 2012, to receive oral comments on the scope and content of the DEIR. In addition, various input has been received by DTSC throughout the process,

<u>including input during the DEIR comment period.</u> The following is a summary of the known <u>controversial</u> issues that <u>were have been</u> received <u>during the NOP comment period</u>:

- <u>Issue</u>: Concerns regarding contamination in the Project Site and the scope and duration of investigative and remedial actions being considered, and clarification on the relationship between soil investigation activities and groundwater remediation (e.g., how the soil investigation areas were determined; the size of the contaminated groundwater plume and how much time would be required to investigate contamination; timelines and background discussions for soil investigations and groundwater cleanup).
 - <u>Where Addressed in the DEIR</u>: Contamination is discussed in the environmental analysis in Sections 4.2, "Air Quality"; 4.5, "Hazardous Materials"; and 4.6, "Hydrology and Water Quality." The scope of soil investigation is described in detail in Chapters 2, "Introduction," and 3, "Project Description," and in Sections 4.5, "Hazardous Materials," and 4.6, "Hydrology and Water Quality." The duration of the investigative process is described in Chapter 3, "Project Description." The relationship of groundwater cleanup with implementation of the proposed Project is discussed in Chapters 2, "Introduction," and 3, "Project Description."
- <u>Issue</u>: Potential impacts to the environment of the investigation and remediation process, particularly the impact to Native American cultural and archaeological resources, <u>and</u> <u>Visual/Aesthetics resources</u> in the immediate vicinity of the Station and the surrounding landscape (e.g., how the geographic description was chosen; analysis of social change in regards to the Project).
 - Where Addressed in the DEIR: The description of potential impacts to Native American cultural and archaeological resources, and Visual/Aesthetics resources is included in Section 4.1, "Aesthetics," and Section 4.4, "Cultural Resources," of this DEIR. Section 4.7, "Noise," also discusses issues of particular concern to Native American Tribes.
- **Issue:** Range of environmental issues that should be addressed in the DEIR (i.e., whether all of the alternatives to investigation will be properly/fully addressed in the DEIR).
 - Where Addressed in the DEIR: The purpose of this DEIR is to evaluate the potential environmental effects associated with implementation of the proposed Project to all resources that could be affected. Section 2.5 provides a list of those resources that are analyzed in this DEIR and Section 5.3 provides rationale for those resources that were not evaluated in detail. Chapter 7, "Alternatives to the Proposed Project," provides a comparative analysis of the alternatives to the proposed Project. The process of identifying investigative and remedial technologies is not the focus of this document. Details regarding the available technologies and effectiveness of each are presented in the Soil Work Plan (CH2M HILL 2013; Appendix A).

- **Issue**: The use of the residential land use scenario for soil characterization at the Project Site and associated impacts to Land Use and Planning.
 - Where Addressed in the DEIR: The analysis in Section 5.3.5 goes through the various thresholds of significance considered by DTSC in the Land Use and Planning analysis, which are consistent with the CEQA Guidelines, Appendix G. As demonstrated by this analysis, the Project would not physically divide an established community or conflict with a land use planning policy adopted for the purpose of avoiding or mitigating an environmental effect. Thus, the Project would not result in a significant Land Use and Planning impact. The Tribal Land Use Alternative is addressed in Chapter 7 of the DEIR, specifically pages 7-6 through 7-10. The need to first gather data about the condition of the Site before establishing approaches to cleanup is addressed on page 7-8. This section of the DEIR provides a description of the Tribal Land Use Alternative and an evaluation of how the alternative meets the Project Objectives and whether the alternative is feasible. As addressed in more detail in Chapter 7, DTSC has determined that the Tribal Land Use Alternative does not meet the objectives of the Soil Investigation Project.

1.6 Issues to Be Resolved

DTSC has prepared this DEIR using the review of available technical information regarding potential alternatives to the investigation of the contaminated soil. As required by CEQA, DTSC must evaluate the material in this DEIR, including the identified mitigation measures and potentially feasible alternatives, before deciding whether to approve the Project or an alternative to the Project. Aside from those basic decisions, at this time, there are no issues to be resolved regarding the selection of alternatives or regarding implementation of the proposed Project.

1.7 Summary of Impacts and Mitigation

Information in **Table 1-1**, "Summary of Impacts and Mitigation," has been organized to correspond with the environmental issues discussed in Chapter 4, "Environmental Analysis."

TABLE 1-1 SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES			
Environmental Impact	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
Aesthetics			
IMPACT AES-1: The proposed Project would not have a substantial adverse effect on a scenic vista.	Less than Significant	No mitigation is required.	N/A
IMPACT AES-2: The proposed Project would not substantially damage scenic resources, including trees, rock outcroppings, or historic buildings, within a state scenic highway.	Less than Significant	No mitigation is required.	N/A
IMPACT AES-3: The proposed Project would introduce incremental change comparable in height and character to the existing built elements in the landscape and as such would not substantially degrade the existing visual character of the Project Site.	Less than Significant	No mitigation is required.	N/A
IMPACT AES-4: The proposed Project would not create a new source of substantial light or glare that would adversely affect day or nighttime views in the area.	Less than Significant	No mitigation is required.	N/A
IMPACT AES-5: The proposed Project would not conflict with plans and policies protecting visual resources.	Less than Significant	No mitigation is required.	N/A
Air Quality			
IMPACT AIR-1: The proposed Project would not exceed the Mojave Desert Air Quality Management District daily or annual thresholds of significance. The proposed Project would not violate any air quality standard or contribute substantially to an existing or projected air quality violation, nor result in a cumulatively considerable net increase of any nonattainment pollutant.	Less than Significant	No mitigation is required.	N/A
IMPACT AIR-2: The proposed Project would not emit carbon monoxide in quantities that would pose health effects. The duration of proposed soil investigation activities would constitute a small percentage of the total 70-year sensitive receptor exposure period for toxic air contaminants. The proposed Project would not expose sensitive receptors to substantial pollutant concentrations.	Less than Significant	No mitigation is required.	N/A
Biological Resources			
IMPACT BR-1: Implementation of the proposed Project could result in disturbance and/or removal of riparian vegetation, wetlands and other waters of the United States under U.S. Army Corps of Engineers and California Department of Fish and Wildlife jurisdiction along the Colorado River; specifically within Bat Cave Wash and East Ravine.	Significant	Mitigation Measure BR-1: No-net-loss of Wetland, Riparian or other Sensitive Habitat Function or Value The Project shall be implemented to avoid effects to the habitat values and functions of identified jurisdictional areas (i.e., floodplain and riparian areas, wetlands, and waters of the United States and habitats designated by CDFW as sensitive, including ephemeral washes and western honey mesquite bosque). Before undertaking ground-disturbing activities within East Ravine and Bat Cave Wash, a qualified biologist shall coordinate with PG&E to ensure that the footprints of investigation activities, including drill pads, staging areas, and access routes, are designed to avoid disturbance to sensitive habitats to	Less than Significant

TABLE 1-1 SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES			
Environmental Impact	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
		 the extent feasible. Where complete avoidance to sensitive habitat is not feasible DTSC shall be notified and Project activities shall be implemented to ensure no-net-loss of habitat value or function <u>under the direction of a qualified biologist</u>. The following avoidance measures shall be implemented when working in Bat Cave Wash and East Ravine: a. No plants or vegetation shall be completely removed – only pruning, trimming, clearing, or similar approaches which allow the natural regrowth of the plant will be allowed; b. Vegetation pruning, trimming, or clearing shall only occur to access investigation sites and clear around the sample areas where absolutely necessary; c. The only vegetation to be cut off at the base (cleared rather than pruned or trimmed) will be salt cedar at the mouth of Bat Cave Wash. The roots of the salt cedar at the mouth of Bat Cave Wash. The roots of the salt cedar at the mouth of Bat Cave Wash. The roots of the salt cedar at the mouth of Bat Cave Wash. The roots of the salt cedar at the mouth of Bat Cave Wash will be left in place where possible to allow for natural, rapid regrowth of vegetation; d. No more than 20 percent of the crown on all native trees, such as palo verde, shall be trimmed, and no main branches shall be trimmed. This is consistent with what is recommended by the International Society of Arboriculture (ISA 2011); e. Complete removal of vegetation in any work area shall be completely removed and, if the area is not paved, it shall be raked/brushed to remove tire tracks. "No net loss" shall be achieved through any combination of the following, in descending order of desirability: (1) avoidance; (2) where avoidance is not possible, minimization of impacts on the resource (a – f above); or (3) 1:1 like kind habitat compensation, including use of a mitigation banking program that provides the opportunity to mitigate impacts to rare, threatened, and endangered species and /or the habitat which supports these	
IMPACT BR-2 : Implementation of the proposed Project would not affect special-status plants. Mousetail suncup is the only special- status plant species that was observed within the Project Site. However, there are no Project activities planned in areas where Mousetail suncup is established.	Less than Significant	No mitigation is required.	N/A
IMPACT BR-3: Implementation of the proposed Project could affect special status invertebrates, specifically the MacNeill's sootywing skipper, either directly or through habitat modifications. Impacts to MacNeill's sootywing skipper habitat at East Ravine would be minimal as all work will be completed by hand and access to each pore water sampling site would be by boat or by foot.	Less than Significant	No mitigation is required.	N/A
IMPACT BR-4: While the proposed Project could result in the temporary loss of foraging habitat for these species, the loss of	Significant	Mitigation Measure BR-4: Disturbance of Special-Status Birds. The following measures shall be implemented to avoid impacts to active nests and nesting birds and to ensure	Less than Significant

TABLE 1-1 SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES			
Environmental Impact	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
foraging habitat would not substantially affect any special-status birds due to the abundance of foraging habitat in the vicinity of the Project Site. Implementation of the proposed Project could affect the active nests of special-status birds. In addition, visual or noise disturbance of active nests could result in nest abandonment and loss of sensitive bird species.		 compliance with the Migratory Bird Treaty Act and California Fish and Game Code: a. Where possible, v Vegetation trimming, pruning, or clearing and other activities shall be timed to avoid the nesting season for special-status bird species that may be present (March 15 through September 30) except as provided for in item b, below. b. If vegetation removal or other Project activities are necessary in vegetated areas between March 15 and September 30, <u>DTSC shall be notified and</u> focused surveys for active nests of special-status birds (including Arizona Bell's vireo, California black rail, Yuma clapper rails and other species identified in Table 4.3-3) shall be conducted no more than 72 hours before such activities begin. A qualified biologist shall conduct pre-investigation surveys to identify active nests that could be affected. The appropriate area to be surveyed and the timing of the survey may vary depending on the activity and species that could be affected and shall be determined by the qualified Project biologist. For the Yuma clapper rail, the pre-investigation surveys shall specifically identify habitat within 300 feet of investigation reas, in accordance with measures set forth in the Bird Avoidance and Minimization Plan (BIAMP) which was finalized on April 30, 2014 (CH2M HILL 2014). c. The qualified Project biologist shall implement all of the avoidance and minimization measures that are outlined in the BIAMP (CH2M HILL 2014). d. The <u>qualified</u> biologist shall consult the BIAMP (CH2M HILL 2014) for required nesting bird avoidance buffers and requirements for the on-site biological monitor. Buffers vary depending on the species of bird, so the BIAMP (CH2M HILL 2014) should be consulted once a nest is identified. 	
IMPACT BR-5: Implementation of the proposed Project could affect desert tortoises, either directly or through habitat modifications.	Significant	 Mitigation Measure BR-5: Disturbance of Desert Tortoise and Loss of Habitat. Consistent with the PBA and the USFWS letter concurring with the PBA, the following measures shall be implemented: a. Before any ground-disturbing Project activities begin, a qualified desert tortoise biologist (i.e., an experienced tortoise expert whom USFWS would be confident in the evaluation and survey for the presence of the desert tortoise under the PBA) shall identify potential desert tortoise habitat in areas that could be affected by the Project activities. The qualified <u>desert tortoise</u> biologist shall conduct a pre-investigation desert tortoise clearance survey prior to the start of investigative activities. <u>They-The qualified desert tortoise biologist</u> shall also conduct monitoring on a <u>periodic spot</u> basis (1–2 days for a 2-week period) or as a result of a change in investigation boundaries or limits. b. PG&E shall designate a field contact representative (FCR) who will be responsible for overseeing compliance with proper execution of the mitigation measures. The <u>field contact representative</u> FCR-shall be trained by the qualified <u>desert tortoise</u> biologist and have authority to halt activities that are in violation of the mitigation measures/or pose a danger to listed species. The <u>field contact representative</u> FCR-will here in violation of the mitigation measures/or pose a danger to listed species. The <u>field contact representative</u> FCR-will have a copy of the mitigation measures when work is being conducted on the <u>Project sS</u>ite. The <u>field contact representative</u> FCR-may be a project manager, PG&E representative, or <u>qualified</u> biologist. c. Prior to Project activities and immediately prior to the initiation of ground 	Less than Significant

TABLE 1-1 SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES			
Environmental Impact	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
		 disturbance, a qualified desert tortoise biologist shall conduct worker awareness training for all PG&E employees and the contractors involved with the proposed Project. d. The <u>field contact representative</u> FCR will be on-site during all Project activities. The qualified <u>desert tortoise</u> biologist will examine work areas for desert tortoises and their sign (i.e., burrows, scat, tracks, remains, and pallets), ensuring 100 percent coverage of the area, and clear each area of activity prior to work initiation. Any desert tortoise burrows and pallets outside of, but near, the project footprint shall be flagged at that time so that they may be avoided during work activities. At conclusion of work activities, all flagging shall be removed. Should any live tortoises be found during the clearance survey, or if a tortoise moves into the work area, all work shall stop immediately and the animal shall be left to move out of the work area on its own accord. Tortoises shall not be handled. Encounters with desert live desert tortoises shall be reported to BLM Lake Havasu biologists. Information to be reported will include for each individual: the location (narrative, vegetation type, and maps) and date of observation; general conditions and health; any apparent injuries and state of healing; and diagnostic markings. e. All workers shall be required to check under their equipment or vehicle before it is moved. If a desert tortoise is encountered under vehicles or equipment, the vehicle shall not be moved until the animal has voluntarily moved to another location or to a safe distance from the parked vehicle. 	
IMPACT BR-6: Implementation of the proposed Project could affect ring-tailed cat, either directly or through habitat modifications.	Significant	 Mitigation Measure BR-6: Disturbance of Ring-Tailed Cat and Loss of Habitat. The following measures shall be implemented: a. Pre-investigation surveys for ring-tailed cats will be conducted by a qualified biologist prior to the start of investigation activities. No activities that will result in disturbance to nests or ring-tailed cats will proceed prior to completion of the surveys. If no active nests are found, no further action is needed. If a ring-tailed cat nest is present, part b (below) additional measures will be implemented as outlined below. The CDFW and DTSC will also be notified of any active nests within the proposed disturbance zones. b. Ring tailed cats are fully protected under Fish and Game Code Section 4700, as described above. If an active ring-tailed cat nest is found, the Project shall be redesigned to avoid the loss of the site occupied by the nest if feasible. If the Project cannot be redesigned to avoid the nest, the CDFW and DTSC will be contacted for their input. If approved by the CDFW and DTSC, demolition of the nest site will commence outside of the breeding season (February 1 to August 30) when the nest is vacated. If a non-breeding nest is found in a site scheduled to be removed, prior to disturbance, the CDFW and DTSC will be notified to review and approve the proposed procedures to ensure that no take occurs as a result of the action. Sites with inactive nests that need to be removed will first be disturbed at dusk, just prior to removal that same evening, to allow <u>adult</u> ring-tailed cats to escape during the darker hours. 	Less than Significant

TABLE 1-1 SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES				
Environmental Impact	Significance before Mitigation	Mitigation Measures	Significance after Mitigation	
IMPACT BR-7: Implementation of the proposed Project may result in human disturbance that can alter habitat use and activity patterns of Nelson's bighorn sheep which are known to occur at the Project <u>Site.</u>	<u>Significant</u>	Mitigation Measure BR-7: Disturbance of Nelson's Bighorn Sheep. If a bighorn sheep is observed at the Project Site during soil investigation activities, work shall be halted in the vicinity of the sheep (within 250 feet of the sheep). Project activities can recommence after the animal moves away on its own.	<u>Less than</u> <u>Significant</u>	
IMPACT BR-8: Effects to special-status bat species (which includes the pallid bat, the Townsend's big-eared bat, and any other special- status bat species that may be found at the site) would be considered significant if project activities would result in the loss or abandonment of a maternity roost or nursery site, which could result in significant effects to the overall population of the species. The Project could result in disturbance to maternity roosts on the Project Site given the presence of potential maternity roosting habitat. Implementation of the proposed Project could also result in the disturbance of day roosts and other harassment, injury or mortality of individual Townsend's big-eared bats. A single male Townsend's big-eared bat was observed on the Project Site during the spring 2015 focused bat surveys and this species is considered present. Additionally, due to the presence of suitable habitat on-site, this species has the potential to use the Project Site for foraging and roosting. Due to their heightened sensitivity as a Candidate species under CESA (as of April 2013), any harassment, injury or mortality of individual Townsend's big-eared bats would be considered significant.	Significant	 Mitigation Measure BR-8: Disturbance or Loss of Special-status Bat Species. The following measures shall be implemented to avoid impacts to active maternity roosts of special-status bat species during the maternity roosting season (mid-March through August) and direct harassment, injury or mortality to Townsend's big-eared bats, consistent with the California Fish and Game Code. a. Implementation of soil investigation activities within avoidance areas for potential bat maternity roosting habitat shown in Figure 4.3-5 shall not occur during the maternity roosting habitat shown in Figure 4.3-5 shall not occur during the maternity season (mid-March through August). However, if soil investigation activities critical to meeting the Project objectives are determined necessary in avoidance areas for potential bat maternity roosting habitat (Figure 4.3-5) during the maternity season, a qualified biologist shall conduct a pre-investigation survey to identify potential active roosts. The pre-investigation survey shall occur the night before soil investigation activities to observe if any bats are exiting crevices and cavities within 100 feet of the proposed work area. The pre-investigation survey will be conducted at sunset for 90 minutes by a qualified biologist with the use of a thermal imaging camera to observe and record any exiting bats. If no bats are observed, work may proceed in the proposed work area the following day, and will remain cleared for the duration of the work activity. Additional pre-investigation surveys will be required in new work areas located more than 100 feet away from the previously surveyed work area the following day and not until it can be verified with thermal imaging that bats have left the area or the maternity roosting season is over. b. Some soil investigation activities will be allowed to occur without a pre-investigation survey in limited work areas located within the larger avoidance areas depicted on Figure 4.3-5 during the bat maternity season (mid-Marc	<u>Less than</u> <u>Significant</u>	

⁴ Limited work areas were identified in the spring 2015 focused bat survey report (PG&E 2015c) as areas in the bottom of the washes that do not contain bat roosting habitat where some limited, nonnoisy soil investigation activities may occur during the bat maternity roosting season. The list of allowable soil investigation activities was developed by Dr. Dave Johnson, Associate Wildlife Ecologist and Bat Biologist (Johnson 2015).

TABLE 1-1 SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES			
Environmental Impact	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
		 groundwater sampling, and activities associated with the approved 2011 Groundwater Remediation Project. c. If Project related work will continue into the 2016 bat maternity season, additional focused bat surveys for Townsend's big-eared bats will be required, since changes in the presence or absence of Townsend's big-eared bats could occur. A focused bat survey shall be required no more than 30 days prior to the start of Project field implementation during the 2016 bat maternity season to specifically determine if any Townsend's big-eared bats are present on or immediately adjacent to work areas. If Townsend's big-eared bats are detected, Mitigation Measure BR-8d shall be required. d. If Townsend's big-eared bat, a Candidate species under CESA, is observed or detected on the Project Site during the surveys described in Mitigation Measures BR-8a or BR-8c, the Project shall be modified if necessary, with input from a qualified biologist, to avoid all potential harassment, impact or injury to this species. If the Project cannot be modified to avoid impacts to the Townsend's big- eared bat, removal or modification of roosts could occur if approved by CDFW and when the roost is vacant. Prior to disturbance of the roost, the CDFW will be notified to review and approve the proposed procedures (such as the use of exclusion devises or other roost modification) to ensure that no injury or impact occurs as a result of the action. 	
IMPACT BR-79 : Increased sedimentation and turbidity and the release of contaminants during Project activities could adversely affect fish habitat and movement in the Colorado River.	Less than Significant	No mitigation is required.	N/A
IMPACT BR-810: Implementation of the proposed Project would not have substantial adverse effects on the viability of populations of species covered in the Lower Colorado River Multi-Species Conservation Program (LCR MSCP), the effectiveness of the LCR MSCP's conservation strategy, and attainment of the goals and objectives of the LCR MSCP. Additionally, the Project would not conflict with resource management goals of the USFWS, BLM, or DOI.	Less than Significant	No mitigation is required.	N/A
IMPACT BR-911: Implementation of the proposed Project would not substantially interfere with the movement of any native resident or migratory fish or wildlife species, or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites. However, the Project could impede the use of bat maternity roosts, which are considered a type of native wildlife nursery site. Modifying, destroying or impeding the use of active maternity roosts of special-status bat species could result in substantial interference to the species reproduction and distribution.	Less than -Significant	Mitigation Measure BR-11: Substantial Interference with Fish or Wildlife Movement Corridors or Native Wildlife Nursery Sites. Mitigation Measure BR-8 shall be implemented to address potential impacts to special-status bat maternity roosts.	N/A Less than <u>Significant</u>

TABLE 1-1 SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES			
Environmental Impact	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
Cultural Resources			
IMPACT CR-1: Implementation of the proposed Project could cause a substantial adverse change in the significance of the historical resource identified as the Topock TCP as a result of the property that convey its historical significance and qualify it for inclusion in the CRHR as defined in CEQA Guidelines Section 15064.5. The substantial adverse change to the TCP and its contributing elements would result from ground-disturbing activity that would directly and adversely affect the soil, landforms, and <u>unknown</u> prehistoric archaeological resources; pruning or alteration of the natural growth of native and traditional plant species; <u>plant and biota sampling</u> ; and the presence of equipment, workers, and vehicles, which would introduce activities that are inconsistent with the natural setting associated with the Topock TCP. These activities would also materially affect the cultural values ascribed to the TCP by Tribes.	Significant	 Mitigation Measure CR-1: Historical Resource Identified as the Topock TCP CR-1a: Tribal Coordination CR-1a-1: Tribal Document Review and Comment. Interested Tribes shall continue to be afforded the opportunity to review and comment on all cultural resources-related documentation prepared as a result of this Project. Tribal comments shall be considered to the extent feasible by DTSC, in coordination with Interested Tribes, PG&E, and representative landowners (BLM, BOR, FMIT, PG&E, and USFWS). Cultural resources documents shall include, but not be limited to, pre-investigation verification survey memoranda; daily archaeological monitoring logs; monitoring report to be prepared at the close of ground-disturbing activities; annual monitoring reports; <u>DPR forms</u>; and any documentation arising as a result of the inadvertent Discovery of Potential Historical Resources and Unique Archaeological Resources). Interested Tribes shall also be afforded the opportunity to review and comment on technical documents including, but not limited to, soi linvestigation-related plans and reports, bench and pilot study implementation plans, and biological resources reports. CR-1a-2: Tribal Access. Interested Tribes shall be provided access to the Project Site to the extent PG&E has the authority to facilitate such access and be consistent with existing laws, regulations, and agreements as they pertain to property within the Project Site. On federal property, access shall be governed by the provisions of Appendix B (<i>Tribal Access Plan</i>) of the CHPMP. On non-federal property, access shall be accommodated by PG&E to the extent feasible; the access plan may place restrictions on access into certain areas, such as the Station and the existing evaporation ponds, subject to DTSC review with regard to health and safety concerns and to ensure noninterference with approved investigation activities. PG&E shall continue to ommunicate with Interested Tribes, PG&E shall continue to communicate with Intereste	Significant and Unavoidable

TABLE 1-1 SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES			
Environmental Impact	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
Environmental Impact	Mitigation	Mitigation Measures Communication protocols as they relate to Tribal monitoring of annual historical resource monitoring shall be governed by CR-2c. Communication protocols as they relate to inadvertent discoveries of potential historical resources as defined by CEQA will be governed by CR-2d. Human remains will be governed by CR-4. CR-1b: Worker Education Program A worker cultural resources sensitivity program shall continue to be implemented for the Project consistent with existing practices in addition to any requirements under the PA and CHPMP, but may be integrated in a manner that avoids duplication of requirements under the PA and CHPMP. Specifically, an initial sensitivity training session shall be provided by PG&Et to all Project employees, contractors, subcontractors, and other professionals prior to their involvement in any ground-disturbing activities, with subsequent training sessions to be held as new personnel become involved in the Project. PG&E shall invite Interested Tribes to participate in and present Tribal perspectives during the training sessions. The sensitivity program shall address: the cultural (Native American, archaeological, and paleontological) sensitivity of the Project Site and a tutorial providing information on how to identify these types of resources; appropriate behavior; worker access routes and restrictions; work are cleanliness; procedures when working with monitors; and consequences in the event of noncompliance. PG&E shall notify DTSC and the Interested Tribes no less than 2 weeks prior to the initial training session. Subsequent training sessions may be of a less formal nature; however, they must be comprehensive in the subject matter covered. Tribes will be provided the opportunity to participate in informal training sessions. Subsequent training sesesions if available	Mitigation
		Additional field verifications may be completed as Project work progresses, provided the field portions of the verifications are conducted not less than four weeks prior to the start of ground disturbance in that area. Also, field verifications for contingency and pilot studies shall occur after approval work plan(s) but not less than four weeks prior to the start of ground disturbance. The field check -verification shall include all sampling locations, including any future pilot study areas, new access areas, and equipment and	

TABLE 1-1 SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES			
Environmental Impact	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
		 materials staging areas, plus a 50-foot buffer surrounding sampling areas where topography allows. Sampling activities may occur within the buffer area without additional field eheck-verification. Interested Tribes shall be afforded the opportunity to participate and shall be provided 2 weeks (14 calendar days) notice prior to the start of the field eheck-verification. The objective of the field eheck-verification will be to verify that additional resources qualifying as historical resources under CEQA are not present within the investigative location areas. Interested Tribes shall be afforded the opportunity to identify, and DTSC to consider, for the purposes of avoidance, any physical features of Tribal significance within the field eheck-verification area, including but not limited to trails, rock features, desert pavement areas, and cleared circles that might be considered contributors to the TCP. A <i>Pre-Investigation Historical Resources Field Check-Verification Memorandaum</i> following the California Office of Historic Preservation's (OHP's) <i>Archaeological Resource Management Reports (ARMR)</i> guidelines, shall be grepared by PG&E that documents the methods of the field eheck verification, and the results of the field eheck-verification. June to the field eheck-verification and asked to provide any observations to DG&E within 2 weeks of the field portion of the verification. The Memorandaum shall be submitted to DTSC for review and comment within 3 weeks from completion of the field check no later than 10 days prior to the start of ground disturbance in an area, and the submission shall include any Tribal observations given to PG&E within the two-week time frame set forth above. Tribal review and comment of the <i>Pre-Investigation Historical Resources Field Check-Verification Memorandaum</i> shall be governed by CR-1a-1. In the event that resources qualifying as historical resources under CEQA are found in the investigation areas, including physical features of traditional cultural valu	
		Archaeological monitoring shall be conducted during all Project-related ground-	

TABLE 1-1 SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES			
Environmental Impact	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
		disturbing activities for the purpose of identifying and avoiding impacts to archaeological resources that could potentially qualify as historical resources under CEQA. Archaeological monitors shall work under the direct supervision of an archaeologist meeting the PQS as described in CR-1c-1 and shall complete daily monitoring logs. Upon completion of investigation activities, a Soil Investigation Monitoring Report shall be prepared following ARMR guidelines. The monitoring report shall document dates of monitoring and monitoring participants, activities observed, soil types observed, and any archaeological resources encountered. PG&E shall provide Interested Tribes an opportunity to contribute their observations to the monitoring report. To be included in the monitoring report, the Tribal section must be provided to PG&E within 8 weeks after completion of monitoring activities. DPR 523 forms, following the OHP's <i>Instructions for Recording Historical Resources</i> , shall be prepared and filed with the SBAIC for all newly identified <u>and updated</u> resources and shall be appended to the monitoring report. The report shall be provided to DTSC and the Tribes for review and comment within 16 weeks of Project completion. Interested Tribes shall be invited to monitor during scientific survey (as defined in CR- 1a-3) and all ground-disturbing activities associated with the Project. PG&E shall provide Tribal monitors with reasonable compensation consistent with historic rates, for all monitoring work performed. Interested Tribes shall be afforded a minimum of 1 week's notice prior to the commencement of project-related ground-disturbing activities. During Project activities, Interested Tribes shall be provided with weekly work forecasts to facilitate scheduling of monitors. Because Project implementation activities are often unpredictable, there may be changes in work activities. Interested Tribes shall be notified by PG&E of any scheduling changes as soon as possible. PG&E will utilize daily field meetings, telephone, and	
		 CR-1e: Protective Measures for the Topock TCP CR-1e-1: Avoidance and Preservation in Place. PG&E shall carry out, and require all subcontractors to carry out, all Project activities in ways that minimize significant impacts to resources associated with the Topock TCP consistent with Stipulation I (B) of the PA and Section 7.1 of the CHPMP, and to the maximum extent feasible as it relates to the Project objectives of soil characterization as determined by DTSC, in coordination with PG&E. Interested Tribes, and respective landowners. 	
		 CR-1e-2: Restrict Personnel Access Beyond Delineated Work Areas. Work areas (including sampling locations, new access areas, and materials and equipment staging areas) shall be fenced, or otherwise delineated, in coordination with Tribal monitors to prevent incursion of personnel outside of designated work areas. CR-1e-3: Prioritized use of Previously Disturbed Areas. To minimize impacts to intact landforms and natural features important to Tribes as part of the Topock TCP, priority shall be given to siting project elements that have not formerly been subject to Tribal review and input as part of the Soil Work Plan (including the potential 25 percent). 	

TABLE 1-1 SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES			
Environmental Impact	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
		within previously disturbed areas (areas disturbed within the last 50 years) over undisturbed or pristine areas to the maximum extent feasible as determined by DTSC, in coordination with Interested Tribes, PG&E, and respective landowners , to minimize impacts to intact landforms and natural features important to Tribes as part of the Topoek TCP. Interested Tribes shall be afforded the opportunity to express, and DTSC shall consider, whether there are specific instances where disturbed areas may be more culturally sensitive than non-disturbed areas.	
		<i>CR-1e-4: Avoidance of Indigenous Plants of Biological and Cultural Significance.</i> Prior to Project initiation, a qualified biologist capable of identifying both native and non-native plants within the region (to species) shall flag (or otherwise mark) indigenous plant specimens that shall be protected and avoided. The qualified biologist shall educate all on-site Project personnel about the indigenous plants prior to their involvement in Project activities at the Project Site. During Project activities, a biological monitor shall be present at all times to ensure the indigenous plant species of biological and traditional cultural significance as identified in Appendix D-3 of this DEIR are protected and avoided during Project implementation to the extent practicable. Flagging of indigenous plant species and worker education (consistent with CR-1b) shall occur prior to Project initiation. Protection of identified species shall occur through biological monitoring during investigative activities and Project implementation.	
		CR-1e-5: Minimize Noise Disturbances. Impacts to the natural auditory setting associated with the TCP shall be minimized to the extent feasible as governed by NOI-1.	
		CR-1e-6: Work Area Restoration. As discussed in the "Project Description," Section 3.5.6, following completion of work in each work area, all Project equipment and materials shall be removed from the work areas. If the area is not paved, the area will be raked/brushed to remove tire tracks and restored to substantially the same condition(s) as prior to the soil investigation sampling, to minimize impacts to the natural environment associated with the Topock TCP.	
		<i>CR-1e-7: Displaced Soil Procedures.</i> Treatment, handling, and disposition of Resource Conservation and Recovery Act (RCRA) and non-RCRA hazardous materials, nonhazardous materials, and clean materials shall comply with <i>Management Protocol</i> <i>for Handling and Disposition of Displaced Site Material, Topock Remediation Project,</i> <i>Needles, CA</i> of the Soil RCRA Facility Investigation/Remedial Investigation Work Plan. Soil export, including clays, and soil import will be limited where feasible as determined by DTSC, consistent with the <i>Protocol.</i>	
		<i>CR-1e-8: Technical Review Committee.</i> The Technical Review Committee (TRC), constituting a multidisciplinary panel of independent scientific and engineering experts to advise the Interested Tribes, shall continue through soil remedy selection and construction phase of the Groundwater Remedy (whichever comes later), at which time the necessity and dollar value of the TRC shall be assessed by PG&E and, with the approval of DTSC, shall either be extended, reduced, or terminated. This TRC is the same committee established by CUL-1a-4 of the January 2011, Certified Groundwater Remedy EIR.	
		resource specialist/project manager positions, shall continue through soil remedy	

TABLE 1-1 SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES			
Environmental Impact	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
		selection and construction phase of the Groundwater Remedy (whichever comes later), at which time the necessity and dollar value of the open grant program shall be assessed by PG&E and, with the approval of DTSC, shall either be extended or terminated. This Open Grant Funding is the same as established by CUL-1a-11 of the January 2011, Certified Groundwater Remedy EIR.	
IMPACT CR-2: Impacts to Kknown historical resources would be less than significant avoided through Project design. No known unique archaeological resources have been identified within the Project Site. Implementation of the proposed Project could, however, cause a substantial adverse change in the significance of unknown historical resources (other than the TCP) and unknown unique archaeological resources pursuant to CEQA Guidelines Section 15064.5 resulting from ground-disturbing activity.	Significant	 Mitigation Measure CR-2: Historical Resources (Other than the Topock Traditional Cultural Property [TCP]) and Unique Archaeological Resources. <i>CR-2a: Avoidance and Preservation in Place.</i> PG&E shall carry out, and require all subcontractors to carry out, all investigation activities in ways that avoid significant impacts to historical resources consistent with General Principle 1(B) of the PA and Section 7.3 of the CHPMP to the maximum extent feasible as it relates to the Project objectives of soil characterization as determined by DTSC, in coordination with Tribes, PG&E, and respective landowners. <i>CR-2b: Additional Protective Measures.</i> Mitigation Measures CR-1a through CR-1d, CR-1e-2, and CR-1e-3 shall be implemented to further reduce impacts to historical resources (other than the Topock TCP) and unique archaeological resources. <i>CR-2c: Annual Historical Resources Monitoring Program.</i> PG&E shall add the known 20 historical resources (including 15 archaeological resources and 5 historic-period built resources located within the Project Site [see Table 4.4-3]), plus any additional historical resources that may be identified during Project implementation, to the established annual monitoring program as prescribed by Section 6.6.5, "Periodic Site Monitoring," of the CHPMP. Monitoring shall continue on an annual basis (or less frequently as determined by DTSC) until completion of the soil investigation. PG&E shall afford Tribes the opportunity to participate in Tribal monitoring during the annual monitoring program and provide, at a minimum, 2 weeks' written notice to Tribes prior to the commencement of annual monitoring. The annual monitoring program shall include: confirmation of resource boundaries with submeter GPS; any relocation of previously identified features; confirmation of locations, quantities, and types of artifacts present; and photography to document whether any change in resource condition has occurred. Field observations shall be	Significant and Unavoidable

TABLE 1-1 SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES				
Environmental Impact	Significance before Mitigation	Mitigation Measures	Significance after Mitigation	
		historical resources or unique archaeological resources per CEQA Guidelines Section 15064.5 are inadvertently discovered during ground-disturbing activities, work in the vicinity of the discovery shall immediately cease within a 50-meter radius and temporary protective measures shall be implemented. The radius of the protected area may be modified if determined appropriate by <u>DTSC, BLM, PG&E, and the Tribal</u> <u>Monitor the relevant landowner, PG&E, and the Tribal Monitor, with final approval by</u> DTSC on non-federal and private land and final approval by BLM on federal land. PG&E shall notify DTSC within 24 hours of the discovery of any potential historical or unique archaeological resources. Avoidance and preservation in place shall be the preferred manner of mitigating impacts to such resources to maintain the important relationship between artifacts and their archaeological context in order to preserve each resource's scientific value, as well as to preserve the cultural values ascribed to resources by the Tribes. The feasibility of avoidance, as it relates to the Project objectives, shall be determined by DTSC, in coordination with PG&E, Tribes, and respective landowners. Preservation alternatives for consideration shall include (and are listed here in order of preference as indicated by Interested Tribes from most to least preferred): avoidance, dat recovery of the materials associated with the resource, and capping. Tribes generally prefer avoidance over data recovery or capping. Treatment of discoveries shall be managed under Stipulation IX, "Discoveries" of the PA and Section 8, "Discoveries" and Appendix C, "Discovery Plan" of the CHPMP. PG&E shall notify DTSC and coordinate with the parties already listed in the Appendix C Discovery Plan protocols. Avoided resources may be determined discretionarily eligible by DTSC pursuant to CEQA Section 15064.5(a)(3) as individual resources eligible for listing in the NRHP and the CRHR and as contributors to the Topock TCP. In the event, data recovery is the only fe		
IMPACT CR-3: Implementation of the proposed Project could directly or indirectly destroy a unique paleontological resource or site or unique geologic feature as a result of ground disturbing activity.	Significant	Mitigation Measure CR-3: Paleontological Resources CR-3a: Worker Education Program PG&E shall fully enforce participation in the Worker Education Program as governed by CR-1b to ensure personnel awareness of cultural and paleontological sensitivities associated with the Project Site.	Less than Significant	
		In the event of inadvertent discovery of paleontological Resources In the event of inadvertent discovery of paleontological resources, all work shall be halted within a 50-meter radius and temporary protective measures shall be implemented until the discovery can be evaluated by a qualified paleontologist (defined as a paleontologist meeting the requirements of the Society of Vertebrate Paleontology [SVP, 2010]). The radius of the protected area may be modified if determined appropriate by DTSC, BLM, PG&E, and the qualified paleontologist the relevant landowner, PG&E,		

TABLE 1-1 SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES					
Environmental Impact	Significance before Mitigation	Mitigation Measures	Significance after Mitigation		
		and the qualified paleontologist, with <u>final</u> approval by DTSC <u>on non-federal and private</u> <u>land and final approval by BLM on federal land.</u> (Appropriate treatment of the discovery shall be determined by DTSC, in coordination with the qualified paleontologist, PG&E, and respective landowners. Based on the nature of the discovery, the qualified paleontologist shall also reassess the need to initiate paleontological monitoring and make recommendations of such to DTSC, PG&E, and the respective landowner. PG&E shall provide DTSC notification of any paleontological discoveries within 24 hours.			
IMPACT CR-4: Implementation of the proposed Project could, through the process of ground-disturbing activities, disturb human remains, including those interred outside of formal cemeteries.	Significant	 Mitigation Measure CR-4: Human Remains In the event of inadvertent discovery of human remains, all work shall be halted within a 50-meter radius and temporary protective measures shall be implemented. The radius of the protected area may be modified if determined appropriate by <u>DTSC, BLM, PG&E, and the Tribal Monitor, the relevant landowner, PG&E, and the Tribal Monitor, with final approval by DTSC on non-federal and private land and final approval by BLM on federal land. Avoidance and preservation in place shall be emphasized as the preferred manner of mitigation for human remains and disturbances shall be avoided to the maximum extent feasible as it relates to the Project objectives of soil characterization, as determined by DTSC, in coordination with Tribes, PG&E, and respective landowners. PG&E shall notify DTSC of any inadvertent discovery of human remains within 24 hours of the discovery.</u> On non-federal land, PG&E shall contact the San Bernardino County Coroner to evaluate the remains and follow the procedures and protocols set forth in Section 15064.4 (e)(1) of the California Environmental Quality Act. If the Coroner determines the remains are Native American in origin, the Coroner shall contact the NAHC. As provided in PRC Section 5097.98, the NAHC shall identify the person or persons believed to be most likely descended from the deceased Native American. The MLD shall be afforded the opportunity to provide recommendations concerning the future disposition of the remains and any associated grave goods as provided in PRC 5097.98. Per PRC Section 5097.98, the landowner shall ensure that the immediate vicinity, according to generally accepted cultural or archaeological standards or practices, where the Native American human remains are located, is not damaged or disturbed by further development activity until the landowner has discussed and conferred with the MLD regarding their recommendations, taking into account the possibil	Significant and Unavoidable		
Hazards and Hazardous Materials					
IMPACT HAZ-1: Implementation of the proposed Project could result in the release of hazardous materials from the use of equipment (fuels, oils and grease, solvents) or from the release of chemicals from the sampled media at hazardous levels.	Less than Significant	No mitigation is required.	N/A		

TABLE 1-1 SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES				
Environmental Impact	Significance before Mitigation	Mitigation Measures	Significance after Mitigation	
IMPACT HAZ-2: The Station is a listed hazardous waste site. Implementation of the proposed Project could create a significant hazard to the public or the environment by the potential release of contaminants known to be present in soil and groundwater at and beneath the Station.	Less than Significant	No mitigation is required.	N/A	
IMPACT HAZ-3: Soil investigation equipment that uses internal combustion engines could ignite wildland fires that could expose people or structures to significant risk. However, the CAL FIRE fire hazard severity zone map identifies the Project Site as within the lowest level of its fire hazard severity zones which is the lowest possible risk category. Moreover, the Project would adhere to substantive provisions of federal and state regulations that address spark arrester protection to prevent potential wildland fire impacts.	Less than Significant	No mitigation is required.	N/A	
Hydrology and Water Quality				
IMPACT HYDRO-1: Implementation of the proposed Project could result in the exceedance of water quality standards or otherwise substantially degrade water quality as a result of releasing contaminants or sediment from waste soil into the environment.	Less than Significant	No mitigation is required.	N/A	
IMPACT HYDRO-2: The proposed soil investigation activities would use water from the Station water supply system. The source of this water is from groundwater. The use of this water could deplete groundwater supplies; however the estimated volume of water use would be within the Station's allotment.	Less than Significant	No mitigation is required.	N/A	
IMPACT HYDRO-3: Access improvement and site preparation associated with implementation of the proposed Project could disturb surface soil, underlying soil, runoff water, or existing drainage patterns, which could increase erosion, siltation, surface runoff, or flooding.	Less than Significant	No mitigation is required.	N/A	
Noise				
IMPACT NOI-1: Ambient noise levels at existing noise-sensitive land uses may experience increased noise levels due to soil investigation activities for short term periods. The proposed Project would exceed applicable County standards for a place of worship and could result in a temporary substantial increase in ambient noise levels.	Significant	 Mitigation Measure NOI-1: Potential Impacts to Noise Levels and Noise Standards. a. Investigation activities that generate noise shall be limited to the daytime hours between 7:00 A.M. to 7:00 P.M., and prohibited on Sundays and federal holidays. b. Investigation equipment shall be properly maintained per manufacturer specifications and fitted with the best available noise suppression devices (e.g., mufflers, silencers, wraps). Pneumatic powered socket wrenches shall be low noise (85 dBA or less measured at 75 feet) when operating, shrouded or shielded, and all intake and exhaust ports on power equipment, such as engine driven air compressors, shall be muffled or shielded using best available technology. c. Investigation equipment shall not idle for extended periods of time (more than 15). 	Significant and Unavoidable	

TABLE 1-1 SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES				
Environmental Impact	Significance before Mitigation	Mitigation Measures	Significance after Mitigation	
		 minutes) when not being utilized during investigation activities. d. A disturbance coordinator shall be designated by PG&E, which will post contact information in a conspicuous location near investigation areas so that it is clearly visible to nearby noise-sensitive receptors as labeled in Figure 4.7-2. In addition, mailing of the same information will be sent to nearby noise-sensitive receptors as labeled in Figure 4.7-2. In addition, mailing of the same information will be sent to nearby noise-sensitive receptors as labeled in Figure 4.7-2 and Interested Native American Tribes (Chemehuevi Indian Tribe, Cocopah Indian Tribe, Colorado River Indian Tribes, Fort Mojave Indian Tribe, the Fort-Yuma Quechan Indian Tribe, and the Hualapai Indian Tribe). The coordinator will manage complaints resulting from the investigation noise. Reoccurring disturbances will be evaluated by a qualified acoustical consultant retained by PG&E to ensure compliance with applicable standards. The disturbance coordinator will also consider the timing of soil investigation activities in relation to Tribal ceremonial events that are sensitive to noise, which will be accommodated by PG&E to the <u>maximum</u> extent practicable. <u>The disturbance coordinator will also verify and document that all activities at the Project Site are in compliance with all items presented in Mitigation Measure NOI-1.</u> 		
IMPACT NOI-2: The proposed Project would utilize equipment that would not exceed Federal Transit Administration criteria for generation of ground-borne vibration. The proposed Project would not generate excessive ground-borne vibration and therefore any related ground-borne noise levels.	Less than Significant	No mitigation is required.	N/A	
IMPACT CUM-1: Implementation of the proposed Project, in combination with other projects in the geographic scope, could cause a substantial adverse change in the significance of the historical resource identified as the Topock Traditional Cultural Property (TCP); cause a substantial adverse change in the significance of unknown historical resources; and disturb human remains, including those interred outside of formal cemeteries.	Significant	Implement Mitigation Measures CR-1, CR-2, and CR-4.	Significant and Unavoidable	

CHAPTER 2 Introduction

This draft environmental impact report (DEIR) has been prepared by Environmental Science Associates, under contract to the California Department of Toxic Substances Control (DTSC), the lead agency under the California Environmental Quality Act (CEQA) (Public Resources Code, Section 21000 et seq.; as implemented by the California Code of Regulations [CCR], Title 14, Chapter 3, Section 15000 et seq. [CEQA Guidelines]), to evaluate the reasonably foreseeable and potentially significant adverse environmental effects associated with the proposed Pacific Gas and Electric Company (PG&E) Topock Compressor Station Soil Investigation Project (Project) at the PG&E Topock Compressor Station (Station) and surrounding area (Project Site). Under CEQA, DTSC must identify and consider the potentially significant adverse environmental effects of the proposed actions before making a final decision to approve the proposed Project discussed in this DEIR. This DEIR will be used in the planning and decision-making process by the lead agency (DTSC) and all responsible and trustee agencies.

This introductory chapter provides an overview of the environmental review process required under CEQA; background information related to the proposed Project; agency roles and responsibilities; and the organization and terminology used in this DEIR. A detailed description of the proposed Project can be found in Chapter 3, and is based on the soil investigation activities described in the *Soil RCRA Facility Investigation/Remedial Investigation Work Plan* (Soil RFI/RI Work Plan or Soil Work Plan) (CH2M HILL 2013; Appendix A to this DEIR) and the additional tests and studies described in the *Corrective Measures/Feasibility Study Work Plan* (CM/FS Work Plan) (CH2M HILL 2008).

2.1 Purpose of this Environmental Impact Report

The overall soil investigation and remediation at the Station is being conducted under the Resource Conservation and Recovery Act of 1976 (RCRA) and the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA). Both RCRA and CERCLA are federal laws. RCRA provides a framework for the U.S. Environmental Protection Agency (USEPA) to remediate hazardous waste sites in the United States. The authority under RCRA, however, can be delegated to states. In California, DTSC implements RCRA under such delegated authority from the federal USEPA through state law. Under RCRA, the term "corrective action," refers collectively to the investigation and cleanup process at a hazardous waste site. The selection and approval of a final corrective action to remediate the contaminated soil at the Station and surrounding area is a discretionary action that will be made by DTSC. The subject of this DEIR, the soil investigation activities (Project), is limited to the investigation and testing of soil and sediment at the Project Site and does not include cleanup actions. Information gathered through the proposed soil investigation activities will inform DTSC if additional action or cleanup (remediation) is necessary. The information gathered will also inform and enable, if necessary, the evaluation and selection of corrective measures in a future *Soil Corrective Measures Study/Feasibility Study* (Soil CMS/FS). Activities associated with the proposed soil investigation effort may result in direct or indirect change in the physical environment. Therefore, the proposed Project is subject to environmental review under CEQA. Pursuant to CEQA Guidelines Section 15367, DTSC is the CEQA lead agency for the proposed Project.

An environmental impact report (EIR) is an informational document that is intended to inform regulatory agency decision makers and the public of the significant adverse environmental effects of a proposed project (in this instance, the investigation of soil and sediment at the Project Site) and any feasible mitigation measures that may substantially reduce or avoid the significant impacts. It also discusses alternatives to the proposed project that could accomplish most of the primary project objectives while substantially reducing or avoiding significant environmental impacts.

In accordance with Section 15125 of the CEQA Guidelines, an EIR must include a description of the physical environmental conditions in the vicinity of the project as they exist at the time of the notice of preparation (NOP), or, if no NOP is published, at the time the environmental analysis begins. This environmental setting will normally constitute the baseline physical conditions by which a lead agency determines whether an impact is significant. The environmental analyses contained in Chapter 4 of this DEIR uses the NOP date as the baseline for the description of the physical conditions that might be affected by the Project.

The purpose of an EIR is not to recommend approval or denial of a proposed project. Rather, an EIR is required to identify the significant adverse environmental effects of a proposed project to the physical environment, and to identify measures that avoid or mitigate those impacts to the extent feasible. When environmental impacts are identified as significant and unavoidable in the sense that no feasible mitigation measures or alternatives have been identified that would reduce the impact to a less than significant level, DTSC may still approve the Project after adopting all feasible mitigation measures and alternatives if, through the adoption of CEQA findings and statement of overriding considerations, it finds that social, economic, legal, technological, or other benefits outweigh these impacts.

2.2 Background

2.2.1 Station History and Activities

In 1951, the PG&E Station began compressing natural gas for transportation through pipelines to PG&E's service area in central and northern California. As natural gas is compressed, its temperature increases and the compressed gas must be cooled. From 1951 to 1985, PG&E added chromium to the water used in the cooling towers and other equipment to prevent corrosion of the cooling tower equipment. During parts of those years, cooling tower wastewater containing

hexavalent chromium $[Cr(VI)]^1$ was discharged into natural washes adjacent to the Station. Over time, Cr(VI) accumulated in the soil, seeped into the groundwater, and created a groundwater contaminant plume that extends from below the Station toward the Colorado River. Based on results from periodic testing of the river water, the Cr(VI) plume is not impacting river water. Other historic operational activities occurred at the Station resulting in the release of other chemicals of potential concern (COPCs) into the soil and groundwater.

Soil within the Station fence line and in the vicinity of the Station has also been affected by historical releases of COPCs, including Cr(VI) and other metals, acids, petroleum hydrocarbons, polycyclic aromatic hydrocarbons (PAHs), polychlorinated biphenyls (PCBs), volatile organic compounds (VOCs), semivolatile organic compounds (SVOCs), dioxins and furans, pesticides, and asbestos (CH2M HILL 2013). Various other COPCs have also been detected at concentrations above soil screening levels.² Currently, groundwater beneath the Project Site is undergoing parallel investigation and remediation activities (CH2M HILL 2009; DTSC 2011).

2.2.2 Soil and Groundwater Investigation Activities

The following summarizes the primary investigation documents compiled for activities in and around the Station. For completeness, both soil and groundwater reports are summarized.

Investigative activities at and in the vicinity of the Station date back to the late 1980s with the identification of Solid Waste Management Units (SWMUs) through a RCRA Facility Assessment (RFA). Closure activities of former hazardous waste management facilities at the Station were performed from 1988 to 1993. <u>In 1988, as documented in the Administrative Consent Agreement, executed in 2005 (see page 6, Section 5.3), PG&E also completed a soil investigation in the Bat Cave Wash area which documented the presence of chromium in the environment around the former percolation bed. The RCRA Facility Investigation (RFI) began in 1996 when DTSC and PG&E executed a Corrective Action Consent Agreement (CACA), summarized below in Section 2.3. Since that time, additional data collection and evaluation has been performed to characterize the nature and extent of contamination in and around the Station, and to identify potential remedial alternatives.</u>

PG&E completed the *Revised Final RCRA Facility Investigation and Remedial Investigation Report (RFI/RI Report), Volume 1 – Site Background and History* (RFI/RI Report Volume 1) in August 2007 and DTSC and the U.S. Department of the Interior (DOI) approved it later in 2007. The RFI/RI Report Volume 1 contains information on Station operations and history, and descriptions of SWMUs, Areas of Concern (AOCs), and other Undesignated Areas (UAs). In a letter dated August 17, 2007, PG&E proposed an addendum to RFI/RI Report Volume 1 that

¹ Cr(VI) is a form of chromium. Chromium is a metal naturally found in rocks, soil, and the tissue of plants and animals. Cr(VI) is used in industrial products and processes and is a known carcinogen when inhaled (i.e., through breathing). On May 28, 2014, the California Department of Public Health adopted a new Maximum Contaminant Level for Cr(VI) of 0.01 mg/L, effective July 1, 2014.

² Soil screening levels are used to identify chemical concentrations that would require further soil investigation and possible remediation. The screening levels are based on naturally-occurring background concentrations, DTSC California Human Health Screening Levels, USEPA Regional Screening Levels, or ecological comparison values. If human- or ecological-based screening levels are lower than the background concentration, the background concentration is used as the screening level.

would include the Monitoring Well (MW)-20 bench and the Interim Measure (IM)-3 treatment plant within the RCRA Corrective Action effort at the Station. On March 26, 2013, PG&E submitted a Draft Addendum to the RFI/RI Report Volume 1 containing information on the MW-20 bench, IM-3, and other investigation areas identified since 2007. The RFI/RI Report Volume 1 Draft Addendum was reviewed by DTSC, Native American Tribes, and other stakeholders. The RFI/RI Report Volume 1 Draft Addendum was approved on June 4, 2014. PG&E completed the *Final RCRA Facility Investigation and Remedial Investigation Report* (*RFI/RI Report*), Volume 2 – Hydrogeologic Characterization and Results of Groundwater and Surface Water Investigation (RFI/RI Report Volume 2) in a report dated February 11, 2009; DTSC and DOI approved it later in 2009. The RFI/RI Report Volume 2 defines the nature and extent of contamination in groundwater, surface water, pore water, and river sediment. Based on the data and conclusions presented in the RFI/RI Report Volume 2, the only media affected by past releases to groundwater at the Station is groundwater. The data show no effects on surface water, pore water, or river sediment in the vicinity of the Project Site.

PG&E completed the *Final RCRA Facility Investigation and Remedial Investigation Report* (*RFI/RI Report*), *Volume 2 Addendum – Hydrogeologic Characterization and Results of* Groundwater and Surface Water Investigation (RFI/RI Report Volume 2 Addendum) in a report dated June 29, 2009; DTSC and DOI approved it later in 2009. The RFI/RI Report Volume 2 Addendum supplemented the RFI/RI Report Volume 2 conclusions regarding molybdenum and selenium and the results of the Arizona groundwater investigation.

PG&E completed the *Final Groundwater Corrective Measures Study/Feasibility Study Report for SWMU 1/AOC 1 and AOC 10* (Final Groundwater CMS/FS) in a report dated December 2009; DTSC and DOI approved it later in 2009. The Final Groundwater CMS/FS presents the identification and evaluation of various remedial alternatives to address the remedial action goals for groundwater contamination associated with the historic discharges to Bat Cave Wash (SWMU 1/AOC 1) and within AOC 10 (East Ravine) at the Station. The Final Groundwater CMS/FS includes a description of current conditions, remedial action objectives, identification and screening of remedial technologies, and development and evaluation of nine remedial action alternatives. The Final Groundwater CMS/FS recommended Alternative E – In situ Treatment with Fresh Water Flushing for the remediation of groundwater.

The Soil Work Plan was prepared through a multiyear public involvement process. In May 2011, PG&E submitted the Draft Soil RFI/RI Work Plan to the agencies, Native American Tribes, and other stakeholders. Comments were received between July and August 2011. Three Topock Technical Work Group (TWG) meetings were held in September and December 2011 with Native American Tribes and other stakeholders at the Station to discuss comments on the Draft Soil RFI/RI Work Plan. On September 15, 2011, DTSC and DOI specifically met with the Fort Mojave Indian Tribe (FMIT) and the Hualapai Tribe. Items discussed during these meetings included comments related to perimeter and storm drain sampling, AOC 14 MW-24 Bench, UA-1, management of displaced soil, mouth of Bat Cave Wash, East Ravine sediment, pore water sampling, and sampling inside the Station fence line. On April 4, 2012, a meeting was held with Native American Tribes and other stakeholders in Needles to discuss risk evaluation and land use related items. On June 15, 2012, a meeting was held with Native American Tribes and other

stakeholders to discuss items related to the response to comments table for the Soil Work Plan. The FMIT submitted a letter dated July 23, 2012, regarding items related to the Draft Soil RFI/RI Work Plan, to which DOI and DTSC responded in a joint letter dated August 31, 2012. A revised version of the Draft Soil Work Plan was circulated for public review and comment in September 2012. Comments were submitted by DTSC, DOI, the FMIT, and the Hualapai Indian Tribe. Responses to these comments were provided by PG&E (see Appendix I of the Soil Work Plan). The Soil Work Plan was then revised and presented to DTSC and DOI in a final document dated January 2013 (CH2M HILL 2013). An Errata to the Soil Work Plan was submitted to provide minor revisions and additional information regarding the boundary marking of staging and investigation areas, and activities within staging areas, dated January 2014 (CH2M HILL 2014).

Following completion of the soil investigations at the Project Site, PG&E will prepare the Final RFI/RI Report Volume 3 (Soil), which will include characterization of the nature and extent of soil and sediment contamination resulting from Station operations. It is anticipated that the Final RFI/RI Report Volume 3 (Soil) will be completed in the fall of 2016. If any soil remedy is proposed, it would be implemented following completion of a future Soil CMS/FS and associated environmental review as required by CEQA. Input received from the public on the proposed soil remedy will be considered by DTSC prior to approval. This will be followed by remedy design, if required.

2.2.3 Groundwater Remediation

In addition to soil contamination, groundwater beneath and near the Station has been contaminated by chemicals associated with historical releases in areas known as Bat Cave Wash and East Ravine. Investigation and cleanup of the contaminated groundwater is being conducted under both RCRA (DTSC lead) and CERCLA (DOI lead), as discussed in Section 2.3 below. The main contaminant of concern in groundwater is Cr(VI), which was used in the past as an additive to the cooling water at the Station, and is harmful to human health and ecological receptors in the environment. Other chemicals present in the groundwater include total chromium [Cr(T)], molybdenum, selenium, and nitrates.

As part of the corrective action process, in 2004 DTSC determined that immediate action was necessary at the Station, as a precautionary measure, to ensure that Cr(VI) contaminated groundwater does not reach the Colorado River. IMs were instituted to protect the Colorado River. IMs are cleanup actions that are taken to protect public health and the environment while long-term solutions are being developed and evaluated. There have been three separate but related IMs at the Station since 2004 in response to the need to control the groundwater plume. IM-1, IM-2, and mostly IM-3, are collectively referred to as the IM. The IM currently consists of three steps: (1) groundwater extraction from the areas of groundwater containing Cr(VI) for hydraulic control in the Colorado River floodplain, (2) treatment of extracted groundwater in a groundwater treatment plant known as the IM-3 plant, and (3) reinjection of the treated groundwater back into the subsurface through injection wells. This treated groundwater meets the standards set by DTSC and the Regional Water Quality Control Board. While potential soil contamination cleanup activities in the future may be a key component of the overall cleanup efforts at the Station, the groundwater and soil remediation efforts represent separate projects which have independent utility.

A final environmental impact report (FEIR) (DTSC 2011) and Errata was certified by the DTSC for the Topock Compressor Station Groundwater Remediation Project (Groundwater FEIR) on January 31, 2011 (SCH No. 2008051003). The approved Groundwater Remediation Project, as discussed in the Groundwater FEIR and final project approval documents, involves manipulation of subsurface water flow to move a contaminated groundwater plume with Cr(VI) and other COPCs, originating from past operations at the Station, through a treatment zone. This treatment zone or "in situ reactive zone (IRZ)" will be created by introducing a carbon substrate such as, but not limited to, ethanol, molasses, lactate, or whey to induce microbial growth which, in turn, creates an environment where the Cr(VI) is reduced to less toxic Cr(III) and precipitated.

The Groundwater FEIR considered the potentially significant adverse environmental impacts of adopting the preferred remedy, determined to be Alternative E—In Situ Treatment with Freshwater Flushing—through the Final Groundwater CMS/FS process, completed in December 2009. In addition, DTSC prepared the *Topock Compressor Station Groundwater Remediation Project Environmental Impact Report Addendum No. 1 for Alternative Freshwater Source Evaluation Activities* (DTSC 2013) in August 2013, which evaluated additional freshwater sources for consideration in the Groundwater Remediation Project.

The Groundwater Remediation Project is currently in the design stage and construction of the final remedy is scheduled to begin in mid-2015. Under the most optimistic of timeframes, DTSC anticipates final approval of the Groundwater Remediation Project will not occur until Fall 2015. As described in the Groundwater FEIR, the Groundwater Remediation Project and the activities associated with soil investigation and cleanup have independent utility (DTSC 2011). The soil investigation activities will not change the scope of the Groundwater Remediation Project. The proposed soil investigation activities are therefore not an expansion of the Groundwater Remediation Project. The project and should not change the nature or scope of the Groundwater Remediation Project. The two projects involve different contaminants and distinct environmental risks; while Cr(VI) may be present in the soil, as well as the groundwater, elevated concentrations of various metals, dioxins/furans, PAHs, PCBs, and total petroleum hydrocarbons (TPHs), as well as some SVOCs, have also been detected in the soil. Because of the nature of the contamination and contaminated substrate, the two projects would necessarily employ different technologies on different schedules for different durations.

In summary, potential soil contamination cleanup activities in the future may prove to be a key component of the overall cleanup efforts at the Station, but the proposed soil investigation effort is a separate project from the Groundwater Remediation Project and has independent utility. In addition, if the soil investigation activities that are the subject of this DEIR indicate that soil remediation is necessary, future environmental review would be required before initiating any remediation of contaminated soil. Accordingly, this DEIR is limited to the soil investigation activities described in Chapter 3, "Project Description."

2.2.4 Tribal Perspectives

The Topock area and adjacent lands along the Colorado River, beginning in the Hoover Dam area and extending to the Mexican border, are the ancestral home of a number of Native American Tribes, including the Cahuilla, Chemehuevi, Cocopah, Halchidoma, Havasupai, Hualapai, Maricopa, Mojave, Quechan, Serrano, and Yavapai peoples. Six of these Native American Tribes, the Chemehuevi Indian Tribe, Cocopah Indian Tribe, Colorado River Indian Tribes (CRIT), FMIT, the Fort-Yuma Quechan Indian Tribe, and the Hualapai Indian Tribe, have actively participated in the Topock project and are hereafter referred to as "Interested Tribes" (see Section 4.4.1.7). Each of these Interested Tribes has been, and continues to be, economically and culturally reliant on the Colorado River and all are historically and spiritually rooted in the Colorado River region. Although each Interested Tribe has its own history and belief system tied to the region and the river, the Interested Tribes share an interest in the health and welfare of all people, the land, wildlife, things above and below ground, and natural resources. As indicated in the *Topock Compressor Station Tribal Cultural Values Assessment*, several of the Interested Tribes feel that:

Plants, animals, minerals, artifacts, rock arrangements, view-sheds, the Colorado River, and many other tangible and intangible elements are interwoven into the very fabric of tribal cultures. Topock, in being such a significant religious and spiritual "place," involves a dynamic understanding of traditions, religion, ceremonies, oral histories, and a plethora of other social-communal aspects, that is difficult for non-tribal entities to grasp with its many different layers of existence (McDowell et al. 2013).

More information on the Tribal Perspectives of the six Interested Tribes is found in Section 4.4, "Cultural Resources," Section 4.4.1.4.

2.3 Corrective Action Process

The Project Site is undergoing investigation and remediation under both RCRA and CERCLA. In 1996, PG&E and DTSC entered into a CACA pursuant to DTSC's RCRA Corrective Action Program to more fully investigate the nature and extent of contamination at the Station and in the surrounding area, including soil contamination. Since 1996, there have been continued activities related to the investigation of the Station, including soil and groundwater sampling, and the initiation of IMs.

In addition, in July 2005, PG&E entered into an Administrative Consent Agreement with the federal agencies (DOI, U.S. Bureau of Land Management [BLM], U.S. Bureau of Reclamation [BOR], and U.S. Fish and Wildlife Service [USFWS] under CERCLA [DOI 2005]). Later, in 2013, the U.S. District Court for the Central District of California entered the *Remedial Action Remedial Design Consent Decree between the United States of America and Pacific Gas & Electric Company* (DOI Consent Decree) under CERCLA with the DOI as the federal lead agency (DOI 2013). The 2013 DOI Consent Decree governs only the remedial action addressing contaminated groundwater; the terms of the 2005 Administrative Consent Agreement remain in effect for response actions associated with releases of hazardous substances at or from the Compressor Station other than the remedial action addressing contaminated groundwater, including the soil investigation.

In accordance with the 2005 Administrative Consent Agreement between the federal agencies and PG&E (DOI 2005), the various on-site response and corrective actions required to investigate and

clean up contamination are exempt from obtaining permits pursuant to CERCLA Section 121(e)(1). CERCLA response actions are exempt by law from the requirement to obtain federal, state, and local permits related to any activities conducted completely on-site. This does not, however, remove the requirement to meet the substantive provisions of applicable laws. Because all soil investigation activities are related to cleanup on-site, the federal exemption would apply.

Under RCRA, the term "corrective action" refers collectively to the investigation and cleanup process at a hazardous waste site. The corrective action process encompasses several steps that include: (1) understanding a facility's current and historic operational and environmental practices; (2) data collection/sampling to determine the nature and extent of any contamination present at the site; and, (3) if needed, conduct remedial activities to cleanup identified contamination that poses excessive risk. Below is a general overview and sequence of the main steps undertaken as part of the corrective action process, implemented here in conjunction with the CERCLA response action process:

- Preliminary review of pertinent existing information is executed.
- A visual site inspection is undertaken to verify preliminary information about the site and includes a developed sampling strategy, if needed.
- A sampling visit is undertaken to gather limited field data.
- An RFA is completed. An RFA is a more detailed, preliminary site assessment to determine whether or not potential substances or other constituents of concern exist in soil or groundwater at or near a facility, which may be required to undergo some form of corrective action under RCRA.
- An RCRA RFI/RI is undertaken. An RFI/RI is an in-depth investigation designed to gather data needed to determine the nature and extent of contamination at a site.
- A human and ecological risk assessment is completed. A risk assessment is a qualitative and quantitative evaluation of the risks posed to human health and/or the environment by the actual or potential presence and/or use of specific pollutants that are identified in the RFI/RI.
- CMS/FS is completed. A CMS/FS develops and evaluates alternatives that can be used to remediate/cleanup contaminants that are identified as a concern by the risk assessment.
- A statement of basis is completed. A statement of basis is a decision document that describes DTSC's proposed final remedy and cleanup standards and the basis for those findings.
- Corrective Measure Implementation is undertaken, which includes the design, construction, and implementation of the selected remedy.
- A corrective action certification is given when the remedy achieves the predetermined objectives and when DTSC deems the cleanup action complete.

2.4 Environmental Review Process

As required by CEQA Guidelines Section 15375, an NOP is a notice sent by the lead agency to notify the responsible agencies, trustee agencies, the Office of Planning and Research, and involved federal agencies that the lead agency plans to prepare a DEIR for the proposed Project.

The purpose of the notice is to solicit information, guidance, and recommendations regarding the scope, focus, and content of the DEIR. An NOP was prepared for the proposed Project and is included as Appendix B of this DEIR. The NOP identified the Project Site, described the need for and objectives of the Project, and identified the probable environmental effects of the Project. The NOP was circulated to responsible and trustee agencies, federal agencies, Native American Tribes, and interested members of the public. The NOP public comment period began on November 28, 2012, and concluded on January 14, 2013, providing a 45-day comment period. In response to a request for additional time, DTSC extended the comment period to January 18, 2013, yielding an ultimate comment period of 49 days. Agency and public scoping meetings were held from December 11 to December 13, 2012, to receive oral comments on the scope and content of the DEIR.

Concurrent with the issuance of the NOP, three public scoping meetings were held during the 49-day public comment period. The meetings were open to the agencies mentioned above and to any interested organizations and individuals, including Native American Tribes that have expressed interest in the potential effects of proposed soil investigation activities on cultural resources located on the Project Site. Several Native American Tribes were invited to attend the scoping meetings.

In addition to the NOP scoping meetings, an extensive communication program was conducted with Native American Tribes that included formal meetings with Native American Tribal councils, informal meetings and field visits with cultural resources personnel and Native American Tribal representatives, and solicitation of written comments. Information obtained through the scoping meetings and the subsequent communication program has been incorporated into this DEIR.

Public and agency review of the Project will be further facilitated by DTSC through distribution of this DEIR for a 45-day public review period. The public review period will extend from July 7, 2014, to August 21, 2014. This DEIR, as well as appendices and all supporting materials and references, can be found at the Project websites (www.dtsc-topock.com and www.dtsc.ca.gov) and the following locations:

Needles Public Library 1111 Bailey Avenue Needles, CA 92363

Chemehuevi Indian Reservation Environmental Protection Office 2000 Chemehuevi Trail Havasu Lake, CA 92363

Golden Shores/Topock Library Station 13136 South Golden Shores Parkway Topock, AZ 86436 **Colorado River Indian Tribes Public Library** Second Avenue and Mojave Road Parker, AZ 85344

Parker Public Library 1001 Navajo Avenue Parker, AZ 85344

Lake Havasu City Library 1770 McCulloch Boulevard Lake Havasu City, AZ 86403

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California Department of Toxic Substances Control

5796 Corporate Avenue Cypress, CA 90630

Two public meetings will be held at the locations and times identified below to present the contents of this DEIR and to receive written and oral comments. Public meetings will include an open house where the public is invited to review technical information that is presented in the DEIR, and a public hearing that will give the public opportunity to provide oral public comments to DTSC. Following the close of the DEIR public review period, DTSC will prepare and publish a second document that contains responses to comments received on the DEIR. The DEIR, comments, and responses together constitute the FEIR, which will be used by DTSC for consideration during decision making for the Project.

Needles, California:

Needles Senior Center 1699 Bailey Avenue Needles, CA 92363 Tuesday, July 22, 2014 Open House—5:30 p.m. to 6:30 p.m. Public Hearing—6:30 p.m. to 8:00 pm.

Golden Shores, Arizona:

Golden Shores Community Center 13136 Golden Shores Parkway Golden Shores, AZ 86436 Wednesday, July 23, 2014 Open House—5:30 p.m. to 6:30 p.m. Public Hearing—6:30 p.m. to 8:00 p.m.

Please submit your written comments on the DEIR, with the subject line "Topock DEIR Comments," postmarked or dated (for e-mails) no later than August 21, 2014, to:

Aaron Yue Project Manager California Department of Toxic Substances Control 5796 Corporate Avenue Cypress, CA 90630 aaron.yue@dtsc.ca.gov Phone: 714-484-5439 Fax No.: 714-484-5411

2.5 Scope of This Environmental Impact Report

The scope of the analysis contained within this DEIR is focused on the environmental resource areas that could be affected by the proposed soil investigation activities. The DEIR therefore addresses the following environmental issues:

- aesthetics
- air quality
- biological resources

- hazards and hazardous materials
- hydrology and water quality
- noise

• cultural resources

Based on the scope and nature of the proposed Project, it was determined that several resource areas do not warrant a detailed analysis in the DEIR These issue areas include: agriculture, geology and soils, greenhouse gas emissions, land use and planning, minerals, population and

housing, public services, recreation, transportation and traffic, and utilities and service systems. Section 5.3 of this DEIR provides a discussion of those resource areas and the reasoning and evidence as to why a detailed analysis is not included in the DEIR.

2.6 DEIR Organization

This DEIR is organized into chapters, as identified and briefly described below. Chapters are further divided into sections (e.g., Section 4.2, "Air Quality").

Chapter 1, "Summary": This chapter presents a summary of the proposed Project activities and the potential environmental impacts. It describes mitigation measures that would be implemented and level of significance after mitigation (as fully described in Chapter 4). It also provides a summary of alternatives to the proposed Project, a summary of known controversial issues, and a summary of issues to be resolved.

Chapter 2, "Introduction": This chapter presents a discussion of the purpose and use of this DEIR; the history and activities that have occurred at the Station; the soil and groundwater contamination identified in the vicinity of the Station to date; the environmental review and CEQA process; and the organization of this DEIR.

Chapter 3, "Project Description": This chapter provides a detailed description of the proposed Project. It defines the Project objectives and describes all the features of the proposed Project.

Chapter 4, "Environmental Analysis": For each environmental issue listed in Section 2.5, this chapter describes the existing environmental and regulatory setting, evaluates the potential environmental impacts associated with the proposed Project, identifies mitigation for significant impacts, and discusses the level of significance after implementation of those mitigation measures.

Chapter 5, "Other CEQA Sections": This chapter identifies those areas where environmental impacts are considered significant and unavoidable. It also summarizes those resource areas where there is no potential for significant impacts and therefore no further analysis is necessary. The growth inducing effects of the proposed Project are also considered in this chapter.

Chapter 6, "Cumulative Impacts": This chapter identifies other past, present, and reasonably foreseeable actions at and in the vicinity of the Station. It evaluates the cumulative impacts associated with implementation of the proposed Project in combination with the other identified projects. Where necessary, it identifies additional mitigation measures in order to reduce or avoid significant cumulative impacts.

Chapter 7, "Alternatives to the Proposed Project": This chapter provides additional meaningful information regarding Project alternatives to be considered by decision makers in compliance with Section 15126.6 of the CEQA Guidelines. This alternatives analysis evaluates a range of potential alternatives that may reduce environmental impacts associated with implementation of the proposed Project. In addition, this chapter summarizes the alternatives that

were rejected from further consideration because they did not meet Project goals and objectives, or were determined to be impractical or infeasible.

Chapter 8, "Bibliography": This chapter sets forth a comprehensive listing of all sources of information used in the preparation of this DEIR. This includes organizations and persons that were contacted during the preparation of this DEIR.

Chapter 9, "List of Preparers": This chapter identifies the lead agency personnel and consultants involved with preparation of this DEIR.

Chapter 10, "Glossary": This chapter provides a glossary of key terms and definitions that are used throughout the DEIR.

Appendices: This DEIR includes several appendices that provide either background information or additional technical support for the analysis.

2.7 Terminology Used in This DEIR

This DEIR includes the following CEQA terminology to denote the significance of environmental impacts of the proposed Project:

- Less than significant impact: A less than significant impact does not result in a substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the Project, including land, air, water, minerals, flora, fauna, ambient noise, and objects of historic or aesthetic significance (see CEQA Guidelines Section 15382). Impacts determined to be less than significant do not require mitigation measures.
- **Significant impact:** Public Resources Code Section 21068 defines a significant impact as "a substantial, or potentially substantial, adverse change in the environment." The environmental checklist included as Appendix G of the CEQA Guidelines provides additional guidance for determining which impacts would be regarded as significant. This DEIR applies the thresholds contained within Appendix G and uses the CEQA definition of "significant impact." Feasible mitigation measures or alternatives to the Project must be identified and adopted if they would avoid or substantially reduce the significant impact.
- **Potentially significant impact:** A potentially significant impact is one that, if it were to occur, would be considered a significant impact as described above; however, the likelihood of the impact's occurrence is uncertain. For example, although the DEIR may provide evidence that buried archaeological resources could be found in a particular location, the actual discovery cannot be determined until the time of Project construction. For CEQA purposes, a potentially significant impact is treated (i.e., mitigated) as if it were a significant impact. Mitigation measures or alternatives to the Project must be identified and adopted if they would avoid or substantially reduce the significant impact.
- **Significant and unavoidable impact:** A significant and unavoidable impact is a substantial adverse effect on the environment that cannot be mitigated to a less than significant level. A project with significant and unavoidable impacts could still proceed, but DTSC would be required to prepare a statement of overriding considerations, pursuant to CEQA Guidelines
Section 15093, explaining why DTSC would proceed with the Project in spite of the potential for significant environmental impacts.

• **Threshold of significance:** A threshold of significance is a criterion applied by the lead agency to identify significant adverse environmental impacts. A threshold is defined by a lead agency based on examples found in CEQA or the CEQA Guidelines, scientific and factual data relative to the lead agency jurisdiction, views of the public in affected areas, the policy/regulatory environment of affected jurisdictions, and other factors.

CHAPTER 3 Project Description

3.1 Introduction

This section provides a detailed description of the proposed soil investigation activities that are the subject of this draft environmental impact report (DEIR). The description of the proposed Pacific Gas and Electric Company (PG&E) Topock Compressor Station Soil Investigation Project (Project) at the PG&E Topock Compressor Station (Station) and surrounding area (Project Site) is based on the soil investigation activities described in the *Soil RCRA Facility Investigation/Remedial Investigation Work Plan* (Soil RFI/RI Work Plan or Soil Work Plan) (CH2M HILL 2013; Appendix A to this DEIR) and the treatability studies described in the *Corrective Measures/Feasibility Study Work Plan* (CM/FS Work Plan) (CH2M HILL 2008). In addition, PG&E provided supplemental information to the California Department of Toxic Substances Control (DTSC) about the proposed soil investigation activities, including the descriptions of those activities contained in this chapter.

Implementation of the proposed soil investigation activities would enable DTSC to characterize the nature and extent of chemicals of potential concern (COPCs) that have been identified at the Project Site. The results of this investigation would be reported in the Final RCRA Facility Investigation and Remedial Investigation Report (RFI/RI Report) Volume 3 (Soil) document and will present a combined data set with all previous investigations. The Project would also provide data to be used in the preparation of a soil risk assessment. The information derived from the Project would support the development of a *Soil Corrective Measures Study/Feasibility Study* (Soil CMS/FS) and remedial design, if necessary. The Soil CMS/FS would provide remedial options for the identified contaminated areas. Although this DEIR focuses on information-gathering activities, the information gained regarding the scope and extent of contamination will help DTSC identify future potential remedial actions that may be proposed for cleanup. Additional environmental review will be conducted for soil remediation activities, if proposed.

Groundwater remediation was analyzed as a separate action with independent utility in a final environmental impact report (FEIR) certified by DTSC in 2011 (DTSC 2011) and is not a component of the proposed Project. To the extent groundwater-remediation-related activities are reasonably foreseeable and may cause related impacts, those impacts are considered in the respective resource area cumulative impacts discussions of this DEIR.

3.2 Intended Uses of This EIR

The California Environmental Quality Act (CEQA) Guidelines identify the lead agency as the public agency with the principal responsibility for carrying out or approving a project (CEQA)

Guidelines Section 15367). DTSC is the CEQA lead agency for the proposed Project because DTSC has the primary approval authority for the Project. DTSC is a department within the California Environmental Protection Agency charged with overseeing the investigation and cleanup of contaminated sites.

This document has been prepared in sufficient detail to support DTSC's decision on the proposed Project. DTSC (the CEQA Lead Agency) intends to use this document as it considers whether to approve the Project, and any other approvals and actions that may be necessary to implement the Project. DTSC also will use this document to the extent it considers any follow-up activities to the soil investigation that may be necessary prior to the consideration and approval of a soil remedy.

In addition, this document could be used by other agencies in conjunction with various approvals or consultations required for Project implementation. Although not required by any statute, private organizations may choose to consider the information in this document to aid decisions on Project-related authorizations. **Table 3-1** lists the approvals and authorizations that may be required from other agencies and private organizations to implement the Project.

In accordance with the 2005 Administrative Consent Agreement between federal agencies and PG&E (DOI 2005), the on-site response actions required to investigate soil contamination are exempt from obtaining federal, state, and local permits pursuant to the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) Section 121(e)(1). This does not, however, remove the requirement to meet the substantive provisions of applicable laws. The 2005 Administrative Consent Agreement is discussed in further detail in Section 2.3 of this DEIR.

TABLE 3-1

APPROVALS AND AUTHORIZATIONS THAT MAY BE REQUIRED FOR THE SOIL INVESTIGATION PROJECT			
Agency/Organization	Required Approvals, Authorizations, or Consultations		
Federal Agencies			
U.S. Department of the Interior (DOI)	DTSC anticipates that the DOI will issue an approval letter and understands that DOI's approval constitutes the only required federal permission to implement the Project, including accessing the Havasu National Wildlife Refuge and other federal property.		
U.S. Bureau of Land Management (BLM)	In compliance with Section 106 of the National Historic Preservation Act, the BLM must consult with the Tribes and other signatories and invited signatories to the Programmatic Agreement (PA) regarding the Project, pursuant to the requirements of the PA's Consultation Protocol.		
U.S. Fish and Wildlife Service (USFWS)	Project activities have been previously authorized by the 2007 Programmatic Biological Assessment (PBA), which has been extended until December 31, 2017.		
State Agency			
California Department of Transportation (Caltrans)	Project activities within the Interstate 40 (I-40) right of way (Area of Concern [AOC] 27, Monitoring Well [MW]-24 Bench) or that necessitate Interstate 40 lane closure may require Caltrans approval and compliance with any applicable substantive requirements.		
Private Organizations			
Burlington Northern Santa Fe Railway (BNSF)	Project activities (AOC 14 and AOC 1) require approval to cross BNSF railroad tracks and to pass through a BNSF railroad culvert.		
Private Pipeline Companies	As needed, activities located in the right of way of any pipelines will be subject to prior coordination with the owner/manager of the associated facilities, and may require positive identification and location of pipelines by such activities as potholing.		

3.3 **Project Location**

The proposed soil investigation activities would be implemented at and in the vicinity of the Station, which is located in the Mojave Desert approximately 12 miles southeast of the City of Needles, California, and approximately 4 miles south of the community of Golden Shores, Arizona (**Figure 3-1**). The Station is within a 66.8-acre parcel of land owned by PG&E that is located approximately 1,500 feet west of the Colorado River and less than 1 mile south of I-40. The area of the Station that is developed (buildings and/or paving) is fenced and encompasses approximately 15 acres.

The Project Site for this DEIR is shown in **Figure 3-2** and includes areas within which soil investigation activities would occur, such as AOCs and Solid Waste Management Units (SWMUs), as well as the approximately 26 acres anticipated to be needed for equipment staging, access/haul routes, and observation areas. Investigation within the Project Site would occur both inside and outside the Station fence line (see Figure 3-2). The Project Site totals approximately 128.5 acres and encompasses areas beyond PG&E's property line. **Figures 3-3** through **3-6** show details regarding the investigation locations throughout the Project Site. The types of activities proposed within the Project Site are described in Section 3.5.

The lands adjoining the PG&E parcel are owned and/or managed by a number of government agencies and private entities , including lands owned by the Fort Mojave Indian Tribe (FMIT); the Havasu National Wildlife Refuge, which is managed by the USFWS; lands managed by the DOI (including the BLM and Bureau of Reclamation); Caltrans – leased land; the BNSF; and other privately owned lands. Private land includes properties owned by the Fort Mojave Indian Tribe (FMIT), Caltrans – leased land, the BNSF, and other privately owned lands. In addition, land owned by the United States is under the jurisdiction custody and control of the DOI and includes the Havasu National Wildlife Refuge, which is managed by the USFWS, as well as lands managed by the BLM and Bureau of Reclamation (Figure 3-7).

The majority of the Project Site is located within an area that was evaluated in the Groundwater FEIR (see Section 2.2.3 for more information) and is also within the Area of Potential Effects (APE) that has been defined by the DOI under Section 106 of the National Historic Preservation Act for purposes of Native American consultation by federal agencies associated with the Station soil and groundwater investigation and remedial activities (see **Figure 3-8** and Section 4.4 for more information).







Area Description: Railroad Debris Site Location in Soil Work Plan (CH2M Hill 2013): Appendix A; Subappendix C7; Appendix F Number of Sample Locations: 4 by Rotosonic drilling; also assorted debris locations by hand tools Approximate Number of Samples: 20





Created By Parus Consulting, Inc. Map Creation Date: 11/14/2014 Background Source: ESRI Aerial

Soil Investigation Detail Map 2





Topock Soil Investigation Project EIR Created By Parus Consuting, Inc. Map Creation Date: 11/17/2014 Background Source: ESRI Aerial

Soil Investigation Detail Map 4

Legend Soil Investigation Final Project Site







3.4 Project Objectives

The primary and fundamental objective of the soil investigation activities is to gather sufficient soil samples to be able to reliably characterize the nature and extent of soil and sediment contamination within the Project Site. If approved, soil and sediment would be analyzed for COPCs previously identified in the Project Site (inside and outside the Station fence line) that resulted from historical Station practices, as informed by prior soil sampling, thereby enabling completion of the Final RFI/RI Report Volume 3 (Soil) and risk assessment as required by the 1996 Corrective Action Consent Agreement as soon as practicable and consistent with applicable state laws and regulations. Additional Project objectives include:

- Finalizing the evaluation of soil properties and contaminant distribution to support preparation of the future Soil CMS/FS, including gathering a sufficient level of information to identify a range of remedial alternatives;
- Assessing whether soil contaminant concentrations pose a threat to groundwater; and
- Assessing whether soil and sediment contamination have the potential to migrate off-site and, if so, gathering sufficient information to assess measures that may be required to prevent and minimize such migration to ensure protection of health, safety, and the environment.

The soil investigation activities do not predetermine remedial design options or alternatives. Rather, the data collected from implementation of the Project would be combined with the existing data sets to address the Data Quality Objectives outlined in the Soil Work Plan and inform DTSC if additional action or remediation is necessary for the identified investigation areas. The investigation of soil would also inform and enable, if necessary, the evaluation and selection of corrective measures in a future Soil CMS/FS.

3.5 Description of the Soil Investigation Project

3.5.1 Project Overview

This section provides an overview of the soil investigation activities that would be implemented at the Project Site in order to meet the objectives stated above. The proposed Project includes soil sampling and analysis as described in the Soil Work Plan; potential bench scale tests, pilot studies, and geotechnical evaluations to support the Soil CMS/FS; and potential plant or other biota sampling activities to support ecological risk assessment. Bench scale tests and pilot studies may be implemented after soil sampling analysis is completed to evaluate potential soil remedy options if remedial action is necessary. A summary of Project features is included in **Table 3-2**.

TABLE 3-2 SUMMARY OF PROJECT FEATURES			
Project Feature	Quantity	Size	Location
Borings – Inside Station fence line	141	Varies by Sampling Method Hand Tools – Max 10x10 feet Drill Rig – Max 30 foot radius Hydrovac – Max 40 foot radius Backhoe – Less than 50 feet in any one direction	SWMU 5, 6, 8, 9; Unit 4.3; AOCs 5, 6, 7, 8, 13, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 26
Boring – Outside Station fence line	151	Varies by Sampling Method Hand Tools – Max 10x10 feet Drill Rig – Max 30 foot radius Hydrovac – Max 40 foot radius Backhoe – Less than 50 feet in any one direction	SWMU 1; Perimeter Area; Storm Drains; East Ravine Sediment and Pore Water; AOCs 1, 4, 9, 10, 11, 14, 27, 28
Borings - Contingency	Up to 25% of the above	See above	To Be Determined
Staging Areas	8	Combined total of 26 acres	Previously disturbed areas within Station, near IM-3, at evaporation ponds & along Route 66
Geotechnical Borings	Up to 8	Maximum 30-foot radius	Steep slopes along Station at SWMU 1; AOCs 1, 4, 9, 10, 11, 14, 27, 31
Plant or other biota samples	8 to 10	1 foot by 1 foot pits	Previously sampled locations
Existing Decontamination Pads	1	75 by 60 feet	Adjacent to the Station
Bench Scale Tests	3 tests	Three to five 5-gallon buckets per test	To Be Determined, if conducted
Pilot Test - In Situ Soil Flushing*	1	35 by 115 feet	Bottom of Bat Cave Wash, if conducted
Pilot Test - In Situ Soil Stabilization*	1	35 by 115 feet	Bottom of Bat Cave Wash, if conducted
Pilot Test - In Situ Soil Stabilization	1	35 by 115 feet	Within Station fence line, if conducted
* The nilot studies in Bat Cave Wa	sh may utilize the same Pro	iect features	

3.5.2 Soil Sampling and Sample Analysis

3.5.2.1 Soil Sampling and Sample Analysis Overview

The Soil Work Plan identifies the investigation objectives and describes the proposed field testing, laboratory testing, and reporting activities that are part of the proposed soil investigation activities. The Soil Work Plan proposes investigation activities at a total of 292 locations with up to 876 total individual samples. Specific locations and number of samples collected at each location may vary based on access considerations, the results of field screening, and field observations. Further, because of unforeseen circumstances or data gaps, additional samples/sampling locations may be necessary. As part of this DEIR, therefore, a contingency of up to 25 percent additional sampling locations (i.e., up to 73 locations) is included in the DEIR

evaluation and, if all were to be needed, would extend the timeframe of the sampling by approximately 2 to 3 months. The sample-collection methods and equipment, the areas to be sampled, and access considerations are described in this section.

The investigation and closure activities completed at the Project Site to date are summarized in the Soil Work Plan and its appendices. The specific appendices for each area are identified in **Table 3-3** at the end of this section. Based on the investigation and closure activities completed at the Project Site to date, the Soil Work Plan identifies the AOCs and SWMUs that require further investigation. In many instances, investigation locations are within the provisional boundaries of previously identified areas of contamination (i.e., within AOCs and SWMUs). However, there are instances where investigation activities are proposed outside of these areas in an attempt to adequately define the extent of contamination. As such, the Project Site encompasses all areas that may be affected by investigation activities, through testing, access, or staging. Areas where testing would occur are identified at general locations, as shown in Figures 3-3 through 3-6.

Details of the proposed sampling program are presented in Table 3-3 at the end of this section. Table 3-3 lists the specific areas proposed for soil investigation activities and summarizes the following information about each area: specific areas; number of sample locations estimated for each area; sampling methods proposed to be used, based on site conditions; number of samples planned to be collected at each location; maximum anticipated depths of sampling; access considerations; and COPCs to be analyzed. The following types of areas are described in Table 3-3:

- <u>SWMUs</u>: DTSC defines SWMUs as areas that may be contaminated due to past management of solid wastes without proper protective practices in place. There are six SWMUs for this Project, which are both within and outside of the Station fence line and are subject to the overall Project Site's environmental investigation to determine if they will need to be remediated.
- <u>AOCs</u>: DTSC defines AOCs as areas that are being evaluated and may be contaminated due to past practices and/or proximity to the Project Site. There are 30 AOCs for this Project located both within and outside of the Station fence line and which are subject to the overall Project Site's environmental investigation to determine if they will need to be remediated.
- <u>Oil/water units (Units 4.3, 4.4, and 4.5)</u>: There are three oil/water units, which are components of the former oily water treatment system within the fence line of the Station. These units are subject to the overall Project Site's environmental investigation to determine if they will need to be remediated. As a result of the footprint of the units and because the COPCs are the same for all three units, the Soil Work Plan is investigating them as a single unit at this time, pending the results of this investigation.
- <u>Perimeter area</u>: The Station is located along a prominent ridge. The perimeter area is defined as the area outside the immediate fence line of the Station to the bottom of the slope. The perimeter area is subject to the overall Project Site's environmental investigation to determine if specific areas are contaminated and, if so, need to be remediated.
- <u>Storm drain system</u>: The storm drain system consists of active and abandoned storm drain lines within the Station and outfalls from the system outside the fence line. The storm drain system is subject to the overall Project Site's environmental investigation to assess whether

and to what degree the storm drains have served and/or are serving as a conduit for transport of contaminants. Results of the investigation will inform DTSC if remediation is needed and/or if repairs would be necessary.

• <u>Undesignated Areas (UAs)</u>: The Potential Pipeline Disposal Area (UA-1) and the Former 300B Pipeline Liquids Tank (UA-2) are UAs outside the Station fence line. A geophysical survey is proposed at the Potential Pipeline Disposal Area; no investigative sampling is currently proposed at the Former 300B Pipeline Liquids Tank because sufficient data were collected during the Part A Phase I investigation. The results of the survey and other investigative activities will determine future steps, if any.

3.5.2.2 Soil Sampling and Sample Analysis Activities

The Soil Work Plan proposes the collection of surface and subsurface soil and sediment samples and the chemical analysis of those samples for COPCs based on information gained from past soil investigations. Geotechnical and other analyses would be performed on select samples to provide information to support the development of the Soil CMS/FS. In addition, some areas would be investigated using geophysical methods to identify the presence of subsurface objects. The proposed Project includes, but may not be limited to, the following activities, as identified in the Soil Work Plan (see subsections that follow for additional details):

- Acquire permission or permits to access certain restricted areas;
- Create physical access to certain locations on the existing network of roads where limited access currently exists (e.g., grading, boulder removal, or vegetation trimming, pruning, or clearing);
- Establish temporary weather and dust monitoring stations, as determined necessary;
- Set up staging areas for equipment and displaced soil storage, maintenance/fueling, and decontamination; To the extent feasible, staging areas will be located in previously disturbed and existing operational areas, with either existing natural topographic boundaries or fencing that defines the staging area boundaries;
- Stake sample locations;
- Before beginning soil investigation activities, conduct pre-investigation field checks;
- Identify potential conflicts with subsurface utilities;
- Conduct video surveys and flow testing/dye testing of storm drain lines;
- Drill or excavate soil borings;
- Install soil vapor probes;
- Collect and preserve soil, soil gas, pore water, and sediment samples for laboratory analyses;
- Perform certain analyses in the field using field testing equipment and methods;
- Plug and abandon boreholes;

- Transport the samples to the analytical laboratory;
- Analyze the samples for selected COPCs;
- Evaluate for data gaps and ultimately present data and conclusions in a written report; and
- Manage investigation-derived waste (IDW); any long-term storage of excavated soil would also be in existing operational areas.

3.5.2.3 Access to Sampling Locations

The proposed Project would require access to sampling locations either by a truck- or trackmounted drilling rig/backhoe/excavator or on foot for hand sampling. Samples collected at the mouth of East Ravine <u>and in other locations with constrained access</u>, <u>such as the Station</u>, would be accessed on foot or. <u>Samples collected at the mouth of East Ravine also may be accessed</u> by boat. The proposed sampling methods and locations are based on DTSC's experience and knowledge of the Project Site; while the actual collection methods may vary slightly in the field based on field conditions and Project Site access restrictions, the full extent of potential effects on the environment from the proposed collection methods are covered in this DEIR although efforts will be made to employ the least invasive method(s) feasible. Existing infrastructure within the Project Site includes Station facilities such as plant water lines, industrial (oily water) waste lines, various types of cooling water lines, lubricating oil lines, and plant air lines; natural gas pipelines and other utilities, storm drain lines, equipment, and pipeline bridges; the BNSF railroad tracks; I-40; overhead and underground telecommunications and power cables; and roads. In addition, groundwater wells and interim measure (IM) structures associated with the groundwater remedial activities exist in the area.

The proposed sampling locations are accessible by the existing network of roads throughout the Project Site; this road network would be used to the extent practicable. The proposed access routes are shown in Figure 3-2, including the preferred access route for Bat Cave Wash shown in Figure 12-1 of the Errata to the Final EIR. As previously noted, the Project Site is crossed by various subsurface utilities, such as natural gas pipelines. Unpaved access roads that cross over utilities may require that additional cover material be placed on the roadbed to protect the utilities. Clean fill material stored in or around the Station would be used for this purpose. The roads would be maintained throughout the operation period of the proposed Project. In addition, some areas outside the Station fence line may require trimming, pruning, or clearing of vegetation or movement of boulders to access proposed sampling locations. After sampling activities are complete, all Project equipment and materials would be removed from the work area and if the area is not paved, the area will be raked/brushed to remove tire tracks. The specific areas known to require grading or vegetation clearance are described in the following pages.

• <u>SWMU 1 – Former Percolation Bed</u>: The proposed sample locations are shown in Figure 3-5. The eight soil boring locations are within and along Bat Cave Wash. Four of the five soil borings located within the wash would require the use of a rubber-tired or track-mounted sonic drill rig. Existing dirt roads would provide access to the wash. The fifth location is at the base of the slope, and would be sampled using a backhoe, excavating to 9 feet below ground surface (bgs); this location can be accessed from within Bat Cave Wash using the same access route used by the sonic drill rig. Boulders in the wash may need to be moved to

access some locations and concrete slabs may need to be removed near the toe of the slope. Three soil borings are located on the wash, near the top of the slope. These three borings would be excavated by a backhoe. The backhoe can access the top of the slope from the Station and would not require additional access modifications. These three borings would be shallow potholes.

- AOC 1 Area Around Former Percolation Bed: The 31 proposed soil borings at AOC 1 are located within and along the mouth of Bat Cave Wash adjacent to SWMU 1, beginning west of the Station and extending north to where the wash meets the National Trails Highway and then joins the Colorado River. The proposed sample locations are shown in Figures 3-3 and 3-5. An existing dirt road located to the west of the station and extending to the north provides access to the wash near the Station and south of I-40, depending on its current condition and ability to support the weight of the drill rig and support vehicles. The wash area just south of I-40 can also be accessed by a dirt road extending from the north part of the Station north of AOC 6. Boring AOC 1-6d is located between two culverts (I-40 and the BNSF railroad) and would require an access permit from BNSF. The borings located north of the BNSF railroad can be accessed from the National Trails Highway, including the thicklyvegetated area at the far northern end of the wash near the Colorado River. Up to two acres of vegetation (salt cedar, tamarisk trees, and plants) would be cleared just above the ground surface using a chain saw and wood chipper to facilitate access to the borings within the mouth of Bat Cave Wash (root balls would be left in place to allow regrowth). Borings AOC 1-1 through AOC 1-4 are located on a 10-foot plateau that may need access pathway improvement and/or grading to facilitate access. At least 26 of the soil borings would be drilled using a drill rig, which may be either a rubber-tired or track-mounted sonic drill rig. Borings AOC 1-BCW26 through 30, located at far northern extent of AOC 1 along the National Trails Highway could be excavated by backhoe. Boring AOC 1-T2F, located along the east slope of Bat Cave Wash northwest of AOC 1-6 outside the Station fence line, would require rappelling and can only be sampled using hand tools.
- <u>AOC 4 Debris Ravine</u>: A January 2010 storm event deposited a large amount of material (i.e., large and small cobbles) in the southern reaches of Bat Cave Wash near the confluence with AOC 4. This material may be cleared prior to collection of the samples using a sonic drilling rig at borings AOC 4-BCW1 through AOC 4-BCW6. The proposed sample locations are shown in Figure 3-5.
- <u>AOC 9 Southeast Fence Line (Outside Visitor Parking Area)</u>: AOC 9 is on a steep slope just outside and southeast of the Station fence line. The proposed sample locations are shown on Figure 3-5. Most of the sample locations are on the steep slope or in drainage areas along the pipeline access road located at the toe of the slope beneath the AOC. The slope areas are generally unstable and not level, thereby limiting sampling methods to hand tools and/or a backhoe. Some vegetation trimming and modification may be necessary (in particular, at AOC 9-15).
- <u>AOC 10 East Ravine</u>: AOC 10 is a ravine with steep-sloped side walls. The majority of proposed sample locations are on the slopes of the ravines, resulting in access limited to hand

tools or backhoe. Some drilling locations are in the bottom of the wash and may be accessible by a track-mounted or rubber-tired drilling rig. The proposed sample locations are shown in Figure 3-4. Some vegetation may be trimmed and pruned to facilitate access; however, an existing dirt road would provide primary access and no additional improvements are anticipated.

- <u>East Ravine Sediment and Pore Water (ERPW) Sampling</u>: This area is east of AOC 10 along the Colorado River. The proposed sample locations are shown in Figure 3-4. All of these sampling locations have difficult access, with some requiring boat access and some requiring trimming of vegetation. All sampling would be performed with hand tools. No access is allowed from March 15 through September 30 due to bird habitat restrictions. The access descriptions are summarized below.
 - <u>ERPW-1</u>: Access would be achieved down a steep hill and an existing narrow path. The path is relatively solid and tends to have adequate footing.
 - <u>ERPW-2</u>: During Project Site reconnaissance, this location was accessed from the east by parking a small boat adjacent to the vegetation along the river and trekking in on foot. The vegetation was extremely thick and would require more trimming than is feasible. Access over part of the area was achieved by laying narrow planks along the top of the vegetation to serve as a stable walking platform generally over the top of the vegetation. It is anticipated that a combination of temporary walking planks and limited trimming would be the most effective means of access while minimizing impacts to habitat.
 - <u>ERPW-3</u>: Access can be achieved down a steep hill and through a grove of mesquite trees. The path down the hill is over unconsolidated material and has poor footing, which would make access more challenging. The grove of mesquite trees is thick, and some branches may need to be trimmed to allow access with hand-sampling equipment.
 - <u>ERPW-4</u>: Access to this location would be achieved in a similar way as described for location ERPW-2.
 - <u>ERPW-5</u>: Access to this location would be achieved using the general access route for surface water sampling location.
 - <u>ERPW-6</u>: During the reconnaissance, access to this location was achieved by using a canoe to get within approximately 50 feet of the proposed sampling location. The final 50 feet was traversed on foot with staff wearing waders. Water levels were deep enough that sampling on foot at that time would have been challenging. Sediment in this area is also extremely soft. Project Site conditions would likely be more favorable for sampling during winter months with lower water levels.
 - <u>ERPW-7</u>: This location was accessed during the Project Site reconnaissance using a canoe, and water levels at that time were likely too deep to adequately conduct sampling on foot using waders. It is likely a small boat could also access this location, which would provide a sampling platform more stable than a canoe. Lower water levels during winter months may allow sampling to be conducted on foot using waders.
 - <u>ERPW-8</u>: Access to this location would be in a similar method as to location ERPW-7.

- <u>ERPW-9</u>: A canoe was used during the Project Site reconnaissance to access this location. The water levels at the time of reconnaissance were favorable for sampling on foot using waders.
- <u>ERPW-10</u>: This location was proposed by DTSC after the Project Site reconnaissance had occurred; therefore, access to this location was not specifically evaluated during the initial reconnaissance. It is anticipated that access can be achieved using a canoe, similar to accessing locations ERPW-7 and ERPW-9, to access the shoreline and then by foot from there. This location is uphill from the shoreline, and pore water may not be present at the depths specified for sampling in the Soil Work Plan, in which case only sediment samples would be collected.
- <u>AOC 11 Topographic Low Areas</u>: The proposed sample locations are shown in Figure 3-4. Several underground natural gas transmission lines cross AOC 11. Some portions of these lines are buried less than 6 inches bgs and other portions are above the ground surface. Sampling is typically not permitted within 10 feet of these lines and crossing these lines with heavy equipment is restricted. Protective berms made of clean fill would be constructed to enable crossing over these lines, if needed. Remnants of two former check berms are located in the Northeast Ravine. The check berm associated with area AOC 11c was breached during the 2008 sampling event to allow drilling equipment to access the upper areas of the AOC. Only minor grading occurred at the other former check berm, which is associated with area AOC 11e. Several sample locations are proposed in the upper areas of the AOC. Additional modification of these check berms may be necessary to access these Phase 2 sample locations.
- <u>AOC 14 Railroad Debris Site</u>: Access to this area is restricted because it is surrounded by the BNSF railroad, I-40, former access roads, and Bat Cave Wash. An access permit would be required from BNSF and the area is accessible only on foot. Heavy equipment such as the drill rig would have to be moved onto the Project Site by crane from I-40. The proposed sample locations are shown in Figure 3-5.
- <u>AOC 27 MW-24 Bench</u>: AOC 27 is bordered by I-40, former Route 66 and a ridge, the Station, and Bat Cave Wash on all sides. The proposed sample locations are shown in Figure 3-5. The Project Site would be accessed by a steep dirt road from north of the Station fence line. There are several underground natural gas lines and possibly other unknown utilities, which would require protection from heavy equipment crossing over the top. Additional trenching/potholing not pictured in Figure 3-5 may be conducted at this AOC based on the results of geophysical surveys (see the Soil Work Plan).
- <u>Storm Drain System</u>: Sampling related to the storm drain system would be limited to areas outside the Station fence line in unpaved areas at outfalls and inside the fence line along visible lines, where surface sediment accumulates, or based on video camera surveys. There is limited location information on active and inactive storm drain lines. The alignment investigation would include visual, geophysical (ground-penetrating radar [GPR], electromagnetic induction (EM), and vertical magnetic gradient scans), flow testing/dye testing, and video camera tracing, as feasible, to better define piping locations. The proposed

sample locations are shown in Figure 3-5. The results of the alignment investigation may reveal storm drains in locations where sampling might require grading or the removal of boulders or vegetation trimming.

3.5.2.4 Survey of Subsurface Utilities and Other Features

The proposed Project involves intrusive soil sampling activities that could encounter subsurface utilities such as natural gas, electrical, water, storm drains, and sewer pipes during the grading of roads to access Project sites or during sampling activities. When determining the proposed soil sampling locations, and in order to identify and avoid subsurface utilities, the Station utility plans were reviewed. However, because of the long history of piping and other subsurface utilities at the Station and the uncertainty that all such items have been previously or accurately documented, the proposed drilling locations at AOC 17, AOC 27, and the storm drain system would also be cleared for the presence of subsurface utilities by conducting a geophysical survey or potholing using alternative methods, including EM, vertical magnetic gradient (VMG), or GPR. In addition, the storm drain alignment would be investigated using video survey and flow testing/dye testing methods, as feasible. These surveys would serve to guide the investigation to safe locations for drilling, as well as identify areas where subsurface objects, voids, or changes might affect other Project activities. To further protect against encountering subsurface utilities, sampling locations that cannot be accessed by a hydrovac truck would be hand excavated to the desired sampling depth or a minimum of 5 to 10 feet bgs. The necessary geophysical survey equipment may be brought to the various survey locations using existing roads. The survey would be conducted on foot and would not require additional access beyond that described in the physical access subsection above. Subsurface utilities and structures would be marked in the field using removable flags where feasible, such as unpaved areas. However, in paved areas marking paint will be used to mark these features. The following survey methods would be implemented to identify locations of subsurface utilities.

Electromagnetic Induction

Buried metal, such as subsurface utilities or waste, could be electrically conductive compared to surrounding soil and therefore may be detected using the EM method. The EM method employs a portable power source, a transmitter, and receiver coils to induce and measure an electromagnetic current in the ground. Current flowing in the transmitter coil generates a magnetic field that induces small electrical currents in the ground beneath the instrument. These currents generate secondary magnetic fields that are detected by the receiver coil. The ratio of primary to secondary field strengths is proportional to terrain conductivity and can result in an audible tone or be read directly on the EM instrument meter that is calibrated in units of conductivity. In addition to an audible tone or direct reading, EM scans can also provide contour maps that are analyzed to identify magnetic anomalies that may be due to buried ferrous metal. The larger the object and closer it is to the instrument (that is, ground surface), the more contours are present in the area.

Vertical Magnetic Gradient

The VMG technique measures the intensity of the earth's magnetic field. Ferrous (iron) metal objects are readily detected with magnetics because they produce localized variations (anomalies) in magnetic field intensity. VMG surveys provide better resolution of near-surface objects and are

less affected by surface objects than total field magnetometers that measure only total magnetic intensity. The distribution and configuration of VMG contours depict the distribution and intensity of VMG values within the surveyed area. Areas where contours are closely spaced indicate steep magnetic gradients caused by buried objects. If the source of a steep gradient is linear, then the contours tend to parallel the linear feature; if a buried object is localized (for example, a tank or a drum), the contours tend to enclose the object. Lower values may indicate the presence of nonferrous buried objects.

Ground-Penetrating Radar

The GPR system uses radar technology to obtain a continuous, high-resolution profile of the subsurface, depicting variations in the electrical properties of the shallow subsurface. The GPR system continuously radiates an electromagnetic pulse into the ground through a transducer (antenna) that is moved across the ground surface. Because most Earth materials are transparent to electromagnetic energy, only a portion of the radar signal is reflected back to the surface from interfaces representing variations in electrical properties. Subsurface interfaces that produce strong reflections are typically the boundary between a buried metallic object, such as a metal pipe, and the surrounding soil. GPR can be used to locate both metallic and nonmetallic objects and voids. The reflected signals are received by the antenna and are transmitted to a display monitor and/or a graphical recorder. The resulting records can provide information regarding the location of buried utilities, utility trench boundaries, buried objects (such as former foundations and landfill debris), and changes in subsurface conditions. The investigation depth of GPR is highly site-specific and can vary from a few feet to 10 feet or more. In general, GPR performs well (i.e., has greater signal penetration) in electrically resistive material (e.g., dry, coarse-grained soil) and performs poorly in electrically conductive (moist, clayey) soil.

Flow Testing/Dye Testing

According to PG&E, the alignments and connections of portions of the storm drain system are uncertain and would be investigated using flow testing and dye testing methods, as needed. Flow testing involves the addition of water from the Station water supply to specific catch basins or other entry points to the system and observing the flow of that water through catch basins to outfall discharge points. This process would also identify portions of lines that are blocked and require cleanout, and help clarify how certain lines are connected. Soil removed from blocked lines would be managed as IDW, and sampled and analyzed to assess the appropriate disposition. If needed, dye testing may be conducted to further refine flow paths. The dye would be a nontoxic dye approved for discharge into sensitive aquatic environments.

Water from the flow testing would be allowed to flow as though it were rainwater, with special provisions for collecting dye-test water, if needed. Samples of discharge water would be collected from accessible outfalls and would be analyzed for Title 22 metals, hexavalent chromium, total petroleum hydrocarbons (TPHs), polycyclic aromatic hydrocarbons (PAHs), and polychlorinated biphenyls (PCBs) or other constituents identified in the vicinity of the drain inlets. Prior to flow-testing activities, PG&E would collect a source water sample from the water pipeline or truck providing the flow test water, and analyze it for the same suite of chemicals to determine COPCs concentrations in the source water, if any, and to allow comparison between source water and

discharge water samples. If elevated concentrations of COPCs are present in the discharge water, some contamination can be presumed to be present in the storm drain line, thus requiring further investigation.

Video Survey

Video surveys would be used to investigate storm drain lines and potentially to assess industrial lines (AOC 20). Because some storm drain lines and most industrial lines are 4 inches or less in diameter, standard video survey equipment cannot be used. During the pre-investigation phase, PG&E would test an experimental methodology described in this section to assess whether it is feasible to conduct video surveys of small-diameter pipelines. This includes guiding stiff fish tape (also known as draw wire or draw tape) through the line being investigated to an exit point, attaching a long rope to the loose end once at the exit point and attaching a down-hole camera with built-in light-emitting diode (LED) lights. The fishing tape would then be recoiled and the camera carefully pulled through the drain. Because of the size of the lines, any obstructions in the lines are likely to be significant barriers to continuing the survey. If obstructions are encountered, an attempt will be made to survey the line from the other direction.

3.5.2.5 Establish Weather Monitoring Stations

Weather conditions can play an important role in determining potential dust migration pathways. Wind speed and direction, temperature, humidity, and rain may be monitored using meteorological weather (MET) stations during soil sampling activities. MET stations that may be used would be temporary, portable, battery-operated units, and set up on tripods. The units are 6 to 8 feet tall, with a small, 3- to 4-foot wide area. Weather data can be used to: (1) inform the field and construction personnel when wind speed exceeds a specified threshold, (2) determine upwind and downwind directions, (3) provide real-time temperature data, and (4) estimate the likelihood of precipitation or rain.

3.5.2.6 Establish Dust Monitoring Stations

During soil sampling activities, air monitoring may be conducted to assess air quality within and adjacent to work areas and work perimeters. Air monitoring may be performed to: (1) ensure worker safety within the work area and verify that engineering control measures are effective in preventing airborne contaminants from migrating outside the work area, and (2) document that soil sampling activities do not result in the migration of soil contaminants by air beyond the work area boundaries.

Both direct-read real-time dust monitoring and air sampling may be conducted during Project activities. Portable battery-operated dust monitors and air sampling pumps would be set up at various locations within and around the Project Site where sampling activities are occurring. Dust monitors and sampling pumps may be set up on small tripods and will be located based on wind direction and location of Project Site work. The monitors would be installed if activities have the potential to create significant visible dust, or if extensive potholing or trenching was performed. Locations would be dependent on location of excavation or trenching activities and wind direction. The monitors would be removed immediately after activities are completed.

3.5.2.7 Staging Areas

Eight equipment staging areas have been identified throughout the Project Site and would vary in their use, depending on the location of sampling activities and storage/staging needs. These staging areas, with a total area of approximately 26 acres, have been located to the extent feasible in areas that are already graded, developed, or disturbed, such as within the fenced and developed areas at the Station, near the existing IM-3 facilities, at the existing evaporation ponds, and along Route 66. Many of the staging areas to be used for soil sampling activities have been used for staging during previous RFI/RI-related activities, and all are located in previously disturbed (areas disturbed within the last 50 years) and existing operational areas with either existing natural topographic boundaries or fencing that defines the staging area boundaries. Fencing is in place around the Station, the evaporation ponds, and the IM-3 treatment plant. In areas where natural boundaries or fencing are not sufficient to define the staging area, PG&E would temporarily mark the boundaries of the staging areas with traffic cones, caution tape, or straw wattles. For example, during the operation of IM-3 injection wells, the Native American Tribes expressed a preference for unobtrusive, low-visibility boundary markers, so straw wattles were used as the primary means of boundary marking, with wattles were used as a means of boundary marking as they were generally low-visibility and less obtrusive. Other delineation devices have been used only in strategic locations. The proposed Project would follow this same general means of marking work boundaries. Staging areas are shown in Figure 3-2 and in more detail in Figures 3-3 through 3-6.

Staging areas would generally be used for parking of vehicles and other equipment such as drilling rigs, backhoes or excavators, and equipment trailers. Because it is not known what other activities would be occurring at the same time as the soil sampling, it is not possible to precisely plan which staging areas would be used or define what activities would take place in each individual staging area. There may be various types of vehicles or equipment parked at different staging areas at different times during the investigation. Although soil sampling does not require large stockpiles of materials, staging areas may be used for storage of bentonite and/or cement used to seal boreholes. These materials would typically be in bags, stored on pallets, and covered with tarps or plastic sheeting. It is anticipated no more than six pallets would be stored on-site at any one time during this investigation.

3.5.2.8 Work Area Exclusion Zone

The work area exclusion zone (EZ) is where activities take place that may involve exposure to site contaminants and/or hazardous materials or conditions. This zone shall be demarcated to prevent unauthorized entry. More than one EZ may be established if there are different levels of protection to be employed or different hazards that exist in the same work area. The EZ shall be large enough to allow adequate space for the activity to be completed, including field personnel and equipment, as well as necessary emergency equipment. The EZ shall be demarcated with some form of physical barrier or signage. The physical barrier or signage shall be placed so that it is visible to personnel approaching or working in the area. Barriers and boundary markers shall be removed when no longer needed. Exact dimensions of the EZ will depend on the area and method of sampling and will vary at each location (see Figure 3-9). EZs may be as large as 150 feet x 50 feet when drilling with a larger rig, or as small as 10 feet x 10 feet for hand sampling.



3.5.2.9 Drilling or Excavation for Soil Samples

Soil samples would be taken using one or more of the following options: (1) small hand tools (trowel, shovel, slide-hammer, and hand auger); (2) a sonic or hollow-stem auger drilling rig; (3) a hydrovac truck in conjunction with hand tools; or (4) a backhoe or excavator. Because of potential health and safety concerns posed by underground utilities, Eefforts will be made to use the least intrusive method feasible depending on the conditions encountered on location. Hand tools would be used in areas of limited access, areas with topographic constraints, or areas with other constraints. The hydrovac process would be used for borings up to approximately 10 feet bgs and to clear the first 10 feet of deeper borings when such borings are located within the Station fence line. Backhoes or excavators would be used for trenching and for collecting soil samples in sloped and unstable areas. A sonic drill rig would be used for soil borings deeper than 10 feet bgs. The drill rigs would use conventional truck-mounted drilling equipment or all-terrain-capable equipment (track-mounted or rubber balloon tires), depending on access considerations. Examples of the larger sonic drilling rig and hydrovac equipment are shown in Figure 3-910.

The approximate footprint and dimensions of typical sonic or hollow-stem drilling rigs that may be used for the Project are:

- Truck-mounted Tsi 150T is 33 feet long by 8 1/2 feet wide by 12 3/4 feet (folded) to 36 1/2 feet (unfolded) high
- Track-mounted 8140LS is 24.8 feet long by 7 feet wide by 24 feet (unfolded) high
- Rubber-tired S-27 CRS is 20 feet long by 9 feet wide by 8 feet (folded) high
- Rubber-tired CME-85 hollow-stem auger rig is 30 feet long by 9 feet wide by 35.5 feet (mast up) high



Example of a Track-Mounted Rotosonic Drill Rig and Support Vehicle Used for Locations with Difficult Access



Typical Hydrovac Truck

The approximate footprint of a typical hydrovac truck is:

• Truck-mounted MaxVax Model 700 mounted on a 2012 International 7400 Chassis is 30 feet long by 8 feet wide by 11 1/2 feet high

The approximate footprint of typical backhoe and excavator are described below.

- Caterpillar 416 to 450–series backhoes or similar is 18 to 26 feet long by 8 feet wide by 12 to 14 feet (folded) high
- Caterpillar 329D long reach excavator or similar is 47 feet to 57 long by 11 feet wide by 10 feet (folded) high

For clearance of the vegetation at the mouth of Bat Cave Wash within AOC 1, the following equipment would be used:

- Bobcat S220 Loader: 10 feet long, 6 feet wide
- Bobcat 435 excavator with rubber tracks: 17 feet long, 7 feet wide
- 12-inch wood chipper: 15 feet long, 5 feet wide
- Gas-powered hand-held chainsaw

The sonic drilling method has proven to be effective for deeper soil borings that must drill through larger-diameter cobbles and rock. The sonic drilling equipment is mounted on a flatbed truck or trailer platform and has an approximate 30-foot-radius footprint. The drilling technique uses high-frequency resonant energy transferred down the drill rods to advance a core barrel or casing into subsurface formations. Samples are typically collected in a continuous core barrel with a liner, and samples for chemical analyses are cut from this core, preserved, and sent to the analytical laboratory for analysis along with chain of custody documentation.

The method also allows for the use of split-barrel samplers and Shelby tubes, if desired. The method requires minimal to no fluids, such as water, to assist in drilling.

Hollow-stem augers utilize rotating augers to drill a borehole, and sample collection is typically conducted through the inside of the augers using a split-spoon device. At the Project Site, hollow-stem auger drilling is most suitable for geotechnical drilling and sampling where blow counts are required to assess material properties; in general, this is not a preferred drilling method for environmental sample collection. This is because cobbles and boulders can deflect or refuse advancement of the augers resulting in the need for additional adjacent borehole(s) to reach the design depth of the given borehole. Further, soil sample collection with hollow-stem auger/split-spoon methods can be especially challenging in the formations encountered at the Project Site when boulders or cobbles block the opening of the sampler.

The hydrovac method is effective for shallower borings where utility clearance is needed, up to 10 feet bgs, and has an approximate 40-foot-radius footprint. The hydrovac sampling approach provides added safety when sampling in areas that are known to or may contain subsurface utilities. The hydrovac method vacuums soil out of the pothole or borehole, rather than advancing

a drilling bit that might cut unmarked and unknown utilities. Water may also be added to the borehole while drilling with this method. The method enables the operator to visually inspect the borehole as drilling proceeds and thus avoid damage to utilities. Samples are collected by hand tools such as a trowel or by inserting a hand auger soil sampler into the bottom of the borehole. The hydrovac method is not a preferred drilling method for environmental sample collection as it can alter the reliability of certain analytical data.

Surface or shallow sample collection using a backhoe (or excavator) is effective for sloped and unstable areas. The arm of the backhoe can be extended to the sample location, leaving the backhoe located on more stable ground. The approximate footprint for the backhoe equipment is less than 50 feet in any one direction. A backhoe also allows for potholing, where field staff can visually inspect the pothole and make decisions in the field. Samples are collected by hand tools such as a trowel or by inserting a hand auger soil sampler into the bottom of the excavation. Excavated material would be used to backfill the excavation from which it originated. The backhoe would then use its bucket to press down the refilled surface to restore some stability. Alternately, the surface may be restored to match surrounding conditions with an asphalt patch or concrete.

Some surface or shallow soil or sediment samples would be collected using hand tools such as a trowel, depending on access considerations. The collection of sediment and pore water samples along the western shore of the Colorado River in the vicinity of the East Ravine may require boat access and some limited vegetation trimming, pruning, or clearing. The proposed sediment sampling in this East Ravine area would be accomplished by a hand auger and pore water collected via a drive-point piezometer or similar tools.

To support the drilling rig, one or more support trucks and one or more pickup trucks may be used to transport personnel, equipment, and materials from staging areas to the drill site. A forklift may also be used to transport cuttings and excess core generated from drilling the soil borings to 55-gallon drums or lined, steel roll-off soil bins that would be temporarily staged. The number and size of drums and roll-off bins would vary depending on how many borings are installed, the drilling method used, and how quickly investigation activities are required to proceed.

Standard practices, such as use of plastic sheeting over the ground surface, would be employed in the drilling and staging areas, as necessary, to keep the drilling materials and equipment clean and to minimize contact of the drilling materials and equipment with the ground surface. Materials to be temporarily stored at the drilling sites may include drilling equipment. Additional supplies and equipment not in use would be stored at the Station, near the core storage area, or within the already developed or disturbed areas within the Project Site. Drilling and borehole sealing activities would conform to state and local regulations.

Soil vapor probes would be installed in some locations within the Station. These probes would be temporarily in place for approximately 6–12 months. There would be four single-depth probes installed within AOC 13 and one multi-depth probe installed within AOC 26 in accordance with Standard Operating Procedure (SOP) B18, described in Appendix G of the Soil Work Plan. The

probes typically consist of a stainless steel probe with a mesh screen at the desired sampling interval connected to the surface by a Teflon tube. The probe assembly is surrounded with a sand filter pack from the bottom of the borehole to approximately 0.5 to 1 foot above the probe screen, followed by granular bentonite to approximately 1 foot above the sand pack, followed by a hydrated bentonite slurry to approximately 1 foot bgs. The probe assembly would be finished with a traffic-rated, flush-mounted well box set in a cement pad. The probes would be installed in the borehole as described below:

- AOC 13-5, AOC 13-6, and AOC 13-11 probes are proposed around the compressor building. The probes would be installed by hand or hydrovac at a minimum of 4 feet bgs and include one round of soil vapor sampling.
- AOC 13-16 probe is proposed near the oil storage tank area and waste sump. The probe would be installed by hand or hydrovac at a minimum of 4 feet bgs and include one round of soil vapor sampling.
- AOC 26-1 is proposed at the former sump in AOC 26. This would be a multi-depth nested probe (5, 25, and 50 feet bgs). The probes would be installed using sonic drilling methods. Two rounds of soil vapor sampling have been proposed, one in the summer and one in the winter, which may require installation for over 1 year.

3.5.2.10 Sample Collection

Appendix F in the Soil Work Plan itemizes the sample containers, preservation methods, and holding times for each proposed sample and includes glass jars, zipper-top baggies, and Summa canisters (for soil gas and air samples). Sample collection and preservation methods are described in Section 2.2.5 of the Soil Work Plan. Most samples would be tested for a variety of COPCs by preserving the soil or sediment samples in the field and sending the samples to an off-site analytical laboratory.

Some of the soil samples and debris would be tested in the field for the presence of metals using x-ray fluorescence (XRF) equipment consisting of a hand-held portable Niton XRF meter and a trowel for either collecting soil samples for ex situ soil analysis or homogenizing and smoothing sample surfaces for in situ soil analysis. In situ testing is performed on an approximately 4-inch by 4-inch wide area, homogenized and smoothed to a depth of approximately 3 inches. A section of x-ray window film is placed over the area to be tested to protect the detection end of the instrument. The nose of the instrument is placed against the film for a period of 3 to 5 minutes, depending on the metals being analyzed. Most non-soil materials (e.g., concrete) would be analyzed in situ.

Most soil samples would be analyzed ex situ at a location where the XRF is set up for the day, or in a field laboratory setting. The same volume of soil that would have been homogenized in place for the in situ analysis is placed into a pan, homogenized and sifted as needed, placed into a sample cup, and covered with x-ray window film. The method can also be used on soil or sediment by placing the soil or sediment in a sample cup or a plastic bag. Small, temporary shade structures may be set up during sampling activities (approximately 10-foot by 10-foot instant canopies). Temporary plastic safety fencing (4 feet high, orange) may also be set up to define an EZ during sampling activities or trenching. These temporary structures would be removed immediately after sampling concluded. Decontamination of sampling tools would be conducted on a temporary decontamination pad lined with plastic sheeting located on PG&E property at specific locations to be determined based on field conditions at each location, including preferred access routes, sample locations, and investigation equipment used. Heavy equipment such as drill rigs and drill rods would be transported by support truck or drill rig to the concrete lined decontamination pad located adjacent to the Station access road.

3.5.2.11 Investigation-Derived Waste

Several types of waste materials, known as IDW, would be generated during the drilling and sampling activities. IDW materials that would be generated include drill cuttings, sampling equipment wash water (decon water), personal protective equipment, and incidental trash. Appendix J of the Soil Work Plan describes the management procedures for the handling and characterization of IDW, including both hazardous and nonhazardous materials. The IDW management procedures are designed to ensure that IDW is appropriately handled to be protective of human health and the environment. In addition, the management process is designed to maximize the amount of soil that is reused on-site. Attachment 1 of Appendix J of the Soil Work Plan focuses on the reuse procedures, taking into consideration the FMIT statement regarding Project Site background and cultural significance of on-site soil.

The estimated amount of IDW materials that may be generated ranges from less than 5 cubic yards up to 20 cubic yards of solid waste and up to 2,000 gallons of water. Drums (55-gallon) or lined soil bins would be used to contain excess drill cuttings at the drill sites or within the fence line at the Station, and would be managed as IDW, as discussed further in this section. Water generated during decontamination activities would be stored temporarily in drums, bins, or portable storage tanks. These tanks would be located temporarily at the drilling sites and/or at the existing IDW staging areas developed during previous investigations.

Secondary containment (i.e., spill and splash containment) would be set up at the drilling area for the portable storage tanks or bins. After characterization, water generated from decontamination activities, estimated at up to 2,000 gallons, would likely be processed on-site at the existing IM-3 treatment facility and re-injected into the aquifer. Prior to disposal, the water would be tested to determine if it contains contaminants (i.e., organics) that IM-3 is not designed to treat. If the water contains contaminants that IM-3 will not treat, then it would be disposed off-site at an appropriate facility. While the amount of water to be transported off-site is unknown at this time, less than five trips are expected to be necessary. Based on disposal activities conducted to date at the Station, the off-site facility likely would be in the Phoenix or Los Angeles areas. Drill cuttings would typically be contained in 55-gallon drums or roll-off bins at the borehole sites, or in an IDW staging area during the drilling and sampling activities pending receipt of IDW characterization analytical results to determine the appropriate disposition (see Appendix J of the Soil Work Plan for more information on IDW characterization methods).

The displaced soil would be analyzed and characterized as either RCRA or non-RCRA hazardous waste, nonhazardous clean soil (unregulated) or nonhazardous soil for long-term storage (also unregulated). Hazardous soil, if encountered, would be promptly disposed of off-site. Based on existing data, hazardous soil is not anticipated to be encountered. Previous soil disposed of from the Project Site was classified as nonhazardous or non-RCRA hazardous. After sampling and characterization, the drums or bins with hazardous soil cuttings would be removed within 90 days of generation from the IDW staging area using heavy trucks and transported for disposal in a permitted off-site hazardous waste disposal facility (e.g., Kettleman Hills Landfill located outside of Kettleman City in Kings County, California, or a similar facility such as Clean Harbors Buttonwillow Landfill in Buttonwillow, California).

Nonhazardous incidental wastes from drilling activities, such as trash (e.g., gloves, disposable clothing, food waste) would typically be collected at the end of each drilling shift and either hauled off the drill site at the end of the day or placed in dumpsters or roll-off bins that would be hauled off-site periodically by truck to an appropriately permitted municipal solid waste or recycling facility located within approximately 200 miles of the Project Site. Up to approximately two dumpsters or roll-off bins of nonhazardous incidental wastes would be generated during the soil investigation. Disposition of cleared vegetation would be in accordance with direction from DOI and would likely not include off-site disposal. For example, vegetation cleared from the mouth of Bat Cave Wash needed to provide access for sampling would may be chipped and left in place and/or used as bedding for the access routes within the tamarisk area.

Unregulated soil would include cuttings from boreholes that IDW analytical testing indicates would not be considered hazardous, does not pose a risk to ecological or human receptors, and does not require disposal at a hazardous waste facility. This unregulated soil would be stockpiled at two designated soil storage areas, in accordance with Appendix J, Attachment 1, of the Soil Work Plan. Displaced unregulated soil resulting from sampling activities and identified for long-term storage would be stored within the PG&E parcel (if soil originated from within the Station fence line) and at the Station evaporation ponds (if the soil originated from outside the Station fence line). Attachment 1 of the Soil Work Plan describes the protocols, including planning (including Native American Tribal input), short-term and long-term handling and storage procedures, contamination assessment, and determination of final disposition. Excavated material used to backfill the excavation from which it originated that the drums and bins temporarily staged at a drill site would not remain in excess of 45 days.

3.5.2.12 Borehole Decommissioning

Standard well and boring decommissioning procedures required by San Bernardino County and the California Department of Water Resources (DWR) (DWR 1991) would be followed for the decommissioning of all borings. After sampling has been completed, boreholes would be grouted from the total depth to within 6 to 12 inches of the ground surface with a bentonite-cement grout installed continuously in one operation to effectively seal the hole. Native soil would be used to fill the top 6 to 12 inches. <u>In addition, guidance from the "Standard Operating Procedure for Well and Borehole Decommissioning" (PG&E 2014) would also be followed for the decommissioning of all wells and boreholes associated with the proposed Project. This document</u>

was developed in coordination with DTSC and the Tribes, and identified decommissioning requirements for various scenarios that may be encountered at the Project Site. The maximum area around a boring that may be disturbed for excavation and restoration activities is estimated to be a maximum of approximately 20 feet in diameter, excluding the access route used by the drilling rig that installed the borehole. The borehole abandonment rig would use that same access route.

3.5.3 Bench Scale Tests and Pilot Studies

In addition to the soil sampling activities described above, the proposed Project includes activities, as explained herein, to support the future Soil CMS/FS. Specifically, bench scale tests and pilot studies may be implemented to evaluate potential soil remedy options if remedial action is necessary. The bench scale tests or pilot studies to be considered will be guided by the results of the soil sampling activities and soil risk assessment. The possible remedial options are described in the *Corrective Measures/Feasibility Study Work Plan* (CH2M HILL 2008). The following sections summarize activities associated with bench scale tests and pilot studies.

3.5.3.1 Bench Scale Tests

Bench scale tests may be performed to evaluate the potential for soil washing, soil stabilization/fixation, or solidification to be effective and economical remediation techniques. Bench scale tests yield quantitative performance data and rough design and cost information.

A total of three bench tests may be performed that would evaluate soil washing, in situ soil flushing, and in situ fixation/chemical reduction/stabilization. The locations to be tested would be based on the results of the soil sampling activities. The tests would consist of collecting three to five 5-gallon buckets of contaminated soil for each treatment methodology for off-site testing (for a total of nine to fifteen 5-gallon buckets). The soil would be excavated using either hand tools or a backhoe or excavator and shipped to an off-site laboratory for testing. Soil used for bench scale testing would be disposed of by the laboratory and will not be reused on-site. The Project would produce less than one cubic yard of soil from the bench scale tests that would be hauled to a landfill. This would not be a notable or significant amount of waste for the type of landfill that accepts such soil.

3.5.3.2 Pilot Studies

In Situ Soil Flushing

Background – Description of In Situ Soil Flushing for Soil Remediation

Remediating contaminated soil using in situ soil flushing treatment methodology involves application of water or additives containing water to soil to enhance contaminant solubility. Soil flushing is often used in combination with groundwater remedial methods. Contaminants are leached from soil into the flushing solution and allowed to migrate down to groundwater, which is then recovered, treated, and recycled or disposed of as appropriate.

In situ flushing is performed through injection wells or infiltration galleries of an aqueous solution into a zone of contaminated soil/groundwater, followed by downgradient extraction of

groundwater and elutriate (flushing solution mixed with contaminants) and aboveground treatment and discharge or re-injection. Flushing solutions include plain water sometimes augmented by surfactants, co-solvents, oxidation/reductive or complexing reagents or other facilitators. In situ flushing typically uses surfactants to enhance conventional pump-and-treat technology through increasing the efficiency of a flushing pore volume, or accelerating natural flushing action. Some of the more important Project Site-related parameters include variations in hydraulic conductivity, degree of heterogeneity and soil organic content. Soil permeability is a key factor in assessing the applicability of this technology. The site specificity of application of this technology necessitates extensive predesign data collection through pilot studies.

Description of Pilot Studies to Test the Effectiveness of In Situ Soil Flushing

If in situ soil flushing is considered a viable remedial option, a pilot test may be conducted to assist in further evaluation of its effectiveness and economics. Such a test would consist of a pilot test area plot located in an area known to have contamination, flushing it with water (possibly containing flushing reagents), and testing the then-flushed soil to see if the contaminants are gone from the soil. Contaminants would be transferred from soil to water, which would then be recovered via extraction wells. Recovered water would then be treated, using either the existing on-site treatment facility, or trucked to an offsite treatment facility.

While there are currently no pilot studies planned, plausible areas where soil flushing would be a viable remedial technology would be within SWMU 1/AOC 1 – Bat Cave Wash. For the purposes of this DEIR, it is assumed that a pilot study for in situ flushing would be located in the bottom of Bat Cave Wash, in an area that is generally devoid of vegetation. Existing vegetation would be avoided. The width of the infiltration gallery (i.e., the width perpendicular to the groundwater flow direction) will be limited to the center one-half of the known width of the contaminated area. Thus, if any lateral spreading were to occur, the extent of the spreading would be anticipated to be within the existing contaminated unsaturated zone.

The in situ soil flushing pilot study would include the construction of either an infiltration gallery or injection well network for applying water. A plausible dimension of the pilot test area would be approximately 35 feet by 115 feet. In situ flushing equipment would be housed in either a small trailer (\approx 25 feet) or conex container, which will contain mixing equipment, monitor, and pump controls. Field appurtenances would include short, shallow infiltration trenches or injection wells, and flush solution recovery wells.

Infiltration trenches are anticipated to be approximately 30 inches wide by 25 feet long and buried at a depth of up to 2 feet. Installation excavation is anticipated to be performed by a backhoe and would take 5 to 7 days to install. If an infiltration gallery treatment solution delivery approach is used, it is proposed that four 30-foot horizontal trench laterals would be installed at a depth of approximately 3 to 5 feet bgs. If pilot area characterization information indicates the use of injection wells is more appropriate for delivery, it is proposed that a network of up to four 4- to 6-inch-diameter injection wells be installed and screened within impacted soil zones. In addition, as part of the pilot study, a network of six 4-inch diameter recovery wells would be installed within the proposed 35-foot by 115-foot in situ treatment pilot test area. Well depths will be dependent upon soil characterization data collected through the soil investigation. It is assumed

that a pilot test duration of approximately 120 days of active flushing would be sufficient for this test. Assuming an application rate of 1 to 1.5 gallons per minute per well, the amount of flush solution for a 120-day test would range between 700,000 to 1,000,000 total gallons of water (approximately 8,000 gallons per day). This water would be sourced from the Station water supply via a temporary 1-inch-diameter rolled high-density polyethylene (HDPE) tubing to be run aboveground from the Station down into Bat Cave Wash.

Recovered flush water would be pumped and piped to a temporary holding tank located at the Station and recovered flush solution would be temporarily stored within a 20,000-gallon tank located at the Station. This tank would be pumped to a 7,000-gallon tanker truck for transfer on a daily basis. It is assumed flush water would be transported to:

- The IM-3 water treatment plant for treatment;
- An off-site treatment facility in Los Angeles (if water is hazardous) or Phoenix (if water is nonhazardous); or
- If the recovered water is hazardous, it may also be treated on-site with a portable water treatment system to nonhazardous levels and subsequently trucked to Phoenix.

Once pilot studies are complete, infiltration galleries would be removed and backfilled with native material. All injection and recovery wells will be removed and holes abandoned in accordance with DTSC guidelines (DWR Bulletin 74-90, California Well Standards) and American Society for Testing and Materials (ASTM) Standard 5299-99, Standard Guide for Decommissioning of Ground Water Wells, Vadose Zone Monitoring Devices, Boreholes and Other Devises for Environmental Activities. Post-remediation soil sampling would be performed after the pilot test to assess contaminant concentrations in the treatment zone. It is assumed up to six soil borings would be drilled within the treatment area using sonic drill rigs.

In Situ Stabilization/Chemical Fixation

Background – Description of In Situ Stabilization/Chemical Fixation for Soil Remediation

Remediating contaminated soil using in situ stabilization/chemical fixation involves the addition of reagents to react with targeted constituents in the soil to chemically convert contaminants into insoluble minerals that are permanently stable under the natural redox conditions existing at the Project Site. Reagents can be applied to soil by infiltrating a liquid from the surface or through injection wells.

Description of Pilot Studies to Test the Effectiveness of In Situ Stabilization/Chemical Fixation

If in situ stabilization/fixation technology is considered a viable remedial option, a pilot test may be conducted to assist in further evaluation of its effectiveness and economics. Such a test would consist of construction of a small-scale on-site treatment delivery system (infiltration gallery or injection wells) over an area known to have contaminated soil. Reagent selection and percent addition will be determined based on the bench scale tests described previously in this section. Potential reagents for investigation include: reduction/oxidation solutions; sodium dithionite; calcium/sodium polysulfide; sodium metabisulfite; complexing solutions; diphenyl carbazide; and ECOBOND® solution. Selection will be made of the most effective reagents and their anticipated concentrations. One or more of these reagents may be used in the pilot tests.

While there are currently no pilot studies planned, plausible areas where in situ stabilization/fixation would be a viable remedial technology would be within SWMU 1/AOC 1 – Bat Cave Wash and within the Station. It is assumed that the proposed 35-foot by 115-foot in situ treatment pilot test area in the bottom of Bat Cave Wash (described previously for in situ soil flushing) could be bifurcated with one side used for an in situ soil flushing pilot study and the other used for in situ fixation/stabilization pilot study. In addition, a second in situ stabilization/fixation pilot study within the Station may be conducted. In situ fixation/stabilization pilot study within the Station would be executed using injection wells.

In situ fixation/stabilization reagents would be delivered to the ground via either an in infiltration gallery or injection wells. The configuration of these delivery systems was described under in situ soil flushing. Water would be sourced from the Station water supply via a temporary 1-inch-diameter rolled HDPE tubing; however, for the in situ fixation/stabilization pilot study, the water needs are much less, totaling approximately 200,000 gallons, and there is no need to recover and treat flushing solutions.

As described above, once pilot studies are complete, infiltration galleries would be removed and backfilled with native material. All injection and recovery wells will be removed and holes abandoned in accordance with DTSC guidelines (DWR Bulletin 74-90, California Well Standards) and ASTM Standard 5299-99, Standard Guide for Decommissioning of Ground Water Wells, Vadose Zone Monitoring Devices, Boreholes and Other Devices for Environmental Activities. Post-remediation soil sampling would be performed after the pilot test to assess contaminant concentrations in the treatment zone. It is assumed up to six soil borings would be drilled within the treatment area using sonic drill rigs.

3.5.4 Geotechnical Evaluations

<u>Geotechnical evaluations, if determined necessary, will occur after soil sampling activities and</u> <u>soil risk assessment and be guided by these efforts.</u> Geotechnical borings may be drilled in areas to collect information to evaluate strength characteristics of subsurface soil and slope stability. Slope stability analyses may be performed to evaluate the maximum slope ratio that can be maintained or maximum loads that may be placed at a given location during sampling or remediation activities. It is anticipated that geotechnical evaluations would be undertaken within or near AOCs that have steep slopes and where remediation is determined necessary. AOCs with or near significant slopes include: SWMU 1/AOC 1, AOC 4, AOC 9, AOC 10, AOC 11, AOC 14, AOC 27, and AOC 31. It is assumed that up to eight geotechnical evaluations would be undertaken. Geotechnical borings would be drilled using hollow-stem auger drill. Soil samples would be collected using the standard penetration test and modified California ring samplers for index properties, strength, and compaction characteristics.
3.5.5 Plant or Other Biota Samples

After the proposed soil investigation activities are complete, a Human Health Risk Assessment (HHRA) and an Ecological Risk Assessment (ERA) (a paper study) would be performed, following the approach presented in the Human Health and Ecological Risk Assessment Work Plan (RAWP). The ERA makes a number of conservative assumptions, and as such, it may indicate theoretical potential risk to herbivorous (i.e., eats plants) and invertivorous (i.e., eats invertebrates) wildlife populations. In that event, a validation study composed of collecting and analyzing biota tissue samples from the Project Site may be considered to reduce uncertainty in the ERA.

Specific target species for plant and invertebrate sampling, if any, will be dependent on the outcome of the baseline ecological risk assessment for soil. The purpose of the sampling, if conducted, would be to obtain representative plant or prey tissue concentrations to evaluate dietary exposure to birds or mammals consuming the plants or prey. Therefore, the specific sampling design will be dependent on the feeding guild potentially at risk. Tissue samples may be collected from multiple species to best represent the diet composition of representative receptors for the feeding guild of interest.

In the event that a validation study is required, plant and invertebrate tissue samples and potentially co-located soil samples would need to be collected from the Project Site. The sampling at the Project Site would focus on the areas of the soil investigations, although specific AOCs cannot be determined at this time without completing the predictive ERA. To minimize additional soil sampling, tissue samples would be collected from locations where soil sampling has already been completed or planned (which can be representative of co-located data) provided adequate biomass is available from those locations.

As part of the study, tissue and co-located soil samples would also need to be collected from a reference area representative of ambient conditions. The reference area could be identified within the boundary of the APE, but outside of the soil investigation areas.

The tissue sampling methods recommended would not require use of motorized equipment and tissue would be collected from areas providing foraging habitat. The following summarizes some general approaches to sampling:

- Plant Tissue Sampling Based on review of diet composition of representative receptors and listed special-status and culturally-sensitive plants, no collection of special-status and culturally-sensitive plant species will be necessary. Plant tissue samples would be collected using less invasive methods, for example by hand pruning without sacrificing individual plants. Tissue would be collected from as few plants as practical to provide a representative sample of diet concentrations in that specific sampling location. Tissue collection could require 1 to 2 weeks of field work in each area and focus on leafy vegetation rather than more intrusive seed collection, as allowed by study objectives.
- Invertebrate Tissue Sampling –<u>Pit traps would be used to collect invertebrates for tissue</u> <u>analysis in the laboratory.</u>Pit traps could be set where soil from a location is pushed aside to create a shallow pit (approximately 1 foot square by 1 foot deep) using a hand auger, shovel,

or trowel. While the specific number of pits would depend on the area needing assessment, for the purposes of this DEIR, it is assumed it will be 8 to10 pits co-located with soil sample locations. A 1-gallon vessel (jug/can) could be put in a shallow pit with the lip of the vessel at ground surface, and invertebrates can be collected using these baited traps. A thin plywood cover board would be placed over the trap and secured from other predators. It is conceivable that this effort could take 1 to 2 weeks of daily trapping to collect sufficient biomass in a desert environment. Once sampling is completed, the traps would be removed and soil would be pushed back to cover the shallow pits. Invertebrate tissue sampling, if conducted, would result in mortality of individual invertebrates.

As the soil investigation proceeds, additional data may identify additional key chemicals of potential ecological concern (COPECs) (e.g., dioxins/furans, PCBs, or other organic chemicals). If unacceptable risk is predicted for carnivorous receptors, a validation study may be required where small mammal tissue would need to be collected from the Project Site.

<u>Small Mammal Tissue Sampling -</u> Tissue would be collected using Sherman live or similar traps deployed on the ground surface. Trapping in each area could require 1 to 2 weeks to collect sufficient biomass for analysis. The sampling methods would only be minimally invasive, focusing on locations where soil sampling has already been completed or planned (which can be representative of co-located data) provided adequate biomass is available from those locations. The specific target species, if any, will be dependent on the outcome of the baseline ecological risk assessment for soil. The purpose of the sampling, if conducted, would be to obtain representative small mammal tissue concentrations for dietary exposure to carnivorous birds or mammals. Therefore, the specific sampling design will be dependent on the dietary composition of the representative receptors potentially at risk. Typical small mammal tissue sampling methods entail mortality of individual animals. However, no impact to the health of small mammal populations would be associated with the relatively small number of individuals that would be collected.

Sampling and analysis plans for any validation study, if necessary, will be developed with transparency and input from the government agencies and stakeholders prior to approval.

Biota tissue sampling, if conducted, would seek to minimize potential impact to non-target species. Should such sampling be deemed needed, the sampling and analysis plans will include measures that reduce harm to non-target species to be released when the traps are emptied. Traps may also be deployed in the evening and emptied in the morning so that trapped animals are not subject to excessive heat or captivity.

3.5.6 Work Area Restoration

Once soil investigation activities are complete, all Project equipment and materials would be removed from the work area. If not paved, the area would be raked/brushed to remove tire tracks and restored to substantially the same condition(s) as prior to the soil investigation sampling. At the mouth of Bat Cave Wash, up to 2 acres of vegetation would be trimmed, pruned, or cleared using a chainsaw and wood chipper. Complete vegetation removal is not anticipated in any work

areas (see Section 3.5.2.1). Trimming, pruning, or clearing of vegetation may be needed to access some sites and clear around sample areas. No action will be taken to revegetate work areas. As described in the Soil Work Plan, roots would be left in place to allow for regrowth of vegetation (including the mouth of Bat Cave Wash, where root balls would be left in place). Revegetation is expected to occur naturally and rapidly within one to two growing seasons based on past on-site experience. For example, in 2007, vegetation was cleared in the area where MW-52 and MW-53 were installed, near the Colorado River and I-40. Vegetation in this area grew back within two growing seasons.

As described in Section 3.5.3.2, any infiltration galleries associated with the pilot studies would be removed and backfilled with native material. All injection and recovery wells would be removed and holes abandoned in accordance with DTSC guidelines (DWR Bulletin 74-90, California Well Standards) and ASTM Standard 5299-99, Standard Guide for Decommissioning of Ground Water Wells, Vadose Zone Monitoring Devices, Boreholes, and Other Devices for Environmental Activities. SOPs (Section 3.5.7) for well decommissioning would also be followed.

3.5.7 Standard Operating Procedures and Best Management Practices

The soil investigation activities will adhere to SOPs and BMPs to ensure protection of health, safety, and the environment. The relevant SOPs and BMPs will become conditions of approval of the Project. Section 2.2 of the Soil Work Plan, Standard Operating Procedures (CH2M HILL 2013), describes SOPs and BMPs to be used for the soil investigation activities. SOPs and BMPs are part of the Project and will be implemented and followed throughout the Project. Specific SOPs described in Section 2.2 of the Soil Work Plan include the methods, equipment, and procedures for the following activities:

- borehole drilling requirements
- surface soil sampling
- subsurface soil sampling
- debris sampling
- geophysical surveys
- XRF screening
- soil vapor sampling
- potholing/trenching and sampling
- surveying
- vegetation management
- waste management
- decontamination

In addition, many of the soil sample collection and handling activities will follow SOPs from the *Topock Program Sampling, Analysis, and Field Procedures Manual, PG&E Topock Compressor Station, Needles, California* (CH2M HILL 2005). The SOPs relevant to the soil investigation activities associated with this Project are included in Appendix G of the Soil Work Plan and include the following SOPs:

- SOP-B2 Soil Classification and Logging Procedures
- SOP-B3 Borehole Sampling and Logging of Soil Borings
- SOP-B4 Boring Abandonment
- SOP-B5 Decontamination of Personnel and Equipment, Well Drilling, and Subsurface Sampling and Investigations
- SOP-B7 Homogenization of Soil and Sediment Samples
- SOP-B9 Drilling-Sonic Method
- SOP-B11 Site Clearance and Permitting
- SOP-B15 Volatile Organic Compound (VOC) Soil Sampling
- SOP-B16 Field-portable X-Ray Fluorescence Soil Sampling
- SOP-B17 Standard Operating Procedure for the Installation of Permanent Soil Gas Sampling Implants
- S-B18 Collection of Soil Gas Samples from Temporary and Permanent Soil Gas Probes using SUMMA Canisters and a Helium Leak Check
- SOP-B19 Remote Equipment Refueling

Section 2.2.1 of the Soil Work Plan, Best Management Practices, provides a general description of BMPs associated with dust control, noise control, worker safety, access routes, general housekeeping practices, and other potentially undesirable effects associated with the investigation. <u>PG&E will also prepare and implement an erosion control plan</u>. Appendix J of the Soil Work Plan provides additional details for the management of displaced soil and hazardous waste. <u>The "Standard Operating Procedure for Well and Borehole Decommissioning" (PG&E 2014) provides details regarding well and borehole decommissioning and can be found in SOP B-4 to the "Basis of Design Report/Pre-Final (90%) Design Submittal for the Final Groundwater Remedy" (PG&E 2014) (see Appendix B to the Operation & Maintenance Plan, Volume I).</u>

3.5.8 Soil Investigation Schedule and Effort

Implementation of soil sampling activities are anticipated to begin in early Spring 2015, pending approval of the Soil Work Plan and completion of the CEQA process. The soil sampling activities are estimated to be completed within 12 months of initiation. Subsequent activities to support the future Soil CMS/FS would be undertaken after the completion of the soil sampling activities, estimated to begin in late 2016 and are anticipated to last from 13 to 27 months. Bench scale tests

would precede the pilot studies, and each pilot study would be implemented independently to utilize the same equipment and worker force. The geotechnical evaluation and plant or other biota sampling would be conducted independently of bench scale tests and pilot studies, although these activities could occur concurrently with the bench scale tests and pilot studies.

3.5.8.1 Soil Sampling and Sample Analysis

Work phases and approximate timelines for soil sampling and sample analysis are as follows:

- Permitting and site planning 2 months
- Field mobilization 1 month
- Field implementation 9 months

The field implementation phase would occur over three stages that would include field investigation, data compilation, and stakeholder coordination. It is understood that these stages could overlap over the duration of the Project. The field investigation would occur for approximately 5 months. Workers would be present on-site each work day throughout the duration of investigation. During times when concurrent investigation activities are under way, a maximum of 13 employees would be accessing the Project Site plus agency oversight personnel, an archaeological monitor, and invited Native American Tribal monitors. Most workers would drive to the Project Site daily from nearby communities, including Needles, Laughlin, and Lake Havasu City. In addition, an average of 10 passenger vehicle deliveries would occur daily for the 5 months of active field investigation time. **Table 3-4** outlines the field implementation stages. Data compilation and stakeholder coordination would occur throughout the field effort.

TABLE 3-4 SOIL SAMPLING FIELD IMPLEMENTATION SCHEDULE							
Estimate Activity Estimated Field Duration Staff Month							
XRF sampling/geophysical and asbestos surveys	Up to 4 staff	2					
Compile data from XRF and survey	N/A	1					
Meet with stakeholders to make decisions on sample locations	N/A	1					
Hand sampling, drilling, hydrovac, backhoe sampling	Up to 13 staff	2					
Compile data from hydrovac inside fence line	N/A	1					
Meet with stakeholders to make decisions on sample locations	N/A	1					
Additional hydrovac locations	Up to 4 staff	1					

The length of time required for the field implementation is dependent on a number of factors, including the nature and extent of contaminants encountered, geologic conditions encountered during drilling, the time required for grading or vegetation access, any necessary regulatory and landowner approvals, the availability of drilling contractors, and concurrent sequencing of work. Drilling would be limited to day<u>time light</u> hours to minimize the need for lighting and to conserve energy to the extent feasible. Daytime is generally defined as the time between sunrise and sunset when there is enough natural light to conduct Project activities without assisted lighting. If a

significant number of contingency samples are required, then the estimated duration could be extended up to 2 or 3 months.

In general, drilling activities would include the mobilization of equipment, supplies, and workers to and from the Project Site. Heavy equipment would include drill rigs to drill the boreholes and support trucks for materials and equipment, as described above. Trucks would be necessary for transporting workers, equipment, and materials to the Project Site, and for transporting workers, equipment, materials, collected samples, and waste from the Project Site. Most of the trips to the Project Site are expected to occur either early morning or end of day; deliveries may occur throughout the day. Anticipated vehicle use and trips are outlined in **Table 3-5**. Duration of sampling via drilling, hydrovac, or backhoe was assumed to be 2 months. As shown in the table, it was assumed each piece of sampling equipment and associated support truck would be mobilized to the site 2 to 4 times during that period. The drill rig support truck would make 1 to 2 trips per week (for 7 to 14 total trips) of drill rig sampling. It was assumed waste would be picked up two to six times over the course of the investigation. The total duration of the field effort was assumed to be 5 months (100 work days). The total number of staff to be on-site each day is up to 13 to 15 staff. This results in 1,300 to 1,500 worker truck/car daily trips to the site over the life of the Project.

Eight equipment staging areas have been identified throughout the Project Site and would vary in their use, depending on the location of sampling activities and storage/staging needs (see Figure 3-2). These staging areas, with a total area of approximately 26 acres, have been located to the extent feasible in areas that are already graded, developed, or disturbed, such as within the fenced and developed areas at the Station, near the existing IM-3 facilities, at the existing evaporation ponds, and along Route 66 (Figure 3-4). Equipment staging areas would be clearly demarcated based on existing disturbed areas and natural topographic limitations. In addition, two "observation areas" have been identified that would be used by PG&E, DTSC, and other stakeholders to view Project progress. The intended use of these locations is to provide a central area for observing Project-related activities. Tribal and archaeological monitors would not be confined to these areas or restricted from observing ground disturbance and soil more closely, provided health and safety requirements are met. No equipment or materials would be stored in these locations.

TABLE 3-5 TOTAL VEHICLE USE AND TRIPS FOR SOIL SAMPLING						
Equipment/Truck	Estimated Trips					
Drill rig	2 - 4					
Drilling support/supply truck (7 weeks)	7 - 14					
Hydrovac truck	2 - 4					
Hydrovac support truck	2 - 4					
Backhoe	2 - 4					
Backhoe support truck (2 weeks)	2 - 4					
Waste hauler	2 - 6					
Worker's trucks/cars	1,320 - 1,500					

Water for drilling activities, decontamination of equipment, and dust suppression would be trucked from the existing water tanks or water source at the Station or transported by hose where feasible (up to 2,000 gallons for soil sampling plus 500 gallons for contingency sampling if necessary). Water at the Station is supplied by wells located on the Arizona side of the Colorado River. Water use at the Station varies tremendously by season. The majority of the water is used by the cooling towers, and much higher demand occurs in the summer. The amount of water potentially used by drilling activities is minimal compared to the amount of water used by the Station.

3.5.8.2 Bench Scale Tests and Pilot Studies

Bench Scale Tests

A total of three bench tests may be proposed that would evaluate soil washing, in situ soil flushing, and in situ fixation/chemical reduction/stabilization. Work phases and approximate timelines for bench scale tests are as follows:

- Permitting, procurement, and site planning 2 months
- Field implementation 1 month

The locations for bench scale tests would be based on the results of the soil sampling activities. The tests would consist of collecting three to five 5-gallon buckets of contaminated soil for each treatment methodology for off-site testing (for a total of nine to fifteen 5-gallon buckets). Work would be undertaken by an engineer and subcontractors using hand tools. The bench scale tests would require daily truck trips would involve daily trips for an engineer and subcontractor for an approximate total of 40 trips.

Pilot Studies

A total of three pilot studies may be proposed: one in situ soil flushing pilot study; one in situ stabilization/fixation pilot study that would use a bifurcated pilot test area (using either an infiltration gallery or injection well delivery system) located in the bottom of Bat Cave Wash; and one in situ stabilization/fixation pilot study within the Station that would use injection wells. The pilot tests in the bottom of Bat Cave Wash and on the Station would not be undertaken

concurrently. If both are implemented, they would be one after the other, in order for the same equipment and work force would be used. Work phases and approximate timelines for pilot tests are as follows:

Pilot Studies in the Bottom of Bat Cave Wash

- Permitting, procurement, and site planning 2 months
- Field mobilization (including installing infiltration galleries, wells, piping, and pumps) 1 month
 - One trip for back hoe, drill rig, pilot test trailer, (2) 20,000 gallon baker tanks, and 5,000-gallon tank (6 trips)
 - Daily trips for two engineers (40 trips) and subcontractor (20 trips)
- Field implementation 6 months
 - Daily trips for engineer (120 trips), subcontractor (120 trips), and 7,000 gallon tanker truck (120 trips)
- Post-pilot testing sampling 2 weeks
 - One trip for drill rig (1 trip)
 - Daily trips for geologist (10 trips) and geologist assistant (10 trips)
- Decommissioning/restoration 2 weeks
 - Daily trips for engineer (10 trips) and subcontractor (20 trips)

The total duration for a joint in situ soil flushing and in situ stabilization/fixation pilot study in the bottom of Bat Cave Wash would be approximately 10 months. Total truck trips for the pilot studies in Bat Cave Wash are estimated at approximately 482 trips. Workers would include engineers, drill rig operators, geologists, and subcontractors. Assuming an application rate of 1 to 1.5 gallons per minute per well, the amount of water needed for a 120 day test would range between 700,000 to 1,000,000 total gallons of water for the in situ soil flushing pilot, and an additional 200,000 gallons for the in situ stabilization/fixation pilot study for a total of up to 1,200,000 gallons. This water would be sourced from the Station water supply via a temporary 1-inch-diameter rolled HDPE tubing that would run above ground.

Pilot Study in the Station

- Permitting, procurement, and site planning 2 months
- Field mobilization (including installing infiltration galleries, wells, piping, and pumps) 1 month
 - One trip for back hoe, drill rig, and pilot test trailer (3 trips)
 - Daily trips for two engineers (40 trips) and subcontractor (20 trips)
- Field implementation 6 months
 - o Daily trips for engineer (120 trips) and subcontractor (120 trips)

- Post-pilot testing sampling 2 weeks
 - One trip for drill rig (1 trip)
 - Daily trips for geologist (10 trips) and geologist assistant (10 trips)
- Decommissioning/restoration 20 weeks
 - Daily trips for engineer (10 trips) and subcontractor (20 trips)

The total duration for an in situ stabilization/fixation pilot study within the Station would be approximately 10 months. Total truck trips for this pilot study are estimated at approximately 354 trips. Workers would include engineers, drill rig operators, geologists, and subcontractors. Water use would total approximately 200,000 gallons sourced from the Station water supply via a temporary 1-inch-diameter rolled HDPE tubing that would run above ground.

3.5.8.3 Geotechnical Evaluations

It is assumed that up to eight geotechnical evaluations would be undertaken to collect information to evaluate strength characteristics of subsurface soil and slope stability within or near AOCs that have steep slopes and where remediation is determined necessary. Work phases and approximate timelines for geotechnical evaluations are as follows:

- Field Implementation 2 months (3 to 5 days per evaluation)
- One trip to the site for the hollow-stem auger rig (8 trips total)
- Daily trips to the site for driller, geologist, and geologist assistant (120 trips total)

Total truck trips for the geotechnical evaluations are estimated at approximately 128 trips. Workers would include drill operator, geologist, and assistant. Geotechnical borings would be drilled using hollow-stem auger drill, no water would be needed.

3.5.8.4 Plant and Other Biota Samples

In the event that an ERA validation study is required, plant, invertebrate, and mammal tissue samples may need to be collected from the Project Site. Work phases and approximate timelines for plant and other biota sampling are as follows:

- Plant tissue sampling 2 weeks
 - Two daily trips for biologists (20 trips total)
- Invertebrate tissue sampling 2 weeks
 - Two daily trips for biologists (20 trips total)
- Small mammal tissue sampling 2 weeks
 - Two daily trips for biologists (20 trips total)

Total truck trips for plant and other biota sampling are estimated at approximately 60 trips. Workers would include biologists using hand tools such as a hand auger, shovel, or trowel. No water would be needed for plant or other biota sampling.

TABLE 3-3 SOIL INVESTIGATION AREAS – TOPOCK COMPRESSOR STATION PROJECT SITE, NEEDLES, CALIFORNIA									
Soil Investigation Areas	Area (square feet)	Number of Locations and Sampling Methods ^a	Total Number of Soil Samples ^a	Maximum Sample Depth (Feet)	Access Considerations	Parameters to be Measured ^b	Location in Soil Work Plan	Notes	
SWMU 1 – Former Percolation Bed	19,000	4 Rotosonic borings; 4 Backhoe excavations	47	80	Access to Bat Cave Wash likely by dirt road west of AOC 16; potential boulder restrictions	Hexavalent chromium; Title 22 metals; PCBs; soil physical parameters SPLP; general chemistry	Appendix A; Subappendix C1, Table C1-10; Appendix F		
SWMU 5 – Sludge Drying Beds	2,000	2 Hydrovac borings	4, if feasible	3, if feasible	Paved access road; adjacent unpaved areas; Hydrovac accessible; utilities & risers; XRF if feasible	Hexavalent chromium; Title 22 metals; SVOCs; PAHs; TPH- Extractable and Purgable; VOCs; TAL/TCL Analytical Suite; soil physical parameters	Appendix B; Subappendix B2, Table B2-3; Appendix F	Beds removed; COPCs = TPH & PAHs	
SWMU 6 – Chromate Reduction Tank	31	1 Hydrovac boring	4, if feasible	10, if feasible	Paved access; adjacent unpaved areas; utilities & risers	Hexavalent chromium; Title 22 metals; SVOCs; PAHs; TPH-Extractable and Purgable; VOCs; TAL/TCL Analytical Suite	Appendix B; Subappendix B3, Table B3-3; Appendix F	No XRF	
SWMU 8 – Process Pump Tank	110	1 Hydrovac boring	2, if feasible	3, if feasible	Paved access; utilities & risers	Hexavalent chromium; Title 22 metals; SVOCs; PAHs; TPH-Extractable and Purgable; VOCs; TAL/TCL Analytical Suite	Appendix B; Subappendix B4, Table B4-3; Appendix F	No XRF	
SWMU 9 – Transfer Sump	24	Potentially 1 Hydrovac boring	TBD	TBD	Paved access; unpaved; utilities & risers; XRF feasible	TBD	Appendix B; Subappendix B5, Figure B5-2	Results from nearby units would be used by DTSC to decide if and where sampling is needed	
SWMU 11 – Former Sulfuric Acid Tanks	780	5 Hydrovac borings	10	3, if feasible	Concrete walkways and unpaved areas; utilities & risers; One location suitable for XRF	Hexavalent chromium; Title 22 metals; pH; TAL/TCL Analytical Suite; soil physical parameters	Appendix B; Subappendix B6, Table B6-2; Appendix F		
AOC 1 – Area around Former Percolation Bed	182,000	33 Rotosonic borings; 4 of the 33 could be backhoe excavations; 1 by hand tools and rappelling	155	80	Access roads west of AOC 16, north of AOC6, or dirt roads north of I-40 and BNSF railroad tracks; four locations on 10-foot plateau may need access pathway improvement and/or grading; one location in Bat Cave Wash between two culverts will require BNSF access permit; some vegetation (Tamarisk) trimming and pruning needed (less than 2 acres or 87,120 square feet)	Hexavalent chromium; Title 22 metals; pH; Dioxins/Furans; Pesticides; PCBs; PAHs; soil physical parameters	Appendix A; Subappendix C2, Table C2-19; Appendix F		
AOC 4 – Debris Ravine	69,000	12 Rotosonic borings; 4 of 12 may be by Hydrovac borings; 10 by hand tools	66	9	Open, unpaved area; 2010 storm event deposited material in southern reaches of Bat Cave Wash that may need removal	Hexavalent chromium; Title 22 metals; Dioxins/Furans; PCBs; PAHs; asbestos	Appendix A; Subappendix C10, Table C10-15; Appendix F		
AOC 5 – Cooling Tower A	15,000	6 Hydrovac borings	18	10	Paved access; utilities & risers; Most suitable for XRF	Hexavalent chromium; Title 22 metals; pH; TAL/TCL Analytical Suite; soil physical parameters	Appendix B; Subappendix B7, Table B7-5; Appendix F		
AOC 6 – Cooling Tower B	14,000	5 Hydrovac borings; 2 by hand tools	16	10, if feasible	Unpaved and accessible; utilities & risers; most suitable for XRF	Hexavalent chromium; Title 22 metals; pH; PCBs; TAL/TCL Analytical Suite; soil physical parameters	Appendix B; Subappendix B8, Table B8-8; Appendix F		
AOC 7 – Hazardous Materials Storage Area	740	5 Hydrovac borings	10	3, if feasible	Mixed paved & unpaved; accessible; utilities & risers; some suitable for XRF	Hexavalent chromium; Title 22 metals; pH; SVOCs; PCBs; PAHs; TPH-Extractable and Purgable; VOCs; TAL/TCL Analytical Suite; soil physical parameters	Appendix B; Subappendix B9, Table B9-2; Appendix F		
AOC 8 – Paint Locker	120	1 Hydrovac boring; 1 by hand tools	4	3, if feasible	One paved & one unpaved; accessible; utilities & risers; one suitable for XRF	Title 22 metals; TPH-Extractable and Purgable; VOCs; TAL/TCL Analytical Suite; soil physical parameters	Appendix B; Subappendix B10, Table B10-2; Appendix F		
AOC 9 – Southeast Fence Line (Visitor Parking Area)	3,400	6 by hand tools or backhoe	21	14	Steep slope or in drainage area with low stability; some vegetation trimming or pruning likely at AOC9-15	Hexavalent chromium; Title 22 metals; Mercury and Lead; Pesticides; PCBs; PAHs; soil physical parameters	Appendix A; Subappendix C3, Table C3-16; Appendix F		
AOC 10 – East Ravine	20,910	14; 6 by Backhoe excavations; 5 by Rotosonic borings; 3 by hand tools; also additional assorted debris locations by hand tools	44	9	Ravine with steep sloped side walls	Hexavalent chromium; Total Chromium; Title 22 metals; pH; Dioxins/Furans; SVOCs; Pesticides; PCBs; PAHs; TPH-Extractable and Purgable; Asbestos; soil physical parameters	Appendix A; Subappendix C4, Table C4-18; Appendix F		

TABLE 3-3 SOIL INVESTIGATION AREAS – TOPOCK COMPRESSOR STATION PROJECT SITE, NEEDLES, CALIFORNIA									
Soil Investigation Areas	Area (square feet)	Number of Locations and Sampling Methods ^a	Total Number of Soil Samples ^a	Maximum Sample Depth (Feet)	Access Considerations	Parameters to be Measured ^b	Location in Soil Work Plan	Notes	
ERPW Sampling (Part of AOC 10)	NA	10 by hand tools; drive-point piezometer	10	6 for sampling; 20 if feasible for sediment thickness measurement	All have difficult access, some requiring boat access; some dense riparian vegetation requiring trimming No access March 15 through September 30 due to bird habitat issues; Section 3.2 of Attachment C4-1 describes specific required access routes	Sediment: Hexavalent chromium; Title 22 metals; total organic carbon, acid volatile sulfides (AVS), AVS/simultaneously extracted metals (SEM), molybdenum, PAHs, SVOCs, PCBs, ammonia, sieve analysis Purged pore water: temperature, specific conductance, oxidation- reduction potential, dissolved oxygen, dissolved metals	Attachment C4-1		
AOC 11 – Topographic Low Areas	56,628	7 Rotosonic borings; 5 Backhoe excavations; 3 by hand tools	67	69	Underground natural gas lines with portions less than 6 inches below grade; some grading of check berms may be needed for rig access	Hexavalent chromium; Total Chromium; Title 22 metals; General Chemistry; pH; Dioxins/Furans; SVOCs; PCBs; PAHs; TPH-Extractable and Purgable; TAL/TCL Analytical Suite; soil physical parameters	Appendix A; Subappendix C5, Table C5-11; Appendix F		
AOC 12 – Fill Area	4,900	None	None	N/A	N/A	N/A	Appendix A; Subappendix C6	No further investigations needed	
AOC 13 – Unpaved Areas within the Station	N/A	24 Hydrovac borings; 8 by hand tools	74	10	Paved & unpaved; accessible; some suitable for XRF	Hexavalent chromium; Title 22 metals; SVOCs; PCBs; PAHs; TPH-Extractable and Purgable; VOCs; Asbestos; TAL/TCL Analytical Suite; soil physical parameters; VOCs (TO-15)	Appendix B; Subappendix B11, Table B11-10 (32 soil borings & 4 soil gas); Appendix F	Some air samples	
AOC 14 – Railroad Debris Site	79,000	4 Rotosonic borings; also assorted debris locations by hand tools	20	14	Restricted access due to railroad, roads, and wash; access permit required by BNSF; access by foot; heavy equipment would have to be craned onto site; suitable for XRF	Hexavalent chromium; Title 22 metals; pH; Dioxins/Furans; SVOCs; Pesticides; PCBs; PAHs; TPH-Extractable and Purgable; VOCs; soil physical parameters	Appendix A; Subappendix C7, Table C7-15; Appendix F		
AOC 15 – Auxiliary Jacket Cooling Water Pumps	810	2 Hydrovac borings; 5 by hand tools	14	3, if feasible	Unpaved; accessible; utilities & risers; suitable for XRF	Hexavalent chromium; Title 22 metals; pH; SVOCs; PCBs; PAHs; TAL/TCL Analytical Suite; soil physical parameters	Appendix B; Subappendix B12, Table B12-4; Appendix F	5 locations in gravel area 3 feet above grade;	
AOC 16 – Sandblast Shelter	880	2 Hydrovac borings; 2 by hand tools	7	3, if feasible	Unpaved; accessible; utilities & risers; suitable for XRF	Title 22 metals; TAL/TCL Analytical Suite; soil physical parameters	Appendix B; Subappendix B13, Table B13-4; Appendix F		
AOC 17 – On-site Septic System	2,500	5 Hydrovac borings	20	10, if feasible	Paved; accessible; utilities & risers; unsuitable for XRF	Hexavalent chromium; Title 22 metals; Dioxins/Furans; SVOCs; PCBs; PAHs; TPH- Extractable and Purgable; VOCs; TAL/TCL Analytical Suite; soil physical parameters	Appendix B; Subappendix B14, Table B14-2; Appendix F	Geophysical Survey (Page 2-9, Main Text)	
AOC 18 – Combined Hazardous Waste Transference Pipeline	N/A	12 Hydrovac borings	36	6, if feasible	Paved & unpaved; Some locations on a slope; utilities & risers	Hexavalent chromium; Title 22 metals; pH; SVOCs; PCBs; PAHs; TPH-Extractable and Purgable; VOCs; TAL/TCL Analytical Suite	Appendix B; Subappendix B15, Table B15-4; Appendix F	Figure B15-2 appears to shows most locations accessible by Hydrovac	
AOC 19 – Former Cooling Liquid Mixing Area and Former Hotwell	1,100	3 Hydrovac borings; 3 by hand tools	18	10, if feasible	Paved & unpaved; utilities & risers; suitable for XRF	Hexavalent chromium; Title 22 metals; pH; TAL/TCL Analytical Suite; soil physical parameters	Appendix B; Subappendix B16, Table B16-5; Appendix F		
AOC 20 – Industrial Floor Drains	N/A	7 Hydrovac borings	14	3, if feasible	4 paved, 3 unpaved locations; utilities & risers; unsuitable for XRF	Hexavalent chromium; Title 22 metals; PCBs; PAHs; TPH- Extractable and Purgable; VOCs; soil physical parameters	Appendix B; Subappendix B17, Table B17-2; Appendix F		
AOC 21 – Round Depression near Sludge Drying Bed	1,800	1 Hydrovac boring	3	6, if feasible	Appears unpaved; utilities & risers; suitable for XRF	Hexavalent chromium; Title 22 metals; Calcium; Sodium; pH; SVOCs; PCBs; PAHs; TPH-Extractable and Purgable; VOCs; TAL/TCL Analytical Suite; soil physical parameters	Appendix B; Subappendix B18, Table B18-2; Appendix F		
AOC 22 – Unidentified Three Sided Structure	757	2 Hydrovac borings	4	3, if feasible	Unpaved; utilities & risers; suitable for XRF	Hexavalent chromium; Title 22 metals; pH; SVOCs; PCBs; PAHs; TPH-Extractable and Purgable; VOCs; soil physical parameters	Appendix B; Subappendix B19, Table B19-2; Appendix F		
AOC 23 – Former Water Conditioning Building	1,000	3 Hydrovac borings; 2 of the 3 are also suitable for hand tools	6	3, if feasible	Paved; utilities & risers; one location unsuitable for XRF, other 2 are suitable	Hexavalent chromium; Title 22 metals; pH; Dioxins/Furans; SVOCs; PCBs; PAHs; TPH-Extractable and Purgable; VOCs; Asbestos; soil physical parameters	Appendix B; Subappendix B20, Table B20-2; Appendix F		
AOC 24 – Stained Area and Former API Oil/Water Separator	580	2 Hydrovac borings	6	10, if feasible	Unpaved; utilities & risers; suitable for XRF	Hexavalent chromium; Title 22 metals; pH; SVOCs; PCBs; PAHs; TPH-Extractable and Purgable; VOCs; soil physical parameters	Appendix B; Subappendix B21, Table B21-2; Appendix F		

TABLE 3-3 SOIL INVESTIGATION AREAS – TOPOCK COMPRESSOR STATION PROJECT SITE, NEEDLES, CALIFORNIA									
Soil Investigation Areas	Area (square feet)	Number of Locations and Sampling Methods ^a	Total Number of Soil Samples ^a	Maximum Sample Depth (Feet)	Access Considerations	Parameters to be Measured ^b	Location in Soil Work Plan	Notes	
AOC 25 – Compressor and Generator Engine Basements	18,000	See AOC 13	See AOC 13	See AOC 13	See AOC 13	See AOC 13	Addressed in AOC 13 (Appendix B11); Appendix B; Subappendix B22	Access restrictions prevent sampling; addressed by AOC 13 boring and gas sampling program (App B, Table B-12)	
AOC 26 – Former Scrubber Oil Sump	1,646	5 Hydrovac borings or small drilling rig	26	75	Unpaved; utilities & risers; suitable for XRF	Hexavalent chromium; Title 22 metals; pH; SVOCs; PCBs; PAHs; TPH-Extractable and Purgable; VOCs; soil physical parameters; VOCs (TO-15)	Appendix B; Subappendix B23, Table B23-2; Appendix F	One multiple depth soil vapor probe to 5, 25, and 50 feet bgs	
AOC 27 – MW-24 Bench	149,686	5 Backhoe excavations; 3 by hand tools; plus one 50-foot grid for XRF across the site	8	Bottom of trench or 0	Bordered by I-40, former Route 66, and ridge, Station, and Bat Cave Wash; steep dirt road; several underground natural gas lines, possibly other unknown utilities; unpaved dirt area	Dioxins and furans, pesticides, PAHs, VOCs, SVOCs, Title 22 metals, hexavalent chromium, PCBs, TPH, pH, soil physical parameters (Atterberg limits, relative compaction, alkalinity, cation exchange, capacity, and particle size distribution	Appendix A; Subappendix C11	Geophysical Survey (Page 2-9, Main Text)	
AOC 28 – Pipeline Drip Legs	3,222	4 Hydrovac borings	13	5, if feasible	Dirt road access	TPH, PAHs, PCBs, and soil physical parameters (Atterberg limits, relative compaction, alkalinity, cation exchange, capacity, and particle size distribution	Appendix A; Subappendix C12		
AOC 29 –IM-3 Treatment Plant AND	40,276	None (To be addressed during closure of IM-3 Treatment Plant & the groundwater	None	N/A			Not addressed in this Work Plan		
AOC 30 – MW-20 Bench	61,778	remedy system)							
AOC 31 – Former Teapot Dome Oil Pit	829	Located within and discussed in association with the Perimeter Area	None	N/A			Appendix C	Being sampled as part of Perimeter Area sample PA-08. See Perimeter sampling below for details.	
AOC 32 – Oil Storage Tanks and Waste Oil Sump	2,805	None	None	N/A	utilities & risers		Addressed in AOC 13 (Appendix B11); Appendix B; Subappendix B24	Active unit; tanks and sump; Access restrictions; addressed by AOC 13 boring and gas sampling program (App B, Table B-12)	
AOC 33 – Former Potential Former Burn Area near AOC 17	874	Located within and discussed in association with the Perimeter Area	None	N/A			Appendix B; Subappendix B14	Addressed as part of AOC 17, Appendix B14	
Unit 4.3 – Oil/Water Holding Tank	44	2 Hydrovac borings	4	3, if feasible	Paved; utilities & risers; unsuitable for XRF	Hexavalent chromium; Title 22 metals; pH; SVOCs; PCBs; PAHs; TPH-Extractable and Purgable; VOCs; Asbestos; TAL/TCL Analytical Suite	Appendix B; Subappendix B25, Table B25-2; Appendix F		
Unit 4.4 – Oil/Water Separator	28	None	None	N/A	N/A	Included with Unit 4.3 (Table B-12)	Appendix B; Subappendix B25	Included with Unit 4.3 (Table B-12)	
Unit 4.5 – Portable Waste Oil Storage Tank	3	None	None	N/A	N/A	Included with Unit 4.3 (Table B-12)	Appendix B; Subappendix B25	Included with Unit 4.3 (Table B-12)	
UA 1 – Potential Pipe Disposal Area	8,225	None	None	N/A	Open unpaved area	tbd	Appendix A; Subappendix C8	Geophysical Survey (Page 2-9, Main Text)	
UA 2 – Former 300B Pipeline Liquids Tank	829	None	None	N/A	Open unpaved area	None	Appendix A; Subappendix C9	Site previously remediated	
Perimeter Area	N/A	34 surface XRF samples; 8 by hand tools; 1 of the 8 (PA-08) may use Hydrovac or Rotosonic borings	Up to 45	10	Sloped areas outside fence line; subsurface utilities possible; suitable for XRF	Hexavalent chromium; Title 22 metals; SVOCs; PCBs; PAHs; TPH-Extractable and Purgable; VOCs; TAL/TCL Analytical Suite	Appendix C; Appendix F	Geophysical Survey (Page C-1-2, Appendix C)	
Storm Drain System	N/A	19, various methods as appropriate.	80	17 locations up to 10 feet; 2 locations up to 50 feet	Sampling limited to outside fence line in unpaved areas at outfalls & along visible lines, or surface sediment accumulations if inside the fence line	Hexavalent chromium; Title 22 metals; pH; PCBs; PAHs; TPH-Extractable and Purgable; TAL/TCL Analytical Suite; Geotechnical Parameters	Appendix D; Appendix F	Limited location information on active and inactive storm drain lines; alignment investigation includes visual, geophysical (GPR, EM, and VGM scans), flow testing, and video camera tracing, as feasible	

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TABLE 3-3

SOIL INVESTIGATION AREAS - TOPOCK COMPRESSOR STATION PROJECT SITE, NEEDLES, CALIFORNIA

a For boreholes drilled using a sonic or hydrovac drilling rig, and in some cases using a backhoe, multiple sample locations is considered in this analysis. b Sample parameters may vary with sample location depending on-site conditions

NOTES:

- AOC = area of concern
- AVS = acid volatile sulfide
- BNSF = Burlington Northern Santa Fe Railroad
- COPCs = constituents of potential concern
- · General chemistry includes either sodium, potassium calcium, magnesium, manganese, and iron or alkalinity, cation exchange capacity, electric conductance, orthophosphate, pH, phosphate, sulfide, total organic carbon, chloride
- Geotechnical Analysis includes moisture density relationship, unconfined compression tests, Atterberg limits, gradiation, pH, redox, sulfate, sulfide, total salts, chloride, and resistivity
- N/A = not applicable
- Not all analytes will be tested in all samples
- PAHs = polycyclic aromatic hydrocarbons
- PCBs = polychlorinated biphenyls
- Soil physical parameters include Atterberg limits, relative compaction, alkalinity, cation exchange capacity, particle size distribution, porosity, density, and/or total organic carbon
- SPLP is the synthetic precipitation leaching procedure used to analyze leachate on soil samples for total and hexavalent chromium
- SVOCs = semivolatile organic compounds

Sampling Equipment:

- Rotosonic drilling rig footprint SOP-B9
- Truck-mounted Tsi 150T is 33 feet long by 8-1/2 feet wide by 12 3/4 (folded) to 36 1/2 feet (unfolded) high
- Track-mounted 8140LS is 24.8 ft long by 7 feet wide by 24 (unfolded) feet high
- Rubber tired S-27 CRS is 20 feet long by 9 feet wide by 8 (folded) feet high
- boreholes = 4-6 inches diameter
- Also requires support truck (pick-up to larger size)
- · Backhoe or excavator footprint
- Caterpillar 416 to 450 -series backhoes: 18 to 26 feet long by 8 feet wide by 12 to 14 feet high (folded)
- Caterpillar 329D long reach excavator or similar: 47 feet to 57 long by 11 feet wide by 10 (folded)
- Hydrovac footprint
- Truck-mounted Maxvax Model 700 mounted on a 2012 International 7400 Chassis is 30 feet long by 8 feet wide by 11 1/2 feet high

- SEM = scanning electron microscope
- SWMU = solid waste management unit
- TAL/TCL Analytical Suite Target Analyte List/Target Compound List The Contract Laboratory Program (CLP) laboratories use CLP analytical methods for the isolation, detection, and quantitation of specific target compounds and analytes. The CLP Target Compound and Target Analyte Lists (TCL/TALs) were originally derived from the EPA Priority Pollutant List. In the years since the inception of the CLP, compounds and analytes have been added to, and deleted from, the list based on advances in analytical methods, evaluation of method performance data, and the needs of the Superfund program. The target compounds and analytes for TCL include volatile and semivolatile compounds, and pesticides/Arochlors (PCBs). The target compounds and analytes for TAL include metals and cyanide. Further details are on the USEPA website at http://www.epa.gov/superfund/programs/clp/target.htm
- tbd = to be determined
- TPH extractable = total petroleum hydrocarbons in the diesel range
 - TPH purgable = total petroleum hydrocarbons in the gasoline range
 - UA = undesignated area
 - VOCs = volatile organic compounds
 - XRF = x-ray fluorescence; a field method for testing metals concentrations

• Title 22 metals include antimony, arsenic, barium, beryllium, cadmium, chromium, cobalt, copper, lead, mercury, molybdenum, nickel, selenium, silver, thallium, vanadium, zinc;

CHAPTER 4 Environmental Analysis

The focus of Chapter 4 is on the proposed Pacific Gas and Electric Company (PG&E) Topock Compressor Station Soil Investigation Project (Project) activities that were found to have the potential to result in significant adverse impacts to the physical environment. Sections 4.1 through 4.7 discuss the existing environmental setting (or conditions), environmental impacts associated with implementation of the Project, and mitigation measures to avoid or substantially reduce significant impacts, where necessary, for the following resource areas:

- aesthetics
- air quality
- biological resources
- cultural resources
- hazardous materials
- hydrology and water quality
- noise

Each section in this draft environmental impact report that addresses the resource areas listed above (Sections 4.1 through 4.7) includes the following components:

Existing Setting: This subsection presents the existing environmental conditions at the Project Site and in the surrounding area as appropriate, in accordance with Section 15125 of the California Environmental Quality Act (CEQA) Guidelines. The discussions of the environmental setting focus on information relevant to the issues under evaluation.

Regulatory Background: This subsection presents information on the laws, regulations, plans, and policies that relate to the issue area being discussed. Regulations originating from local, state, and federal levels are discussed as appropriate.

Environmental Impacts: This subsection identifies the impacts of the proposed Project on the existing environment, in accordance with CEQA Guidelines Sections 15125 and 15143. Before presenting an evaluation of impacts, the section describes the analysis methodology and the thresholds of significance used to identify impacts. All potential Project impacts are identified alphanumerically and sequentially throughout this section. For example, in the biological resources analysis, potential impacts are identified as IMPACT BR-1, IMPACT BR-2, etc. The impact is first introduced by a heading, followed by a discussion that includes the analyses and supporting evidence. An impact statement follows the discussion of each impact, providing a

summary of the impact and either a statement of potential significance or of less than significance. For potentially significant impacts, mitigation is introduced (e.g., Mitigation Measure BR-1), followed by timing, responsibility of mitigation implementation, and the significance conclusion after implementation of mitigation.

4.1 Aesthetics

This section describes the existing conditions relating to visual and aesthetic resources within the Pacific Gas and Electric Company (PG&E) Topock Compressor Station Soil Investigation Project (Project) Site and surrounding area and the potential impacts on these resources that could result from the proposed Project.

Visual or aesthetic resources are generally defined as both the natural and built features of the landscape that are seen and that contribute to the public's experience and appreciation of the environment. Visual or aesthetic resource impacts are generally defined in terms of a project's physical characteristics and potential visibility and the extent to which its presence would substantially degrade the existing visual character and quality of the environment.

4.1.1 Existing Setting

4.1.1.1 Regional and Local Landscape Context

Figure 4.1-1 shows the Project Site within a regional and local geographical context. **Figures 4.1-2a** through **4.1-2c** present a set of annotated panoramic photographs that provide an overview of the Project Site's visual context in terms of key features and landscape characteristics.

The Project Site is located on the eastern boundary of San Bernardino County, approximately 12 miles southeast of the desert community of Needles, California, and approximately 0.5 miles southwest of Topock, Arizona. The Project Site overlooks the Mojave Valley, a broad alluvial plain bisected by the meandering channel of the Colorado River between Davis Dam in the north and the Chemehuevi Mountains at its southern edge. Situated within the basin-and-range geologic province that extends across southeastern California, Nevada, and portions of northern Arizona, this area is characterized by sparsely vegetated undulating terraces incised by numerous arroyos and isolated mountainous outcrops along its margins.

Much of the landscape within the region consists of undeveloped land with little visible infrastructure other than local roadways, many of them unpaved. Concentrated areas of residential and commercial development are located in and around Laughlin and Bullhead City in the northern part of the valley, primarily along Arizona State Route 95, which aligns with the east bank of the Colorado River. Farther south, residential and commercial development gives way to areas of agricultural development with scattered residences around the communities of Mohave Valley and Needles.

The Project Site lies within a larger area of traditional religious and cultural significance to several Native American Tribes inhabiting the region. The area is considered a cultural landscape and has been identified as a traditional cultural <u>place property</u> (TCP) (see Section 4.4, "Cultural Resources," for detailed discussion of the Topock TCP). The Topock TCP plays a central role in the beliefs and practices of those Native American Tribes who ascribe significance to this area and is a crucial element to contemporary Tribal identity and traditional and spiritual values.





Panoramic View from Ridge on Chemehuevi Mountains (VP 15)



Panoramic View from Interstate 40 eastbound at Colorado River (VP 3)

Refer to Figure 4.1-4 for photograph viewpoint locations

SOURCE: ENVIRONMENTAL VISION

- Topock Soil Investigation Project EIR . 120112 Figure 4.1-2a Panoramic Landscape Views



Panoramic View from Interstate 40 eastbound at Bat Cave Wash (VP 2)



Panoramic View from the Topock Maze Locus C (VP 7)

Refer to Figure 4.1-4 for photograph viewpoint locations

SOURCE: ENVIRONMENTAL VISION

- Topock Soil Investigation Project EIR . 120112 Figure 4.1-2b Panoramic Landscape Views



Panoramic View from the Topock Maze (Locus A at Interpretive Sign) looking north (VP 9-10)



Panoramic View from the Topock Maze (Locus A at Interpretive Sign) looking south (VP 9-10)

Refer to Figure 4.1-4 for photograph viewpoint locations

SOURCE: ENVIRONMENTAL VISION



- Topock Soil Investigation Project EIR . 120112 Figure 4.1-2c Panoramic Landscape Views

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Prominent landmarks that are culturally significant and integral to the Topock TCP are visible from many vantage points within the valley and adjacent foothills. These include the Needles pinnacles at the southern edge of the valley, Boundary Cone to the east, and Spirit Mountain, which rises from the desert floor to over 5,000 feet to dominate the northwestern horizon. Among the larger and better-known cultural resources near the Project Site is an expansive desert geoglyph known as the Topock Maze. Prominent historic-era features, several of which intrude upon the maze, include segments of historic U.S. Route 66, the National Trails Highway, and the right-of-way of the former Atlantic and Pacific/Atchison, Topeka and Santa Fe Railroad (currently operated by the Burlington Northern Santa Fe Railway [BNSF]). Section 4.4, "Cultural Resources," of this document provides a more detailed discussion of the broad spectrum of archaeological and historical resources present near the Project Site.

In the northern part of the valley, the Colorado River is largely constrained by engineered levees with sparsely vegetated banks. South of Needles, natural-appearing floodplain becomes more prevalent, characterized by shifting sand dunes and associated riparian vegetation, which includes native species as well as extensive stands of nonnative tamarisk (salt cedar). Topock Marsh, extending northeast of the Project Site from the east bank of the river, is a prominent visual feature in the landscape. A part of the Havasu National Wildlife Refuge that extends south along the river to the base of the Needles formation, this area attracts a variety of recreational visitors. These include boaters, seasonal visitors to riverside attractions such as Pirate Cove Resort, offroad vehicle users, and individuals attracted to the diverse desert scenery and areas of unique cultural and historical interest.

4.1.1.2 **Project Site Setting**

The Project Site occupies approximately 128.5 acres in and around the PG&E Topock Compressor Station (Station) located west of the Colorado River. The predominant land use in the area consists of undeveloped public land interspersed with concentrated areas of developed infrastructure. In addition to the Station facilities, a major gas utility and transportation corridor that includes natural gas transmission pipelines, the BNSF rail line, and Interstate 40 (I-40) bisects the Project Site. Additional developed land uses within or near the Project Site include the National Trails Highway, the former Route 66, and various unnamed access roads. A former gravel quarry lies approximately 1,500 feet southwest of the Station. Approximately 3,000 feet west of the Station are evaporation ponds associated with the facility, and an interim remedial measures groundwater treatment plant and numerous groundwater well clusters are located nearby.

Open space near the Station is characterized primarily by sparsely vegetated eroded alluvial deposits and steep, rocky slopes. The dark-colored rocks of the Chemehuevi Mountains, rising to over 2,700 feet a short distance to the south, form the primary backdrop to the Project Site when viewed from the heavily traveled highway corridor, particularly on its eastern approach to the river. The area is bisected by several steep-sided ephemeral streams, including Bat Cave Wash and several unnamed arroyos that flow north to the confluence of the Colorado River.

The Topock area and adjacent lands along the Colorado River are the ancestral home to a number of Native American Tribes, including the Cahuilla, Chemehuevi, Cocopah, Colorado River,

Halchidoma, Havasupai, Hualapai, Maricopa, Fort Mojave, Quechan, Serrano, and Yavapai peoples. Six of these Native American Tribes, the Chemehuevi Indian Tribe, Cocopah Indian Tribe, Colorado River Indian Tribes (CRIT), Fort Mojave Indian Tribe (FMIT), the Fort-Yuma Quechan Indian Tribe, and the Hualapai Indian Tribe, have actively participated in the Topock project and are referred to as "Interested Tribes." Each of the Interested Tribes has been, and continues to be, economically and culturally reliant on the Colorado River and all are historically and spiritually rooted in the Colorado River region. Although each Interested Tribe has its own history and belief system tied to the region and the river, the Interested Tribes share an interest in the health and welfare of all people, the land, wildlife, things above and below ground, and natural resources. As indicated in the *Topock Compressor Station Tribal Cultural Values Assessment*, several of the Interested Tribes feel that:

Plants, animals, minerals, artifacts, rock arrangements, view-sheds, the Colorado River, and many other tangible and intangible elements are interwoven into the very fabric of tribal cultures. Topock, in being such a significant religious and spiritual "place," involves a dynamic understanding of traditions, religion, ceremonies, oral histories, and a plethora of other social-communal aspects, that is difficult for non-tribal entities to grasp with its many different layers of existence (McDowell et al. 2013).

Figures 4.1-2a through 4.1-2c present several panoramic views of the regional and local setting. Annotations above each of these photographs indicate the location of key visible natural and built landscape features. Figure 4.1-2a shows two contrasting views of the landscape from locations in the vicinity of the Project Site. The top image is an elevated view from a ridgetop south of the Project Site. In this open view of the Mojave Valley, built features such as the existing Station and nearby transportation infrastructure, while visible, dwarfed by large-scale are surrounded by natural features such as the surrounding peaks, arroyos, and the Colorado River, which become defining elements in the visual character of the landscape. In the bottom view from the I-40 highway bridge at the Colorado River, constructed elements and disturbed topography present a greater degree of visual contrast with the surrounding natural terrain and appear as more prominent features in the landscape.

Figure 4.1-2b shows two panoramic views near Bat Cave Wash, which defines the western boundary of the Project Site and where close to half of proposed Project-related soil sampling activity would be located. The upper view of I-40 looking toward the Colorado River shows the constraining effect of natural and engineered topography on public views in the immediate vicinity of the Project Site. The bottom panorama offers views of heavily disturbed terrain and some built elements juxtaposed with open views of the natural and cultural features from this slightly elevated perspective.

Figure 4.1-2c is a 360-degree view of the Mojave Valley and surrounding peaks from Topock Maze Locus A. The viewshed of this cultural landscape is integral to the landscape's connection to Tribal history and culture. To some of the Interested Tribes, the scale of the viewshed extends far beyond any lines-of-sight associated specifically with the Topock Maze. Although some of the Interested Tribes are concerned about visual disturbances in and around the immediate area of the Topock Maze and physical intrusions on the current cultural and spiritual use of the area by Tribal members, some Interested Tribes also share a broader concern involving the visual intrusion on a much larger scale. Many of the prominent natural landform features that are visible from the Topock area, including Spirit Mountain, Boundary Cone, and the Needles (Avi Kwa Ame, Avi Vas Qui, and Huqueamp-Avi, respectively, to the Mojave; Wikame, Wi Veskwiya, and Wi kwid-kwid, respectively, to the Hualapai), are sacred to some Interested Tribes and play a significant role in their history and cultural traditions, which are generally rich in both detail and mythical occurrences commonly associated with identifiable places and landmarks. Mojave stories and songs, for example, recount journeys and the transformation of mythical persons into animals or landforms. Sensitive viewsheds also include those of the river, the mountains, the valley, and other features of the landscape, which create a context for spiritual experiences.

Furthermore, from the perspective of the Interested Tribes, important views are not limited to a view(s) in a particular direction(s), but also in the direction of an "area situated along an important spiritual alignment between two features that are located on either side of the area" (FMIT 2013). For example, on a visit to the Project Site on October 28, 2013, Nora McDowell, FMIT Topock Project Manager, expressed that the viewshed is the natural physicality of the land itself, and represents a collective power that enables a discussion of how important the landscape is. The viewshed is as, if not more, important than the actual physical land itself, and since the entire viewshed is connected and contiguous, it should be considered as a whole.

4.1.1.3 Project Viewshed

Defining the Project Viewshed

A project viewshed is defined as the general area from which a project would be visible or could be seen. For purposes of describing a project's visual setting and assessing potential visual impacts, the viewshed or "seen area" can be broken down into distance zones of foreground, middleground, and background. The foreground is defined as the zone within 0.25 miles to 0.5 miles from the viewer. The middleground can be defined as a zone that extends from the foreground up to 3 to 5 miles from the viewer, and the background extends from about 3 to 5 miles to infinity (Smardon et al. 1986; USDA 1995).

In the desert areas such as in the vicinity of the proposed Project, landscape detail is typically most noticeable and objects generally appear most prominent when seen in the foreground. At middleground viewing distances, the texture of landscape features such as of rock outcropping surfaces and vegetation, as well as built elements may be noticeable but are increasingly unrecognizable. In the background, visible detail is limited to landscape patterns and visual contrasts.

As described in detail in Chapter 3, "Project Description," and illustrated in Figure 3-2, the proposed soil investigation activities involve the temporary introduction of equipment used to collect soil samples and to conduct geophysical investigations, bench scale tests, and pilot studies if required, as well as infrastructure associated with equipment staging and mobilization and work exclusion zones. Project elements used for soil investigation activities that would be potentially visible within the Project viewshed would include a sonic or hollow-stem drilling rig, a hydrovac truck, a backhoe, an excavator, individuals using small hand implements, and infrastructure

associated with potential pilot studies (wells, infiltration galleries, equipment storage trailer or container). These elements would range in size from approximately 5 to 6 feet tall (the height of individuals using hand tools) up to 37 feet tall (the approximate height of the tallest sonic drilling rig). Given the scale and potential visibility of the proposed sampling equipment, this analysis is primarily focused on foreground viewing distances, although consideration is also given to the potential effects on middleground and background views.

Generalized Viewshed Maps

A set of topographic viewshed maps have been prepared to depict the generalized areas from which proposed soil sampling activities would potentially be visible at foreground distances (up to 0.25 miles) and middleground distances (from 0.25 miles to 2 miles away). In addition, a set of composite maps depicting the potential visibility of all soil sampling activities has been prepared that includes foreground viewing distances and middleground viewing distances extended to 5 miles. The viewshed maps were prepared using computer-assisted modeling techniques and are presented as **Figures 4.1-3a** through **4.1-3f**. Figures 4.1-3a through 4.1-3d show potential viewsheds for sampling activities by type of sampling equipment, while Figures 4.1-3e and 4.1-3f are composite maps of the proposed sampling activities at distances of up to 2 miles and 5 miles, respectively. The maps are based on digital topographic and Project design data; a description of the technical methods and assumptions employed to create the viewshed map figures follows below.

Each map depicts the location of proposed Project sampling sites as red dots. These dots represent the locations where sampling activities are anticipated to occur over the course of the projected field investigation phase of the Project. (Note that a contingency of up to 25 percent additional sampling locations is contemplated as part of this draft environmental impact report (DEIR) which could increase the level of activity in some portions of the Project Site area. However, as described in the Project Description Section 3.5.2.1, the sample collection methods and equipment, the areas to be sampled, and access considerations would be the same.) Actual visibility of sampling activities within the viewshed maps shown in Figures 4.1-3a through 4.1-3f would be generally limited to one location at any given time, based on the availability of equipment and personnel outlined in Chapter 3, "Project Description." In each map, the area from which proposed sampling locations would potentially be visible is shown in shades of orange and beige, indicating potential visibility of sampling locations within a 0.25-mile radius and within a 2-mile radius, respectively. The figures include a lighter and darker shade of each color to correspondingly denote areas from which fewer or more sampling locations potentially could be seen. Additionally, the figures include a set of radius lines to show a 0.5-mile and 1-mile distance from the Project Site. It should be noted that the areas depicted in these maps include a broad range in visibility within the potential viewshed area. In reality, the area where the highest number of sample locations are potentially visible may comprise a relatively small proportion of the generalized area depicted within a particular colored overlay.













The viewshed maps were produced using ArcMap 10.2 computer software and a 3D topographicbased computation from Project data, and digital elevation model (DEM) data from the U.S. Geological Survey (USGS) National Elevation Dataset (NED). The 1/3 Arc second NED elevation data have a horizontal resolution of approximately 10 meters. The ArcMap viewshed calculations used a 5-foot observer height on the ground and height assumptions for the proposed sampling equipment as follows: sonic or hollow-stem drilling rig (20 feet), hydrovac truck (10 feet), backhoe (8 feet), excavator (8 feet), and hand sampling (5 feet). The equipment visibility is less than the maximum height because only the narrow upper portion of a rig may be visible from some locations. In cases where the sampling locations may include multiple sample types, the viewshed calculation included all potential sampling types. For example, at AOC 1, there are a total of 33 sample locations with proposed Rotosonic sampling. 4 of these 33 may be backhoe excavations instead (DEIR Table 3-3). The viewshed maps include 4 of the 33 sample locations at AOC 1 on both the Rotosonic and backhoe viewshed maps.

Sonic or Hollow-Stem Drilling Rig Viewshed Map (Figure 4.1-3a)

Potential visibility of proposed sonic or hollow-stem drilling rig activity is depicted in Figure 4.1-3a. Areas from which drilling rig activity could be seen within a 0.25-mile viewing distance include nearby locations such as upper and lower Bat Cave Wash, the wash perimeter including Locus A of the Topock Maze, foothills immediately south of the Station, portions of I-40 and the National Trails Highway, and the Colorado River near its confluence with Topock Marsh. Fewer than a quarter of the proposed drilling rig sampling locations potentially could be visible from the majority of this viewshed area, whereas somewhat fewer than half of the total potentially could be seen from the immediate vicinity of the wash as well as from isolated foothill locations south of the Project Site.

Beyond 0.25 miles, the potential viewshed extends across the river to include the southern entrance of Topock Marsh and foothills east of the marsh and north and south of the I-40/BNSF corridor. It also includes isolated mountain ridges within the Chemehuevi Mountains and foothills west of the Project Site. Up to three-quarters of the proposed drilling rig sample locations could be potentially visible at this distance, primarily from locations northeast of the Project Site.

Hydrovac Truck Viewshed Map (Figure 4.1-3b)

Potential visibility for proposed hydrovac truck sampling activity is depicted in Figure 4.1-3b. Fewer than one-half of the proposed hydrovac sampling locations would be potentially visible from areas within 0.25 miles of the activity. These include portions of upper Bat Cave Wash, elevated locations south and west of the Station, a portion of I-40 where it crosses the Colorado River, and river locations just south of the I-40 highway bridge.

Farther away, from distances up to 2 miles, as many as 70 percent of the hydrovac sampling locations would be potentially visible, primarily from the hilly terrain east of the Project Site along both sides of I-40. From a more extensive area north of the Project Site that includes Topock Marsh and Moabi Regional Park, as well as isolated ridgetops in the Chemehuevi Mountains to the west, fewer than one-quarter of the hydrovac sample locations could be visible.

Backhoe Viewshed Map (Figure 4.1-3c)

Potential visibility for proposed backhoe (excavator) activity is depicted in Figure 4.1-3c. Up to approximately half of the proposed backhoe locations would be potentially visible within 0.25 mile of the activity. From more distant areas, up to 2 miles away, as many as three quarters of the backhoe sample locations would be visible.

Both the near and more distant viewsheds depicted for the backhoe sample sites are roughly similar to those depicted for hydrovac sample locations, with the addition of an area within and adjacent to lower Bat Cave Wash where proposed backhoe sample locations would be located. As such, fewer than one-quarter of the backhoe sample locations would be potentially visible from areas north and west of the Project Site.

Hand Sample Viewshed Map (Figure 4.1-3d)

Potential visibility for proposed hand soil sampling activity is depicted in Figure 4.1-3d. Within 0.25 mile of the activity, up to three-quarters of hand sample locations would be potentially visible from limited elevated locations immediately west of upper Bat Cave Wash (including a small area of Locus A of the Topock Maze) and elevated locations just north of I-40. Fewer than one-third of hand sampling locations could be potentially visible from a somewhat greater area of the maze, foothills south and east of the Station, and river and floodplain locations just east of the Station when viewed from within 0.25 mile of the activity.

Within 2 miles, up to three-quarters of the proposed hand sample locations could be potentially visible, primarily from the Topock Marsh and isolated foothill and ridgetop locations southwest and east of the Project Site. Less than one-third of the hand sample locations could be potentially visible from a considerably larger portion of the area within 2 miles, extending from the Colorado River to foothill and river locations west, north, and east of the Project Site.

Composite Viewshed Maps (Figures 4.1-3e and 4.1-3f)

Figure 4.1-3e includes a composite of the generalized viewshed maps shown in Figures 4.1-3a through 4.1-3d. This figure depicts areas of potential visibility for the four types of sample activity proposed by the Project. The figure shows that up to one-half of the sample locations could be potentially visible from a relatively small area immediately west of upper Bat Cave Wash and from foothill locations southeast of the Station. Fewer than one-quarter of sample locations could be potentially visible from other nearby locations that include a 0.75-mile stretch of I-40, as well as areas potentially accessed by the public north and south of I-40 and south and east of the Station. As many as nearly three-quarters of the sample locations could be potentially visible from shart includes a portion of Topock Marsh and the hilly terrain to the northeast, east, and southeast of the marsh, as well as isolated ridges in the Chemehuevi Mountains southwest of the Project Site. From the majority of the area within 2 miles of Project locations, however, fewer than one-quarter of the sample locations could be potentially visible.

Figure 4.1-3f is a second composite map that depicts areas of potential visibility for the four types of sample activity proposed by the Project within a viewshed radius of up to 5 miles. As in the previous viewshed depictions, the area from which the greatest number of Project sample

locations would be potentially visible follows the contours of the Colorado River floodplain and alluvial deposits northeast of the Project Site. In addition, at the 5-mile viewing distance, some areas of residential development within the community of Topock/Golden Shores northeast of the Project Site would be within the viewshed, with between one-quarter and one-half of Project sample locations potentially visible.

Summary of Viewshed Map Findings

The generalized viewshed maps described above indicate that the elements of the proposed Project could be potentially visible to the public from some nearby locations along public roadways (primarily I-40). In addition, Project sampling activity could potentially be seen from portions of Havasu National Wildlife Refuge, including limited stretches of the Colorado River and Topock Marsh, as well as isolated portions of publicly accessible land within the Chemehuevi Mountains and foothills. Some activity could be potentially visible from Fort Mojave Tribal reservation land within lower Bat Cave Wash as well as private land situated adjacent to the I-40 highway bridge on the east bank of the Colorado River. Potential visibility of Project sampling activity from residential areas is limited to portions of the community of Topock/Golden Shores, which is located more than 3 miles from the Project Site.

While these generalized viewshed maps show areas where Project activity could be potentially visible, in many cases mitigating factors such as the presence of vegetation screening would minimize their actual visibility. Especially in the particular case of views northeast of the Project Site, intervening vegetation would partially or completely block views of the Project Site, especially in areas east of the Colorado River within low-lying locations of the river floodplain where dense riparian vegetation such as salt cedar (*Tamarix spp.*) is abundant. In other cases, for example along the I-40 corridor, built elements and graded roadside berms restrict views of the surrounding landscape. In addition, while the maps show the generalized pattern of Project visibility, they do not distinguish how much of the sampling activity in question may be visible from a given location within the viewshed. This applies particularly to the locations where the sonic drilling rig would be used, since in a number of instances only the top-most portion of the drilling mast may actually be visible. Moreover, Project activities that the viewshed maps indicate as being potentially visible may not be perceptible to a casual observer, especially when considering more distant views. This is particularly true in the case of sampling locations that involve use of hand tools. This activity is unlikely to be visible to the unaided eve at distances beyond one-quarter of a mile. Photographs, visual simulations, and detailed description and analysis of representative views of Project locations and Project elements that illustrate these mitigating factors can be found in Section 4.1.3.3, "Impact Analysis."

4.1.1.4 Potentially Affected Viewers

Accepted visual assessment methods, including those adopted by federal agencies, establish sensitivity levels as a measure of public concern for changes to scenic quality (FHWA 1988). Viewer sensitivity, typically divided into high, moderate, and low categories, is among the criteria employed for evaluating visual impacts and their degree of significance. The factors considered in assigning a sensitivity level include viewer activity, view duration, viewing distance, adjacent land use, and special management or planning designation. Research on the subject suggests that certain activities tend to heighten viewer awareness of visual and scenic

resources, while other activities tend to be distracting. For example, recreational activities tend to favor attention to scenery while working at a construction site does not. In general, the degree of visual impact tends to be more substantial where the sensitivity of affected viewers is highest.

Potentially affected viewers in the Project Site include members of Native American Tribes with ties to the area, motorists on I-40 and adjacent roadways and train passengers, recreational users of surrounding public open space and entertainment facilities, and local residents. It should be noted that the existing Station and infrastructure associated with the ongoing Groundwater Remediation Project are established elements visible from various vantage points within the landscape setting.

Tribal Groups

Tribal members are the first identified viewer group as several Interested Tribes have significant cultural ties to the area. Tribal uses of the area include group ceremonial activities, education, and individual visits (Sullivan 2013). Group activities typically occur several times during the year for a duration of an hour or more per occurrence. Educational activities typically occur relatively infrequently, lasting for several hours at a time. Individual visits occur on a regular, but infrequent, basis. Tribal views of the Project Site based on these typical activities range from short to moderate in duration. Many Tribal users, however, are intimately familiar with the views and overall viewshed associated with the cultural landscape and would be sensitive to visual changes in the natural landscape. Viewer sensitivity is therefore considered high.

Motorists and Train Passengers

Motorists are the second viewer group identified. Most numerous are those traveling on I-40, which constitutes the primary east-west transportation corridor within the region and is a conduit for a large volume of traffic moving from population centers of Southern California to the Southwest and beyond. Also included in this group are motorists traveling on Topock Oatman Highway between the community of Topock and the I-40 corridor, and the Park Moabi Entrance Road/National Trails Highway. Motorists include both local and regional travelers who are familiar with the visual setting and travelers, especially those on I-40, using the roadway on a less regular basis. Roadway views of the Project Site are typically brief in duration, while in many instances views are screened by intervening topography. Viewer sensitivity is considered low to moderate.

In addition to motorists, passengers on the daily Amtrak train that runs between Los Angeles and Chicago have a brief-duration view of the Project Site. Depending on the direction of travel, passengers would have fleeting views of Project activity in Bat Cave Wash adjacent to the rail corridor.

Recreationalists

The third viewer group consists of recreational users, a group that is important to the region's economy. These include boaters on the Colorado River and surrounding wetlands; visitors to Moabi Regional Park, including the Pirate Cove recreation facility; users of Topock riverside boat launch facilities; and people accessing U.S. Bureau of Land Management (BLM) and other public land adjacent to the Project Site. Total duration of recreational views ranges from short to

moderate, while viewer sensitivity is low to high, depending on viewers' expectations of experiencing a naturalistic landscape setting.

Residents

Residents are a fourth viewer group. Residential views are typically longer in duration and the sensitivity of this group is generally considered moderate to high. With the exception of a few residential structures situated directly across the river from the Station below the I-40 highway bridge, no residences are located in proximity to the proposed Project activity. Furthermore, Project activities would not be visible from the closest residences at the Topock/Golden Shores community, which lie more than 3 miles away.

4.1.1.5 Visual Character and Representative Views of Project Site

Figure 4.1-4 shows the location and orientation of key representative viewpoints. **Figures 4.1-5a** through **4.1-51** present a set of 23 photographs depicting existing visual conditions from these viewpoints. The photographs depict views both toward the Project Site, which convey a general sense of the visual landscape character found in the Project Site vicinity, as well as photographs illustrating representative views from within the Project Site.

Views Toward the Project Site

Roadway Views (Photographs 1 through 6)

Photographs 1 through 3 portray motorists' views toward the Project Site from points along eastbound I-40. The photographs represent a visual sequence as motorists travel eastward to where the highway crosses the Colorado River.

Photograph 1 shows the highway as it descends toward the river. Foreground views of the embankments on either side of the highway frame the view toward a gas pipeline bridge support tower at the river. Roadside topography constrains views of much of the surrounding landscape.

Photograph 2 shows a foreground view of upper Bat Cave Wash, which emerges from the Chemehuevi Mountains southwest of the Station and runs along its western perimeter before crossing under the highway at this location. A heavily eroded and sparsely vegetated embankment overlooking the wash, and an unpaved maintenance road leading to the Station, partially visible on the upper right, dominate the foreground view. Storage tanks, utility poles, and auxiliary Station components line the embankment and an unpaved maintenance road. As in the previous view, topography largely hinders open views of the landscape. (See also Figure 4.1-2b for a panoramic view from the same location.) Typical highway speeds at this location limit the duration of motorists' views.

Photograph 3 is a motorist's view of the Colorado River looking to the southeast. Dense riparian vegetation lines the river floodplain in the foreground, above which is a steeply graded embankment of the National Trails Highway near its terminus at the Station entrance, visible on the far right. Spanning the river are several gas pipelines, one of them supported by the former highway bridge for the National Trails Highway and Historic Route 66, its arched structure just visible above the river in the middle distance. A portion of the Needles rock formation protrudes on the distant horizon. (See also Figure 4.1-2a for a panoramic view from the same location.)
Photographs 4 through 6 represent views of the Project Site from several locations along Park Moabi Entrance Road/National Trails Highway. This roadway has access from I-40 and serves as the primary approach to the Station and the Project Site. In addition, it serves as a primary point of access for residents of a nearby mobile home park, as well as for recreational visitors to boat launch facilities, the Pirate Cove waterside theme park, Historic Route 66 relics, and portions of the Topock Maze. Because of lower vehicle speeds, motorists' views here are typically longer in duration compared to views from I-40.

Photograph 4 is a view seen by motorists traveling south on the National Trails Highway along the river floodplain. Views of the river itself are obscured by dense stands of vegetation. Views toward the rugged, sparsely vegetated Chemehuevi Mountains and the scenic Needles rock formation, partially seen in the background in the left side of this view, are interrupted by BNSF and I-40 highway bridges. An unpaved access road visible in the foreground leads to several monitoring facilities relating to the ongoing Groundwater Remediation Project.

Photograph 5 is a motorists' view looking southwest near the confluence of Bat Cave Wash with the Colorado River. A dense grove of salt cedar, also referred to as Tamarisk (*Tamarix spp.*) fills the foreground. The dark outline of the Chemehuevi Mountains looms on the horizon above the arid margins of the wash, and a portion of the existing Interim Measure 3 (IM-3) treatment facility is visible beyond the grove. Photograph 6 shows a broad gravel turnout at the junction of Park Moabi Entrance Road and I-40. This view encompasses an expansive view of the southern Mojave Valley, with dramatic natural scenery juxtaposed with a variety of built features. Foreground views include several large storage tanks, utility poles, and miscellaneous signage at the far edge of the graded turnout. Graded embankments along the BNSF line bisect the broad expanse of desert chaparral visible in the middleground. Beyond are views of Colorado River floodplain, Topock Marsh, the community of Golden Shores, and peaks of the Black Mesa formation, including Boundary Cone.



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1. Interstate 40 eastbound looking east



2. Interstate 40 eastbound at Bat Cave Wash looking southeast *

* Selected Simulation View Refer to Figure 4.1-4 for photograph viewpoint locations SOURCE: ENVIRONMENTAL VISION

Topock Soil Investigation Project EIR . 120112 Figure 4.1-5a Key Representative Photographs



3. Interstate 40 eastbound at Colorado River looking southeast toward the Needles *



4. National Trails Highway looking southeast toward the Needles

* Selected Simulation View Refer to Figure 4.1-4 for photograph viewpoint locations SOURCE: ENVIRONMENTAL VISION

Topock Soil Investigation Project EIR . 120112 Figure 4.1-5b Key Representative Photographs



5. National Trails Highway/Historic Route 66 looking southwest toward Bat Cave Wash *



6. Park Moabi Entrance Road at Interstate 40 looking northeast toward the Colorado River *

* Selected Simulation View Refer to Figure 4.1-4 for photograph viewpoint locations SOURCE: ENVIRONMENTAL VISION

Topock Soil Investigation Project EIR . 120112 Figure 4.1-5c Key Representative Photographs



7. Topock Maze (Locus C) looking northeast toward Bat Cave Wash and the Colorado River *



8. Topock Maze (Locus A) looking southeast toward Topock Compressor Station *

* Selected Simulation View Refer to Figure 4.1-4 for photograph viewpoint locations SOURCE: ENVIRONMENTAL VISION

Topock Soil Investigation Project EIR . 120112 Figure 4.1-5d Key Representative Photographs



9. Topock Maze (Locus A at Interpretive Sign) looking east toward Topock Compressor Station *



10. Topock Maze (Locus A at Interpretive Sign) looking south toward Chemehuevi Mountains

* Selected Simulation View Refer to Figure 4.1-4 for photograph viewpoint locations SOURCE: ENVIRONMENTAL VISION

Topock Soil Investigation Project EIR . 120112 Figure 4.1-5e Key Representative Photographs



11. Colorado River at Pirate Cove looking southeast toward the Needles



12. Colorado River looking southwest toward Bat Cave Wash



13. Colorado River looking west toward Topock Compressor Station *



14. Colorado River looking southwest toward Topock Compressor Station

* Selected Simulation View Refer to Figure 4.1-4 for photograph viewpoint locations SOURCE: ENVIRONMENTAL VISION

Topock Soil Investigation Project EIR . 120112 Figure 4.1-5g Key Representative Photographs



15. Ridge on Chemehuevi Mountains looking north toward Colorado River and Project Site



16. Ridge near Highway 10 looking south toward Colorado River and Project Site

Topock Soil Investigation Project EIR . 120112 Figure 4.1-5h Key Representative Photographs



17. Eastern Project Site looking east along Colorado River



18. Eastern Project Site looking north toward I-40



19. Southern Project Site Access Road looking northeast toward Colorado River



20. Western Project Site Access Road near I-40 looking southwest toward Bat Cave Wash



21. Upper Bat Cave Wash at Project Site looking south *



22. Project Site between Railroad and I-40 looking south

* Selected Simulation View Refer to Figure 4.1-4 for photograph viewpoint locations SOURCE: ENVIRONMENTAL VISION

Topock Soil Investigation Project EIR . 120112 Figure 4.1-5k Key Representative Photographs



23. Lower Bat Cave Wash at Project Site looking northwest *

* Selected Simulation View Refer to Figure 4.1-4 for photograph viewpoint locations

SOURCE: ENVIRONMENTAL VISION

Foreground Views from Publicly Accessible Land (Photographs 7 through 10)

Photographs 7 through 10 are representative views looking out from two components of the Topock Maze. Locus C of the maze, located north of the I-40/BNSF transportation corridor, is accessible to pedestrians from the National Trails Highway and attracts individuals seeking to experience the maze, such as Tribal users, as well as those interested in the relic elements associated with Historic Route 66 and the National Trails Highway that are found in the immediate vicinity. A much larger manifestation of the maze (Locus A) is located south of I-40 adjacent to the Station. Visitors to this area include Tribal users for whom the Topock TCP, including the Project Site, represents a spiritual area, as well as non-Tribal visitors traveling through the region. Views in these areas are potentially of comparatively long duration as a result of access to multiple vantage points and unobstructed vistas of surrounding natural scenery.

Photograph 7 is a view from the eastern perimeter of Locus C of the maze looking northeast. Overlooking the confluence of lower Bat Cave Wash and the Colorado River, this view affords open views of the river floodplain and distant peaks. Dense stands of riparian vegetation lining the wash and Topock Marsh, visible beyond the river, are interrupted by sparsely vegetated alluvial deposits in both the foreground and middle distance. A number of built elements intrude on this view, including power lines and the paved surface of the National Trails Highway in the foreground and an industrial facility that can be seen beyond Topock Marsh.

Photograph 8 overlooks upper Bat Cave Wash and the Station, providing a view from the northeastern perimeter of Topock Maze Locus A looking southeast. A view of the Chemehuevi Mountains and a portion of the Needles rock formation frames the heavily graded and otherwise disturbed terrain associated with Station operations and ongoing groundwater remediation activities.

Photograph 9 is a view from the southeastern perimeter of Locus A of the maze looking east. Portions of a perimeter fence that enclose part of the maze can be seen in the immediate foreground. Expansive views of the surrounding landscape are available from this location. Unlike the view shown in Photograph 8, intervening topography hinders views of Bat Cave Wash and obscures all but a small portion of the Station rooftop.

Photograph 10 is a view from the same location looking south toward the flank of the Chemehuevi Mountains. A roadway and parking area, partially visible beyond the foreground vegetation, provides access to this area from I-40. A nearby BLM interpretive sign (not visible in this view) offers contextual information about the maze to visitors. (See also Figure 4.1-2c for a panoramic view from the same location.)

River Views (Photographs 11 through 14)

Photographs 11 through 14 are views toward proposed Project locations from the perspective of boaters on the Colorado River. The Havasu National Wildlife Refuge, the Needles rock formation, and Topock Gorge constitute popular boating destinations from this location. Elements of the landscape potentially can be seen at relatively close range given the maneuverability of watercraft generally used on the river. Because of restricted speeds imposed on watercraft in the vicinity of the numerous bridges in the vicinity, views of the Project Site from the river potentially can be of medium duration.

Photograph 11 is a view from a point mid-channel on the Colorado River and looks toward the Project Site north of the river entrance to the Pirate Cove Resort and Marina. Dense riparian vegetation typical of that found in many parts of the wildlife refuge lines the river bank, while the more sparsely vegetated graded road embankment of the National Trails Highway can be seen above the floodplain. A view of the Needles formation appears prominently on the far horizon.

Photograph 12 is a view of the west bank of the river where Bat Cave Wash passes under the National Trails Highway through a narrow brick culvert to join the Colorado River. Aquatic vegetation emerging from the shallow alluvium marks the mouth of the wash and extends downriver against a backdrop of riparian shrubs and small trees that populate the sandy shoreline in the foreground. The Chemehuevi Mountains loom prominently in the background. Because of limited sight lines from the river, little of the intervening landscape can be seen from this location.

Photograph 13 shows the west bank of the river south of the I-40 highway bridge and represents a water's edge view of the Station, perched on a rocky terrace above the densely vegetated river shoreline, with the Chemehuevi Mountains partly visible beyond. The Historic Route 66 highway sign and auxiliary components of the highway facility can be seen just below the Station. As in the previous view, sight lines from river are somewhat constrained.

Photograph 14 is a boater's view toward the Project Site at the point where the Colorado River veers east at the base of the Chemehuevi Mountains. The orientation of this view along the river channel allows a somewhat more expansive visibility of the surrounding terrain compared to the previous viewpoints. The dominant element in this view is a gas pipeline suspended across the river from the arched bridge structure and stepping up the steep terrain above the south bank of the river. A second gas pipeline is visible beyond the bridge, as is a portion of the I-40 highway bridge. The Station is partially visible on the horizon.

Distant Views (Photographs 15 and 16)

Photographs 15 and 16 depict the Project Site from two elevated vantage points identified during the Tribal input process. Because the proposed Project lies within a landscape context of traditional religious and cultural significance to several Interested Tribes in the area, these viewpoints are intended to situate the Project Site within a broader visual perspective that is considered particularly sensitive from the perspective of Tribal members.

Photograph 15 looks north across the length of the Mojave Valley from a steep ridge above the Station within the Chemehuevi Mountains. This view includes a large portion of the Project Site located in and around the Station and Bat Cave Wash. From this elevated perspective, built structures and graded or otherwise disturbed topography associated with the Station and nearby transportation infrastructure in the foreground and middle ground are seen in juxtaposition with the more distant views of the Colorado River, Topock Marsh, and surrounding mountains. In this view, landscape elements that Tribal representatives have identified as significant include the meandering channel of the Colorado River running the length of the valley, Spirit Mountain and Boundary Cone (both visible on the far horizon), and the Topock Maze adjacent to the Project Site west and northwest of the Station. (See panoramic views in Figures 4.1-2a through 4.1-2c for

specific call-outs identifying these elements.) A portion of land belonging to the FMIT adjacent to the IM-3 facility north of I-40 can also be seen from this location.

Photograph 16 is a view looking southwest from a ridgeline overlooking the Colorado River floodplain approximately 2 miles from the Project Site. The Station together with the BNSF and I-40 highway bridges are visible in the middle distance against the backdrop of the Chemehuevi Mountains and a portion of the Needles formation on the distant horizon. From this vantage point, the scale of the surrounding mountains and the broad view of the vegetated river floodplain in the foreground dwarf the built elements in the landscape.

Views from the Project Site

Photographs 17 through 23 represent views looking out from key vantage points within the Project Site.

Photograph 17 is a view of the Project Site looking east from a location adjacent to the Station entrance. This low ridgetop perspective captures views of Black Mesa as well as more distant peaks on the eastern horizon. Foreground views focus on the curving river channel and vegetated shoreline; these are bisected by visually contrasting built elements that include the unpaved access road with its steeply graded embankment, gas pipelines, and bridge structures spanning the river.

Photograph 18 is a view to the north from the same ridgeline as in the previous photograph. It looks toward the I-40 and BNSF bridges and the vegetated floodplain of the Colorado River. The National Trails Highway emerges from sparsely vegetated foothills, crossing under I-40 before terminating at the Station entry gate. The Route 66 highway sign can be seen in the foreground near the intersection of the National Trails Highway and the unpaved roadbed of Historic Route 66 immediately below the viewpoint location. Spirit Mountain, looming over the far horizon, becomes a dominant background element from this perspective.

Photograph 19 looks to the northeast from the Project Site along the southeastern perimeter of the Station. Although the Mojave Valley and Black Mesa are partly visible in the background, open views are largely constrained by surrounding topography from this location. Disturbed terrain and a number of built elements associated with the Station are visible in the immediate foreground. Station offices, desert fan palms, and the Station perimeter fence above the roadway stand out prominently on the near horizon.

Photograph 20 is a view from the Project Site overlooking the broad alluvial terraces bordering upper Bat Cave Wash. The dark outline of the Chemehuevi Mountains can be seen in the background. A portion of an unpaved access road leading from Bat Cave Wash to the northern perimeter of the Station is visible in the foreground, below which infrastructure associated with the ongoing Groundwater Remediation Project can be seen. Wood boundary posts and a section of wire fencing marking the eastern perimeter of Topock Maze Locus A line the near horizon on the right side of this view.

Photograph 21 is a view from the Project Site looking south along upper Bat Cave Wash where it emerges from the rocky terrain of the Chemehuevi Mountains. A section of pipeline protrudes from the eroded alluvium along the edge of the wash and crosses over a gravel roadway lining the floor of the channel. The fenced perimeter of the Station along with storage buildings and infrastructure associated with the Groundwater Remediation Project can be seen above the wash to the left.

Photograph 22 looks to the south from a location in the Project Site situated between the BNSF line and I-40. This area is characterized by disturbed terrain associated with the highway corridor and railroad right-of-way. Views of highway traffic are mostly obscured by intervening topography. Infrastructure associated with the Station is visible against the dark backdrop of the Chemehuevi Mountains on the opposite side of the highway atop a graded terrace.

Photograph 23 is a view looking northwest from the immediate vicinity of the Project Site within Bat Cave Wash north of I-40 and the BNSF line. This location represents a perspective of the Project Site as seen from a parcel of land owned by the FMIT. The sparsely vegetated terrain appears highly disturbed due to naturally occurring hydrological events as well as grading and road building activities associated with the IM-3 facility seen in the foreground. The eastern perimeter of Topock Maze Locus C is situated just beyond the upper edge of the wash on the left middle horizon. A view of Spirit Mountain on the far horizon is available from this slightly elevated perspective above the floor of the wash.

4.1.2 Regulatory Background

The Project Site is located in unincorporated San Bernardino County. As shown in Figure 3-7 (Land Ownership) in Chapter 3, "Project Description," the lands adjoining the PG&E parcel are owned and/or managed by a number of government agencies and private entities. These include lands owned by the FMIT; the Havasu National Wildlife Refuge, which is managed by the U.S. Fish and Wildlife Service (USFWS); lands managed by the U.S. Department of the Interior (DOI) (including the BLM] and Bureau of Reclamation); land leased by the California Department of Transportation (Caltrans); the BNSF line; and privately owned lands. Private land includes properties owned by the FMIT, California Department of Transportation (Caltrans) – leased land, the BNSF, and other privately owned lands. In addition, land owned by the United States is under the jurisdiction custody and control of the Department of the Interior and includes the Havasu National Wildlife Refuge, which is managed by the U.S. Fish and Wildlife Service (USFWS), as well as lands managed by the BLM and Bureau of Reclamation . The following discussion reviews federal, state, and local regulations and policies relevant to the analysis of the proposed Project's visual impacts.

4.1.2.1 Federal

Bureau of Land Management

A portion of the Project Site lies on BLM land <u>administered by the Lake Havasu Field Office and</u> <u>a portion lies on as well as</u> San Bernardino County leased property managed by the BLM and administered by the Needles Field Office. The Federal Land Policy and Management Act of 1976 establishes a policy for the United States to manage public lands in a manner that will protect the quality of scenic values (43 U.S.C. 1701(a)(8)). To this end, the BLM has developed the Visual Resource Management (VRM) system to ensure that the scenic values of public lands are considered before allowing uses that may have negative visual impacts. Under this system, BLM-administered lands are inventoried, analyzed, and assigned visual ratings or management classes. Class designations are derived from an analysis of scenic quality (rated by land form, vegetation, water, color, influence of adjacent scenery, scarcity, and cultural modification), a determination of viewer sensitivity levels (sensitivity of people to changes in the landscape), and distance zones. Management classes describe the different degrees of modification allowed to the basic elements of the landscape (form, line, color, texture). Management classes and their goals are listed in **Table 4.1-1**. <u>Management classes are identified in BLM Resource Management Plans.</u>

TABLE 4.1-1 BLM MANAGEMENT CLASSES AND GOALS				
Management Class	Goals			
Class I	To preserve the existing character of the landscape. The level of change to the characteristic landscape should be very low and must not attract attention.			
Class II	To retain the existing character of the landscape. The level of change to the characteristic landscape should be low.			
Class III	To partially retain the existing character of the landscape. The level of change to the characteristic landscape should be moderate.			
Class IV	To provide for management activities that require major modification of the existing character of the landscape. The level of change to the characteristic landscape can be high.			
SOURCE: U.S. Department	of the Interior 2007			

The Lake Havasu Approved Resource Management (May 2007) identifies the visual resource management classes for areas around the Project (BLM 2007). As a special designation, the Chemehuevi Mountain Wilderness, which lies approximately 0.4 miles south of the Project Site, has a Class I designation. The other BLM lands in the vicinity of the Project, including the Beale Sough Riparian and Cultural Area of Critical Environmental Concern, are primarily designated as Class III (DOI 2013 and DOI 2007). Class III guidelines allow for moderate change to landscape character. Management actions may attract attention but should not dominate the view of the casual observer (DOI 2007:118).

Fort Mojave Indian Reservation

The FMIT Reservation is located outside the Project Site along the Colorado River in an area covering nearly 42,000 acres in Arizona, California, and Nevada. The southernmost boundary of the FMIT Reservation is located approximately 1 mile north of the Station. The FMIT has a general plan and maintains a planning department. The general plan is focused on land use policy and does not specifically address visual quality or aesthetics (Fort Mojave Indian Tribe Planning Department 2013). Section 4.4, "Project Description <u>Cultural Resources</u>," includes additional information on cultural landscape and FMIT concerns regarding the Project.

In addition, the FMIT own land that is part of the Project Site north of I-40. The FMIT-owned land is located on land transferred under the 2006 Settlement Agreement between PG&E and the FMIT. Transfer of title of this property in the Project Site to the FMIT occurred in October 2009. The FMIT ownership of the property is subject to a blanket easement over the property to PG&E for remediation-related purposes. The Settlement Agreement precludes the FMIT from transferring title of the property into trust with the federal government for the life of the easement.

U.S. Fish and Wildlife Service

A portion of the Project Site lies in the Havasu National Wildlife Refuge. The Lower Colorado River National Wildlife Refuges Comprehensive Plan describes policies for this area. The plan includes a general description of the importance of managing long-term aesthetic resources but no specific policies that apply to the Project Site and surrounding area (USFWS 1994:158).

U.S. Department of Transportation, Federal Highway Administration

Route 66 is a National Scenic Byway and All-American Road in Arizona; however, it is not designated as such in California. The federal Scenic Byways Program prohibits billboards and has provisions to control other signage along designated scenic byways (U.S. Department of Transportation 2013).

4.1.2.2 State of California

California's Scenic Highway Program was created by the state legislature in 1963. Its purpose is to preserve and protect scenic highway corridors from change that would diminish the aesthetic value of lands adjacent to highways. The State Scenic Highway System includes highways that are either eligible for designation as scenic highways or have been designated as such. The status of a state scenic highway changes from "eligible" to "officially designated" when the local jurisdiction adopts a scenic corridor protection program, applies to Caltrans for scenic highway approval, and receives the designation from Caltrans. A city or county may propose adding routes with outstanding scenic elements to the list of eligible highways. However, state legislation is required for designation.

The Project would not be visible from State Route 38, the closest Designated State Scenic Highway, which is located in San Bernardino County more than 100 miles away. The Project Site is visible from places along I-40, an Eligible State Scenic Highway.

4.1.2.3 Local

County of San Bernardino 2007 General Plan

The Open Space Element and the Conservation Element of the County of San Bernardino 2007 General Plan (County General Plan) contains provisions regarding preserving aesthetic resources, specifically scenic routes. Historic Route 66 and I-40, which both traverse the Project Site, are listed as County scenic routes. Relevant goals and policies include the following: **GOAL OS 4:** The County will preserve and protect cultural resources throughout the County, including parks, areas of regional significance, and scenic, cultural and historic sites that contribute to a distinctive visual experience for visitors and quality of life for County residents.

GOAL OS 5: The County will maintain and enhance the visual character of scenic routes in the County.

- **Policy OS 5.2:** Define the scenic corridor on either side of the designated route, measured from the outside edge of the right-of-way, trail, or path. Development along scenic corridors would be required to demonstrate through visual analysis that proposed components are compatible with the scenic qualities present.
- Policy OS 5.3: The County desires to retain the scenic character of visually important roadways throughout the County. A "scenic route" is a roadway that has scenic vistas and other scenic and aesthetic qualities that over time have been found to add beauty to the County. Therefore, the County designates the following routes as scenic highways and applies all applicable policies to development on these routes:
 - f. Historic Route 66 (National Trails Highway or Main Street) from Oro Grande northeast and east to the Arizona state line, excepting those areas with incorporated cities.
 - g. Interstate 40 from Ludlow northeast to Needles.

The Project Site is located in the Desert Region of the County. The following provisions of the Conservation Element pertain to aesthetic resources in this region:

GOAL D/CO 1: Preserve the unique environmental features and natural resources of the Desert Region, including native wildlife, vegetation, water and scenic vistas.

• **Policy D/CO 1.2:** Require future land development practices to be compatible with the existing topography and scenic vistas, and protect the natural vegetation.

Mohave County (Arizona) General Plan

The Mohave County (Arizona) General Plan designates the Oatman-Topock Highway, located approximately 0.5 miles west of the Project Site, as a Scenic Route (Mohave County 2005:53). Policies applicable to Scenic Routes focus on preserving scenic vistas and enhancing aesthetic value of scenic routes.

4.1.3 Environmental Impacts

4.1.3.1 Impact Methodology

The following analysis is based on site visits; review of technical data, including proposed Project maps and drawings provided by the California Department of Toxic Substances Control (DTSC); aerial and ground-level photographs of the Project Site; local planning documents; and computer-generated visual simulations. Field observations were conducted in October 2013 to document

existing visual conditions in the Project Site and to identify potentially affected sensitive viewing locations. The identified potentially sensitive viewing locations include the following:

- Locations along designated and eligible scenic roadways;
- Recognized scenic vista points;
- Locations within public recreation areas from which the Project features would be visible; and
- Publicly accessible locations where visible Project-related changes could be particularly noticeable.

In addition, consideration in this analysis was given to places that were identified as visually sensitive by Interested Tribes during the Native American scoping process (see Section 4.4.1.7 "Native American Scoping").

The analysis uses the questions set forth in Appendix G of the CEQA Guidelines for evaluation of aesthetic impacts. This analysis systematically documents the visual setting and evaluates visual changes associated with the proposed Project as described in Chapter 3, "Project Description." To document the extent of potential Project visibility, computer-generated viewshed maps have been produced to show the general area from which the Project is potentially visible. Additionally, to convey a sense of existing visual conditions, the set of 23 photographs shown in Figures 4.1-5a through 4.1-51 portray representative public views within the Project Site. As depicted in these photographs, public views of the Project Site currently include Station facilities. These existing conditions constitute the baseline from which visual impacts are evaluated.

This visual analysis employs assessment methods based in part on U.S. Department of Transportation (DOT) Federal Highway Administration (FHWA) and other accepted visual analysis techniques as summarized by Smardon, et al. (1986). Consistent with FHWA methods, the impact analysis describes changes to existing visual resources and assesses probable viewer responses to such changes. This assessment evaluates representative views from which the proposed Project would be visible to the public. To document the visual change that would occur, visual simulations show the proposed Project from key representative public viewpoints. The visual impact assessment is based on evaluation of the changes to the existing visual resources that would result from implementation of the proposed soil investigation activities. These changes were assessed, in part, by evaluating the "after" views provided by the computer-generated visual simulations and comparing them to the existing visual environment.

In addition, consideration has been given in this analysis to the larger viewshed through the incorporation of panoramic views, 360-degree views, and images that depict views both toward the Project Site, which convey a general sense of the visual landscape character found in the Project Site vicinity, as well as photographs illustrating representative views from within the Project Site looking out. This approach was proposed by the FMIT and has been used to support the analysis of the viewshed and its important relationship as a contributing element to the Topock TCP (see Section 4.4, "Cultural Resources," for additional information).

Technical methods employed for producing computer-generated viewshed maps and visual simulations are discussed under Section 4.1.1, "Existing Setting," in sub-Sections 4.1.1.3, "Project Viewshed," and 4.1.3.3, "Impact Analysis," respectively.

4.1.3.2 Thresholds of Significance

To determine the significance of the anticipated visual changes, the Project's effects were evaluated according to criteria provided in Appendix G of the CEQA Guidelines. These criteria indicate that a project would have a significant effect on the environment if it would:

- Have a substantial adverse effect on a scenic vista;
- Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway;
- Substantially degrade the existing visual character or quality of the site and its surroundings; or
- Create a new source of substantial light or glare that would adversely affect day or nighttime views in the area.

Factors considered in applying these criteria to determine significance include the extent of proposed Project visibility from residential areas, public open space, and designated scenic routes; the extent of change in the landscape's composition and character; the degree to which the various Project elements would contrast with or be integrated into the existing landscape; and the number and sensitivity of viewers. Pertinent public policies and places identified as visually sensitive during the consultation process with Tribal representatives were considered as well.

4.1.3.3 Impact Analysis

As described in Section 4.1.1.3, "Project Viewshed," the generalized viewshed maps (Figures 4.1-3a through 4.1-3f) indicate that, from the majority of the surrounding publicly accessible area, fewer than one-quarter of the proposed soil investigation locations would be potentially visible. From some more limited locations, as many as three-quarters of the soil investigation locations would potentially be visible; however, as noted previously, both vegetative screening and viewing distance would affect whether the Project activities would be noticeable. In addition, at any point in time, only a small number of the sites would have any visible equipment or activity, with activity at each soil investigation location taking place for only a short period of time during the anticipated Project schedule. As previously noted, a contingency of up to 25 percent additional sampling locations is contemplated as part of this DEIR, which could increase the level of activity in some portions of the Project <u>Site area</u>. However, as described in Chapter 3, "Project Description," Section 3.5.2.1, the sample-collection methods and equipment, the areas to be sampled, and access considerations would be the same.

A set of 10 "before" and "after" visual simulations of Project elements, shown in **Figures 4.1-6a** through **4.1-15b**, illustrates potential visual effects of Project-related changes on key public views. A number of Project soil investigation areas depicted in the simulation photographs include multiple sampling locations with more than one type of equipment used to collect soil samples, depending on site characteristics, access, and sampling objectives. Depiction of soil

investigation activities in the simulation photographs represents those activities most likely to have a visual impact on key public views. For example, the excavator shown in the Viewpoint 2 simulation (**Figure 4.1-6b**) would represent the most visible component of sampling activity seen from this viewpoint, which would also include sampling using hand tools.

The simulation views are a subset of the 23 photographs presented in Figures 4.1-5a through 4.1-5L. Project simulation viewpoints were determined following an evaluation of locations where Project activity would most likely be visible to the public. The simulations were produced using digital photography and computer-modeling and rendering techniques and are based on Project information included in Chapter 3, "Project Description." The location of each simulation view is depicted in Figure 4.1-4. **Table 4.1-2** summarizes the visual simulations according to the location of each view, the type of view, the approximate viewing distance to the nearest visible proposed Project element, and the Project-related visual effect.

TABLE 4.1-2 SUMMARY OF VISUAL EFFECTS AT KEY VIEWPOINTS							
Viewpoint Number: View Location* (Figure Number)	Type of View	Visible Project Element	Distance to Project Element (approximate)	Project-Related Visual Effect			
2: Eastbound I-40 toward Bat Cave Wash (Figure 4.1- 6b)	Key Public Roadway Corridor	Excavator	425 feet	Represents a minor incremental change to existing disturbed landscape that would be temporary; short duration view barely noticeable at typical highway speeds.			
3: Eastbound I-40 looking south (Figure 4.1- 7b)	Key Public Roadway Corridor	Sonic Drilling Rig	1,600 feet	Represents an incremental and temporary change that, although noticeable, would not substantially			
		Hydrovac Truck	585 feet	alter the overall character of the landscape setting, given the presence of existing utility structures and components.			
5: National Trails Highway/Historic Route 66 southbound (Figure 4.1-8b)	Public Roadway Corridor	Sonic Drilling Rig with Vegetation Clearing	275 feet	Represents an incremental visual change that would be temporary. The change may be noticeable to some viewers, but given the viewing angle, it would not substantially alter the overall visual character of the setting.			
6: Park Moabi Entrance Road (Figure 4.1- 9b)	Key Access Road to Public Recreation Area	Staging Area	90 feet to nearest truck	Represents a temporary incremental change. Although the change would be noticeable, it would not substantially alter the overall character of the landscape setting, given the presence of existing utility structures.			
7: Topock Maze (Locus C) (Figure 4.1-10b)	Publicly Accessible Land with Sensitive Cultural Component	Sonic Drilling Rig with Vegetation Clearing	325 feet	Represents a temporary incremental visual change that may be noticeable to some viewers; given the orientation of the viewers to the Project activity, however, it would not obstruct distant views or substantially change the overall visual character of the setting			
8: Topock Maze (Locus A) (Figure 4.1- 11b)	Publicly Accessible Land with Sensitive Cultural Component	Sonic Drilling Rig Hydrovac Truck	780 feet 400 feet	Represents a temporary incremental visual change that would be relatively minor within an existing disturbed landscape and as such would not substantially degrade the existing visual character of the Project Site.			

TABLE 4.1-2 SUMMARY OF VISUAL EFFECTS AT KEY VIEWPOINTS							
Viewpoint Number: View Location* (Figure Number)	Type of View	Visible Project Element	Distance to Project Element (approximate)	Project-Related Visual Effect			
8: Topock Maze (Locus A) (Figure 4.1-11c)	Publicly Accessible Land with Sensitive Cultural	Sonic Drilling Rig Hydrovac Truck	780 feet 400 feet	Represents a temporary incremental visual change that would be relatively minor within an existing disturbed landscape and as such would not substantially degrade the existing visual character of the Project Site.			
	Component	Excavator and Trailer	450 feet				
9: Topock Maze (Locus A Interpretive Sign) (Figure 4.1-12b)	Publicly Accessible Land with Sensitive Cultural Component	Sonic Drilling Rig	1,800 feet	Represents a temporary minor incremental visual change that, given the viewing distance and absorptive quality of the backdrop, would not substantially change the overall visual character of the setting.			
13: Colorado River looking southwest	Key Recreation Corridor	Sonic Drilling Rig	760 feet	Represents minor incremental temporary additions to the existing visual environment that			
(Figure 4.1-150)		Excavator	1,000 feet	landscape character.			
		Hand Sampling with Boat Access	Boat: 330 feet; Hand sampling: 350 feet				
21: Upper Bat Cave Wash (Figure 4.1-14b)	Publicly Accessible Land	Sonic Drilling Rig	265 feet	Change may be noticeable to some viewers; however, the temporary incremental change would not substantially alter the overall visual character of the setting, given the presence of existing utility structures.			
23: Lower Bat Cave Wash (Figure 4.1-15b)	Publicly Accessible Land with Sensitive Cultural Component	Sonic Drilling Rig Staging Area with Hydrovac Truck	600 feet 660 feet	Although the change would be somewhat noticeable, given the presence of existing structures and implements associated with the IM-3 facility, the temporary incremental change would not substantially alter the overall character of the landscape setting.			

* Refer to Figure 4.1-4 for viewpoint locations and Figures 4.1-5a through 4.1-5l for photographs.

Figures 4.1-6 through 4.1-15, illustrate potential visual effects of Project related changes on key public views. As described in detail later in this section, the proposed Project would not obstruct views of distant landscape features including the Needles Rock formation, Spirit Mountain, or Boundary Cone. The Project would not involve substantial grading or permanent vegetation removal. Project activities would however require trimming, pruning, or clearing of some vegetation in limited areas. Figures 4.1-8b and 4.1-10b demonstrate that the visual effects of proposed vegetation trimming or pruning would represent an incremental change that would not substantially alter the composition or character of existing landscape views. Moreover, as previously described, because impacts to resources associated with individual soil investigation locations are anticipated to be temporary, the visual effect would be further reduced. In light of the above characteristics and because it would not involve installation of permanent infrastructure, the Project would not result in any long-term <u>or</u> permanent adverse effects on public views.



Existing View from Interstate 40 eastbound at Bat Cave Wash looking southeast (VP 2)

Refer to Figure 4.1-4 for photograph viewpoint locations

Topock Soil Investigation Project EIR . 120112

SOURCE: ENVIRONMENTAL VISION

Figure 4.1-6a Existing View from eastbound I-40 at Bat Cave Wash



Visual Simulation of the Proposed Project (VP 2)

Refer to Figure 4.1-4 for photograph viewpoint locations

SOURCE: ENVIRONMENTAL VISION

Topock Soil Investigation Project EIR . 120112

Figure 4.1-6b Visual Simulation of the Project from eastbound I-40 at Bat Cave Wash



Existing View from Interstate 40 eastbound at Colorado River looking southeast toward the Needles (VP 3)

Refer to Figure 4.1-4 for photograph viewpoint locations

SOURCE: ENVIRONMENTAL VISION

Topock Soil Investigation Project EIR . 120112



Visual Simulation of the Proposed Project (VP 3)

Refer to Figure 4.1-4 for photograph viewpoint locations

SOURCE: ENVIRONMENTAL VISION

Topock Soil Investigation Project EIR . 120112

Figure 4.1-7b Visual Simulation of the Project from eastbound I-40 at Colorado River



Existing View from National Trails Highway/Historic Route 66 looking southwest toward Bat Cave Wash (VP 5)

Refer to Figure 4.1-4 for photograph viewpoint locations

SOURCE: ENVIRONMENTAL VISION

Topock Soil Investigation Project EIR . 120112

Figure 4.1-8a Existing View from National Trails Highway/Historic Route 66



Visual Simulation of the Proposed Project (VP 5)

Refer to Figure 4.1-4 for photograph viewpoint locations

SOURCE: ENVIRONMENTAL VISION

Topock Soil Investigation Project EIR . 120112

Figure 4.1-8b Visual Simulation of the Project from National Trails Highway/Historic Route 66



Existing View from Park Moabi Entrance Road at Interstate 40 looking northeast toward the Colorado River (VP 6)

Refer to Figure 4.1-4 for photograph viewpoint locations

SOURCE: ENVIRONMENTAL VISION

- Topock Soil Investigation Project EIR . 120112

Figure 4.1-9a Existing View from Park Moabi Entrance Road



Visual Simulation of the Proposed Project (VP 6)

Refer to Figure 4.1-4 for photograph viewpoint locations

SOURCE: ENVIRONMENTAL VISION

Topock Soil Investigation Project EIR . 120112

Figure 4.1-9b Visual Simulation of the Project from Park Moabi Entrance Road



Existing View from Topock Maze (Locus C) looking northeast toward Bat Cave Wash and the Colorado River (VP 7)

Refer to Figure 4.1-4 for photograph viewpoint locations

SOURCE: ENVIRONMENTAL VISION

Topock Soil Investigation Project EIR . 120112 Figure 4.1-10a Existing View from Topock Maze (Locus C)



Visual Simulation of the Proposed Project (VP 7)

Refer to Figure 4.1-4 for photograph viewpoint locations

SOURCE: ENVIRONMENTAL VISION

Topock Soil Investigation Project EIR . 120112

Figure 4.1-10b Visual Simulation of the Project from Topock Maze (Locus C)


Existing View from Topock Maze (Locus A) looking southeast toward Topock Compressor Station (VP 8)

SOURCE: ENVIRONMENTAL VISION

Topock Soil Investigation Project EIR . 120112 Figure 4.1-11a Existing View from Topock Maze (Locus A)



Visual Simulation of the Proposed Project (VP 8)

Refer to Figure 4.1-4 for photograph viewpoint locations

SOURCE: ENVIRONMENTAL VISION

Topock Soil Investigation Project EIR . 120112

Figure 4.1-11b Visual Simulation of the Project from Topock Maze (Locus A)



Visual Simulation of the Proposed Project with Pilot Study (VP 8)

Refer to Figure 4.1-4 for photograph viewpoint locations

SOURCE: ENVIRONMENTAL VISION

Topock Soil Investigation Project EIR . 120112

Figure 4.1-11c Visual Simulation of the Project with Pilot Study from Topock Maze (Locus A)



Existing View from Topock Maze (Locus A at Interpretive Sign) looking east toward Topock Compressor Station (VP 9)

SOURCE: ENVIRONMENTAL VISION

Topock Soil Investigation Project EIR . 120112



Visual Simulation of the Proposed Project (VP 9)

Refer to Figure 4.1-4 for photograph viewpoint locations

SOURCE: ENVIRONMENTAL VISION

Topock Soil Investigation Project EIR . 120112

Figure 4.1-12b Visual Simulation of the Project from Topock Maze (Locus A at Interpretive Sign)



Existing View from Colorado River looking west toward Topock Compressor Station (VP 13)

SOURCE: ENVIRONMENTAL VISION

— Topock Soil Investigation Project EIR . 120112
Figure 4.1-13a
Existing View from the Colorado River



Visual Simulation of the Proposed Project (VP 13)

Refer to Figure 4.1-4 for photograph viewpoint locations

SOURCE: ENVIRONMENTAL VISION

- Topock Soil Investigation Project EIR . 120112

Figure 4.1-13b Visual Simulation of the Project from the Colorado River



Existing View from Upper Bat Cave Wash at Project Site looking south (VP 21)

SOURCE: ENVIRONMENTAL VISION

Topock Soil Investigation Project EIR . 120112 Figure 4.1-14a Existing View from Upper Bat Cave Wash



Visual Simulation of the Proposed Project (VP 21)

SOURCE: ENVIRONMENTAL VISION

Topock Soil Investigation Project EIR . 120112 Figure 4.1-14b

Visual Simulation of the Project from Upper Bat Cave Wash



Existing View from Lower Bat Cave Wash at Project Site looking northwest (VP 23)

SOURCE: ENVIRONMENTAL VISION

Topock Soil Investigation Project EIR . 120112 Figure 4.1-15a Existing View from Lower Bat Cave Wash



Visual Simulation of the Proposed Project (VP 23)

Refer to Figure 4.1-4 for photograph viewpoint locations

SOURCE: ENVIRONMENTAL VISION

—— Topock Soil Investigation Project EIR . 120112 Figure 4.1-15b

Visual Simulation of the Project from Lower Bat Cave Wash

Scenic Vistas

For purposes of this evaluation, a scenic vista is defined as a distant public view along or through an opening or corridor that is recognized and valued for its scenic quality. A substantial adverse effect on a scenic vista is defined as circumstances in which construction or operational activities would introduce <u>long-term or</u> permanent dominant visual elements that, based on the landscape sensitivity level, would result in noticeable to very noticeable changes in the visual character of a vista viewshed that do not blend and are not in keeping or are incompatible with the existing visual environment. These changes can be viewed by sensitive receptors (e.g., Tribal members, recreationists) from public viewing areas.

Because it is a focal point for recreational visitors as well as because of its cultural sensitivity, the open landscape view from Topock Maze Locus A at the interpretive sign is considered a scenic vista. From this location, panoramic views of distant mountains and the alluvial terraces bordering the Mojave Valley are present, with much of the Station facility obscured by intervening vegetation and topography. Figure 4.1-12b shows a temporary sonic drilling rig seen from a distance of approximately 1,800 feet. As discussed in detail below in the discussion of visual character, a comparison of the existing view (Figure 4.1-12a) and the visual simulation (Figure 4.1-12b) demonstrates that the Project would not obstruct distant views of important landscape features, nor would it substantially alter the existing landscape character or composition as currently seen from this location, given the viewing distance and absorptive quality of the backdrop. Therefore, the Project would not substantially affect views from Topock Maze Locus A at the interpretive sign. Consideration of the viewshed and its important relationship as a contributing element to the Topock TCP can be found in Chapter 4.4 "Cultural Resources" (Section 4.4.3.3).

IMPACTSubstantial Adverse Effects on Scenic Vistas. The proposed Project would not
have a substantial adverse effect on a scenic vista. This impact would be less than
significant. No mitigation would be required.

Scenic Resources Related to a Scenic Highway

As outlined in Section 4.1.2, "Regulatory Background," the proposed Project would not be visible from a Designated State Scenic Highway. The Project would be seen from places along I-40, an Eligible State Scenic Highway. Motorists traveling along I-40 would have close-range, briefduration views of the Project. However, as demonstrated in the visual simulations shown in Figures 4.1-6b and 4.1-7b and as described in detail in the following discussion of visual character, the Project would not substantially affect the existing landscape character as seen from I-40, an Eligible State Scenic Highway corridor.

IMPACTSubstantial Damage to Scenic Resources within a State Scenic Highway. TheAES-2proposed Project would not substantially damage scenic resources, including trees,
rock outcroppings, or historic buildings, within a state scenic highway. This impact
would be less than significant. No mitigation would be required.

Visual Character and Quality

As discussed, the Project would not substantially alter the existing visual quality or character of the site and its surroundings. For purposes of this analysis, "substantially alter the existing visual quality or character" is defined as circumstances in which construction or operational activities would introduce <u>long-term or</u> permanent dominant visual elements that, based on the landscape sensitivity level, would result in noticeable to very noticeable changes that do not blend and are not in keeping or are incompatible with the existing visual environment. These changes could be viewed by sensitive receptors (e.g., Tribal members, recreationists) from public viewing areas. Changes to visual quality and character could involve one or more of the following components:

- Substantially alter existing viewsheds, including changing existing terrain, vegetative cover, or other natural or built features and introducing incompatible visual elements;
- Substantially alter the existing visual quality of a site and/or the region or eliminate visual resources; and
- Substantially obstruct or permanently reduce visually important features.

Project-related visual impacts would result from the presence of equipment, materials, and work crews at a number of soil investigation locations in and around the Station. The activities proposed as part of the soil investigation will be temporary in nature and limited in duration. When proposed soil investigation activities have been completed, all Project equipment and materials will be removed from the work area. If the area is not paved, the area will be raked/brushed to remove tire tracks. Permanent removal of vegetation is not expected at any work areas. Pruning, trimming, or clearing of some vegetation may be needed to access some sites and clear around investigation areas; however, roots will be left in place to allow for regrowth of vegetation, as outlined in Chapter 3, "Project Description." The potential visual contrast between disturbed areas and the surrounding landscape would be minimal.

To varying degrees, Project activities could be noticeable to Tribal groups using the area for ceremonial activities, education, and individual visitation; motorists on I-40 and several local roadways including National Trails Highway/Historic Route 66; and users of public recreation areas surrounding the Project Site. Because of their short-term and temporary nature, however, these activities would not substantially degrade the existing visual character of the Project Site, its surroundings, or the larger viewshed within which they exist. In addition, in many cases soil investigation activities would occur in or near locations where ongoing groundwater remediation activity and Station operations and maintenance activity are currently taking place, and/or where the existing landscape is substantially disturbed. In this regard, as demonstrated in the set of visual simulations and described in detail below, the Project's visual impacts would be incremental and would not introduce qualitative change to the existing landscape. Consideration of the viewshed and its important relationship as a contributing element to the Topock TCP can be found in Chapter 4.4, "Cultural Resources" (Section 4.4.3.3).

Eastbound I-40 View toward Upper Bat Cave Wash

Figures 4.1- 6a and 4.1-6b respectively show an existing view and visual simulation of proposed Project activities on part of the Station next to Bat Cave Wash. Much of the proposed soil

sampling in this location would consist of excavation using hand tools, with a backhoe or excavator used for a limited number of excavations around the perimeter of this graded slope. In the Figure 4.1-6b simulation view, a backhoe with several operators and Project attendants can be seen along an existing unpaved access road. The scale and form of the backhoe does not appear markedly different from existing visible elements associated with the Station facility, which include a variety of storage containers and assorted machinery as well as service vehicles ranging from semi-trucks to all-terrain motorized carts. The color of the proposed backhoe affords only a subtle contrast when seen against sparsely vegetated terrain above the roadway. A comparison between the existing view and the visual simulation demonstrates that the change to the existing visual environment resulting from the temporary introduction of this equipment would be scarcely noticeable to passing motorists traveling at typical highway speeds, and thus the effect would not substantially alter the roadway view.

Eastbound I-40 View toward Colorado River and Needles Rock Formation

Figures 4.1-7a and 4.1-7b show a view seen by eastbound motorists on I-40 on the approach to the highway bridge crossing the Colorado River. The light-colored National Trails Highway and the Historic Route 66 sign along with the vegetated bank of the river dominate the foreground in the existing view, while the river, gas pipeline infrastructure, and glimpses of the Needles rock formation can be seen in the distance.

In the Figure 4.1-7b simulation view, a truck-mounted sonic drilling rig, partially obstructing the Route 66 sign, can be seen on the roadway shoulder in the foreground. More than a quarter mile away, a hydrovac truck is barely visible along the existing access road leading to the arched pipeline bridge. The light color and relatively compact scale of the hydrovac truck help it to blend in with the surrounding pipeline bridge infrastructure. The color and scale of the sonic drilling rig are a noticeable new element when comparing "before" and "after" images, and potentially represent an incremental change to the existing visual character of the landscape. However, because the Project activity would occur at a location adjacent to the primary roadway entrance to the Station, where a variety of service vehicles of similar appearance pass by this location regularly, the visual impact of this change is diminished and would be considered minor. Although some disturbance would occur, the potential visual contrast between disturbed areas and the surrounding landscape would be minor and temporary as described previously. In addition, passing motorists on I-40 would experience this view for only a short time, and the placement of the drilling rig in this location would be temporary. For these reasons, this Project element would not substantially alter the existing visual character and landscape composition of this view.

National Trails Highway/Historic Route 66 Southbound View toward Lower Bat Cave Wash

Figure 4.1-8a, a view of a tamarisk grove, shows the character of lower Bat Cave Wash where it meets the Colorado River as seen by motorists along the National Trails Highway as well as by people on foot who may access public land visible above the wash to the right. Comprising two species of salt cedar (*Tamarix spp.*) that thrive in the seasonally inundated lower reaches of the wash, the grove consists of undulating canopies of varying texture and density, with the tallest specimens visible in the foreground near the confluence of the wash with the Colorado River. The Figure 4.1-8b simulation shows a track-mounted sonic drilling rig along with two crew members

in the midst of the tree grove. This simulation shows one of approximately 23 sampling locations and changes to the existing vegetation in the area, which would consist of canopy trimming, pruning or clearing of up to 2 acres of vegetation to facilitate access by the drilling rig. Because of the multiple sampling locations in this area, the visibility of the drilling rig would vary depending on the height and density of the existing vegetation within the grove and the extent of clearing required for access, with only the top-most portion evident in some locations.

This roadside viewpoint offers a somewhat elevated perspective. The view looking down and across the tree grove tends to accentuate the appearance of vegetation density. A comparison of the existing view and simulation shows that, despite the Project-related decrease in vegetation coverage, the resulting visual impact would not substantially alter the existing landscape character. In addition, because the view from this location includes a portion of the existing IM-3 facility, such as a vehicle staging area, unpaved access roadways, and utility poles lining the edge of the wash, the introduction of the drilling rig along with temporary access routes can be considered an incremental change and therefore would not significantly degrade the existing visual character of the landscape at this location.

Park Moabi Entrance Road Northeast View toward Colorado River

Figures 4.1-9a and 4.1-9b represent a foreground view at a broad roadside turnout overlooking the southern Mojave Valley and the Colorado River as seen by motorists exiting I-40 at the Park Moabi Entrance Road. Storage tanks, utility poles, and miscellaneous signage can be seen at the far side of the turnout, beyond which the BNSF line is visible. On the far side of the river, parts of Topock Marsh and the community of Golden Shores are visible, framed by distant peaks.

The Figure 4.1-9b simulation shows a staging area for Project equipment and vehicles in the turnout. Besides serving as a temporary daytime parking area for some Project personnel for the duration of the Project, during the mobilization phase and periodically during the field sampling phase of the Project, heavy equipment that would include drilling rigs and support trucks could also potentially be located here. In addition, equipment and material associated with Project activities, including drill components, sample borings, and drilling implements, could be stored at this location for up to 5 months, both in the open and within closed storage containers.

Comparison of the "before" (Figure 4.1-9a) and "after" (Figure 4.1-9b) images shows that the introduction of storage structures and equipment associated with Project field investigation activities would result in an incremental visual change to the existing foreground view in this location. Because public access may be restricted to a significant part of the turnout for the duration of the Project, potential use of this location as a public view point/informal parking area could be affected, although this would be temporary. However, given the presence of existing utility structures on a previously disturbed area, the temporary presence of the proposed staging area would not substantially alter the existing landscape character seen from this location.

Topock Maze (Locus C) View Northeast toward Lower Bat Cave Wash

Figure 4.1-10a shows an existing view of lower Bat Cave Wash from the alluvial terrace lining its western perimeter, and affords a foreground perspective of the tamarisk (salt cedar) grove seen at close range in Figure 4.1-8a; however, more distant views of the Colorado River floodplain are

seen from this location. On the right, a light-colored facility is prominent against the darker mountainous backdrop. Compared to the Figure 4.1-8a view, the tamarisk grove seen from this location is smaller in size and less dense, with natural openings in the canopy reflecting drier upstream soil conditions.

The Figure 4.1-10b simulation shows a track-mounted sonic drilling rig along with temporary access corridors. This vantage point is a more elevated perspective compared with that of the Figure 4.1-8b simulation. This elevated vantage point diminishes the perceived scale of the Project elements, despite comparatively similar viewpoint distances. Because the predominant orientation of anticipated vegetation trimming, pruning, and clearing for proposed access corridors is primarily perpendicular to the viewer's orientation from this perspective, the change in tree cover is not particularly noticeable when the existing view and visual simulation are compared. Additionally, natural revegetation would further reduce potential visual contrast between disturbed areas and the surrounding landscape. Although the drilling rig is relatively noticeable in this view, it is expected that the taller tamarisk canopies would provide considerable visual screening in the wetter, denser portion of the grove nearer the river, where the majority of sampling locations would be situated. (For details on sampling locations, refer to Figure 3-3 in Chapter 3, "Project Description.") As a result, soil investigation activities in this location would not substantially alter the existing landscape character or significantly affect views from adjacent publicly accessible locations.

Topock Maze (Locus A) View Southeast toward the Station

Figure 4.1-11a shows the existing view looking toward the Station from a sensitive viewing area accessible to the public and considered sensitive by Tribal members. Unobstructed foreground views of the Station facility and built elements around upper Bat Cave Wash are seen from this location.

The Figure 4.1-11b visual simulation shows Project activity occurring simultaneously at two locations. A truck-mounted sonic drilling rig with accompanying crew members is partially silhouetted against the sky amid existing facility infrastructure adjacent to the northeastern edge of the Station's fenced perimeter. Closer to this vantage point, a hydrovac truck and accompanying crew members are visible at the edge an existing access roadway connecting the Station facility with upper Bat Cave Wash. Both locations are situated in active work zones associated with the Station operations and maintenance as well as interim groundwater-monitoring activities. In addition, the bottom of Bat Cave Wash visible in the photograph is potentially a location for pilot studies of soil flushing and soil stabilization remediation measures that, if needed, could involve temporary installation and operation of infiltration galleries following soil sampling activities as described in Chapter 3, "Project Description."

Figure 4.1-11c shows installation of such a pilot test area to the right of the hydrovac truck visible in the previous figure. A backhoe excavator along with work crew members is shown digging infiltration trenches, which will be buried to a depth of up to 2 feet and located within an area of approximately 35 feet by 115 feet. A storage container/trailer for equipment is also shown in this photograph. After installation, a network of six 4-inch diameter recovery wells will be the primary visible component of the pilot study, which is anticipated to remain in place for approximately 4 months.

This viewpoint is situated within a public recreation area and represents a location with cultural sensitivity; however, the visual simulation demonstrates that soil sampling and, if needed, a pilot study in this location would introduce incremental change comparable in height and character to the existing built elements in the landscape and as such would not substantially degrade the existing visual character of the Project Site.

Topock Maze Interpretive Sign Looking East

The Figure 4.1-12a viewpoint is situated at the southeast corner of Topock Maze Locus A. Unlike the previous view, this location offers relatively open views of the surrounding desert landscape, including panoramic views of distant mountains and the alluvial terraces bordering the Mojave Valley, with much of the Station facility obscured by intervening vegetation and topography. The presence of a BLM interpretive sign, together with nearby roadway and parking, makes this location a key public access point for visitors to the Maze..

The Figure 4.1-12b visual simulation shows the sonic drilling rig near the center of this view. The drilling rig is the same vehicle depicted in the previous simulation; however, as seen from this viewing location, all but the top half of the vertical arm of the rig is obscured by intervening terrain. Moreover, when viewed against the dark-colored desert terrain in the background, the green color of the drilling rig mast blends in with more visible light-colored terrain, further reducing its visual contrast and visibility in comparison to existing built elements in this view, which include the Station rooftop seen in white on the right. At this location, the Project would represent a temporary minor incremental visual change that, given the viewing distance and absorptive quality of the backdrop, would not substantially change the overall visual character of the setting.

Colorado River View Southwest toward Station

Figure 4.1-13a shows an existing view from the Colorado River looking toward the west bank of the river along a key recreation corridor that attracts visitors to the southern portion of the Havasu Wildlife Preserve and the nearby scenic Needles rock formation, which is visible downriver. This represents the closest view from the river that boaters would have of the Project Site. Along with the Historic Route 66 sign, a number of built features associated with the existing Station are prominent, including Station buildings and visible auxiliary infrastructure such as roadway embankments, storage tanks, utility poles, and communication equipment.

Figure 4.1-13b simulation shows sampling activity in three separate locations. Within the densely vegetated floodplain visible in the foreground, access considerations would restrict sampling operations to hand equipment and necessitate transport by boat due to semi-inundated Project Site conditions. On the left, two individuals engaged in sampling operations within the floodplain are partly visible in the dense shoreline vegetation, along with a small motorized boat at the water's edge. The flat-bottomed craft shown in the simulation is typical of vessels used for access to the shallow river shoreline and is not unlike recreational boats seen along the river. Perched on a rocky terrace above the shoreline and partially obscured by vegetation and topography is a truck-

mounted sonic drilling rig, seen against the sparsely vegetated graded slope below the Station facility. A portion of its mast is silhouetted against the sky. To the left of the Historic Route 66 highway sign just below the paved entry road, an excavator is largely hidden by intervening topography, with only the arm and top of the cab evident from this perspective. Because the existing visual environment includes prominent built elements, the introduction of Project elements in this location would represent minor incremental additions that would not substantially alter the composition or character of the existing landscape.

Upper Bat Cave Wash View South from within Project Site

Figure 4.1-14a shows an existing view toward the Project Site from upper Bat Cave Wash. In this location, a large amount of material deposited during a prior storm event would make access to sampling locations difficult using conventional truck-mounted equipment. The Figure 4.1-14b simulation shows a track-mounted drilling rig that differs somewhat in appearance from the truck-mounted equipment depicted in earlier simulations, in that the overall height is somewhat lower (24 feet versus 37 feet) and the rig would require no support vehicles. In addition, its white appearance is distinctive, making it potentially more or less visible depending on the backdrop conditions against which it is seen within the Project Site; these conditions would vary according to the location and the angle of view. In the Figure 4.1-14b view, the rig is seen primarily against light-colored alluvium deposited on the floor of the wash, and while it is noticeable, it does not contrast markedly with the terrain. Although the rig could appear more noticeable when viewed against the darker rocky terrain above the wash, the Project would represent an incremental change to the existing landscape setting dominated by the existing pipeline crossing the ravine, and thus would not substantially alter the existing view.

Lower Bat Cave Wash View Northwest from within Project Site

Figure 4.1-15a shows an existing view within lower Bat Cave Wash, looking northwest from a parcel of land within the Project Site owned by the FMIT. Highly disturbed terrain associated with ongoing groundwater remediation activity as well as natural hydrologic events dominate the foreground, while distant views of the peaks surrounding the northern Mojave Valley, including the culturally significant Spirit Mountain, are discernible on the distant horizon.

The Figure 4.1-15b visual simulation shows two Project-related elements within Bat Cave Wash. On the left side of this view, vehicles and equipment associated with the proposed Project have been incorporated within the confines of an existing staging and storage area situated on the graded terrace adjacent to the IM-3 facility. The elements include the addition of two hydrovac trucks and a red storage container. Below the staging area and partially obscured by vegetation, a truck-mounted sonic drilling rig and support vehicle can be seen along the existing roadway. A comparison of the Figure 4.1-15a existing view and the Figure 4.1-15b visual simulation shows that the drilling rig is similar in scale and form to the existing utility poles lining the channel and partly visible against the distant horizon. Within the staging area, the new Project elements appear within the context of and are dominated somewhat by existing equipment adjacent to the IM-3 shed, while in form and color they resemble some of the other existing elements seen at this location. Given the presence of existing facilities, the introduction of Project elements in this location would represent a minor incremental change to the existing setting that would not substantially affect the character of the existing landscape.

IMPACTSubstantial Degradation of Existing Visual Character or Quality. The proposedAES-3Project would introduce incremental change comparable in height and character to
the existing built elements in the landscape and as such would not substantially
degrade the existing visual character of the Project Site. This impact would be less
than significant. No mitigation would be required.

Light and Glare

The Project would not create a new source of substantial light or glare that would adversely affect day or nighttime public views in the area. For purposes of this analysis, an adverse effect on day or nighttime public views is defined as circumstances in which construction or operational activities would introduce dominant visual elements that could affect light or glare in the study area and involve one or more of the following:

- Substantially increase light and glare in the project vicinity; and
- Substantially increase the backscatter of light into the nighttime sky.

Soil investigation activities would be limited to day<u>time light hours (defined generally as the time between sunrise and sunset when there is enough natural light to conduct Project activities without assisted lighting) to minimize the need for lighting and to conserve energy to the extent feasible. Sampling equipment would generally have nonreflective surfaces, which would minimize potential glare. Given these Project characteristics, the Project's short-term, temporary activities would not create a new source of substantial light or glare that would affect day or nighttime views in the area.</u>

IMPACTSubstantial Light and Glare. The proposed Project would not create a new sourceAES-4of substantial light or glare that would adversely affect day or nighttime views in the
area. This impact would be less than significant. No mitigation would be required.

Consistency with Plans and Policies Protecting Visual Resources

The proposed Project would be consistent with the visual management goals for the area identified in the BLM Lake Havasu Resource Management Plan (DOI 2007). As demonstrated in the Figure 4.1-9b visual simulation that portrays a temporary Project staging area on BLM land, the Project would be seen within the context of a disturbed landscape that includes existing roadway and utility structures. The incremental change would not substantially change the landscape character. Because of this and the temporary nature of proposed Project activity, the Project would conform to VRM management designations.

The proposed Project would not affect long-term management of visual resources and therefore would not conflict with the Lower Colorado River National Wildlife Refuges Comprehensive Plan, which includes a general description of the importance of managing long-term aesthetic resources but no specific policies that would apply to the Project (USFWS 1994).

The proposed Project would involve temporary incremental visual change that would be visible from places along Historic Route 66 and I-40 listed in the County General Plan (2007) as county

scenic routes; however, as demonstrated in the Figures 4.1-6b, 4.1-7b (I-40), and 4.1-8B (Historic Route 66) visual simulations and as described in detail in Section 4.1.3.3, "Impact Analysis," the Project would not substantially degrade the landscape character of views seen from these County scenic roadways. Therefore, the Project would conform to the plan's policies. The proposed Project would not substantially alter existing natural landscape features of the Desert Region including vegetation, water, and scenic vistas. As demonstrated in the visual simulation figures and described in Section 4.1.3.3, Impact Analysis, the Project would conform to the plan's policies regarding aesthetic resources.

Given the viewing distance, the proposed temporary activity associated with the Project would not be particularly noticeable from the Oatman-Topock Highway, a Mojave County scenic road. Therefore, the Project would conform to the Mohave County (Arizona) General Plan.

IMPACTConsistency with Plans and Policies. The proposed Project would not conflict with
plans and policies protecting visual resources. This impact would be less than
significant. No mitigation would be required.

4.2 Air Quality

This section describes the existing air quality conditions at the proposed Pacific Gas and Electric Company (PG&E) Topock Compressor Station Soil Investigation Project (Project) Site and vicinity; summarizes applicable federal, state, and local regulations and policies; and analyzes the potential air quality impacts of the proposed Project. The methods of analysis for construction-and operation-related emissions of criteria air pollutants and precursors, toxic air contaminants (TACs), and odors are consistent with the Mojave Desert Air Quality Management District (MDAQMD) recommendations.

4.2.1 Existing Setting

4.2.1.1 Climate and Meteorology

The primary factors that determine air quality are the locations of air pollutant sources and the amounts of pollutants emitted. Meteorological and topographical conditions, however, also are important. Factors such as wind speed and direction, and air temperature gradients interact with physical landscape features to determine the movement and dispersal of criteria air pollutants (see "Criteria Pollutants" section below). The Project Site is located within the Mojave Desert Air Basin (MDAB), which comprises the eastern portion of Kern County, the northeastern portion of Los Angeles County, all of San Bernardino County, and the eastern portion of Riverside County.

Prevailing winds in the MDAB are out of the west and southwest, due to the proximity of the MDAB to coastal and central regions and the blocking nature of the Sierra Nevada Mountains to the north; air masses pushed onshore in Southern California by differential heating are channeled through the MDAB.

During the summer the MDAB is generally influenced by a Pacific subtropical high cell that sits off the coast, inhibiting cloud formation and encouraging daytime solar heating. The MDAB is rarely influenced by cold air masses moving south from Canada and Alaska, as these frontal systems are weak and diffuse by the time they reach the desert. Most desert moisture arrives from infrequent warm, moist, and unstable air masses from the south. The MDAB averages between three and seven inches of precipitation per year (from 16 to 30 days with at least 0.01 inches of precipitation). The MDAB is classified as a dry-hot desert climate, with portions classified as dry-very hot desert, to indicate at least three months have maximum average temperatures over 100.4 °F (MDAQMD 2011).

4.2.1.2 Criteria Pollutants

These pollutants are called "criteria" air pollutants because standards have been established for each of them to meet specific public health and welfare criteria set forth in the Federal Clean Air Act (FCAA). California has adopted more stringent ambient air quality standards for the criteria air pollutants (referred to as State Ambient Air Quality Standards, or state standards) than national standards and has adopted air quality standards for some pollutants for which there is no corresponding national standard.

Existing Criteria Pollutant Air Quality

The closest MDAQMD monitoring stations are located over 100 miles to the southwest of the Project Site. Table 4.2-1 summarizes the air quality data from this monitoring station for the most recent 3 years, 2010 through 2012. Both the California Air Resources Board (ARB) and the U.S. Environmental Protection Agency (USEPA) use monitoring data to designate areas according to attainment status for criteria air pollutants published by the agencies. The purpose of these designations is to identify areas with air quality problems and thereby initiate planning efforts for improvement. The three basic designation categories are "nonattainment," "attainment," and "unclassified." The nonattainment designation refers to an area that does not meet the national primary or secondary ambient air quality standard for the pollutant. The attainment designation refers to an area that meets the national primary or secondary ambient air quality standard for the pollutant. The unclassified designation is used for an area that cannot be classified on the basis of available information as meeting or not meeting the standards. In addition, the California designations include a subcategory of the nonattainment designation, called "nonattainment-transitional." The nonattainment-transitional designation is given to nonattainment areas that are improving and nearing attainment. The most recent attainment designations with respect to San Bernardino County are shown in Table 4.2-3 (see the "Regulatory Setting" section below) for each criteria air pollutant.

AIR QUALITY DATA SUMMARY (2010–2012) FOR THE PROJECT SITE VICINITY						
_	Monitoring Data by Year					
Pollutant	2010	2011	2012			
Ozone – Joshua Tree National Monument Station						
Highest 1-Hour Average (ppm) ^b	0.119	0.121	0.109			
Days Over State Standard (0.09 ppm) ^a	19	21	16			
Highest 8-Hour Average (ppm) ^b	0.106	0.105	0.097			
Days Over National Standard (0.075 ppm) ^a	53	56	48			
Days Over State Standard (0.07 ppm) ^a	90	90	72			
Particulate Matter (PM10) – Lucerne Valley Middle School Station						
Highest 24-Hour Average – State/National (µg/m ³) ^b	38.0/43.0	31.0/33.0	27.0/30.0			
Estimated Days Over National Standard (150 μ g/m ³) ^{a,c}	0	NA	0			
Estimated Days Over State Standard (50 µg/m ³) ^{ac}	0	NA	NA			
State Annual Average (State Standard 20 µg/m ³) ^{a,b}	13.4	NA	NA			
Particulate Matter (PM2.5) – Big Bear City Station						
Highest 24-Hour Average (µg/m3) ^b – National Measurement	35.4	30.7	36.4			
Estimated Days Over National Standard (35 μ g/m ³) ^{a,c}	NA	0	NA			
State Annual Average (12 µg/m3) ^b	NA	NA	NA			

a Generally, state standards and national standards are not to be exceeded more than once per year.

b ppm = parts per million; $\mu g/m^3$ = micrograms per cubic meter.

c PM10 and PM2.5 is not measured every day of the year. Number of estimated days over the standard is based on 365 days per year.

NA = Not Available.

NOTE: Values in Bold exceed the respective air quality standard.

SOURCE: California Air Resources Board (ARB) 2014.

Ozone

Short-term exposure to ozone can irritate the eyes and cause constriction of the airways. Besides causing shortness of breath, ozone can aggravate existing respiratory diseases such as asthma, bronchitis, and emphysema.

Ozone, the main component of photochemical smog, is primarily a summer and fall pollution problem. Ozone is not emitted directly into the air but is formed through a complex series of chemical reactions involving other compounds that are directly emitted. These directly emitted pollutants (also known as ozone precursors) include reactive organic gases (ROG) and nitrogen oxides (NO_x). The time period required for ozone formation allows the reacting compounds to spread over a large area, producing a regional pollution problem. Ozone problems are the cumulative result of regional development patterns rather than the result of a few significant emission sources. Once formed, ozone remains in the atmosphere for one or two days. Ozone is then eliminated through chemical reaction with plants (reacts with chemicals on the leaves of plants), rainout (attaches to water droplets as they fall to Earth), and washout (is absorbed by water molecules in clouds and later falls to earth with rain).

San Bernardino County is designated moderate nonattainment for the state 1-hour ozone standard, nonattainment for the state 8-hour standard, and unclassified/attainment for the national 8-hour ozone standard.

Carbon Monoxide

Ambient carbon monoxide (CO) concentrations normally are considered a local effect and typically correspond closely to the spatial and temporal distributions of vehicular traffic. Wind speed and atmospheric mixing also influence CO concentrations. Under inversion conditions, CO concentrations may be distributed more uniformly over an area that may extend some distance from vehicular sources. When inhaled at high concentrations, CO combines with hemoglobin in the blood and reduces the oxygen-carrying capacity of the blood. This results in reduced oxygen reaching the brain, heart, and other body tissues. This condition is especially critical for people with cardiovascular diseases, chronic lung disease, or anemia, as well as for fetuses.

CO concentrations have declined dramatically in California due to existing controls and programs, and most areas of the state have no problem meeting the state and federal standards for CO. CO measurements and modeling were important in the early 1980s, when CO levels were regularly exceeded throughout California. In more recent years, CO measurements and modeling have not been a priority in most California air districts due to the retirement of older polluting vehicles, less emissions from new vehicles, and improvements in fuels. The clear success in reducing CO levels is evident in the first paragraph of the executive summary of the 2004 Revision to the California State Implementation Plan for Carbon Monoxide Updated Maintenance Plan for Ten Federal Planning Areas (ARB 2004), shown below:

"The dramatic reduction in carbon monoxide (CO) levels across California is one of the biggest success stories in air pollution control. Air Resources Board (ARB or Board) requirements for cleaner vehicles, equipment and fuels have cut peak CO levels in half since 1980, despite growth. All areas of the State designated as non-attainment for the federal

8-hour CO standard in 1991 now attain the standard, including the Los Angeles urbanized area. Even the Calexico area of Imperial County on the congested Mexican border had no violations of the federal CO standard in 2003. Only the South Coast and Calexico continue to violate the more protective State 8-hour CO standard, with declining levels beginning to approach that standard."

San Bernardino County is designated unclassified/attainment for the national and state CO standards.

Suspended Particulate Matter (PM10 and PM2.5)

PM10 and PM2.5 consist of particulate matter that is 10 microns or less in diameter and 2.5 microns or less in diameter, respectively (a micron is one-millionth of a meter). PM10 and PM2.5 represent fractions of particulate matter that can be inhaled into the airways and lungs and can cause adverse health effects. Some sources of particulate matter, such as wood burning in fireplaces which produces ash, demolition, and construction activities, are more local in nature, while others, such as vehicular traffic, have a more regional effect. Very small particles of certain substances (e.g., sulfates and nitrates) can cause lung damage directly, or can contain adsorbed gases (e.g., chlorides or ammonium) that may be injurious to health. Particulates also can damage materials and reduce visibility. Large dust particles (diameter greater than 10 microns) settle out rapidly and are easily filtered by human breathing passages. This large dust is of more concern as a soiling nuisance rather than a health hazard. The remaining fraction, PM10 and PM2.5, are a health concern particularly at levels above the federal and state ambient air quality standards. PM2.5 (including diesel exhaust particles) is thought to have greater effects on health because these particles are so small and, thus, are able to penetrate to the deepest parts of the lungs. Scientific studies have suggested links between fine particulate matter and numerous health problems, including asthma, bronchitis, and acute and chronic respiratory symptoms such as shortness of breath and painful breathing. Recent studies have shown an association between morbidity and mortality and daily concentrations of particulate matter in the air. Children are more susceptible to the health risks of PM10 and PM2.5 because their immune and respiratory systems are still developing.

Mortality studies since the 1990s have shown a statistically significant direct association between mortality (premature death) and daily concentrations of particulate matter in the air. Despite important gaps in scientific knowledge and continued reasons for some skepticism, a comprehensive evaluation of the research findings provides persuasive evidence that exposure to fine particulate air pollution has adverse effects on cardiopulmonary health (Dockery and Pope 2006). The ARB has estimated that achieving the ambient air quality standards for PM10 could reduce premature mortality rates by 6,500 cases per year (ARB 2002).

San Bernardino County is designated moderate nonattainment for the national PM10 standard and nonattainment for the state PM10 standard. The County is designated unclassified/attainment for the national and state PM2.5 standards.

Nitrogen Dioxide

Nitrogen dioxide (NO_2) is a reddish-brown gas that is a by-product of combustion processes. Automobiles and industrial operations are the main sources of NO₂. Aside from its contribution to ozone formation, NO_2 can increase the risk of acute and chronic respiratory disease and reduce visibility. NO_2 may be visible as a coloring component of a brown cloud on high pollution days, especially in conjunction with high ozone levels.

San Bernardino County is designated unclassified/attainment for the national and state NO₂ standards.

Sulfur Dioxide

Sulfur dioxide (SO_2) is a combustion product of sulfur or sulfur-containing fuels such as coal and diesel. SO₂ is also a precursor to the formation of atmospheric sulfate particulate matter and contributes to potential atmospheric sulfuric acid formation that could precipitate downwind as acid rain. The maximum SO₂ concentrations recorded in the Project Site and surrounding area are well below federal and state standards. San Bernardino County is designated unclassified/attainment for the national and state SO₂ standards.

Lead

Ambient lead concentrations meet both the federal and state standards at the Project Site. Lead has a range of adverse neurotoxic health effects, and was formerly released into the atmosphere primarily via leaded gasoline products. The phase-out of leaded gasoline in California resulted in dramatically reduced levels of atmospheric lead. The proposed Project would not introduce any new sources of lead emissions; consequently, lead emissions are not required to be quantified and are not further evaluated in this analysis.

San Bernardino County is designated unclassified/attainment for the national and state lead standards.

4.2.1.3 Non-Criteria Air Pollutants

Toxic Air Contaminants

Non-criteria air pollutants, or TACs, are airborne substances that are capable of causing shortterm (acute) and/or long-term (chronic or carcinogenic, i.e., cancer causing) adverse human health effects (i.e., injury or illness). TACs include both organic and inorganic chemical substances. They may be emitted from a variety of common sources, including gasoline stations, automobiles, diesel engines, dry cleaners, industrial operations, and painting operations. TACs are regulated separately from the criteria air pollutants at both federal and state levels. At the federal level, these airborne substances are referred to as Hazardous Air Pollutants (HAPs). The state list of TACs identifies 243 substances and the federal list of HAPs identifies 189 substances.

Diesel particulate matter (DPM) is the most complex of diesel emissions. Diesel particulates, as defined by most emission standards, includes both solids and liquid material that condenses during the dilution process of cooling exhaust gases. The basic fractions of DPM are elemental carbon, heavy hydrocarbons derived from the fuel and lubricating oil, and hydrated sulfuric acid derived from the fuel sulfur. DPM contains a large portion of the polycyclic aromatic hydrocarbons (PAH) found in diesel exhaust. Diesel particulates include small nuclei mode particles of diameters below 0.04µm (micrometer) and their agglomerates of diameters up to 1µm. Ambient exposures to diesel particulates in California are significant fractions of total TAC exposure levels in the state.

Naturally occurring asbestos may be found in at least 44 of California's 58 counties. Asbestos is the name for a group of naturally occurring silicate minerals. Exposure to asbestos may result in inhalation or ingestion of asbestos fibers, which over time may result in damage to the lungs or membranes that cover the lungs, leading to illness or even death. According to the *General Location Guide for Ultramafic Rocks in California—Areas More Likely to Contain Naturally Occurring Asbestos* (Department of Conservation 2000), the Project Site is not located in areas that are more likely to contain naturally occurring asbestos.

Odorous Emissions

Odors are generally regarded as an annoyance rather than a health hazard. Manifestations of a person's reaction to odors can range from psychological (e.g., irritation, anger, or anxiety) to physiological (e.g., circulatory and respiratory effects, nausea, vomiting, and headache). The ability to detect odors varies considerably among the population and overall is quite subjective. People may have different reactions to the same odor. An odor that is offensive to one person may be perfectly acceptable to another (e.g., coffee roaster). An unfamiliar odor is more easily detected and is more likely to cause complaints than a familiar one. Known as odor fatigue, a person can become desensitized to almost any odor and recognition only occurs with an alteration in the intensity. The occurrence and severity of odor impacts depend on the nature, frequency, and intensity of the source; wind speed and direction; and the sensitivity of receptors. Odor impacts should be considered for any proposed new odor sources located near existing receptors, as well as any new sensitive receptors located near existing odor sources. Generally, increasing the distance between the receptor and the odor source will mitigate odor impacts.

4.2.1.4 Sensitive Air Quality Receptors

Some receptors are considered more sensitive than others to air pollutants. Reasons for greater sensitivity include pre-existing health problems, proximity to emissions source, or duration of exposure to air pollutants. Schools, hospitals, and convalescent homes are considered to be relatively sensitive to poor air quality because children, elderly people, and the infirm are more susceptible to respiratory infections and other air quality-related health problems than the general public. Residential areas are also sensitive to poor air quality because people usually stay home for extended periods of time. Sensitive air quality receptors nearest to the Project Site are residences located 685 feet east (single home across the Colorado River and south of Interstate 40), 1,090 feet east (several homes across the Colorado River and north of Interstate 40), and 2,450 feet northwest (cluster of mobile homes in Moabi Regional Park and Pirate Cove Resort, which allows for short-term residents for a period of up to 5 months in a given year) of the soil investigation area (see Figure 4.7-1).

4.2.2 Regulatory Background

The Project Site is located in the Mojave Desert approximately 12 miles southeast of the city of Needles, California, 4 miles south of Golden Shores, Arizona, and 1 mile southeast of the Moabi Regional Park in California. Air quality at the Project Site is regulated by the USEPA, ARB, MDAQMD, and San Bernardino County (County). Each of these agencies develops rules, regulations, policies, and/or goals to comply with applicable legislation. Although USEPA regulations may not be superseded, both state and local regulations may be more stringent.

Applicable regulations associated with criteria air pollutant, TAC, and odor emissions are described separately below.

4.2.2.1 Criteria Air Pollutants

Federal Plans, Policies, Regulations, and Laws

USEPA has been charged with implementing national air quality programs. USEPA's air quality mandates are drawn primarily from the FCAA, which was enacted in 1970. The most recent major amendments made by Congress were in 1990.

The FCAA required the USEPA to establish national ambient air quality standards (NAAQS). As shown in **Table 4.2-2**, the USEPA has established NAAQS for ozone, CO, NO₂, SO₂, PM10, PM2.5, and lead. Table 4.2-2 lists the NAAQS and as provides a brief discussion of the related health effects and principal sources for each criteria air pollutant. **Table 4.2-3** presents current attainment statuses for the Project Site portion of the MDAB.

The FCAA also required each state to prepare an air quality control plan referred to as a State Implementation Plan (SIP). The Federal Clean Air Act Amendments of 1990 (FCAAA) added requirements for states with nonattainment areas to revise their SIPs to incorporate additional control measures to reduce air pollution. The SIPs are modified periodically to reflect the latest emissions inventories, planning documents, and rules and regulations of the air basins, as reported by their jurisdictional agencies. The USEPA must review all SIPs to determine whether they conform to the mandates of the FCAA and its amendments, and to determine whether implementing them will achieve air quality goals. If the USEPA determines that a SIP is inadequate, a federal implementation plan that imposes additional control measures may be prepared for the nonattainment area. Failure to submit an approvable SIP or to implement the plan within the mandated time frame may cause sanctions to be applied to transportation funding and stationary air pollution sources in the air basin.

State of California

The ARB is responsible for coordination and oversight of state and local air pollution control programs in California and for implementing the California Clean Air Act (CCAA). The CCAA, which was adopted in 1988, required ARB to establish California ambient air quality standards (CAAQS) (Table 4.2-2). ARB has established CAAQS for sulfates, hydrogen sulfide, vinyl chloride, visibility-reducing particulate matter, and the above-mentioned criteria air pollutants. In most cases the CAAQS are more stringent than the NAAQS. Differences in the standards are generally explained by the health effects studies considered during the standard-setting process and the interpretation of the studies. In addition, the CAAQS incorporate a margin of safety to protect sensitive individuals.

TABLE 4.2-2 STATE AND NATIONAL CRITERIA AIR POLLUTANT STANDARDS, EFFECTS, AND SOURCES					
Pollutant	Averaging Time	State Standard	National Standard	Pollutant Health and Atmospheric Effects	Major Pollutant Sources
Ozone	1 hour 8 hours	0.09 ppm 0.07 ppm	 0.075 ppm	High concentrations can directly affect lungs, causing irritation. Long- term exposure may cause damage to lung tissue.	Formed when reactive organic gases (ROG) and nitrogen oxides (NO _X) react in the presence of sunlight. Major sources include on-road motor vehicles, solvent evaporation, and commercial/ industrial mobile equipment.
Carbon Monoxide	1 hour 8 hours	20 ppm 9.0 ppm	35 ppm 9 ppm	Classified as a chemical asphyxiant, carbon monoxide interferes with the transfer of fresh oxygen to the blood and deprives sensitive tissues of oxygen.	Internal combustion engines, primarily gasoline-powered motor vehicles.
Nitrogen Dioxide	1 hour Annual Avg.	0.18 ppm 0.030 ppm	100 ppb 0.053 ppm	Irritating to eyes and respiratory tract. Colors atmosphere reddish-brown.	Motor vehicles, petroleum-refining operations, industrial sources, aircraft, ships, and railroads.
Sulfur Dioxide	1 hour 3 hours 24 hours Annual Avg.	0.25 ppm 0.04 ppm 	75 ppb 0.5 ppm 0.14 ppm 0.03 ppm	Irritates upper respiratory tract; injurious to lung tissue. Can yellow the leaves of plants, destructive to marble, iron, and steel. Limits visibility and reduces sunlight.	Fuel combustion, chemical plants, sulfur recovery plants, and metal processing.
Respirable Particulate Matter (PM10)	24 hours Annual Avg.	50 ug/m ³ 20 ug/m ³	150 ug/m ³	May irritate eyes and respiratory tract, decreases lung capacity, may cause cancer and increased mortality. Produces haze and limits visibility.	Dust and fume-producing industrial and agricultural operations, combustion, atmospheric photochemical reactions, and natural activities (e.g., wind-raised dust and ocean sprays).
Fine Particulate Matter (PM2.5)	24 hours Annual Avg.	 12 ug/m ³	35 ug/m ³ 12 ug/m ³	Increases respiratory disease, lung damage, cancer, and premature death. Reduces visibility and results in surface soiling.	Fuel combustion in motor vehicles, equipment, and industrial sources; residential and agricultural burning. Also, formed from photochemical reactions of other pollutants, including NO _X , sulfur oxides, and organics.
Lead	Monthly Ave. Quarterly	1.5 ug/m ³	 1.5 ug/m ³	Disturbs gastrointestinal system and causes anemia, kidney disease, and neuromuscular and neurological dysfunction.	Present source: lead smelters, battery manufacturing & recycling facilities. Past source: combustion of leaded gasoline.
Hydrogen Sulfide	1 hour	0.03 ppm	No National Standard	Nuisance odor (rotten egg smell), headache and breathing difficulties (higher concentrations).	Geothermal power plants, petroleum production and refining.
Sulfates	24 hours	25 ug/m ³	No National Standard	Breathing difficulties, aggravates asthma, reduces visibility.	Produced by the reaction in the air of SO ₂ .
Visibility- Reducing Particles	8 hours	Extinction of 0.23/km; visibility of 10 miles or more	No National Standard	Reduces visibility, reduces airport safety, lowers real estate value, and discourages tourism.	See PM2.5.
ppm = parts per The US EPA low	million; 📴 ug/n wered the federal prin	grograms per cubi nary PM2.5 annua	c meter. l standard from 1	5 ug/m ³ to 12 ug/m ³ on December 14, 2012.	

SOURCE: California Air Resources Board (ARB) 2009, 2012a.

TABLE 4.2-3 MDAB ATTAINMENT STATUS				
	Designation/Classification			
Pollutant	Federal Standards	State Standards		
Ozone – one hour	No Federal Standard	Nonattainment/Moderate		
Ozone – eight hours	Unclassified/Attainment	Nonattainment		
PM10	Nonattainment/Moderate	Nonattainment		
PM2.5	Unclassified/Attainment	Unclassified		
СО	Unclassified/Attainment	Attainment		
Nitrogen Dioxide	Unclassified/Attainment	Attainment		
Sulfur Dioxide	Unclassified	Attainment		
Lead	Unclassified/Attainment	Attainment		
Hydrogen Sulfide	No Federal Standard	Unclassified		
Sulfates	No Federal Standard	Attainment		
Vinyl Chloride	No Federal Standard	Attainment		
Visibility-Reducing Particles	No Federal Standard	Unclassified		

The CCAA requires that all local air districts in the state endeavor to achieve and maintain the CAAQS by the earliest practical date. The act specifies that local air districts should focus particular attention on reducing the emissions from transportation and areawide emission sources, and provides districts with the authority to regulate indirect sources. Among ARB's other responsibilities are overseeing local air districts' compliance with California and federal laws, approving local air quality plans, submitting SIPs to the USEPA, monitoring air quality, determining and updating area designations and maps, and setting emissions standards for new mobile sources, consumer products, small utility engines, off-road vehicles, and fuels.

Mojave Desert Air Quality Management District

MDAQMD attains and maintains air quality conditions for the desert portion of San Bernardino County and the far eastern end of Riverside County through a comprehensive program of planning, regulation, enforcement, technical innovation, and promotion of the understanding of air quality issues. The clean-air strategy of MDAQMD includes preparing plans and programs for the attainment of ambient air quality standards, adopting and enforcing the rules and regulations concerning sources of air pollution, and issuing permits for stationary sources of air pollution. MDAQMD also inspects stationary sources of air pollution, responds to citizen complaints, monitors ambient air quality and meteorological conditions, and implements programs and regulations required by the FCAA, FCAAA, and CCAA. Air quality plans applicable to the proposed Project are discussed below and summarized in **Table 4.2-4**.

Pollutant	Plan Title	Date	Status
Ozone	2004 Ozone Attainment Plan (State and Federal)	April 26, 2004	Adopted by MDAQMD and ARB on April 26, 2004
	Federal 8-Hour Ozone Attainment Plan (Western Mojave Desert Nonattainment Area)	June 9, 2008	Adopted by MDAQMD and ARB on June 9, 2008
Nitrogen dioxide (NO _x) and volatile organic compounds (VOC)	1991 Air Quality Attainment Plan	August 26, 1991	Adopted by MDAQMD and ARB on August 26, 1991
	Reasonable Further Progress Rate- of-Progress Plan	October 26, 1994	Adopted by MDAQMD and ARB on October 26, 1994
	Post 1996 Attainment Demonstration and Reasonable Further Progress Plan	October 26, 1994	Adopted by MDAQMD and ARB on October 26, 1994
	Triennial Revision to the 1991 Air Quality Attainment Plan	January 22, 1996	Adopted by MDAQMD and ARB on January 22, 1996
Respirable and fine particulate matter (PM10 and PM2.5)	Mojave Desert Planning Area Federal Particulate Matter Attainment Plan	July 25, 1995	Adopted by MDAQMD and ARB on July 25, 1995

MDAQMD submitted the *1991 Air Quality Attainment Plan* (AQAP) in compliance with the requirements set forth in the CCAA, which specifically addressed the nonattainment status for ozone and, to a lesser extent, CO and PM10.

The CCAA also requires a triennial assessment of the extent of air quality improvements and emission reductions achieved through the use of control measures. As part of the assessment, the attainment plan must be reviewed and, if necessary, revised to correct for deficiencies in progress and to incorporate new data or projections. The requirement of the CCAA for a first triennial progress report and revision of the 1991 AQAP was fulfilled with the preparation and adoption of the triennial *Revision to the 1991 Air Quality Attainment Plan* in 1996.

Portions of San Bernardino County not including the Project Site are part of a Federal Ozone Air Quality Maintenance Area. As a nonattainment area, the region is also required to submit rate-ofprogress milestone evaluations in accordance with the FCAAA. Milestone reports were prepared for 1994 and 1996, and most recently in 2008 for the 8-hour ozone standard. These milestone reports include compliance demonstrations that the requirements have been met for the MDAQMD. The AQAPs and reports present comprehensive strategies to reduce emissions of ROG, NOx, and PM10 from stationary, area, mobile, and indirect sources. Such strategies include adopting rules and regulations; enhancing California Environmental Quality Act (CEQA) participation; implementing a new and modified indirect-source review program; adopting local air quality plans; and implementing control measures for stationary, mobile, and indirect sources. The following MDAQMD rules and regulations also pertain to the Project Site:

- Rule 201–202: Permits to Construct. A person shall not build, erect, install, alter or replace any equipment, the use of which may cause the issuance of air contaminants or the use of which may eliminate, reduce or control the issuance of air contaminants without first obtaining written authorization for such construction from the Air Pollution Control Officer (APCO). A permit to construct shall remain in effect until the permit to operate the equipment for which the application was filed is granted or denied, or the application is canceled.
- **Rule 403: Fugitive Dust.** The developer or contractor is required to control dust emissions from earthmoving activities or any other construction activity to prevent airborne dust from leaving the project site.
- **Rule 404: Particulate Matter—Concentration.** A person shall not discharge into the atmosphere from any source, particulate matter except liquid sulfur compounds, in excess of the concentration at standard conditions included in the rule.
- **Rule 462: Organic Liquid Loading.** The purpose of this rule is to limit the emissions of VOC and TACs (such as benzene) from Organic Liquid Loading (any organic liquid, including gasoline), and in conjunction with Rules 461 and 463, limit the emissions from the storage, transfer, and dispensing of organic liquids.

County of San Bernardino 2007 General Plan

The adopted *County of San Bernardino 2007 General Plan* includes the following applicable goals, objectives, and policies from the Conservation Element (San Bernardino County 2007):

GOAL CO 4: The County will ensure good air quality for its residents, businesses, and visitors to reduce impacts on human health and the economy.

- Policy CO 4.1: Because developments can add to the wind hazard (due to increased dust, the removal of wind breaks, and other factors), the County will require either as mitigation measures in the appropriate environmental analysis required by the County for the development proposal or as conditions of approval if no environmental document is required, that developments in areas identified as susceptible to wind hazards to address site-specific analysis of:
 - a. Grading restrictions and/or controls on the basis of soil types, topography or season.
 - b. Landscaping methods, plant varieties, and scheduling to maximize successful revegetation.
 - c. Dust-control measures during grading.

• **Policy CO 4.2:** Coordinate air quality improvement technologies with the South Coast Air Quality Management District and the MDAQMD to improve air quality through reductions in pollutants from the region.

4.2.2.2 Toxic Air Contaminants

Air quality regulations also address TACs (or, federally, HAPs). In general, for those TACs that may cause cancer, there is no concentration that does not present some risk. In other words, there is no threshold level below which adverse health impacts may not be expected to occur. The USEPA and ARB regulate HAPs and TACs, respectively, through statutes and regulations that generally require the use of control technologies to limit emissions. These statutes and regulatory framework for TACs.

Federal Hazardous Air Pollutant Programs

The USEPA has programs for identifying and regulating HAPs. Title III of the FCAAA directed USEPA to promulgate national emissions standards for HAPs (NESHAP). The NESHAP for major sources of HAPs may differ from those for area sources. Major sources are defined as stationary sources with potential to emit more than 10 tons per year of any HAP or more than 25 tons per year of any combination of HAPs; all other sources are considered area sources.

The FCAAA called on USEPA to issue emissions standards in two phases. In the first phase (1992–2000), USEPA developed technology-based emissions standards designed to reduce emissions as much as feasible. These standards are generally referred to as requiring maximum available control technology. For area sources, the standards may be different, based on generally available control technology. In the second phase (2001–2008), USEPA was required to issue health risk–based emissions standards where deemed necessary to address risks remaining after implementation of the technology-based NESHAP standards.

The FCAAA also required USEPA to issue vehicle or fuel standards containing reasonable requirements that control toxic emissions of, at a minimum, benzene and formaldehyde. Performance criteria were established to limit mobile-source emissions of benzene, formaldehyde, and 1,3-butadiene. In addition, Section 219 of the FCAAA required the use of reformulated gasoline in selected areas with the most severe ozone nonattainment conditions to further reduce mobile-source emissions.

State of California

TACs in California are regulated primarily through the Tanner Air Toxics Act (Assembly Bill [AB] 1807 [Chapter 1047, Statutes of 1983]) and the Air Toxics Hot Spots Information and Assessment Act (AB 2588 [Chapter 1252, Statutes of 1987]). AB 1807 sets forth a formal procedure for ARB to designate substances as TACs. Research, public participation, and scientific peer review must occur before ARB can designate a substance as a TAC. To date, ARB has identified more than 21 TACs and adopted USEPA's list of HAPs as TACs. Most recently, particulate matter emissions from diesel PM was added to the ARB list of TACs.

Once a TAC is identified, ARB then adopts an airborne toxics control measure for sources that emit that particular TAC. If there is a safe threshold for a substance at which there is no toxic effect, the control measure must reduce exposure below that threshold. If there is no safe threshold, the measure must incorporate best available control technology (BACT) to minimize emissions; for example, the airborne toxics control measure limits truck idling to 5 minutes (Title 13, Section 2485 of the California Code of Regulations [CCR]).

The Air Toxics Hot Spots Information and Assessment Act requires that existing facilities that emit toxic substances above a specified level prepare an inventory of toxic emissions, prepare a risk assessment if emissions are significant, notify the public of significant risk levels, and prepare and implement risk reduction measures.

ARB has adopted control measures for diesel PM and more stringent emissions standards for various on-road mobile sources of emissions, including transit buses and off-road diesel equipment (e.g., tractors, generators). Recent and future milestones include the low-sulfur diesel fuel requirement and tighter emissions standards for heavy-duty diesel trucks (2007) and off-road diesel equipment (2011) nationwide. Over time, replacing older vehicles will result in a vehicle fleet that produces substantially lower levels of TACs than under current conditions. Mobile-source emissions of TACs (e.g., benzene, 1,3-butadiene, diesel PM) have been reduced significantly over the last decade and will be reduced further in California through a progression of regulatory measures (e.g., Low Emission Vehicle/Clean Fuels and Phase II reformulated gasoline regulations) and control technologies. With implementation of ARB's Risk Reduction Plan, diesel PM concentrations were expected to be reduced by 75% by 2010 and are projected to be reduced by 85% in 2020 from the estimated year-2000 level. Adopted regulations are also expected to continue to reduce formaldehyde emissions from cars and light-duty trucks. As emissions are reduced, it is expected that risks associated with exposure to the emissions will also be reduced.

In addition, the *Air Quality and Land Use Handbook: A Community Health Perspective* (handbook) provides guidance on land use compatibility with sources of TACs (ARB 2005). The handbook is not a law or adopted policy but offers advisory recommendations for the siting of sensitive receptors near uses associated with TACs, such as freeways and high-traffic roads, commercial distribution centers, rail yards, ports, refineries, dry cleaners, gasoline stations, and industrial facilities, to help keep children and other sensitive populations out of harm's way.

Mojave Desert Air Quality Management District

At the local level, air pollution control or management districts may adopt and enforce ARB control measures. Under MDAQMD Rule 1300 (New Source Review) and Rule 1200 (Federal Operating Permit), all sources that possess the potential to emit TACs must obtain permits from MDAQMD. Permits may be granted to these operations if they are constructed and operated in accordance with applicable regulations, including new-source review standards and air toxics control measures. MDAQMD limits emissions and public exposure to TACs through a number of programs. MDAQMD prioritizes TAC-emitting stationary sources based on the quantity and toxicity of the TAC emissions and the proximity of the facilities to sensitive receptors.

4.2.2.3 Odors

MDAQMD's Rule 402 (Nuisance) addresses odor exposure at the Project Site. MDAQMD recommends that odor impacts be addressed in a qualitative manner. Such an analysis shall determine if the proposed Project results in excessive nuisance odors, as defined under the CCR, Health and Safety Code Section 41700, air quality public nuisance.

4.2.3 Environmental Impacts

4.2.3.1 Impact Methodology

The proposed Project consists of short-term soil investigation activities and, as such, would not include sources of long-term air pollutants. For short-term soil collection activities, emissions were calculated by using California Emissions Estimator Model (CalEEMod) version 2013.2.2. CalEEMod is a computer program that can be used to estimate anticipated emissions associated with land development projects in California. CalEEMod has separate databases for specific counties and air districts. The San Bernardino County database was used for the proposed Project. During Project implementation (short-term), the Project would result in dust emissions and exhaust from on-road vehicles and off-road equipment.

4.2.3.2 Thresholds of Significance

Based on CEQA Guidelines Appendix G, the Project would have a significant effect on air quality if it would:

- Conflict with or obstruct implementation of the applicable air quality plan;
- Violate any air quality standard or contribute substantially to an existing or projected air quality violation;
- Result in a cumulatively considerable net increase of any nonattainment pollutant (including releasing emissions that exceed quantitative thresholds for ozone precursors);
- Expose sensitive receptors to substantial pollutant concentrations; or
- Create objectionable odors affecting a substantial number of people.

The MDAQMD has established the following thresholds for criteria pollutants (MDAQMD 2011), which were applied to the proposed Project:

- VOC or ROG 25 tpy or 137 pounds per day (ppd)
- NO_x 25 tpy or 137 ppd
- PM10 15 tpy or 82 ppd
- PM2.5 15 tpy or 82 ppd
- CO 100 tpy or 548 ppd
- SO_x 25 tpy or 137 ppd

Hydrogen sulfide (H₂S) and lead were not quantified for the Project because the Project does not include sources of these pollutants. Regarding potential lead in the soil that could be emitted by ground disturbance, the Project would result in minimal ground disturbance and would comply with MDAQMD Rules regarding fugitive dust control, which would also control any fugitive lead.

In regard to TACs, any project with the potential to expose sensitive receptors to substantial levels of TACs (such as DPM) would be deemed to have a potentially significant impact. Substantial levels of TACs are those resulting in a cancer risk greater than or equal to 10 in a million and/or a Hazard Index (HI) greater than or equal to 1.

The proposed Project would not conflict with or obstruct implementation of the applicable air quality plan. According to the MDAQMD, a project is deemed to not exceed this threshold, and hence not be significant, if it is consistent with the existing land use plan (MDAQMD 2011). Since the Project would only include short-term soil investigation activities and no long-term operations, there is no potential that it would conflict with the land use plan and, therefore, the Project would not conflict with or obstruct implementation of the applicable air quality plan and this impact is not discussed further.

The proposed Project would not create objectionable odors affecting a substantial number of people. As a general matter, the types of land use development that pose potential odor problems include wastewater treatment plants, refineries, landfills, composting facilities, and transfer stations. No such uses would occupy the Project Site. The proposed Project consists of short-term soil investigation activities and, as such, would not include sources of odor. The Project Site locations are remote with few receptors in proximity. Therefore, the Project would not create objectionable odors that would affect a substantial number of people and this impact is not discussed further.

4.2.3.3 Impact Analysis

Criteria Air Pollutants

Short-term emissions from the Project would arise from (1) earth-moving activities; (2) dust entrainment from travel by equipment, trucks, and employee vehicles, especially on unpaved surfaces; and (3) exhaust from equipment, trucks, and employee vehicles. As described in Chapter 3, "Project Description," soil investigation activities would involve the use of a drill rig, hydrovac truck, and back hoe or excavator. Vegetation trimming, pruning, or clearing within the mouth of Bat Cave Wash would involve a loader, excavator, wood chipper, and chainsaw. Onroad mobile sources of air pollutants would include support haul trucks (i.e., supply import and waste export from the active sites) and worker vehicles. Active field investigation activities are expected to occur over a period of nine months in the year 2015, with a potential extension of up to three months for contingency sampling. As described in Chapter 3, "Project Description," subsequent activities including the potential bench scale tests, pilot studies, and geotechnical evaluations to support the Soil CMS/FS, and the potential plant and biota sampling activities to support ecological risk assessment, would be undertaken after the completion of the soil sampling activities in late 2016 and are anticipated to last from 13 to 27 months, depending on need for

each activity and ability for each activity to be implemented concurrently. Potential emissions from all of these activities are included in the quantitative assessment below.

PM10 and PM2.5 emissions would vary greatly from day to day depending on the level of activity, equipment being operated, silt content of the soil, and prevailing weather. Largerdiameter dust particles (i.e., greater than 30 microns) generally fall out of the atmosphere within several hundred feet of construction sites, and represent more of a soiling nuisance than a health hazard. Smaller-diameter particles (e.g., PM10 and PM2.5) are associated with adverse health effects and generally remain airborne until removed from the atmosphere by moisture. Construction equipment and construction-worker commute vehicles and haul trucks would also generate criteria air pollutant emissions. Criteria pollutant emissions of ROG and NO_x from these emissions sources would incrementally add to regional atmospheric loading of ozone precursors during the implementation period. Project-related emissions were modeled using CalEEMod and are depicted below in **Table 4.2-5** and are included in **Appendix C** of this draft environmental report (DEIR).

TABLE 4.2-5 UNMITIGATED EMISSION ESTIMATES ^a							
Analysis	ROG	NO _x	PM10	PM2.5	СО	SO _x	
Annual Emissions (tons/year)							
Year 2015	0.6	6.2	5.9	0.8	5.7	0.0	
Year 2016	0.0	0.3	0.2	0.0	0.2	0.0	
Year 2017	0.1	0.7	0.5	0.1	0.5	0.0	
Year 2018	0.0	0.1	0.1	0.0	0.1	0.0	
MDAQMD Annual Thresholds (tons/year)	25	25	15	15	100	25	
Significant (Yes or No)?	No	No	No	No	No	No	
Daily Emissions (pounds/day)							
Year 2015	4.4	47.4	49.4	6.8	42.2	0.1	
Year 2016	0.9	11.7	6.9	1.0	7.0	0.0	
Year 2017	0.4	5.2	5.7	0.7	4.1	0.0	
Year 2018	0.3	4.4	3.9	0.5	3.3	0.0	
MDAQMD Daily Thresholds (pounds/day)	137	137	82	82	548	137	
Significant (Yes or No)?	No	No	No	No	No	No	

⁴ Project-related emissions estimates were made using CalEEMod. Soil investigation activities were assumed to occur in the year 2015, including contingency sampling. Bench tests, pilot studies, geotechnical evaluations, and biota sampling were assumed to begin late-2016 and occur over a period of 17 months, with some activity overlap. For daily emissions, the greater value for summer or winter outputs was used. See Appendix C of this DEIR for model outputs and additional assumptions.

The MDAQMD thresholds are established to determine what level of emissions would potentially violate an air quality standard or contribute substantially to an existing or projected air quality violation. As depicted in Table 4.2-5, the estimated emissions from soil investigation activities, bench tests, pilot studies, geotechnical evaluations, and plant and biota sampling would not exceed the MDAQMD daily or annual thresholds of significance. As such, the proposed Project would not violate an air quality standard.
In regards to cumulative emissions, no single project is sufficient in size to, by itself, result in nonattainment of ambient air quality standards. Instead, a project's individual emissions contribute to existing cumulatively significant adverse air quality impacts. If a project exceeds the identified significance thresholds, its emissions would be cumulatively considerable, resulting in significant adverse air quality impacts to the region's existing air quality conditions. Since the proposed Project would result in a minimal increase of criteria pollutant emissions during the temporary soil investigation activities, would comply with all applicable MDAQMD Rules and Regulations, and would not result in long-term emissions, the proposed Project would not be considered cumulatively considerable and would result in less than significant cumulative impacts on the air quality environment.

IMPACT Potential to generate emissions of criteria air pollutants. The proposed Project would

AIR-1 not exceed the Mojave Desert Air Quality Management District daily or annual thresholds of significance. The proposed Project would not violate any air quality standard or contribute substantially to an existing or projected air quality violation, nor result in a cumulatively considerable net increase of any nonattainment pollutant. This impact would be **less than significant**. No mitigation would be required.

Carbon Monoxide Hotspots and Toxic Air Contaminants

CO is a localized pollutant of concern. As noted above, in Table 4.2-5, maximum unmitigated CO emissions for soil investigation activities were estimated at 47 pounds per day and 6 tons per year using CalEEMod modeling, far below the MDAQMD daily or annual thresholds of significance. Moreover, due to the distance between soil investigation activities and sensitive receptors (about 685 feet from nearest residence), Project implementation would not emit CO in quantities that could pose health concerns.

Implementation of the Project would result in short-term diesel exhaust emissions, which are TACs, from on-site heavy-duty equipment. The Project would generate DPM emissions from the use of off-road diesel equipment required for the temporary and intermittent soil investigation activities. Exposure of sensitive receptors is the primary factor used to determine health risk. Exposure is a function of the concentration of a substance or substances in the environment and the extent of exposure that person has with the substance. A longer exposure period would result in a higher exposure level. Thus, the risks estimated for a maximally exposed individual are higher if a fixed exposure occurs over a longer period of time. According to the Office of Environmental Health Hazard Assessment, health risk assessments, which determine the exposure of sensitive receptors to toxic emissions, should be based on a 70-year exposure period; however, such assessments should be limited to the period/duration of activities associated with the Project. The duration of the proposed Project would only constitute a small percentage of the total 70-year exposure period. Furthermore, the use of diesel-powered construction equipment would be temporary and episodic in that sampling at each site would occur for a limited period of time (daylight hours for up to 1 to 2 weeks). Moreover, there are no permanent sensitive receptors in close proximity to any of the Project Sites. Upon completion of soil investigation activities, emissions of any TACs from Project-related activities would cease to occur. Therefore, with respect to TACs (such as DPM), the Project would not have the potential to expose sensitive

receptors to substantial levels that would be deemed to have a potentially significant impact (substantial levels of TACs are those resulting in a cancer risk greater than or equal to 10 in a million and/or an HI greater than or equal to 1).

IMPACT
AIR-2Potential to expose sensitive receptors to substantial pollutant concentrations. The
proposed Project would not emit carbon monoxide in quantities that would pose health
effects. The duration of proposed soil investigation activities would constitute a small
percentage of the total 70-year sensitive receptor exposure period for toxic air
contaminants. The proposed Project would not expose sensitive receptors to substantial
pollutant concentrations. This impact would be less than significant. No mitigation would
be required.

4.3 Biological Resources

This section provides a discussion of terrestrial and aquatic biological resources at the Pacific Gas and Electric Company (PG&E) Topock Compressor Station Soil Investigation Project (Project) Site and surrounding areas; describes the applicable federal, state, regional, and local regulations and policies related to biological resources; and analyzes the potential temporary, short-term, and long-term impacts of the proposed Project on terrestrial and aquatic biological resources.

The information presented in this section is based on the results of biological studies conducted in support of the Project between 2004 and 2013. The information reviewed includes documents that discuss biological resources in the region, including the *Programmatic Biological Assessment for Pacific Gas and Electric Topock Compressor Station Remedial and Investigative Actions* (PBA) (CH2M HILL 2007a, included as **Appendix D-1** to this draft environmental impact report [DEIR]), numerous baseline biological reports as cited below, and annual survey reports for presence or absence of the southwestern willow flycatcher (*Empidonax traillii extimus*) and desert tortoise (*Gopherus agassizii*) (CH2M HILL 2004a-e; 2005a; GANDA 2005a, 2005b, 2006a, 2006b, 2007, 2008a, 2009b, 2009a, 2009b, 2010, 2012; and WSA 2013), as well as Yuma clapper rail (*Rallus longirostris yumanensis*), and California black rail (*Laterallus jamaicensis coturniculus*) (KBS 2012), western yellow-billed cuckoo (PG&E 2014b), and bats (PG&E 2015b), among others.

4.3.1 Existing Setting

4.3.1.1 Project Setting

The Project Site is located at the boundary of two desert systems: Mojave and Colorado. The terrain at the Project Site includes sparsely vegetated desert, unvegetated desert pavement, numerous shallow to deep ephemeral washes, and gently rolling hills. The base of the Chemehuevi Mountains is located at the southeastern edge of the Project Site. The elevation within the Project Site ranges from roughly 400 to 600 feet above mean sea level (amsl). Industrial development occurs throughout the Project Site and includes the PG&E Topock Compressor Station (Station), the Interim Measure 3 (IM-3) Treatment Facility, paved and unpaved access roads, four evaporation ponds, a rock quarry, two water tanks, historic U.S. Highway ("Route") 66, numerous groundwater wells, and six natural gas pipelines that run partially above and partially below ground. Interstate 40 (I-40) and the Burlington Northern Santa Fe Railway (BNSF) cross the Project Site in an east-west direction.

The Colorado River borders the eastern portion of the Project Site. West of the Colorado River, the topography is abrupt, rising from around 450 feet amsl at the river to over 1,200 feet amsl within 1 mile to the south and southwest. Slopes encountered west of the Colorado River reflect a series of ancient river terraces (CH2M HILL 2007a:4-1-4-3, included as Appendix D-1 to this DEIR).

Lower Colorado River

Starting in the 1930s, federal actions in the region consisted of the construction of several dams, including the Hoover Dam, <u>Davis Dam</u> and Parker Dam. Construction of the Hoover Dam, located 108 miles upstream of Topock, was completed in 1936. <u>Completion of the Davis Dam</u>, <u>located 41 miles upstream of Topock</u>, occurred in 1951. Completion of the Parker Dam, located 42 miles downstream of Topock, occurred in 1938. The changes that resulted from dam construction to the natural river flows substantially altered available fish habitats and reduced the river's ability to meander and create or destroy backwaters and marshes. Alleviating the threat of floods also allowed for conversion of riparian areas to agricultural uses.

The accumulation of sediment in the river channel from Topock to Needles increased rapidly after the completion of Parker Dam. By 1944, the aggradation of the river channel caused elevated groundwater levels and flooding in low-lying areas. In response to this condition, the U.S. Bureau of Reclamation (BOR) conducted dredging of the river channel to maintain channel geometry. According to Metzger and Loeltz (1973) (as cited in CH2M HILL 2013), the substantial dredging and channel improvement work in Mohave Valley was completed by July 1960. As part of the channel improvements conducted by BOR, riprap embankments were added to stabilize the shoreline on the Arizona side, immediately east and northeast of the Station. Historical aerial photographs for the Project Site (CH2M HILL 2013) provide information on the general time frames and locations of dredging, as evidenced by the extensive sand dune areas present in the historical photographs on both the western and eastern shorelines of the Colorado River (CH2M HILL 2009: Appendix A1). BOR's damming and channelization of the Colorado River have substantially altered aquatic, marsh, and riparian habitats associated with the river. As part of the mitigation for the various river control projects, BOR has agreed to improve backwater and marsh areas, including enhancing areas such as the Topock Marsh (CH2M HILL 2007a:3-25). The portion of the Colorado River that is adjacent to the Project Site is approximately 700 to 900 feet wide and 8 to 15 feet deep. The adjacent Colorado River floodplain averages about 500 feet in width but narrows at the Topock Gorge, which is approximately 4 miles south of the Project Site (CH2M HILL 2007a:3-2).

Topock Marsh

The 4,000-acre Topock Marsh is managed by the U.S. Fish and Wildlife Service (USFWS) as part of the Havasu National Wildlife Refuge (HNWR). The marsh was created as mitigation for prior impacts on the Colorado River and was developed within a historical river meander in 1966, when a dike outlet structure was constructed. Presently, the marsh represents more than 40 percent of the remaining backwaters of the Colorado River. The marsh serves as a critical resting place for migratory waterfowl and a home to resident songbirds, water birds, and other wildlife (USFWS 2008).

Water levels in the marsh are manipulated through closing and opening the gates at the South Dike outlet structure. Levels are increased during the early spring to benefit the nesting southwestern willow flycatcher and then slowly drawn down over the fall to maximize the availability of submerged aquatic vegetation for water birds (USFWS 2008).

4.3.1.2 General Biological Resources

Regional and local settings for terrestrial biological resources were developed primarily from existing documents, including information from *the Resource Conservation and Recovery Act (RCRA) Facility Investigation/Remedial Investigation (RFI/RI) (Volumes 1 and 2)* (CH2M HILL 2007b, 2009) and the biological surveys conducted at the Project Site by CH2M HILL and Garcia and Associates (GANDA), who were contracted by PG&E to conduct various environmental services throughout the Project Site. Reconnaissance and targeted surveys conducted by CH2M HILL were primarily to facilitate implementation of the existing IM-3. The CH2M HILL and GANDA survey areas included lands in both California and Arizona. Before conducting surveys, CH2M HILL performed background research of databases, literature, and technical reports and consulted with the agencies or firms regarding federally listed species in the area, including the U.S. Bureau of Land Management (BLM), BOR, USFWS, California Department of Fish and Wildlife (CDFW),¹ Arizona Game and Fish Department, and Steven W. Carothers and Associates for guidance on listed species. Several sensitive biological resources were identified as potentially occurring in the Project Site, including wetlands, waters of the United States, waters of the state, and federally listed wildlife species.

Surveys for federally listed wildlife species potentially occurring within the Project Site were implemented following USFWS standard protocols and included surveys for the southwestern willow flycatcher and the desert tortoise (GANDA 2007, 2008a, 2008b, 2009a, 2009b, 2010, 2012). As directed by USFWS, surveys for Yuma clapper rail and fish species were not conducted as part of this Project so that there would not be a duplication of USFWS HNWR survey efforts for these species (CH2M HILL 2007a:5-1, included as Appendix D-1 to this DEIR). USFWS provided data from its annual clapper rail survey efforts to CH2M HILL for incorporation into the PBA and other project-related documents.

Biological resource surveys conducted on behalf of PG&E were performed within a 1,528-acre area originally delineated by the BLM to facilitate a cultural resources assessment for the Project. Since completion of the biological surveys, the Project Site boundaries have been revised based on updated information regarding the actual extent of the area needed for soil investigation activity.

As previously mentioned, information on general biological resources and special-status species was developed from the following existing documents and a reconnaissance-level survey:

- Final Biological Resources Investigations for Interim Measures No. 3: Topock Compressor Station Expanded Groundwater Extraction and Treatment System and addendums (CH2M HILL 2004a-e);
- Biological Resources Survey Report for the Area of Potential Effect (APE) Topock Compressor Station Expanded Groundwater Extraction and Treatment System (CH2M HILL 2005b);

¹ The California Department of Fish and Game (CDFG) changed its name on January 1, 2013, to the California Department of Fish and Wildlife (CDFW). In this document, references to literature published by CDFW prior to January 1, 2013, are cited as "CDFG." The agency is otherwise referred to by its new name, CDFW.

- Final Programmatic Biological Assessment for Pacific Gas and Electric Topock Compressor Station Remedial and Investigative Actions (CH2M HILL 2007a, included as Appendix D-1 to this DEIR);
- Southwestern Willow Flycatcher Presence/Absence Surveys for the PG&E Compressor Station Expanded Groundwater Extraction and Treatment System (GANDA 2005a, 2006a, 2007, 2008b, 2009a, 2010, 2012);
- 2012 Focused Survey Results for the Yuma Clapper Rail and the California Black Rail at the Pacific Gas and Electric Groundwater Remediation Project Site (KBS 2012);
- Desert Tortoise Presence/Absence Surveys for the PG&E Compressor Station Expanded Groundwater Extraction and Treatment System (CH2M HILL 2004a-e; GANDA 2005b, 2006b, 2008a, 2009b; WSA 2013);
- <u>2014 Western Yellow-Billed Cuckoo Presence/Absence Surveys for the PG&E Topock</u> <u>Compressor Station (GANDA 2014):</u>
- Assessment of Potential Impacts to Four Special-Status Species for Soil Environmental Impact Report Investigation and Final Groundwater Remedy Areas (PG&E 2015a);
- <u>Preliminary Habitat Analysis for Bat Use at PG&E Topock Remediation Project (PG&E 2015b);</u>
- <u>Bat Surveys of the Topock Compressor Station Soil Investigation and Groundwater</u> <u>Remediation Project Areas (PG&E 2015c);</u>
- Topock Groundwater Remediation Project Floristic Survey Report (CH2M HILL and GANDA 2013a);
- Topock Groundwater Remediation Project Revised Floristic Survey Report (CH2M HILL and GANDA 2013b);
- USFWS species list for the HNWR (USFWS 2007 and 2008); and
- Wetlands and Waters of the United States, Delineation for the Topock Compressor Station Groundwater Remediation Project, San Bernardino County, California (Document ID: PGE20130822A) (CH2M HILL 2013, included as **Appendix D-2** to this DEIR).

Vegetation and Habitat

Terrestrial habitats within the Project Site are typical of Mojave Desert uplands, the dominant habitat within the Project Site being creosote bush (*Larrea tridentata*) scrub. Other terrestrial habitats within the Project Site include tamarisk (*Tamarix ramossissima; T. aphylla*) thicket, arrow weed (*Pluchea sericea*) thicket, blue palo verde (*Parkinsonia florida*) woodland, catclaw acacia (*Senegalia greggii*) thorn scrub, foothill palo verde (*Parkinsonia microphylla*) scrub, quailbush scrub, allscale (*Atriplex polycarpa*) scrub, and western honey mesquite (*Prosopis glandulosa* var. *torreyana*) bosque, as well as areas that have been landscaped and developed. **Table 4.3-1** lists the approximate acreages of each habitat type within the Project Site. These acreages were calculated through a Geographic Information System (GIS) analysis in which the Project Site boundaries were laid over the vegetation community data layer from the *Topock Groundwater Remediation Project Floristic Survey Report* (CH2M HILL and GANDA 2013).

This original vegetation community data layer was delineated in the field by CH2M Hill to support the environmental analysis of the Groundwater Remediation Project. The acreages in Table 4.3-1 differ from those reported in the *Topock Groundwater Remediation Project Floristic Survey Report* (CH2M HILL and GANDA 2013) because the current Project Site is smaller than that of the Groundwater Remediation Project.

Habitat Type	Approximate Acreage
Creosote Bush Scrub	68.9
Tamarisk Thicket	6.6
Arrow Weed Thicket	0.4
Blue Palo Verde Woodland	9.8
Catclaw Acacia Thorn Scrub	0.3
Foothill Palo Verde Scrub	1.5
Allscale Scrub	1.5
Western Honey Mesquite Bosque	0.3
Tamarisk Thicket/Mesquite Bosque	1.0
Tamarisk Thicket/Mesquite Bosque/Blue Palo Verde Woodland	0.1
Common Reed Marshes	2.6
Open Water	0.2
Landscaped	0.1
Developed	35.2
GRAND TOTAL	128.5

TABLE 4.3-1 HABITAT TYPES IN THE PROJECT SITE

SOURCES: CH2M HILL and GANDA 2013ab; Parus 2014.

Creosote Bush Scrub

The most common and widespread plant community in the Project Site is creosote bush scrub. This vegetation type is characterized by widely spaced creosote bush with associated species such as white bursage (*Ambrosia dumosa*), white rhatany (*Krameria bicolor*), brittlebush (*Encelia farinosa*), beavertail cactus (*Opuntia basilaris* var. *basilaris*), and silver cholla (*Cylindropuntia echinocarpa*) (CH2M HILL and GANDA 2013ab). Creosote bush scrub occurs throughout the dissected alluvial terraces in the Project Site and comprises 68.9 acres of the Project Site (**Figures 4.3-1** through **4.3-1d**).

Tamarisk Thicket

Tamarisk thicket is found primarily along the low sandy terraces adjacent to the Colorado River and near the terminus of the larger ephemeral washes such as Bat Cave Wash (Figures 4.3-1 through 4.3-1d). Vegetation is characterized by open to dense stands of the non-native and invasive salt cedar and/or athel tamarisk. In many locations salt cedar or athel tamarisk occur as monotypic stands; in other areas associated trees and shrubs include western honey mesquite, screwbean mesquite, blue palo verde, and arrow weed. Herbaceous vegetation is absent within dense thickets of salt cedar and athel tamarisk, but scattered herbaceous species such as fanleaf crinklemat (*Tiquilia plicata*), Spanish needle (*Palafoxia arida*), and *Cryptantha* spp. are often present in the openings between the trees in some areas (CH2M HILL and GANDA 2013ab). Tamarisk thicket comprises 6.6 acres of the Project Site; tamarisk thicket/mesquite bosque comprises 1.0 acre of the Project Site; and tamarisk thicket/mesquite bosque/blue palo verde woodland comprises 0.1 acre of the Project Site (Figures 4.3-1 through 4.3-1d).

Arrow Weed Thicket

Arrow weed thicket is found on the low sandy terraces along the Colorado River (Figures 4.3-1 through 4.3-1d). Arrow weed is the sole dominant shrub species with individuals widely scattered or aggregated into dense, nearly impenetrable stands. It is most common along the western shore of the Colorado Rover between Bat Cave Wash and I-40, and often intermixes with tamarisk thickets and mesquite bosque. Associated species include salt cedar, smoke tree (*Psorothamnus spinosus*), western honey mesquite, brittlebush, and desert broom (*Baccharis sarothroides*). Scattered herbaceous vegetation in the more open areas includes fanleaf crinklemat, Spanish needle, *Cryptantha* spp., and Mediterranean grass (*Schismus barbatus*) (CH2M HILL and GANDA 2013ab). Arrow weed thicket comprises 0.4 acre of the Project Site (Figures 4.3-1 through 4.3-1d).

Blue Palo Verde Woodland

Blue palo verde woodland occurs along the edges and throughout the channel bottoms of the larger ephemeral washes in the dissected alluvial terraces south of the Colorado River (Figures 4.3-1 through 4.3-1d). Total vegetation cover is generally low, but species diversity is relatively high, especially in the larger washes, as compared to the other vegetation types in the Project Site. Blue palo verde is the dominant tree with scattered individuals of salt cedar, athel tamarisk, and smoke tree also present in some areas. Associated shrubs include catclaw acacia, Anderson's desert thorn (*Lycium andersonii*), brittlebush, sweetbush (*Bebbia juncea* var. *aspera*), cheesebush (*Hymenoclea salsola*), climbing milkweed (*Funastrum hirtellum*), desert lavender (*Hyptis emoryi*), white bursage, white rhatany, and creosote bush. Common herbaceous species include small-seeded spurge (*Chamaesyce polycarpa.*), small-flowered California poppy (*Eschscholzia minutiflora*), Emory rock daisy (*Perityle emoryi*), Spanish needle, and Arizona lupine (*Lupinus arizonicus*) (CH2M HILL and GANDA 2013ab). Blue palo verde woodland comprises 9.8 acres of the Project Site (Figures 4.3-1 through 4.3-1d).

Catclaw Acacia Thorn Scrub

In the Project Site catclaw acacia thorn scrub is limited to the bottoms of moderate-sized ephemeral washes in the dissected terraces south of the National Trails Highway. This vegetation type is characterized by widely scattered shrubs dominated by catclaw acacia. Common associated species include Anderson's desert thorn, brittlebush, sweetbush, cheesebush, desert lavender, white bursage, white rhatany, and creosote bush. Herbaceous species include small-seeded spurge, Arizona lupine, and Spanish needle (CH2M HILL and GANDA 2013ab). Catclaw acacia thorn scrub comprises 0.3 acre of the Project Site (Figures 4.3-1 through 4.3-1d).







Legend









4.3 Biological Resources

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Foothill Palo Verde Scrub

Foothill palo verde scrub is restricted to a small area east of the compressor station along the slopes of the Chemehuevi Mountains (Figures 4.3-1 through 4.3-1d). Vegetation in this area is characterized by scattered foothill palo verde. Associated species in this area include creosote bush, pygmy-cedar (*Peucephyllum schottii*), brittlebush, white rhatany, beavertail cactus, buckhorn cholla (*Cylindropuntia acanthocarpa*), California barrel cactus (*Ferocactus cylindraceus* var. *cylindraceus*), and inflated desert trumpet (*Eriogonum inflatum* var. *inflatum*) (CH2M HILL and GANDA 2013ab). Foothill palo verde scrub comprises 1.5 acres of the Project Site (Figures 4.3-1 through 4.3-1d).

Allscale Scrub

Allscale scrub is dominated by cattle saltbush (*Atriplex polycarpa*) and is the most common alkaline tolerant shrubland alliance in the Project Site. In the Project Site, allscale scrub is most common along the National Trails Highway (CH2M HILL and GANDA 2013ab). Allscale scrub comprises 1.5 acres of the Project Site (Figures 4.3-1 through 4.3-1d).

Western Honey Mesquite Bosque

Western honey mesquite bosque is mostly found on the low sandy terraces along the Colorado River, where it occurs intermixed with tamarisk thickets (Figures 4.3-1 through 4.3-1d) (CH2M HILL and GANDA 2013ab). Western honey mesquite bosque comprises 0.3 acre of the Project Site (Figures 4.3-1 through 4.3-1d).

Common Reed Marshes

Along the Colorado River and its inlets are patches of wetlands with various marsh plants forming adjacent but somewhat drier common reed (*Phragmites australis*) marshes. The common reed marshes are concentrated and most extensive along the edges of the low terraces next to the Colorado River south of I-40. It is likely that the common reed species in the Project Site is an invasive, non-indigenous form of *Phragmites australis* (CH2M HILL and GANDA 2013ab). Common reed marsh comprises 2.6 acres of the Project Site (Figures 4.3-1 through 4.3-1d).

Open Water

Open water includes the unvegetated, fully inundated portions of the Colorado River that fall within the boundaries of the Project Site (Figures 4.3-1 through 4.3-1d). Open water comprises 0.2 acre of the Project Site.

Landscaped Areas

Landscaped areas include those areas planted with non-native, ornamental species within or near developed areas. Common species found within the vegetation community include Mexican fan palm (*Washingtonia robusta*) and oleander (*Nerium oleander*) (CH2M HILL and GANDA 2013ab). Landscaped areas comprise 0.1 acre of the Project Site (Figures 4.3-1 through 4.3-1d).

Developed Areas

Developed areas within the Project Site include I-40, BNSF, dirt access roads, and the facilities and infrastructure associated with the Station (CH2M HILL; GANDA 2013ab). Developed areas comprise 35.2 acres of the Project Site (Figures 4.3-1 through 4.3-1d).

4.3.1.3 Jurisdictional Resources

CH2M Hill wetland ecologists conducted wetland delineations within the Project Site in February and December 2012. The results of the delineations are included as Appendix D-2 to this DEIR and are summarized in the following pages.

Several jurisdictional wetlands and other waters under the jurisdiction of the U.S. Army Corps of Engineers (USACE), CDFW, and the Regional Water Quality Control Board (RWQCB) were identified along the Colorado River (**Figures 4.3-2** <u>through 4.3-2d</u>) and throughout the Project Site. Jurisdictional wetlands identified during the delineation include <u>palustrine</u> scrub-shrub wetlands associated with ephemeral washes (PSSA); palustrine emergent, permanently flooded wetlands (PEMH); and palustrine emergent, seasonally flooded wetlands (PEMC). Other waters identified during the delineation include non-wetland riverine features such as the Colorado River itself and the ephemeral desert drainages that traverse the Project Site (riverine intermittent bed cobble-gravel, temporarily flooded) (CH2M Hill 2013).

It is assumed that the resources mapped within the Project Site in Figure<u>s</u> 4.3-2 <u>through 4.3-2d</u> are considered jurisdictional under Section 404 of the Clean Water Act (CWA) and therefore also qualify for jurisdiction under Section 401 of the CWA administered by the RWQCB, and Section 1600 of the California Fish and Game Code administered by CDFW (CH2M Hill 2013). <u>An</u> additional 0.4 acre of riparian vegetation was mapped along the fringes of these resources, which only fall under the jurisdiction of CDFW. **Table 4.3-2** lists the acreages for resources that would be subject to state and/or federal jurisdiction. These acreages were calculated through a GIS analysis in which the Project Site boundaries were laid over the jurisdictional resources data layer from the *Wetlands and Waters of the United States, Delineation for the Topock Compressor Station Groundwater Remediation Project, San Bernardino County, California* (CH2M HILL 2013). This original jurisdictional data layer was delineated in the field by CH2M Hill to support the environmental analysis of the Groundwater Remediation Project. The acreages in Table 4.3-2 differ from those reported in the *Wetlands and Waters of the United States, Delineation Project*. The acreages in Table 4.3-2 differ from those reported in the *Wetlands and Waters of the United States, Delineation Report* (CH2M HILL 2013) because the current Project Site is smaller than that of the Groundwater Remediation Project.

As previously discussed, wetland vegetation within the Project Site consists primarily of common reed. Several of these wetland patches are located at the confluence of Bat Cave Wash and below the I-40 overcrossing. A number of intermittent drainages mapped on-site were found to connect to the Colorado River (Figures 4.3-2 through 4.3-2d). Near their confluence with the Colorado River, these drainages include tamarisk, catclaw acacia, honey mesquite, and screwbean mesquite.











	Legenu		
Soil Investigation Final Project Site Equipment Staging and Storage Access/Haul Routes Potential Observation Locations <u>Sed Sample Locations</u> Pore Water Sample Proposed Soil Sample Soil Gas Sample Metals Sample (using X-Ray Fluorescence) <u>Sed Sampling Method</u> Hand Tools (Estimated 1-foot disturbance diameter) ('Note: Impact Area Shown Not to Scale) Excavator (Estimated 30-feet disturbance diameter) Hydrovac (Estimated 40-feet disturbance diameter) Rotosonic (Estimated 50-feet disturbance diameter)	Soil Investigation Areas East Ravine Sediment and Pore Water Sampling Area of Concern (AOC) Solid Waste Management Unit (SWMU) Undesignated Area (UA) USACE/CDFW Jurisdictional Resources Drainage Channel Palustrine Scrub-Shrub Temporarily Flooded (PSSA) Palustrine Unconsolidated Bottom Permanently Flooded Excavated (PUBHx) Palustrine Emergent Permanently Flooded (PEMH) Riverine Intermittent Stream Bed Cobble-Gravel Temporarily Flooded (R4SB3A)	 Palustrine Emergent Seasonally Flooded (PEMC) Riverine Lower Perennial Unconsolidated Bottom Sand Excavated (R2UB2x) Riverine Lower Perennial Unconsolidated Bottom Sand (R2UB2) Sacramento Wash Riparian Areas 	
1 inch – 200 feet			
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0 200	400	600	

4.3 Biological Resources

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TABLE 4.3-2
JURISDICTIONAL (USACE/CDFW/RWQCB) RESOURCES IN THE PROJECT SITE

Jurisdictional Habitat	Approximate Acreage		
USACE/CDFW Jurisdictional Habitats			
Palustrine scrub-shrub wetlands associated with ephemeral washes (PSSA)	4.9		
Riverine Intermittent Stream Bed Cobble-Gravel Temporarily Flooded (R4SB3A)	<u>4.7</u>		
Palustrine, emergent, permanently flooded wetlands (PEMH, <u>R4SB3A</u>)	0.6		
Palustrine emergent, seasonally flooded wetlands (PEMC)	1.3		
Ephemeral washes	6.6		
Colorado River (R2UB2)	0.2		
Riparian habitat	0.4		
CDFW Only Jurisdictional Habitats			
Riparian habitat	<u>0.4</u>		
GRAND TOTAL	<u>12.1</u> 14.0		

SOURCE: CH2M HILL 2013; Parus 2014.

4.3.1.4 Wildlife

The diversity and abundance of wildlife species encountered are influenced by the proximity of the Project Site to the creosote-dominated desert and the Topock Marsh, a large wetland with abundant wildlife (GANDA 2012). Avian species commonly associated with the river include American coot (*Fulica americana*), mallard (*Anas platyrhynchos*), pied-billed grebe (*Podilymbus podiceps*), great egret (*Casmerodius albus*), great blue heron (*Ardea herodias*), northern roughwinged swallow (*Stegidopteryx serripennis*), and belted kingfisher (*Ceryle alcyon*). Other avian species found in the upland areas include red-tailed hawk (*Buteo jamencensis*), Gambel's quail (*Callipepla gambelii*), mourning dove (*Zenaida macroura*), white-winged dove (*Zenaida asiatica*), common raven (*Corvus corax*), song sparrow (*Melospiza melodia*), Canyon wren (*Catherpes mexicanus*), brewer's blackbird (*Euphagus cyanocephalus*), great-tailed grackle (*Quiscalus mexicanus*), turkey vulture (*Cathartes aura*), greater roadrunner (*Geococcyx californianus*), lesser nighthawk (*Chordeiles acutipennis*), rock dove (*Columba livia*), verdin (*Auriparus flaviceps*), and black-tailed gractcher (*Polioptila melanura*) (AECOM 2011; GANDA 2012).

Observations during the 2012 avian surveys also included detections of Yuma clapper rail (*Rallus longirostris yumanensis*), Arizona Bell's vireo (*Vireo bellii arizonae*), brownheaded cowbird (*Molothrus ater*), and a great blue heron nest (GANDA 2012).

Mammals that may occur in or near the Project Site include deer mouse (*Peromyscus maniculatus*), Merriam kangaroo rat (*Dipodomys merriami*), whitetail antelope squirrel (*Ammospermophilus leucurus*), desert woodrat (*Neotoma lepida*), California ground squirrel

(Spermophilus beecheyi), desert cottontail (Sylvilagus audubonii), Audubon's cottontail (Sylvilagus audubonii), black-tailed hare (Lepus californicus), covote (Canis latrans), desert kit fox (Vulpes macrotis), American badger (Taxidea taxus), bobcat (Lynx rufus), striped skunk (Mephitis mephitis), beaver (Castor canadensis), raccoon (Procyon lotor), burro (Equus asinus), and bighorn sheep (Ovis canadensis nelsoni) (AECOM 2011; GANDA 2012). Bat species with a potential to occur on the Project site include Yuma myotis (Myotis yumanensis), California myotis (*Myotis californicus*), cave myotis (*Myotis vellifer*), Arizona myotis (*Myotis occultus*), western canyon bat (Parastrellus hesperus), pallid bat (Antrozous pallidus), Mexican free-tailed bat (*Tadarida brasiliensis*), big brown bat (*Eptesicus fuscus*), western red bat (*Lasiurus* blossevillii), southern yellow bat (Lasiurus xanthinus), hoary bat (Lasiurus cinereus), pocketed free-tailed bat (Nyctinomops femorosaccus), big free-tailed bat (Nyctinomops macrotis), western mastiff bat (Eumops perotis), California leaf-nosed bat (Macrotus californicus), and Townsend's big-eared bat (Corynorhinus townsendii) (PG&E 2015b). Based on the results of the spring 2015 focused bat surveys the following species were mist-netted or acoustically detected and are considered present on the Project Site: Yuma myotis, cave myotis, California myotis, western canyon bat, big brown bat, hoary bat, Townsend's big-eared bat, pallid bat, Mexican free-tailed bat, pocketed free-tailed bat, western mastiff bat (PG&E 2015b and 2015c). Pregnant or lactating females captured in mist-nets include pallid bat, California myotis and Yuma myotis, suggesting a nearby maternity roost of these three species within Bat Cave Wash. No pregnant or lactating females were captured in the East Ravine.

Reptiles that may occur in the area include chuckwalla (*Sauromalus obesus*), side-blotched lizard (*Uta stansburiana*), western whiptail lizard (*Cnemidophorus tigris*), zebra-tailed lizard (*Callisaurus draconoides*), desert iguana (*Dipsosaurus dorsalis*), coachwhip (*Masticophis flagellum*), gopher snake (*Pituophis melanoleucus*), and western diamondback rattlesnake (*Crotalus atrox*) (AECOM 2011; GANDA 2012).

4.3.1.5 Aquatic Wildlife

The Colorado River flows southeast between California and Arizona and provides the primary aquatic habitat within the Project Site. The aquatic habitat of the Colorado River supports several game fish species, including striped bass (*Morone saxatillis*), largemouth bass (*Micropterus salmoides*), bluegill (*Lepomis macrochirus*), white crappie (*Pomoxis annularis*), flathead catfish (*Pylodictis olivaris*), and channel catfish (*Ictalurus punctatus*) (AECOM 2011). During an instream habitat typing survey conducted in 2012, it was noted that isolated pockets of gravel, cobble, or sandy substrates with minimal current scour occur along the western banks of the Colorado River that could be used as spawning habitat or possibly as larval rearing areas for many fish species (although less likely for rearing, due to the dominant fast flows and relatively small size of these sites). Some of these pocket areas, in back eddies and the lee of outcrops, were observed to have active fish nests. For these small-sized potential spawning areas, the more sandy areas to the north near Bat Cave Wash had the least favorable habitat potential. The small areas of potential cobble/gravel spawning or rearing habitat observed in the south included areas of favorable water depth (1 to 2 m) for spawning (CH2M HILL 2012).

4.3.1.6 Sensitive Biological Resources

Special-Status Species

For purposes of this evaluation, "special-status" species are plants and animals that are legally protected or otherwise considered sensitive by federal, state, or local resource conservation agencies and organizations, including:

- Plant and wildlife species that are listed under the federal Endangered Species Act (<u>FESA</u>) and/or the California Endangered Species Act (CESA) as rare, threatened, or endangered;
- Plant and wildlife species considered candidates for listing or proposed for listing <u>under</u> <u>FESA or CESA;</u>
- Wildlife species identified by CDFW as fully protected and/or species of special concern;
- Plants considered by the California Native Plant Society (CNPS) to be rare, threatened, or endangered (i.e., CNPS California Rare Plant Rank [CRPR] Lists 1A, 1B, and 2 species are recognized by the CDFW as potentially qualifying for listing, and therefore California Department of Toxic Substances Control (DTSC) considers these species as sensitive for purposes of this DEIR); and
- Plants and animals covered by the Lower Colorado River Multi-Species Conservation Program (LCR MSCP).

CDFW applies the term "California Species of Special Concern" to animals that are not listed under <u>FESA</u> or CESA but that are nonetheless declining at a rate that could result in listing, or that historically existed in low numbers and currently face known threats to their persistence. Both USFWS and CDFW use CNPS designations when they consider formal species protection under <u>FESA</u> and CESA.

The California Natural Diversity Database (CNDDB) (2013), CNPS (2013), and targeted species surveys conducted by CH2M HILL and GANDA from 2004 to 2013 were used as the primary sources to identify previously reported occurrences of special-status species in the Project vicinity (**Figures 4.3-3** and **4.3-4** through **4.3-4c**). Species identified by the LCR MSCP (BOR 2004a: Table 1-2, page 1-10) as having potentially suitable habitat within this reach of the Colorado River were also included in the species list. Topographic quadrangles included in the CNDDB query were Needles NW, Needles NE, Needles, Needles SW, Whale Mountain, Topock, Chemehuevi Peak, and Castle Rock. Although the CNDDB is a useful tool for tracking occurrences of special-status species, it contains only those records that have been reported to CDFW. Therefore, special-status species that have not been reported to the CNDDB may occur at the Project Site.

Thirty-three special-status fish and wildlife species, one insect, and eight special-status plant species were evaluated for their potential to occur in the Project Site (CH2M HILL 2004a-e; 2005a; GANDA 2005a, 2005b, 2006a, 2006b, 2007, 2008a, 2008b, 2009a, 2009b, 2010, 2012; WSA 2013; CH2M HILL & GANDA 2013ab; CNDDB 2013; CNPS 2013). The regulatory status and habitat association are summarized for each species in **Table 4.3-3**.

Four of the eight plant species were either observed in or near the Project Site or determined to have potential to occur in the Project Site, and are further discussed below. The remaining four plant species included in Table 4.3-3 are not addressed further in this section because the Project Site does not support the habitats in which they occur or the Project is outside of the elevation range for the species.

Sixteen of the 33 fish and wildlife species were determined to have potential to occur in the Project Site during at least part of the year, and are further discussed below. The remaining 17 animal species and the one insect included in Table 4.3-3 are not addressed further in this section because the Project Site either does not support the habitats in which they occur or is outside of the species' range.



Special-Status Species		
re 3	ESA	PARUS CONSULTING, INC.
DIS Stuc By Parus C reation Date	dy Project EIR onsulting, Inc. 11/14/2014	Sources: Background: ESRI Shaded Relief, ESRI Topographic Data: CNDDB 2013; USFWS Critical Habitat 2012









4.3 Biological Resources

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Species	Status ¹	Habitat	Potential for Occurrence ²
Plants			
Small-flowered androstephium Androstephium breviflorum	CRPR 2.2	Perennial bulbiferous herb that occurs in Mojavean desert scrub; widely scattered in stabilized to semi-stabilized sandy areas in valleys from 220 – 800 meters in elevation. Blooms from March - April.	Could occur ; although small-flowered androstephium is considered a special-status plant in California (CRPR List 2.2), this plant was found only during the 2012 floristic survey in Arizona (east side of the Oatman-Topock Highway, north of the BNSF railroad tracks), where it is not considered a special-status plant (CH2M HILL and GANDA 2013ab). Though suitable habitat is present within the current Project Site, the species was not observed during the various biological surveys referenced in this document.
Gravel milk-vetch Astragalus sabulonum	CRPR 2.2	Annual/perennial herb that occurs in desert dunes, Mojavean Desert scrub and Sonoran Desert scrub in sandy sometimes gravelly soils. Can be found in flats, washes or roadsides from 60 to 930 meters in elevation. Blooms from February–June.	Could occur ; although gravel milk-vetch is considered a special-status plant in California (CRPR List 2.2), this plant was found only during the 2012 floristic survey in Arizona, where it is not considered a special-status plant (CH2M HILL and GANDA 2013ab). Though suitable habitat is present within the current Project Site, the species was not observed during the various biological surveys referenced in this document.
Emory's crucifixion-thorn Castela emoryi	CRPR 2.3	Perennial deciduous shrub that occurs in Mojavean desert scrub, playas, and Sonoran desert scrub from 90 to 670 meters in elevation. Blooming period range is April–September.	Unlikely to occur ; the species was not observed within the Project Site during the various biological surveys referenced in this document, including the 2012 floristic survey. The nearest record occurs near Chemehuevi Wash 19 miles southeast of Topock (CH2M HILL & GANDA 2011).
Mousetail suncup Chylismia arenaria ssp. arenaria	CRPR 2.2	Perennial herb found in Mojave desert scrub on rocky slopes and canyon walls; may also be found in washes from 70 to 915 meters in elevation. Blooming period range is January– May.	Present . Four individuals found along the steep, nearly vertical rocky slopes in or near Bat Cave Wash during the 2012 floristic survey (CH2M HILL and GANDA 2013ab).
Glandular ditaxis <i>Ditaxis claryana</i>	CRPR 2.2	Perennial herb typically found in Mojavean desert scrub and Sonoran desert scrub from 0 to 465 meters in elevation. Blooming period range is October–March.	Unlikely to occur ; though suitable habitat exists, the species was not observed during the various biological surveys referenced in this document, including the 2012 floristic survey (CH2M HILL & GANDA 2011).

Species	Status ¹	Habitat	Potential for Occurrence ²
Spiny-hair blazing star Mentzelia tricuspis	CRPR 2.1	Annual herb found along sandy, gravelly slopes and washes within Mojavean desert scrub. Occurs from 150 – 1280 meters in elevation and blooms between March and May.	Could occur ; although spiny-haired blazing star is considered a special-status plant in California (CRPR List 2.1), this plant was found only during the 2012 floristic survey in Arizona (below the BNSF railroad tracks), where it is not considered a special-status plant (CH2M HILL and GANDA 2013ab). Though suitable habitat is present within the current Project Site, the species was not observed during the various biological surveys referenced in this document.
Arizona pholistoma Pholistoma auritum var. arizonicum	CRPR 2.3	Annual herb found within Mojavean desert scrub from 275 to 835 meters in elevation. Blooming period occurs in March.	Unlikely to occur ; though suitable habitat is present, the species was not observed during the various biological surveys referenced in this document and the nearest known occurrence is 15 miles northwest of the Project Site in the Dead Mountains (CH2M HILL & GANDA 2011).
Narrow-leaved psorothamnus Psorothamnus fremontii var. attenuatus	CRPR 2.3	Perennial shrub found in Sonoran desert scrub on granitic or volcanic soils. Occurs from 335 to 915 meters in elevation and blooms in April.	Unlikely to occur ; though suitable habitat is present, the species was not observed during the various biological surveys referenced in this document. Furthermore the species is only known to occur in the Whipple Mountains approximately 30 miles south of Project Site (CH2M HILL & GANDA 2011).
Invertebrates			
MacNeill's sootywing skipper Hesperopsis gracielae	LCR MSCP	This small skipper is found along the Colorado River. Only known larval host plant is the quail bush (<i>Atriplex lentiformus</i>), which occurs along the subriparian edge of the river. Nectar plants include honey mesquite, alfalfa, and tamarisk.	Could occur ; its host plant, the quail bush, occurs in low densities within the Site and nectaring sources are present along the Colorado River. No CNDDB occurrences have been recorded near the Project Site (CNDDB 2013). The nearest record in California was documented near Blythe (BOR 1996: Chapter 4, Table 15).
Fish			
Colorado Pikeminnow Ptychocheilus lucius	Fed: E State: E	Historically widespread in the Colorado River; now native populations restricted to the upper basin.	Unlikely to occur; extirpated from Lower Colorado.
Bonytail chub Gila elegans	Fed: E State: E LCR MSCP	Within the lower Colorado River system, occupies reach from Davis Dam to Lake Havasu and artificial impoundments.	Known to occur <u>Present</u> ; the Lower Colorado River supports the largest remaining population of bonytail chub. Has been documented near Park Moabi (CH2M HILL 2007a:5-24, included as Appendix D-1 to this DEIR).
Humpback chub <i>Gila cypha</i>	Fed: E LCR MSCP	Historically, inhabited canyons of the Colorado River and four tributaries: the Green, Yampa, White, and Little Colorado Rivers in canyons with swift currents and whitewater.	Unlikely to occur ; river alterations have dwindled the populations to a handful of sites, none of which are in the Lower Colorado River.

Species	Status ¹	Habitat	Potential for Occurrence ²
Razorback sucker Xyrauchen texanus	Fed: E State: E/FP LCR MSCP	A variety of riverine habitat types from mainstem channels to slow backwaters of medium and large streams, sometimes around cover elements. In impoundments prefers depths of 1 meter or more over sand, mud, or gravel substrates.	Known to occur Present; documented occurrences at Park Moabi Lagoon and Topock Marina; documented near Needles in Colorado River (CNDDB 2013).
Flannelmouth sucker Catostomus latipinnis	LCR MSCP	Uses backwaters for juvenile rearing and main channel habitats for spawning and adult rearing.	Known to occur Present; river and backwaters provide habitat. CNDDB records indicated flannelmouth sucker in the lagoon at Park Moabi (CNDDB 2013).
Reptiles			
Desert tortoise Gopherus agassizii	Fed: T LCR MSCP	The desert tortoise is widely distributed throughout the Mojave, Sonoran, and Colorado Deserts. The Mojave population of desert tortoise prefers open valleys containing creosote bush scrub, avoiding steep rocky sites. The species also requires friable soils for burrow and nest construction.	Could occur ; the Project Site contains marginal habitat, and targeted surveys conducted 2004–2013 have not encountered a live desert tortoise (CH2M HILL 2004:5-3, GANDA 2008a:4, 2009b).
Flat-tailed horned lizard Phrynosoma mcalli	State: CSC LCR MSCP	This lizard is restricted to areas of fine sand and sparse vegetation in desert scrub, wash, succulent shrub, and alkali scrub and is probably most abundant in areas of creosote bush.	Unlikely to occur ; the Project Site contains marginally suitable but highly fragmented/disturbed habitat with little suitable soil substrate. No CNDDB accounts for this species within 25 miles of Project Site (CNDDB 2013).
Amphibians			
Colorado River (Sonoran) toad Bufo alvarius	State: CSC LCR MSCP	Prefers damp areas near permanent springs or human-made watering holes, but may be found in arid grasslands and woodlands.	Unlikely to occur ; this species is likely extirpated in California (CNDDB 2013).
Lowland leopard frog <i>Rana yavapaiensis</i>	LCR MSCP	This species inhabits slackwater aquatic habitats dominated by bulrushes, cattails, and riparian grasses near or under an overstory of Fremont's cottonwoods and willows.	Unlikely to occur ; this species is presumed extirpated in California (CNDDB 2013).

Species	Status ¹	Habitat	Potential for Occurrence ²
Birds			
Burrowing owl Athene cunicularia	State: CSC	Burrow sites in open, dry annual or perennial grasslands, deserts, and scrublands with low- growing vegetation and burrowing mammal populations.	Unlikely to occur ; the Project Site provides little suitable nesting habitat or suitable burrows/burrowing species. Known to occur near Needles (CNDDB 2013).
Yuma clapper rail Rallus longirostris yumanensis	Fed: E LCR MSCP	Only along the Lower Colorado River (from Topock Marsh southward) and around the Salton Sea. It occupies heavily vegetated freshwater.	Could occur ; the Project Site adjacent to the river (AOC 10) provides suitable foraging and nesting habitat on the California side. This species has been documented in the Topock Marsh and the Topock Gorge in Arizona; however, it has not been documented on the California side of the River (CNDDB 2013; GANDA 2009a:6, 2010, and 2012).
Southwestern willow flycatcher Empidonax traillii extimus	Fed: E LCR MSCP	Dense riparian habitats along streams, rivers, and other wetlands; breeds in stands of dense cottonwood, willow, and tamarisk thickets.	Could Likely to occur ; the Project Site provides suitable nesting and foraging habitat within the large stands of salt cedar along the banks of the Colorado River. This species has been documented in riparian areas around the Project Site, primarily at Topock Marsh, and has been detected near Park Moabi Lagoon (GANDA 2009a: Figure 5, page 7, 2010, and 2012); however, no nests or nesting behaviors have been observed. All observed individuals have been transient.
Western least bittern Ixobrychus exilis hesperis	State: CSC LCR MSCP	Freshwater marshes with dense vegetation.	Could occur ; known to occur at Topock Marsh (BOR 2004a). Along the Lower Colorado River, documented occurrences are all in Arizona.
Yellow-breasted chat Icteria virens	State: CSC	Riparian areas with dense woody vegetation bordering open areas.	Could occur ; known to occur near Needles and at Topock Marsh (CNDDB 2013).
California black rail Laterallus jamaicensis corturniculus	State: T and FP LCR MSCP	Habitat includes shallow freshwater and brackish marshes dominated by bulrush species.	Could occur ; suitable foraging and nesting habitat occurs within the Topock Marsh and East Ravine (AOC 10), but no CNDDB records near area; documented at delta of Colorado River.
Elf owl <i>Micrathene whitneyi</i>	State: E LCR MSCP	Cottonwood willow riparian forests and other desert woodlands with snags.	Unlikely to occur ; no suitable habitat occurs on-site. The cottonwood forests of Topock Marsh in Arizona provide the closest suitable habitat. Nearest record occurs north of Needles and south in the HNWR (CNDDB 2013).
Gilded flicker Colaptes chrysoides	State: E LCR MSCP	Cottonwood riparian forests, orchards, landscape trees, and mesquite stands are used for foraging, but are strongly associated with saguaros for nesting.	Unlikely to occur ; no suitable nesting habitat occurs on-site. The cottonwood forests of Topock Marsh in Arizona provide the closest suitable foraging habitat. Nearest CNDDB record 50 river miles south.
Species	Status ¹	Habitat	Potential for Occurrence ²
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Gila woodpecker Melanerpes uropygialis	State E LCR MSCP	Mature cottonwood riparian forests and mesquite groves with snags and large trees for nesting.	Unlikely to occur ; documented near Needles, but Project Site provides little suitable nesting habitat and low-quality foraging habitat.
Summer tanager <i>Piranga rubra</i>	State: CSC	Strongly associated with cottonwood-willow forests.	Unlikely to occur ; Project Site provides little suitable nesting habitat and low-quality foraging habitat. Documented near Needles (CNDDB 2013).
Vermilion flycatcher Pyrocephalus rubinus	State: CSC LCR MSCP	Nests in cottonwood or other large desert riparian trees. Forages in riparian, irrigated fields, pastures, or other open mesic sites.	Unlikely to occur ; suitable habitat does not occur in the Project Site. Foraging habitat present along river but Project Site provides little suitable nesting habitat. Historic documentation near Needles (CNDDB 2013).
Brown-crested flycatcher <i>Myiarchus tyrannulus</i>	State: CSC	Occur in riparian woodland or forest dominated by cottonwoods and willows, usually in a climax stage; along the Colorado River, has also bred in residential areas with tall, planted trees. The presence of woodpeckers or other cavity- excavating species is important.	Unlikely to occur ; suitable habitat does not occur in the Project Site, though foraging habitat does. Documented within HNWR near Needles (CNDDB 2013).
Crissal thrasher Toxostoma crissale	State: CSC	Nests within desert riparian and wash habitats.	Could occur ; documented along river on Arizona side near Needles and within HNWR (CNDDB 2013; GANDA 2008b:B-1, 2009, 2010, 2012), but Project Site provides little suitable nesting habitat.
Arizona Bell's vireo Vireo bellii arizonae	State: E LCR MSCP	Associated with willow thickets with baccharis.	Could occur ; documented in Arizona near Needles and the Topock Marsh (CNDDB 2013; GANDA 2008b:5-1, 2009, 2010, 2012), but Project Site provides little suitable nesting habitat.
Sonoran yellow warbler Dendroica petechia sonorana	State: CSC LCR MSCP	Historically nests in riparian forests associated with open water but along the LCR; tamarisk is a habitat component.	Could occur ; documented along river near Needles (CNDDB 2013), but Project Site provides little suitable nesting habitat.
Western yellow-billed cuckoo Coccyzus americanus occidentalis	State: E Fed: C LCR MSCP	Riparian forest nester in flood bottoms of larger river systems. Requires multistory habitat for foraging.	Could occur ; documented within the Topock Marsh, but the Project Site provides little suitable nesting and foraging habitat (CNDDB 2013; GANDA 2009a:6, 2010, and 2012).
Mountain plover Charadrius montanus	CSC	Winter in southern California and Arizona and inhabits sparsely covered chenopod scrub and valley and foothill grassland habitats.	Unlikely to occur; suitable habitat does not occur in the Project Site.

TABLE 4.3-3 SPECIAL-STATUS SPECIES POTENTIALLY OCCURRING IN THE PROJECT SITE

TABLE 4.3-3 SPECIAL-STATUS SPECIES POTENTIALLY OCCURRING IN THE PROJECT SITE

Species	Status ¹	Habitat	Potential for Occurrence ²
Loggerhead shrike Lanius Iudovicianus	CSC	Nests in a variety of habitats, including broad- leaved upland forest, desert washes, Joshua tree woodland, Mojavean desert scrub, pinon and juniper woodlands, riparian woodland, and Sonoran desert scrub.	Likely to occur ; the species was observed within the vicinity of the Project during several of the focused wildlife surveys (GANDA 2009ab, 2007). Potentially suitable habitat is available in the Project Site. Historic CNDDB record approximately 3 miles southeast of the Project Site (CNDDB 2013).
Mammals			
Pallid bat Antrozous pallidus	State: CSC	Occurs in a variety of sites; most common in open dry habitats. Roosts in undisturbed rocky sites.	Could occur <u>Present</u> ; potentially suitable habitat available in the Project Site. Historic CNDDB record near Needles (CNDDB 2013). <u>This species</u> was detected on the Project Site in January 2015 (PG&E 2015b) and reproductive females and males were mist-netted in Bat Cave Wash on the Project Site during the spring 2015 focused bat survey (PG&E 2015c).
Ring-tailed cat	State: FP	Suitable habitat for ringtails consists of a mixture	Present. An individual was observed within the Topock Station on October
Bassariscus astutus		of forest and shrub land in close association with rocky areas or riparian habitats.	25, 2007. A second ring-tailed cat sighting was made at the Station a few years later. No other ring-tailed cat sightings have been reported in the Project Site before or after these dates.
Colorado River cotton rat Sigmodon arizonae plenus	State: CSC LCR MSCP	Occupies narrow band of grassy, riparian, and cultivated vegetation along banks of Colorado River.	Unlikely to occur ; little suitable habitat in area only documented CNDDB record is near Parker, more than 50 miles downriver (CNDDB 2013).
Pale Townsend's big-eared bat Corynorhinus townsendii pallescens	State: CSC C LCR MSCP	Variety of habitats, including oak savanna, riparian, and grassland; roosts in mines, caves, and buildings.	Unlikely to <u>Present</u> ; <u>potential</u> suitable foraging <u>and roosting</u> habitat present <u>on the steep slopes and cliffs on the Project Site (PG&E 2015b)</u> but marginally suitable roosting habitat present. No CNDDB records in area. A single male Townsend's was mist-netted on the Project Site during the spring 2015 focused bat surveys (PG&E 2015c). Also, this species was <u>Pd</u> ocumented near Lake Mead and near Blythe (BOR 2008:316).
California leaf-nosed bat <i>Macrotus californicus</i>	State: CSC LCR MSCP	Habitat includes temperate deserts. Does not migrate or hibernate but finds warm daytime roosts in caves, mines, or buildings. Generally forages only 2 hours at night <u>and can forage</u> <u>longer depending on the time of year and</u> <u>reproductive condition</u> .	Unlikely to Could occur; foraging habitat exists; however, few suitable roosting sites in the vicinity. Recorded in a mine near Lake Havasu (CNDDB 2013). A large colony roosts year round in the Jackpot Mine on Lake Havasu NWR in Arizona within 10 miles of the Project Site and this species could forage within Bat Cave Wash and along the Lower Colorado River (Brown 2015a, 2015b).
Southwestern river otter Lontra canadensis sonora	CSC	Habitat occurs within the Colorado River basin in flowing waters and riparian woodland.	Unlikely to occur; suitable habitat does not occur in the Project Site.

Species	Status ¹	Habitat	Potential for Occurrence ²
Nelson's bighorn sheep Ovis canadensis nelsoni	FP within the Western Mojave Plan	Lambing habitat occurs within the steep montane habitats, and foraging habitat extends to the lower elevation scrub vegetation communities. Commonly utilized habitats include alpine, alpine dwarf scrub, chaparral, chenopod scrub, Great Basin scrub, Mojavean desert scrub, montane dwarf scrub, pinon and juniper woodlands, riparian woodland, and Sonoran desert scrub. Foraging habitat extends to the lower elevation scrub vegetation communities. Nearby steep, rugged terrain is required for predator evasion and lambing.	Could occur Present; suitable lambing habitat occurs in the mountains south of the Project Site, but not within the Project Site. Suitable foraging and movement habitat extends from the foothills of the mountains down into the floodplain and upland areas of the Project Site. Fort Mojave Indian Tribe members observed a family of six sheep next to Maze Locus A during the annual prayer ceremony in June 2013. Also, Felton Bricker, FMIT Tribal Monitor, has reported observances of sheep in his monitoring logs during the AOC 4 cleanup.
<u>Cave myotis</u> <u>Myotis vellifer</u>	<u>CSC</u>	Caves are the main roosts for this southwestern species, although it also uses mines, and occasionally buildings and bridges. It is primarily a "crevice dweller," preferring "crevices, pockets, and holes in the ceilings of its underground retreats." This species is also known to roost in barn swallow nests. Also forages over dense riparian vegetation and in drier desert washes.	Present ; limited caves on the Project Site, but suitable roosting sites in Bat Cave Wash and on cliff crevices. No CNDDB records in area, but potential to occur near the Project Site (PG&E 2015b). Echolocation calls of this species were recorded on the Project Site during the spring 2015 focused bat surveys (PG&E 2015c).
<u>Arizona myotis</u> <u>Myotis occultus</u>	<u>CSC</u>	Commonly found in conifer forests in the 6,000 - 9,000 foot elevation range, although nursery colonies are found in much lower elevations (e.g., along the Colorado River in California). This species has been found using bridges and attics as maternity roosts, with colony size up to 800. They are known to forage in association with orchards, permanent water, and riparian vegetation, and at higher elevations over ponds in forest clearings.	Could occur ; known to occur in lower elevations along the Colorado River which is immediately east of the Project Site. No CNDDB records in area, but potential to occur near the Project Site (PG&E 2015b). When first described in 1905 (Hollister 1909), it was named Hollister's bat, and the specimen was collected in May 1905, ten miles north of Needles at Ft. Mojave on the California side of the LCR in the "dense cottonwood bottomlands of the Colorado River". They were not recorded along the LCR for some time after the conversion and loss of the cottonwood and willow riparian. Now a colony is roosting in a palm tree adjacent to a restoration sire south of Parker AZ (Brown 2015b).

TABLE 4.3-3 SPECIAL-STATUS SPECIES POTENTIALLY OCCURRING IN THE PROJECT SITE

TABLE 4.3-3
SPECIAL-STATUS SPECIES POTENTIALLY OCCURRING IN THE PROJECT SITE

Species	Status ¹	Habitat	Potential for Occurrence ²
<u>Western red bat</u> <u>Lasiurus blossevillii</u>	<u>CSC</u>	Day roosts are commonly in edge habitats adjacent to streams or open fields, in orchards, and sometimes in urban areas. There may be an association with intact riparian habitat (particularly willows, cottonwoods, and sycamores). Roost sites are generally hidden from view from all directions except below; lack obstruction beneath, allowing the bat to drop downward for flight; lack lower perches that would allow visibility by predators; have dark ground cover to minimize solar reflection; have nearby vegetation to reduce wind and dust; and are generally located on the south or southwest side of a tree. This species may also occasionally use caves, as both dead and live red bats, including a pregnant female, have been collected from Carlsbad Caverns in New Mexico.	Could occur ; potentially suitable foraging habitat occurs within Bat Cave Wash and cliff faces adjacent to the Colorado River. No CNDDB records in area, but potential to occur near the Project Site (PG&E 2015b). Red bats are a tree roosting species and would not roost and probably only randomly occur in Bat Cave Wash or along Colorado River while foraging (Brown 2015b).
Pocketed free-tailed bat Nyctinomops femorosaccus	<u>CSC</u>	Roosts primarily in crevices of rugged cliffs, high rocky outcrops and slopes. It has been found in a variety of plant associations, including desert shrub and pine-oak forests. The species may also roost in buildings, caves, and under roof tiles. This bat forages mainly on large moths, but its diet includes small moths and beetles, with small amounts of a variety of other insects.	Present ; suitable foraging and roosting habitat present on the steep slopes and cliffs on the Project Site. No CNDDB records in area, but potential to occur near the Project Site (PG&E 2015b). Echolocation signals of pocketed free-tailed bat were recorded along the Lower Colorado River in the vicinity of the Project Site and on the Project Site during spring 2015 focused bat surveys (PG&E 2015c).
<u>Big free-tailed bat</u> <u>Nyctinomops macrotis</u>	<u>CSC</u>	Inhabits rugged, rocky habitats in arid landscapes. It has been found in a variety of plant associations, including desert shrub, woodlands, and evergreen forests. It appears to be associated with lowlands, but has been documented at around 8,000 ft in New Mexico. It roosts mainly in the crevices of rocks in cliffs, as well as buildings, caves, and tree cavities. Maternity roosts have been documented in rock crevices and high site fidelity	Could occur ; suitable foraging and roosting habitat present on the steep slopes and cliffs on the Project Site. No CNDDB records in area, but potential to occur near the Project Site (PG&E 2015b). This species is less likely to occur on the Project Site than western mastiff bats or pocketed free-tailed bats (Brown 2015b).

TABLE 4.3-3 SPECIAL-STATUS SPECIES POTENTIALLY OCCURRING IN THE PROJECT SITE

Species	Status ¹	Habitat	Potential for Occurrence ²
Western mastiff bat Eumops perotis	<u>CSC</u>	Primarily a cliff-dwelling species that forms maternity colonies of several dozen to several hundred under exfoliating rock slabs (e.g., granite, sandstone or columnar basalt). Maternit roosts of this species can contain males and females. Roosts are located high above the ground allowing a clear vertical drop of at least 3 meters. Forages in dry desert washes, floodplains and within a mix of vegetation.	Present; suitable foraging and roosting habitat present on the steep slopes and cliffs on the Project Site. No CNDDB records in area, but potential to occur near the Project Site (PG&E 2015b). Echolocation signals of this species were recorded along the Lower Colorado River in the vicinity of the Project Site and on the Project Site during the spring 2015 focused bat surveys (PG&E 2015c).
¹ Legal Status Definitions U.S. Fish and Wildlife Service (L E = Endangere T = Threatened C = Candidate California Department of Fish an E = Endangere T = Threatened FP = Fully Prote CSC = California S C = Candidate	SFWS) Federal Listing (d (legally protected) d (legally protected) proposed for listing (legall nd Wildlife (CDFW) State d (legally protected) d (legally protected) ted (legally protected, no Species of <u>Special</u> Concer proposed for listing (legall	Calify Calify Categories 2 = P (but n 0.1 - S y protected) and ir Listing Categories 0.2 - and i 0.3 - take allowed) immed n (no formal protection) y y protected) Lower cover cover	Arria Native Plant Society's Rare Plant Rank (CRPR) Categories ant species considered rare or endangered in California but more common elsewhere ot legally protected under the federal and California Endangered Species Acts eriously threatened in California (over 80 percent of occurrences threatened/high degree nmediacy of threat) Fairly threatened in California (20-80 percent of occurrences threatened/moderate degree nmediacy of threat) Not very threatened in California (<20 percent of occurrences threatened/low degree and diacy of threat or no current threats known) r Colorado River Multi-Species Conservation Program (LCR MSCP) species ed under the plan.
² Potential for Occurrence Defin	Hene		

² Potential for Occurrence Definitions

Unlikely to occur. Potentially suitable habitat present, but species unlikely to be present in the Project Site because of current status of the species and very restricted distribution. *Could occur.* Suitable habitat is available in the Project Site; however, there are few or no other indicators that the species might be present. *Likely to occur.* Habitat conditions, behavior of the species, known occurrences in the Project vicinity, or other factors indicate a relatively high likelihood that the species would occur in the Project Site. *Known to occur.* Present. *Known to occ*

Sources: CNDDB 2013, CNPS 2013, BOR 2004a.

Special-Status Plants

Small-Flowered Androstephium

Small-flowered androstephium (*Androstephium breviflorum*) is a special-status plant that was discovered during the 2012 floristic surveys for the Topock Groundwater Remediation Project. In California, the CNPS lists small-flowered androstephium as a CRPR 2.2 species. CRPR list 2 plants are considered to be rare in California, but are more common elsewhere in their distribution. This perennial bulbiferous herb can be found in Mojavean desert scrub, widely scattered in stabilized to semi-stabilized sandy areas in valleys from 220 to 800 meters in elevation. It blooms between March and April. This plant was found only during the 2012 floristic survey in Arizona (east side of the Oatman-Topock Highway, north of the BNSF railroad tracks), where it is not considered a special-status plant (CH2M HILL and GANDA 2013ab). Though suitable habitat is present within the current Project Site, the species was not observed during the various biological surveys referenced in this document.

Gravel Milk-Vetch

Gravel milk-vetch (*Astragalus sabulonum*) is a special-status plant that was discovered during the 2012 floristic surveys for the Topock Groundwater Remediation Project. In California, the CNPS lists spiny-haired blazing star as a CRPR 2.2 species. CRPR list 2 plants are considered to be rare in California, but are more common elsewhere in their distribution. This annual/perennial herb can be found in desert dunes, Mojavean Desert scrub, and Sonoran Desert scrub in sandy sometimes gravelly soils. It can be found in flats, washes, or roadsides from 60-930 meters in elevation and blooms from February through June. Though suitable habitat is present within the current Project Site, the species was not observed during the various biological surveys referenced in this document.

Spiny-Haired Blazing Star

Spiny-haired blazing star (*Mentzelia tricuspis*) is a special-status plant that was discovered during the 2012 floristic surveys for the Topock Groundwater Remediation Project. In California, the CNPS lists spiny-haired blazing star as a CRPR 2.3 species. CRPR list 2 plants are considered to be rare in California, but are more common elsewhere in their distribution. This annual herb can be found along sandy, gravelly slopes and washes within Mojavean desert scrub. It occurs from 150 to 1,280 meters in elevation and blooms between March and May. While suitable habitat for the species occurs within the washes of the current Project Site, the species was found only in Arizona, where it has no special status (CH2M HILL and GANDA 2013ab). No spiny-haired blazing stars were found within the current Project Site during the various biological surveys referenced in this document.

Mousetail Suncup

Mousetail suncup (*Chylismia arenaria* ssp. *arenaria*) is a CRPR list 2.2 species. This plant has been characterized as an annual or perennial herb (Baldwin et al. 2012), but in the Project Site it appears to be mostly perennial. <u>This plant is known to flower between January and May. It occurs within Mojavean desert scrub and along rocky slopes and canyon walls, but may also be found in washes (PG&E 2015a). The species was found at three locations above Bat Cave Wash within the current Project Site during the 2012 floristic surveys for the Topock Groundwater Remediation Project. The largest observed population consists of approximately nine plants , whereas, and is</u>

<u>located on a vertical conglomerate wall.</u> *E*The other populations consist of single individuals<u>, and are located on a conglomerate wall above the wash and on a granitic rock face at the end of the wash just east of the Project Site</u>. This species was also observed <u>on a bank</u> outside of the Project Site in the railroad right-of-way (ROW), approximately 500 feet west of Area of Concern (AOC 1). These populations represent a significant range extension for the species as they are over 90 miles northeast of previously recorded populations in California (PG&E 2015a).

Special-Status Invertebrates

MacNeill's Sootywing Skipper

MacNeill's sootywing (*Hesperopsis gracielae*) is a small (wingspread 23 mm) skipper with dark brown-and-black mottled wings. MacNeill's sootywing is covered under the LCR MSCP but has no other legal designations. Skippers are butterflies with widely-spaced antennae that are usually hooked. MacNeill's sootywing is found along the Colorado River and is known to only occur in those areas that support large, dense stands of its larval host plant, the quail bush (*Atriplex lentiformis*), which occurs along the sub-riparian edge of the river. Once they hatch from the eggs oviposited by the adult skippers on the host plant, the larvae feed on the host plant until they are ready to pupate and transform into adults. As adults, MacNeill's sootywings require nectaring sources from other plants besides quail bush, including heliotrope (*Heliotropium* sp.), honey mesquite, alfalfa (*Medicago sativa*), and tamarisk. The species could occur along the banks of the Colorado River near East Ravine as its host plant, quail bush, occurs in low densities along with abundant nectaring sources (CH2M HILL & GANDA 2013). No CNDDB occurrences have been recorded near the Project Site (CNDDB 2013) and the species was not observed during the various biological surveys. The nearest record in California was documented near Blythe (BOR 1996: Chapter 4, Table 15).

Special-Status Wildlife

Southwestern Willow Flycatcher

The southwestern willow flycatcher is a federally listed and state-listed endangered species and is a covered species in the LCR MSCP. Several factors have caused the decline in its population. Extensive areas of suitable riparian habitat have been lost due to river regulation and channelization, agricultural and urban development, mining, road construction, and overgrazing, resulting in the displacement of native riparian vegetation and allowing invasive tamarisk to grow (CH2M HILL 2007a:5-2, included as Appendix D-1 to this DEIR). Additionally, habitat fragmentation is thought to increase nest parasitism from the cowbird (*Molothrus ater*). Despite the invasion of tamarisk, southwestern willow flycatcher nesting has been documented in tamarisk stands along the Colorado River (USFWS 2002a:13).

Management units and designated critical habitat for the southwestern willow flycatcher along the Colorado River is broken into segments, and the Hoover to Parker Management Unit includes the Project Site. The segment from Davis Dam to Parker Dam (including the HNWR) was identified as having features essential to the southwestern willow flycatcher and proposed as critical habitat. Six breeding sites are known from this segment, with the largest at Topock Marsh having 34 territories in 2004. As a result of the completion of the LCR MSCP, USFWS management of HNWR for riparian habitat, and implementation of southwestern willow flycatcher management

plans by the Chemehuevi and Fort Mohave Indian Tribe, this entire river segment was excluded from critical habitat designation. The closest designated critical habitat is located 50 miles east at Big Sandy River in Arizona.

GANDA has surveyed the Project Site annually for the presence of the southwestern willow flycatcher, following USFWS survey protocols, since 2005 (CH2M HILL 2005a, GANDA 2007, 2008b, 2009a, 2010, and 2012). In 2005, numerous fixed survey points were established at six sites (covering 80 acres), using USFWS protocols. These survey points encompass all potentially suitable habitats, namely tamarisk or other riparian thickets adjacent to open water, on both sides of the river. The largest site and the majority of the points are in the HNWR in Arizona, all of which lie beyond the Project Site in areas deemed to have the best potential for detecting the birds. The other six sites are located in California: one under I-40 and the railroad, one at the confluence of Bat Cave Wash and the Colorado River, and two at isolated wetlands and two sites in the Moabi Regional Park. Twelve call points were eliminated in 2008 because of vegetation (tamarisk) removal at Moabi Regional Park (GANDA 2008b:4-1).

In 2005, 2007, 2008, 2009, and 2012, biologists detected the bird, primarily by song, in various locations, but primarily in Arizona. No detections were made during the 2006 and 2010 surveys. All detections have been determined to be migratory or transient birds and no nests, or nesting activity, have been observed (GANDA 2009a:8). The first round of surveys in 2008 produced five southwestern willow flycatcher detections. Subsequent surveys did not detect the bird during the rest of the survey season (GANDA 2008b:5-1). Surveys conducted in 2009 detected one pair of southwestern willow flycatchers. It was determined that this detection was most likely of a transient pair because there were no additional detections during subsequent surveys. In 2010, two transient individuals were detected, one near the mouth of Bat Cave Wash and one in Arizona within the HNWR. Had these southwestern willow flycatchers been breeding in the area, additional detections would have been made during subsequent surveys as the pair of birds would have established a territory and proceeded with the nesting cycle (GANDA 2009a:8). Nesting territories do occur within the general area; documented nesting activities have been reported along the northeastern portion of Topock Marsh. This area supported 34 territories in 2004 and all nest locations are documented within tamarisk thickets (BOR 2008:28). The discerning feature between Topock Marsh territories and the Project Site is the lack of open water among large expanses of riparian habitat. The Project Site, while having tamarisk thickets, does so along a relatively narrow band of the floodplain, particularly near AOC 1 and AOC 10.

Mojave Desert Tortoise

The desert tortoise is a federally listed and state-listed threatened species and is a covered species in the LCR MSCP. The Project Site does not include designated critical habitat, and the nearest is located in the Chemehuevi Valley, 9 miles west of the Project Site. The decline in the desert tortoise population is primarily caused by habitat loss, degradation, and fragmentation resulting from increased human population and urbanization. The increase in urbanization, collection of tortoises for pets, overgrazing, landfills, predation, highway mortality, vandalism, agriculture, fire, drought, and off-road vehicle use all have contributed to the decline of the tortoise in the wild. Another major cause of the tortoise decline in the western Mojave Desert was the introduction of an upper-respiratory tract disease into many of the wild populations (USFWS 1994a:i).

From 2004 through 2009, PG&E contracted with CH2M HILL and GANDA to perform USFWS protocol presence/absence surveys for the desert tortoise. Although the USFWS revised the desert tortoise survey protocol starting with the 2009 survey season, projects conducting repeated surveys that were initiated prior to 2009 were allowed to use the older protocols. No live desert tortoises were detected in the survey area; however, one desert tortoise carcass and four sets of highly deteriorated bone shell fragments were discovered during these surveys. None of these remains were discovered in proximity to the Project Site. The nearest occurrences include one set of deteriorated plastron fragments which were discovered approximately 500 feet west of AOC 11 in 2009, and a set of shell bone fragments which were discovered approximately 500 feet west of a fargments were located in ephemeral drainages, indicating that they may have washed in from outside the survey area during a rainstorm. This interpretation is based on the location of the finds, surrounding topography, and lack of any other sign of desert tortoise in the survey area (GANDA 2009b:6-9).

One set of remains discovered in 2004 was not rediscovered during the 2009 surveys, but all other previously discovered remains were found. The remains discovered since 2004 were all old, disarticulated, and weathered. GANDA estimated that the bones had been exposed (i.e., out on the ground) for at least 10 years, probably much longer, and that the remains predate the degraded habitat conditions currently observed on the survey area (GANDA 2009b:9). The desert tortoise carcass and four sets of highly deteriorated bone shell fragments may indicate historical use of the area; however, no live desert tortoises, scats, tracks, or other evidence of recent use was observed (CH2M HILL 2005b:9, 2007a:5-10, 5-11; GANDA 2008a:5, 2009b: 7-8). Limited burrows with entrances large enough to accommodate a desert tortoise were also observed during surveys. However, these burrows had no typical indicators of desert tortoise use and were likely created by burrowing mammal species (GANDA 2009b:7-8). The annual protocol level surveys conducted by GANDA between 2005 and 2009 indicated that the Project Site was not being actively used by desert tortoise. Historic use was identified, however, with the discovery of multiple desert tortoise bone shell fragments.

Based on the survey results, desert tortoises were concluded to be absent in the Project Site (CH2M HILL 2007a:5-11, included as Appendix D-1 to this DEIR, and GANDA 2009b:9-10). Despite the absence of live tortoise observations, there is a possibility that desert tortoises could enter the area from the west. However, the habitat on-site was deemed to be of poor quality, lacking annual vegetation for foraging and burrows for shelter. Other conditions contribute to poor habitat quality, such as steep rocky slopes and drainages, the Chemehuevi Mountains, and the Project Site being highly fragmented by pipeline corridors, unpaved roads, I-40, U.S. Highway 95, the railroad, and the Station (GANDA 2009b:9; CH2M HILL 2007a:5-13, included as Appendix D-1 to this DEIR).

Yuma Clapper Rail

The Yuma clapper rail is federally listed as endangered and state-listed as threatened and fully protected. It also is covered under the LCR MSCP. Critical habitat has not been designated for this species, but the HNWR is considered an important population area for the Yuma clapper rail (USFWS 2006:8-9). Yuma clapper rails prefer dense stands of emergent vegetation found in marsh habitats. Much of the decline of the species can be attributed to altered seasonal flow regimes and lost marsh habitat caused by the construction of dams and dredging on the Lower Colorado River. Additionally, mosquito-abatement programs and erosion-control efforts have reduced nesting habitat. Recent studies are also looking at selenium contamination as a potential cause of reduced reproductive success (USFWS 2006:11).

Most available habitat in the Project Site occurs in isolated patches scattered along the western shore of the Colorado River from Bat Cave Wash (AOC 1) south to East Ravine (AOC 10). Suitable habitat most notably occurs within the emergent wetland habitat near and within AOC 10. Before construction of the dams along the Lower Colorado River, few emergent wetlands occurred along the river because of spring high flows and flood events (BOR 2008:13). However, marsh habitats benefit from flushing events because those events reduce the buildup of dead plant materials, preventing the eventual conversion of the marsh to dry land. Dam-controlled rivers require active management to maintain the marshes in place of the natural cycle of river flows. Other threats to the species have included increased development along the Lower Colorado River near occupied habitats (USFWS 2006:6).

Several "call stations" have been surveyed annually for Yuma clapper rail by the USFWS along the South Dike (near the Topock Marina), which is located within the HNWR on the Arizona side of the river. Call stations or call points are fixed locations that are generally revisited annually to take a census of a particular species. In past years, this species has been detected south of the new South Dike and north of the Topock Marina (USFWS 2005:45). In 2005, seven Yuma clapper rails were detected along the South Dike transect in areas of dense emergent vegetation.

Additionally, several Yuma clapper rails were detected on the Arizona side of the Colorado River during the 2008, 2009, 2010, and 2012 southwestern willow flycatcher surveys. No reports of rails had been documented on the California side of the Colorado River near the Project Site through 2013 (CH2M HILL 2007a:5-15, included as Appendix D-1 to this DEIR; KBS 2013).

Other Special-Status Avian Species

Several bird species identified in Table 4.3-3 have the potential to nest in or adjacent to the Project Site. Species associated with riparian and other wetland habitats, such as the western least bittern (*Ixobrychus exilis hesperis*) and California black rail (*Laterallus jamaicensis corturniculus*), are most likely to nest in emergent wetlands along the Colorado River and Topock Marsh (Figures 4.3-1 - 4.3-1d). California black rail protocol surveys were conducted between March and May 2012 in areas near the Station. No California black rails were detected in the Project Site (KBS 2012).

Other birds, such as the Arizona Bell's vireo (*Vireo bellii arizonae*), Sonoran yellow warbler (*Dendroica petechia sonorana*), yellow-breasted chat (*Icteria virens*), western yellow-billed

cuckoo (*Coccyzus americanus occidentalis*), and crissal thrasher (*Toxostoma crissale*), could nest in remnant riparian woodland and suitable trees outside the Project Site but within the HNWR. Loggerhead shrike (*Lanius ludovicianus*) could nest within the larger shrubs and trees on or near the Project Site.

Both California black rail and western least bittern have the potential to occur on the Arizona side of the Colorado River and near AOC 10, in areas of emergent wetland and freshwater marsh habitats containing dense cattails and bulrush stands. Their habitats are similar to that of the Yuma clapper rail, although the California black rail may prefer shallower marshy habitats. No California black rails have been detected during surveys and the CNDDB reports no occurrences of this rail within the Project Site; however, literature suggests that the species may occur within the HNWR (BOR 2008:137-138; CH2M HILL 2013) in Arizona. CNDDB records indicate western least bitterns occurring in the Topock Marsh, where they are suspected to nest (BOR 2008:127-128) and along the river north of the Project Site (CNDDB 2013).

The Arizona Bell's vireo has a limited distribution in California, occurring along the lower Colorado River. The species occurs primarily throughout Arizona, Utah, Nevada, and Sonora, Mexico. Early to mid-successional riparian habitat is typically used for nesting by the Bell's vireo because it supports the dense shrub cover required for nest concealment, as well as a structurally diverse canopy for foraging. Arizona Bell's vireos have been detected within the Topock Marsh in CNDDB records. Additionally, they have been detected during the Project-related surveys for southwestern willow flycatcher in Arizona; however, none were detected near the Project Site. Nesting was not confirmed but is possible due to the consistent detections throughout the breeding season (GANDA 2008b:5-1, 5-2, 2009a, 2010, 2012).

Sonoran yellow warblers typically nest in willow thickets with cottonwood overstory, and yellow-breasted chats typically nest in riparian habitats with a dense shrub layer. Yellow warblers are relatively uncommon along the Lower Colorado River and were once thought to have been extirpated as a breeder along the river. Recent breeding bird surveys have detected Sonoran yellow warblers at Topock Marsh; however, none have been detected near the Project Site (BOR 2008:226).

In desert areas of California, the yellow-breasted chat requires dense riparian thickets of willows, cottonwood, arrow weed, and tamarisk associated with rivers, swampy ground, and the borders of small ponds. Once thought to be a common breeder along the Colorado River, the yellow-breasted chat is now uncommon, like most other riparian-dependent species. Little documentation exists related to its breeding within the HNWR, but chats are documented in the CNDDB near Needles.

Western yellow-billed cuckoos are thought to require structurally complex riparian vegetation with tall trees and a dense woody vegetative understory (RHJV 2004:57). They breed in large blocks of riparian vegetation, particularly woodlands populated by cottonwoods and willows. Four sites within the HNWR were monitored for cuckoos in 2006 and 2007. Cuckoos were detected at three of the sites but were not confirmed as breeding in the HNWR (Johnson et al. 2008:17). Additionally, the 2008, 2009, and 2010 southwestern willow flycatcher surveys

detected cuckoos in the HNWR, indicating this species might also find foraging habitat in the riparian areas of AOC 1 and AOC 10, although nesting habitat does not exist in the Project Site.

The Project Site is within the westernmost extent of the range of the crissal thrasher. This species is present in most riparian woodlands, favoring those areas with sandy soils. Honey mesquite habitats support the largest populations throughout the year, and the bird is rarely found far away from dense cover, nesting usually in mesquite trees but also in tamarisk and quail bush (BOR 1996: Chapter 4, Section z). The Project Site provides marginally suitable habitat in California, particularly in the tamarisk thickets of Bat Cave Wash (AOC 1) and East Ravine (AOC 10). The species was documented north of the Project Site, along the river, during the southwestern willow flycatcher surveys of 2007, 2008, and 2009 (CNDDB 2013, GANDA 2007, 2008b, 2009a:B-1, 2010, 2012).

Loggerhead shrikes require open land with lookout perches for hunting, preferring areas with short vegetation such as pastures, lawns, and freshly-plowed fields throughout most of Mexico and the southern half of the United States. They nest in dense, brushy vegetation, either in hedgerows or isolated trees, adjacent to open foraging grounds. Shrikes will use a variety of vegetation communities, including broadleaved upland forest, desert washes, Joshua tree woodland, Mojavean desert scrub, pinon and juniper woodlands, riparian woodland, and Sonoran desert scrub. The species was observed within the vicinity of the Project Site during several of the focused wildlife surveys (GANDA 2009ab, 2007).

Special-Status Mammal Species Ring-tailed Cat

An individual ring-tailed cat (*Bassariscus astutus*) was observed within the Station on October 25, 2007. A second ring-tailed cat sighting was made at the Station a few years later (PG&E 2014a). No other ring-tailed cat sightings have been reported at the Project Site before or after these dates. The ring-tailed cat is a Fully Protected species in California. Fully Protected species may not be taken or possessed at any time and no licenses or permits may be issued for their take except for collecting these species for necessary scientific research and relocation for the protection of livestock.

The ring-tailed cat is a slender procyonid with a tail that is often as long as the body. Body length ranges between 12 and 16 inches and the tail ranges between 12 and 17 inches. These nocturnal animals are primarily carnivorous, feeding mainly on rodents (woodrats and mice) and rabbits. Ring-tailed cats also feed on birds and eggs, reptiles, invertebrates, fruits, nuts, and some carrion (Taylor 1954, Trapp 1978). Ring-tailed cats forage on the ground, among rocks, and in trees. They are non-migratory and are active yearlong. Home range in California is estimated to vary from 44 to 515 hectares (Grinnell et al. 1937). Suitable habitat for ring-tailed cats consists of a mixture of forest and shrubland in close association with rocky areas or riparian habitats. They take cover in hollow trees, logs, snags, and cavities in talus and other rocky areas and recesses, and they nest in rock recesses, hollow trees, logs, snags, abandoned burrows, and woodrat nests. Young are often born in May and June (Walker et al. 1968), with one litter per year and an average of 3 young (range 1 to 5) per litter. The gestation period is from 40 to 50 days and females may drive males away 3 to 4 days before giving birth. Ring-tailed cats are usually not found more than 0.6 mile from permanent water.

Special-Status Bats

One species of special status bat has been documented near the Project Site. The pallid bat is a widely distributed species generally occurring in lower elevation sites, most often in dry rocky habitats. Little is known and scant documentation exists regarding the pallid bat within the Lower Colorado River. Bat surveys were not conducted as part of the Project and no documented surveys have been conducted in the HNWR. The river and the Topock Marsh could provide suitable foraging habitat for a number of migratory and resident bat species, and the rocks of Topock Gorge to the south of the Project Site may provide limited roost sites.

A number of special-status bat species have the potential to occur near the Project Site, as summarized in Table 4.3-3 due to the presence of suitable roosting and foraging habitat (PG&E 2015b). The Project Site is located adjacent to the Colorado River on undulating hillsides with several ephemeral drainages, rocky slopes, and cliff faces. The Project Site mostly contains bare rocky ground with scattered desert scrub vegetation. Scattered individuals of palo verde (Parkinsonia sp.) and stands of salt cedar (Tamarix sp.) occur within washes and drainages on the Project Site, including the East Ravine and Bat Cave Wash. Wetland habitat occurs within Topock Marsh on the eastern boundary of the Project Site, outside of any proposed work areas. The drainages, rocky slopes, and cliff faces on and immediately adjacent to the Project Site, particularly within East Ravine and Bat Cave Wash, provide suitable roosting habitat for a number of special-status bat species known to occur in the area. Additionally, the desert scrub habitat, stands of trees, and channel bottom of the drainages provide suitable foraging habitat for special-status bat species known to occur in the area. The lack of riparian habitats-on the Project Site, particularly adjacent to potential roost sites, reduces the quality of the habitat on the Site to support special-status bats, however, the dry wash and microphyll woodland habitat present onsite provides suitable foraging opportunities for special-status bats such as pallid bat and California leaf-nosed bat. Potential roosting habitat also occurs within the rocks of Topock Gorge approximately 1 mile to the south of the Project Site.

A bat habitat assessment survey was conducted on the Project Site by Dr. Pat Brown, a biologist specializing in bats, on January 29 and 30, 2015 (PG&E 2015b). In addition, a focused bat survey was conducted by Dr. Pat Brown from April 27 to May 1, 2015 (PG&E 2015c). Special-status bat species mist-netted or recorded on the Project Site during the winter habitat assessment and spring focused bat survey include: pallid bat, Townsend's big-eared bat, pocketed free-tailed bat, cave myotis, and western mastiff bat.

Pallid Bat

The pallid bat (*Antrozous pallidus*) was detected on the Project Site during the January bat habitat assessment survey using Anabat acoustic monitoring equipment. Pallid bats were also mist-netted on the Project Site during the spring 2015 focused bat surveys, including two pregnant females and one male. The pallid bat is a widely distributed species generally occurring in lower elevations, most often in dry rocky habitats, roosting in crevices in rocky outcrops and cliffs, caves, mines, trees, and structures, and foraging over desert scrub, grasslands and wooded areas gleaning insects from surfaces and capturing insects on the wing. Pallid bats form maternity roosts in day roost sites that protect bats from high temperatures. Maternity colonies form in early April and consist of a dozen to 100 individual bats. There have been abundant surveys documenting pallid bats along the Lower Colorado River. This species has been mist-netted north of the Colorado River at a BOR area by Dr. Pat Brown and Dr. Berry in 2003, and have been documented numerous times along the Colorado River through habitat creation monitoring conducted for the LCR MSCP (Calvert 2009a, 2009b, 2010, 2011).

Townsend's big-eared bat

A Townsend's big-eared bat (Corynorhinus townsendii) was mist-netted on the Project Site within Bat Cave Wash during the spring 2015 focused bat surveys (PG&E 2015c). The petition to list Townsend's big-eared bat as a Candidate species for listing under the CESA was accepted in April 2013, and until a decision to list the species is finalized, this species is afforded protection by CDFW similar to other CESA listed (threatened or endangered) species (CDFW 2013a). Any potential Project-related impacts to this species would require consultation with CDFW before impacts occur. The January 2015 assessment of the Project Site identified potential suitable roosting and foraging habitat for the Townsend's big-eared bat within the rocky slopes and cliff faces along ephemeral drainage features, particularly those associated with Bat Cave Wash. Townsend's big-eared bat is a colonial species, with females aggregating in nursery sites in the early spring and giving birth to one young in the late spring or early summer (CDFG 1998). Maternity roosts stay intact until the young are independent in late summer or early fall. These bats demonstrate high site fidelity and will return to a roost multiple seasons. Townsend's bigeared bat generally roost in caves, but can also roost in man-made structures, buildings, and in the open hanging from walls and ceilings. They forage along streams and a variety of wooded habitats, and in the desert environment they forage in microphyll woodland habitats, catching insects on the wing. The single male Townsend's big-eared bat detected on the Project Site during the spring 2015 focused bat surveys was mist-netted in Bat Cave Wash on the upstream side of the large culvert beneath the BNSF railroad (PG&E 2015c). Additionally, through personal communication with Dr. Pat Brown during the January 2015 assessment, lactating female Townsend's big-eared bats were captured in July and August 2014 in mist-nets on the Arizona side of the Lower Colorado River near Beal Lake across the Colorado River in the HNWR (Brown 2015). This occurrence of the Townsend's big-eared bat is within 5 miles of the Project Site. Therefore, Townsend's big-eared bat is considered present on the Project Site and has the potential to roost and forage within the vicinity of the Project Site. Male Townsend's usually roost solitarily but in the vicinity of maternity colonies.

Pocketed free-tailed bat, cave myotis and western mastiff bat

All three species are listed as California Species of Special Concern and were all detected acoustically during the spring 2015 focused bat survey (PG&E 2015c). All three species are crevice roosters primarily within caves and mines, but can occur within the rocky slopes and cliff faces on the Project Site. The pocketed free-tailed bat was recorded at nine Anabat recording stations throughout the Project Site, with the most calls recorded near the Lower Colorado River or on the sides of Bat Cave Wash and the East Ravine. The spring 2015 focused bat surveys recorded cave myotis echolocation calls at two locations within the Project Site, primarily along the fenced well enclosure on the Arizona side, with a few calls recorded along the Lower Colorado River. Western bat echolocation calls were detected at seven Anabat detector locations throughout the Project Site, with the most calls in the East Ravine. The recorded calls of these species demonstrate that these species occur on the Project Site and may utilize portions of the Site for roosting and/or foraging. However, the current roosting status on the Project Site could not be ascertained from the acoustic surveys alone. Additionally, these three species were not mist-netted during the spring 2015 focused bat surveys.

Nelson's Bighorn Sheep

Habitat requirements for Nelson's bighorn sheep include mountainous terrain with areas of gentle terrain such as valley floors and alluvial fans that provide important linkages between adjacent mountainous regions. These gentle terrain areas also provide temporary access to resources such as forage and water, particularly in the drier summer months (PG&E 2015a). Steep, rugged terrain, also called escape terrain, is a crucial component of bighorn sheep habitat because bighorn sheep use running speed coupled with their climbing abilities to evade predators (PG&E 2015a). BLM research indicates that flight and cardiac response is activated within 50 to 100 meters (160 to 330 feet) of disturbance (BLM 2001). Males and females will also often occupy different habitats outside the breeding season. Females tend to choose steep, safe areas for bearing and initial rearing of lambs, while males occupy much flatter areas during the lambrearing season (BLM 2013). Nelson's bighorn sheep forages on a broad variety of plants species (at least 34 and up to 121 different species) including forbs, shrubs, new shoots from shrubs and trees, grasses, shrubs, and barrel cactus (PG&E 2015a).

Nelson's bighorn sheep have a potential are known to occur in the Project Site. <u>A family of six</u> <u>Nelson's bighorn sheep were observed next to Maze Locus A during a FMIT annual prayer</u> <u>ceremony in June 2013. Also, a FMIT Tribal Monitor reported observances of sheep in</u> <u>monitoring logs during the Time Critical Removal Action at AOC 4.</u> Bighorn sheep prefer visually open habitat that is steep and rocky in mountainous terrain above the desert floor. They use their eyesight as the primary sense for detecting predators at sufficient distances to ensure adequate time to reach safe terrain. Males and females will also often occupy different habitats outside the breeding season. Females tend to choose steep, safe areas for bearing and initial rearing of lambs, while males occupy much flatter areas during the lamb rearing season (BLM 2013). Nelson's bighorn sheep and signs thereof (tracks, seat, etc.) were not observed within or near the Project Site during the various biological surveys; however, a According to the CNDDB (2013), Nelson's bighorn sheep have been documented in the mountains south of the Project Site (Figures 4.3-3, 4.3-4 and 4.3-4c). The species may use the foothill portions of the Project Site for foraging and movement, but no lambing habitat occurs within the Project Site.

Special-Status Aquatic Species

Bonytail Chub

The bonytail chub is federally listed and state-listed as endangered and is covered under the LCR MSCP. Critical habitat in relation to the Project Site includes the Colorado River and the 100-year floodplain (Figures 4.3-3 and 4.3-4 through 4.3-4b), from Parker Dam to the northern boundary of the HNWR just south of Needles. The single major factor contributing to the decline of bonytail and other large-river fishes has been the construction of mainstem dams and the resultant cool tailwaters and reservoir habitats that replaced once-warm, riverine environments (USFWS 2002b:18-21, 2005:50).

The bonytail chub was once widely distributed throughout the Colorado River and its main tributaries. This species is found only in isolated populations through the historic range and in the lower basin, as well as in Lake Mohave, with possible individuals between Parker Dam and Davis Dam (USFWS 2005:50-51). The trend for the bonytail chub is for a continued rangewide decrease in wild populations caused by a lack of sufficient recruitment of young adults, along with the loss of old adults to natural mortality. The primary limiting factor for the bonytail chub appears to be nonnative fish predation of the early life stages (USFWS 2005:50-51). Extinction of this fish in the wild throughout its historic range is being forestalled by the stocking of subadult fish into the Upper Colorado River Basin and Lake Mohave and Lake Havasu in the Lower Colorado River (USFWS 2005:50-51). These stockings are intended to create populations of young adults that may be expected to persist for 40 to 50 years. The Lower Colorado River supports the largest remaining populations of bonytail chub. The populations consist primarily of subadults (CH2M HILL 2007a:5-23, 5-24; included as Appendix D-1 to this DEIR). The CNDDB and the PBA indicate reports of bonytail chub occurring in the river adjacent to the Project Site (Figures 4.3-3 and 4.3-4 through 4.3-4b).

Razorback Sucker

The razorback sucker is federally listed and state-listed as endangered, as well as state fully protected, and is covered under the LCR MSCP. As with the bonytail chub, dam construction and subsequent habitat degradation have led to the substantial decline of the razorback sucker. The trend for the razorback sucker is for a continued rangewide decrease in wild populations caused by a lack of sufficient recruitment of young adults, along with the loss of old adults to natural mortality. The primary limiting factor for the razorback sucker appears to be nonnative fish predation of the early life stages (USFWS 2005:56).

The razorback sucker is endemic to large rivers of the Colorado River Basin, from Wyoming to Mexico. Present distribution of natural populations is limited to Lake Mohave, Green River Basin, and the Upper Colorado River Basin. Presently, natural adult populations exist only in Lake Mohave, Lake Mead, and Lake Havasu. This species uses a variety of habitat types, from mainstem channels to slow backwaters of medium and large streams and rivers, sometimes around cover. In impoundments, they prefer depths of 1 meter or more over sand, mud, or gravel substrates (CH2M HILL 2007a:5-19, included as Appendix D-1 to this DEIR).

The Lower Colorado River supports the largest remaining populations of razorback sucker. The populations consist primarily of subadults as a result of the stocking efforts directed at forestalling extinction. In 2005, razorback suckers were documented near Needles. In 2006, 236 suckers were captured and released at that spawning site (CH2M HILL 2007a:56, included as Appendix D-1 to this DEIR). This species has been documented just downriver of the Project Site (CNDDB 2013) (see Figures 4.3-3, 4.3-4, and 4.3-4a).

Flannelmouth Sucker

The flannelmouth sucker is covered under the LCR MSCP but has no other legal designations. The flannelmouth sucker is native to the Colorado River system and was once considered extirpated from the Lower Colorado River; they were reintroduced in the late 1970s (Moyle 2002:179). Flannelmouth suckers are benthic (bottom-dwelling) fish that primarily eat algae, although invertebrates and many types of plant matter are also consumed. The flannelmouth sucker inhabits larger streams and rivers in all habitat types, including riffles, runs, eddies, and backwaters. The species spawns in streams over gravelly areas during spring and early summer. The CNDDB indicates flannelmouth suckers occurring in the Park Moabi Lagoon (CNDDB 2013) near the Project Site.

Sensitive Habitats

Sensitive habitats are those of special concern to resource agencies or that are afforded specific consideration through California Environmental Quality Act (CEQA), Section 1602 of the California Fish and Game Code, or Section 404 of the CWA, as discussed in Section 4.3.2, "Regulatory Background."

A wetland delineation was completed in 2013 by CH2M Hill. The Colorado River is considered waters of the United States and subject to regulation under CWA Section 404. Other waters of the United States may also include ephemeral drainages if they are connected to waters of the United States (Colorado River), as shown in Figures 4.3-2 through 4.3-2d. Other permanently or seasonally wet habitats, such as those described in Section 4.3.1.3, would qualify as wetlands subject to Section 404 regulation. All of these aquatic habitats are also anticipated to qualify as waters of the state and regulation under the Porter-Cologne Water Quality Control Act. In addition, waterways and associated riparian habitats are likely subject to regulation under Section 1600 et seq. of the California Fish and Game Code.

Other habitats considered sensitive by CDFW include those identified as "rare and worthy of consideration" in natural communities recognized by the CNDDB. These sensitive communities provide essential habitat to special-status species that are often restricted in distribution or decreasing throughout their range. Wetsern Western honey mesquite bosque is the only vegetation community within the Project Site that is considered sensitive by CDFW. It has a Global Rank of G3 and a State Rank of S2.1, meaning that this community is considered highly imperiled, as measured by rarity, trends, and threats (CNDDB 2013).

4.3.2 Regulatory Background

Biological resources in California are protected and/or regulated by a variety of federal and state laws and policies. Key regulatory and conservation planning issues applicable to the proposed Project are discussed below.

4.3.2.1 Federal

Federal Endangered Species Act

Pursuant to the <u>FESA</u>, generally, USFWS has regulatory authority over federally listed species. Under the <u>FESA</u>, a permit is required for any federal action that may result in "take" of a listed species. Section 9 of the <u>FESA</u> defines "take" as "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct." Under federal regulations, take is further defined to include the modification or degradation of habitat where such activity results in death or injury to wildlife by significantly impairing essential behavioral patterns, including breeding, feeding, or sheltering. Section 7 of the <u>F</u>ESA outlines procedures for federal interagency cooperation to protect and conserve federally listed species and designated critical habitat. Critical habitat identifies specific areas that have the physical and biological features essential to the conservation of a listed species and that may require special management considerations or protection. Section 7(a)(2) requires federal agencies to consult with USFWS to ensure that they are not undertaking, funding, permitting, or authorizing actions likely to jeopardize the continued existence of listed species or destroying or adversely modifying designated critical habitat.

For projects where federal action is not involved and take of a listed species may occur, the project proponent may seek an incidental take permit under Section 10(a) of the <u>FESA</u>. Section 10(a) of <u>FESA</u> allows USFWS to permit the incidental take of listed species if such take is accompanied by a habitat conservation plan that ensures minimizing and mitigation of impacts associated with the take.

Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) implements domestically a series of international treaties that provide for migratory bird protection. The MBTA authorizes the Secretary of the Interior to regulate the taking of migratory birds; the act provides that it shall be unlawful, except as permitted by regulations, "to pursue, take, or kill any migratory bird, or any part, nest or egg of any such bird" (16 USC 703). This prohibition includes both direct and indirect acts, although harassment and habitat modification are not included unless they result in direct loss of birds, nests, or eggs. The current list of species protected by the MBTA includes almost all bird species that are native to the United States. Permits for take of nongame migratory birds can be issued only for specific activities, such as scientific collection, rehabilitation, propagation, education, taxidermy, and protection of human health and safety and personal property.

Clean Water Act, Section 404

Section 404 of the CWA requires project proponents to obtain a permit from USACE before performing any activity that involves any discharge of dredged or fill material into waters of the United States. Waters of the United States include navigable waters of the United States, interstate waters, all other waters where the use or degradation or destruction of the waters could affect interstate or foreign commerce, tributaries to any of these waters, and wetlands that meet any of these criteria or that are adjacent to any of these waters or their tributaries. Many surface waters and wetlands in California meet the criteria for waters of the United States.

Clean Water Act, Section 402

CWA Section 402 regulates construction-related stormwater discharges to surface waters through the National Pollutant Discharge Elimination System (NPDES) program, which is administered by the U.S. Environmental Protection Agency (USEPA). In California, the State Water Resources Control Board is authorized by USEPA to oversee the NPDES program through the RWQCB, in this case, the Colorado River (Region 7) RWQCB.

Clean Water Act, Section 401

CWA Section 401(a)(1) specifies that any applicant for a federal license or permit to conduct any activity that may result in any discharge into navigable waters shall provide the federal licensing or permitting agency with a certification that any such discharge will not violate state water quality standards. The RWQCBs administer the Section 401 program with the intent of prescribing measures for projects that are necessary to avoid, minimize, and mitigate adverse effects on water quality and ecosystems.

Rivers and Harbors Appropriations Act, Section 10

Section 10 of the Rivers and Harbors Appropriations Act of 1899 relates to the protection of navigable water in the United States and regulates any construction affecting navigable waters and any obstruction, excavation, or filling. Section 10 requires permits for all structures, such as riprap, and activities, such as dredging, in navigable waters of the United States. Navigable waters are defined as those subject to the ebb and flow of the tide and susceptible to use in their natural condition or by reasonable improvements as means to transport interstate or foreign commerce. USACE grants or denies permits based on the effects on navigation. Most activities covered under this act are also covered under Section 404 of the CWA. All activities involving navigable waters of the United States require a Section 10 permit. Projects must obtain approval of plans for construction, dumping, and dredging. Agencies involved in the coordination of the Rivers and Harbors Appropriations Act include the U.S. Coast Guard, USACE, USEPA, and state and local agencies.

Federal Land Management Policy Act

Congress established the Federal Land Management Policy Act of 1976 to direct federal agencies to manage public lands in a manner that will protect the quality of scientific, scenic, historical, ecological, environmental, air and atmospheric, water resource, and archaeological values and that, where appropriate, will preserve and protect certain public lands in their natural condition, provide food and habitat for fish and wildlife and domestic animals, and provide for outdoor recreation and human occupancy and use.

U.S. Bureau of Land Management Resource Management Plan

The Project Site is located within the Beale Slough Riparian and Cultural Area of Critical Environmental Concern (ACEC). This ACEC was designated through the BLM Lake Havasu Field Office Record of Decision and Approved Resource Management Plan (BLM 2007). ACEC designations highlight areas where special management attention is needed to protect, and prevent irreparable damage to important historical, cultural, and scenic values, fish, or wildlife resources or other natural systems or processes; or to protect human life and safety from natural hazards (Section 202I(3) of the Federal Land Policy and Management Act of 1976). The Beale Slough ACEC has been designated to protect both cultural and natural resources. This large ACEC contains regional rare riparian resources and wildlife habitat at Beale Slough to the north of the Project Site and a cultural element on the Project Site (BLM 2007: 106, Map 28).

The Arizona BLM Lake Havasu Field Office administers portions of land adjacent to the Project Site. *The BLM Lake Havasu Resource Management Plan* (BLM 2007), which covers a portion of

the Project Site, guides management of public lands and their resource values for multiple uses and sustained yield to ensure they are utilized in a manner that will best meet the present and future needs of the public. As required by the Federal Land Management Policy Act and current BLM policy, BLM established management directions for the balanced use of such renewable and nonrenewable resources as rangeland, wildlife, wilderness, recreation, cultural resources, and other natural, scenic, scientific, and historical values within the planning area.

U.S. Fish and Wildlife Service National Refuge System—Havasu National Wildlife Refuge

Established in 1941 with the signing of Executive Order 8647 by President Franklin D. Roosevelt, the HNWR encompasses 37,515 acres in California and Arizona. The majority of the HNWR is located in Arizona.

The overarching goal of the USFWS Refuge System is to conserve a diversity of fish, wildlife, plants, and their habitats for the benefit of current and future generations. By fulfilling this goal, the Refuge System can maintain the biological integrity, diversity, and environmental health of each refuge with a focus on native species and can contribute to the conservation, and, where appropriate, restoration of representative ecosystems and ecological processes in the United States. A variety of management plans are developed for refuges, which include habitat management plans, comprehensive conservations plans, and annual habitat management plans. These plans focus on maintaining the refuge system for the conservation of migratory birds, anadromous and inter-jurisdictional fish, and marine mammals. The HNWR is primarily managed to maintain and enhance riparian and wetland habitat (USFWS 1994b:30) adjacent to the Colorado River. Refuges are also managed for recreation and public interaction. Refuges have regulations that limit or define the amount of recreation use in the refuge. Pertaining to the HNWR, regulations focus primarily on the types and timing of particular recreation uses. The Lower Colorado River National Wildlife Refuges Comprehensive Management Plan for HNWR offers guidance for managing habitat, fish, wildlife, and special-status species. The plan also delineates sensitive and important habitats, or areas of substantial biodiversity into Special Project and Protection Areas (USFWS 1994b).

4.3.2.2 State of California

California Endangered Species Act

Pursuant to CESA, a permit from CDFW is required for projects that could result in take of a plant or animal species that is state-listed as threatened or endangered. CESA defines "take" as an activity that would directly or indirectly kill an individual of a species. Authorization for take of state-listed species can be obtained through a California Fish and Wildlife Code Section 2080.1 consistency determination or a Section 2081 incidental take permit.

The California Endangered Species Act (CESA) is similar in many ways to the FESA. CESA is administered by the CDFW. CESA provides a process for CDFW to list species as threatened or endangered in response to a citizen petition or by its own initiative (Fish and Game Code § 2070 et seq.). Section 2080 of CESA prohibits the take of species listed as threatened or endangered pursuant to the Act (Fish and Game Code Section 2080). Section 2081 allows CDFW to authorize

take prohibited under Section 2080 provided that: (1) the taking is incidental to an otherwise lawful activity; (2) the taking will be minimized and fully mitigated; (3) the applicant ensures adequate funding for minimization and mitigation; and (4) the authorization will not jeopardize the continued existence of listed species (Fish and Game Code § 2081).

California Fish and Game Code—Take of Species

Take is defined in California Fish and Game Code Section 86 as to hunt, pursue, catch, capture or kill or attempt to hunt, pursue, catch capture or kill. Additionally, The CFG Code regulates the taking of birds, mammals, fish, amphibians, and reptiles. It includes the CESA (Sections 2050-2115), as well as provisions for legal hunting and fishing, and tribal agreements involving the take of native wildlife. Any project activities that would result in the take of any State-listed species within or adjacent to a project site would require a permit under CESA.

California Fish and Wildlife Game Code—Fully Protected Species

Protection of fully protected species is described in Sections 3511, 4700, 5050, and 5515 of the California Fish and Wildlife Game Code. These statutes prohibit take or possession of fully protected species and do not provide for authorization of incidental take of fully protected species. CDFW has informed nonfederal agencies and private parties that their actions must avoid take of any fully protected species.

California Fish and Wildlife Game Code Section 1602—Streambed Alteration

All diversions, obstructions, or changes to the natural flow or bed, channel, or bank of any river, stream, or lake in California that supports wildlife resources are subject to regulation by CDFW under Section 1602 of the California Fish and Wildlife Game Code. Under Section 1602, it is unlawful for any person, governmental agency, or public utility to do the following without first notifying CDFW:

- Substantially divert or obstruct the natural flow of, or substantially change or use any material from, the bed, channel, or bank of any river, stream, or lake; or
 - Deposit or dispose of debris, waste, or other material containing crumbled, flaked, or ground pavement where it may pass into any river, stream, or lake.

"Stream" is defined as a body of water that flows at least periodically or intermittently through a bed or channel that has banks and supports fish or other aquatic life. This definition includes watercourses with a surface or subsurface flow that supports or has supported riparian vegetation. CDFW's jurisdiction within altered or artificial waterways is based on the value of those waterways to fish and wildlife. A CDFW streambed alteration agreement must be obtained for any project that would result in an impact on a river, stream, or lake.

California Fish and *Wildlife* <u>Game</u> Code Sections 3503 and 3503.5—Protection of Bird Nests and Raptors

Section 3503 of the California Fish and Wildlife Game Code states that it is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird. Section 3503.5 specifically states that it is unlawful to take, possess, or destroy any raptors (i.e., species in the orders Falconiformes and Strigiformes), including their nests or eggs. Typical violations of these codes include destruction

of active nests resulting from removal of vegetation in which the nests are located. Violation of Section 3503.5 could also include failure of active raptor nests resulting from disturbance of nesting pairs by nearby soil investigation activities. This statute does not provide for the issuance of any type of incidental take permit.

Porter-Cologne Water Quality Control Act

Under the Porter-Cologne Water Quality Control Act, waters of the state fall under the jurisdiction of the appropriate RWQCB. The RWQCB must prepare and periodically update water quality control plans (basin plans). Each basin establishes numerical or narrative water quality objectives to protect established beneficial uses, which include wildlife, fisheries, and their habitats. Projects that affect wetlands or waters of the state must meet discharge requirements of the RWQCB, which may be issued in addition to a water quality certification or waiver under Section 401 of the CWA.

4.3.2.3 Local

Lower Colorado River Multi-Species Conservation Program

Implemented in 2005, the LCR MSCP is intended to balance the use of water resources in the Lower Basin of the Colorado River with the conservation of native species in compliance with the <u>FESA</u>. The LCR MSCP outlines a 50-year effort to conserve 26 federally listed and state-listed candidate and sensitive species along the Lower Colorado River, including birds, fish, small mammals, bats, reptiles, amphibians, insects, and plants. The program area covers more than 400 miles of the Lower Colorado River from Lake Mead to the southernmost border with Mexico, and includes Lakes Mead, Mohave, and Havasu, as well as the historic 100-year floodplain along the main stem of the Lower Colorado River. The LCR MSCP provides <u>FESA</u> compliance for current and future operations, including water diversions and hydroelectric power generation in this area.

The MSCP outlines general and species-specific measures to conserve species and their habitats. Primary components of the plan include native fish augmentation, species research, species and ecosystem monitoring, conservation area development, protection of existing habitat, and adaptive management.

Critical to the Lower Colorado River system are the unique habitats that support a huge number of resident and migratory species. Native riparian habitat has declined from historical acreage because of factors such as dam construction, river channelization, conversion to irrigated agriculture, urbanization, wildfire, and invasive species. In most areas along the Lower Colorado River, overbank flooding that native plant species need to reproduce no longer occurs. The LCR MSCP requires the creation and management of more than 8,100 acres of riparian, marsh, and backwater habitat for the targeted species, including 5,940 acres of cottonwood/willow, 1,320 acres of honey mesquite, 512 acres of marsh, and 360 acres of backwaters.

County of San Bernardino 2007 General Plan

The *County of San Bernardino 2007 General Plan* outlines conservation and regulatory guidelines for natural resources. The Conservation Element of the plan provides direction regarding the conservation, development, and utilization of the San Bernardino County's natural

resources. Its objective is to prevent wasteful exploitation, destruction, and neglect of resources. Sensitive biological features are floral or faunal species of rare and/or endangered status, depleted or declining species, and species and habitat types of unique or limited distribution, including alkali wet meadows, pebble plains, limestone substrate, walnut woodland, Joshua tree woodland, perennial springs, and riparian woodlands. The Conservation Element is oriented primarily toward natural resources (San Bernardino County 2007:V-1).

The Conservation Element includes regions within the County. The Project falls within the desert region habitat of the Conservation Element, covering roughly 93 percent of the County land area (San Bernardino County 2007:V-5).

Goals and policies of the conservation element include programs incorporating resource agencies and nonprofit conservation groups, as well as the application of technological tools such as Geographic Information Systems to assist in coordinating and implementing the conservation of sensitive biological features.

Pertinent goals and policies include:

GOAL CO 1: The County will maintain to the greatest extent possible natural resources that contribute to the quality of life within the County.

GOAL CO 2: The County will maintain and enhance biological diversity and healthy ecosystems throughout the County.

Policy CO 2.1: The County will coordinate with state and federal agencies and departments to ensure that their programs to preserve rare and endangered species and protect areas of special habitat value, as well as conserve populations and habitats of commonly occurring species, are reflected in reviews and approvals of development programs.

GOAL D/CO 1: Preserve the unique environmental features and natural resources of the Desert Region, including native wildlife, vegetation, water and scenic vistas.

4.3.3 Environmental Impacts

4.3.3.1 Impact Methodology

Analysis of impacts on biological resources, including terrestrial and aquatic resources, was based on consideration of Project activities and the anticipated footprint of areas potentially disturbed, existing habitat conditions at the Project Site, the known or presumed occurrence of special-status species at or near the Project Site, and coordination with the regulatory agencies (such as CDFW, USFWS, and USACE).

Impacts to vegetation communities and jurisdictional resources were quantified through a GIS analysis in which the proposed Project activities were laid over the vegetation community data layer from the *Topock Groundwater Remediation Project Floristic Survey Report* (CH2M HILL and GANDA 2013) and the jurisdictional resources data layer from the *Wetlands and Waters of the United States, Delineation for the Topock Compressor Station Groundwater Remediation*

Project, San Bernardino County, California (CH2M HILL 2013). These original data layers were delineated in the field by CH2M Hill to support the environmental analysis of the Groundwater Remediation Project.

In terms of the Project activities considered, the Soil Work Plan (included as Appendix A to this DEIR) proposes soil sampling at a total of 292 locations with at least 876 individual samples (see Figures 3.2 through 3.6). Each work area was assigned an estimated impact area which included the required work zone needed for successful execution of the Project. Specific locations and number of samples collected at each location may vary based on access considerations, the results of field screening, and field observations. Further, because of unforeseen circumstances or data gaps, additional samples/sampling locations may be necessary. As part of this DEIR, therefore, a contingency of up to 25 percent additional sampling locations (i.e., up to 73 locations) is analyzed. These locations could occur anywhere within the Project Site, but would be conducted in the same manner as described in the Project Description (Chapter 3) and below in Section 4.3.3.3. In addition, the analysis considers the potential for impacts associated with bench scale tests, pilot studies, geotechnical evaluations, plant or other biota sampling, and related work area restoration activities that may be implemented as part of the Project (see Sections 3.5.3, 3.5.4, 3.5.5 and 3.5.6) if determined necessary.

Impacts to sensitive species were assessed in much the same way; through a GIS-based analysis comparing the locations of the various Project work areas with the species locations and their associated habitats.

4.3.3.2 Thresholds of Significance

The thresholds for determining the significance of impacts for this analysis are based on the environmental checklist in Appendix G of the CEQA Guidelines. The proposed Project would cause a significant impact on biological resources if it would:

- have a substantial adverse effect on waters, riparian, or sensitive habitat protected by federal or state regulations, including federal wetlands (as defined by Section 404 of the CWA), riparian habitats, or other sensitive natural community identified in any local or regional plans, policies, or regulations, or by CDFW or USFWS;
- have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by CDFW or USFWS;
- interfere substantially with the movement of any native resident or migratory fish or wildlife species, or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites;
- have the potential to substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife species to drop below self-sustaining levels, reduce the number or restrict the range of a rare or endangered plant or animal; or

• conflict with the provisions of an adopted habitat conservation plan, natural community conservation plan, other approved local, regional, or state habitat conservation plans, or other local policies or ordinances protecting biological resources.

4.3.3.3 Impact Analysis

Sensitive Natural Communities

<u>Western honey mesquite bosque is the only</u> No natural communit<u>y</u> or habitats identified as sensitive by local or regional plans, policies, or regulations, or by CDFW or USFWS <u>that exists</u> on the Project Site; <u>Soil sampling locations will avoid the western honey mesquite bosque</u> <u>natural communities that occur on the Project Site and</u>, therefore, no impacts are anticipated to occur <u>to this community</u>.

Wetlands and Riparian Habitats

Soil Sampling

The Soil Work Plan (included as Appendix A to this DEIR) proposes soil sampling at a total of 292 locations with at least 876 individual samples (see Figures 3.2 through 3.6). A contingency of up to 25 percent additional sampling locations (i.e., up to 73 locations) is also analyzed. These locations could occur anywhere within the Project Site, but would be conducted in the same manner as described in the Project Description (Chapter 3) and would avoid known sensitive biological resources.

Some of the soil sampling activities are anticipated to occur in areas that qualify for USACE jurisdiction and are protected under Sections 401 and 404 of the CWA. Likewise, those areas that qualify for USACE jurisdiction also qualify for CDFW jurisdiction under Section 1600 of the Fish and Game Code. These impacting Project activities include the proposed soil sample locations within desert washes such as Bat Cave Wash (AOC 1), and the riparian habitats around the pore water sampling sites within or near East Ravine (AOC 10).

Impacts to jurisdictional resources as a result of soil samplings are anticipated to be temporary because of the following: (1) only pruning, trimming, or clearing of vegetation is proposed to access some of the sites and clear around the sample area; (2) as described in the Soil Work Plan, some of the salt cedar will be cut off at the base, but the roots of all vegetation will be left in place to allow for natural, rapid regrowth of vegetation; (3) complete removal of vegetation is not expected at any work areas; and (4) once soil sampling is complete, all Project equipment and materials will be removed from the work area and, if the area is not paved, the area will be raked/brushed to remove tire tracks. Because only trimming, pruning, or clearing may be needed to access some of the sites and clear around the sample areas, revegetation is expected to occur within one to two growing seasons. Standard well and boring decommissioning procedures required by San Bernardino County and the California Department of Water Resources (DWR) (DWR 1991) would be followed for the decommissioning of all borings (Section 3.5.2.12). After sampling has been completed, boreholes would be grouted from the total depth to within 6 to 12 inches of the ground surface with a bentonite-cement grout installed continuously in one operation to effectively seal the hole. Native soil would be used to fill the top 6 to 12 inches.

Bench Scale Tests

Impacts to jurisdictional resources as a result of bench scale tests are anticipated to be less than significant as only three to five 5-gallon buckets of soil are to be removed by hand at three different locations of soil contamination, which will be determined by the results of soil sampling and sample analysis (as described in Chapter 3, "Project Description").

In Situ Soil Flushing and Soil Stabilization/Chemical Fixation Pilot Studies

As described in Chapter 3, "Project Description," there are currently no pilot studies planned; however, plausible areas where soil flushing and soil stabilization/chemical fixation pilot studies could potentially impact jurisdictional resources include Solid Waste Management Unit (SWMU) 1/AOC 1 – Bat Cave Wash. A plausible dimension of the pilot test area would be approximately 35 feet by 115 feet (0.1 acre) of temporary impact area. For the purposes of this DEIR, PG&E expects that pilot studies associated with SWMU 1/AOC 1would be located in the bottom of the Bat Cave Wash, in an area that is generally devoid of vegetation. All impacts are anticipated to be temporary (9 months) and once pilot studies are complete, infiltration galleries will be removed and backfilled with <u>bentonite grout and</u>, for the 12 inches closest to the surface, native material, and the pilot test area will be raked to reflect its original condition. Impacts to jurisdictional resources as a result of in situ soil flushing and soil stabilization/chemical fixation pilot studies would be less than significant.

Geotechnical Evaluations

As described in Chapter 3, "Project Description," it is anticipated that up to three eight geotechnical evaluations will be undertaken within or near AOCs that have steep slopes and where remediation is determined necessary. AOCs within or near significant slopes that also occur within or near jurisdictional resources include: SWMU 1/AOC 1 (Bat Cave Wash), AOC 4, and AOC 10d. Geotechnical borings would be drilled using a hollow-stem auger drill. Soil samples would be collected using the standard penetration test and modified California ring samplers for index properties, strength, and compaction characteristics. As described above for soil sampling, all impacts from geotechnical evaluations are anticipated to be temporary and once geotechnical evaluations are complete, all equipment will be removed, exploratory boreholes will be decommissioned and backfilled with native material, and the geotechnical evaluation area will be raked to reflect its original condition. Impacts to jurisdictional resources as a result of geotechnical evaluations would be less than significant.

Plant or other Biota Sampling

Impacts to jurisdictional resources as a result of plant or other biota sampling are anticipated to be less than significant. As described in the Project Description (Chapter 3), the tissue sampling methods recommended would not require use of motorized equipment or removal of riparian vegetation or soil. Plant tissue samples would be collected using less invasive methods, for example by hand pruning without sacrificing individual plants. Tissue would be collected from as few plants as practical to provide a representative sample of diet concentrations in that specific sampling location. Tissue collection would focus on leafy vegetation rather than more intrusive seed collection, as allowed by study objectives. Pit traps for invertebrate sampling could be set where soil from a location is pushed aside to create a shallow pit (approximately 1 foot square by 1 foot deep) using a hand auger, shovel, or trowel. Once sampling is completed, the traps would

be removed and soil would be pushed back to cover the shallow pits. <u>As the soil investigation</u> proceeds, additional data may identify additional key chemicals of potential ecological concern (COPECs) (e.g., dioxins/furans, PCBs, or other organic chemicals). If unacceptable risk is predicted for carnivorous receptors, a validation study may be required where small mammal tissue would need to be collected from the Project Site. Tissue would be collected using Sherman live or similar traps deployed on the ground surface. No impacts are anticipated to occur to jurisdictional resources as a result of biota tissue sampling.

Table 4.3-4 lists the estimated temporary impact acreages for each habitat type within the Project Site. **Table 4.3-5** lists the estimated temporary impact acreages to those areas that qualify for USACE/CDFW jurisdiction.

Invasive Species Recruitment

Invasive species recruitment within sensitive habitats may occur as a result of soil disturbance and tracking of seeds on vehicle tires and equipment associated with Project activities. Invasive species can out-compete native ones and severely degrade the quality of jurisdictional resources and habitat used by both common and special-status species. Implementation of the proposed Project could result in the disturbance to vegetation, constituting riparian habitat and other jurisdictional resources, and the potential for habitat degradation through the recruitment of invasive species. <u>However, Bb</u>ecause these areas are already dominated by aggressive, quickgrowing invasive species (e.g., salt cedar). however, <u>Project-related activities would not result in</u> an additional influx of invasive species. Therefore, impacts to sensitive habitats as a result of high invasive species recruitment during implementation of the Project would be less than significant.

Habitat Type	Estimated Temporary Impacts within the Project Site (Acres)
Creosote Bush Scrub	Up to 20 acres
Tamarisk Thicket	Up to 32 acres
Arrow Weed Thicket	Up to 1 acre
Blue Palo Verde Woodland	Up to 2 acres
Catclaw Acacia Thorn Scrub	Up to 1 acre
Foothill Palo Verde Scrub	Up to 1 acre
Allscale Scrub	Up to 1 acre
Western Honey Mesquite Bosque	Up to 1 acre
Tamarisk Thicket/Mesquite Bosque	Up to 1 acre
Tamarisk Thicket/Mesquite Bosque/Blue Palo Verde Woodland	Up to 1 acre
Common Reed Marshes	Up to 1 acre
Landscaped	Up to 1 acre
Developed	Up to 11 acres
Total Estimated Acres	Up to 74 acres

 TABLE 4.3-4

 ESTIMATED TEMPORARY IMPACTS TO HABITAT TYPES WITHIN THE PROJECT SITE

SOURCES: CH2M HILL and GANDA 2013ab; Parus 2014.

Jurisdictional Habitat	Estimated Temporary Impacts within the Project Site (Acres)	25% Contingency for Unforeseen Impacts (Acres)	<u>Total Estimated</u> <u>Temporary Impacts</u> <u>within the Project</u> <u>Site (Acres)</u>
USACE/CDFW Jurisdictional Habitats			
Palustrine scrub-shrub <u>temporarily flooded</u> wetlands associated with ephemeral washes (PSSA)	2.1 Up to 9 acres	<u>0.53</u>	<u>Up to 2.6</u>
Riverine Intermittent Stream Bed Cobble-Gravel Temporarily Flooded (R4SB3A)	<u>2.5</u>	<u>0.63</u>	<u>Up to 3.1</u>
Palustrine emergent, permanently flooded wetlands (PEMH, <u>R4SB3A)</u>	0.2 Up to 1 acre	<u>0.05</u>	<u>Up to 0.3</u>
Palustrine, emergent, seasonally flooded wetlands (PEMC)	0.1 Up to 2 acres	<u>0.03</u>	<u>Up to 0.13</u>
Ephemeral washes	Up to 11 acres		
Colorado River (R2UB2)	0.04 Up to 1 acre	<u>0.01</u>	<u>Up to 0.05</u>
Riparian habitat	Up to 1 acre		
CDFW Only Jurisdictional Habitats			
Riparian habitat	<u>0.2</u>	<u>0.05</u>	<u>Up to 0.3</u>
Total Estimated Acres	<u>5.1</u> Up to 25 acres	<u>1.3</u>	<u>Up to 6.4</u>

TABLE 4.3-5 ESTIMATED TEMPORARY IMPACTS TO USACE/CDFW HABITATS WITHIN THE PROJECT SITE

SOURCES: CH2M HILL-and GANDA-2013ab; Parus 2014.

Regulatory Requirements and Avoidance Measures

On February 12, 2013, PG&E consulted with Mr. Gerardo Salas of USACE Los Angeles District in Los Angeles regarding the application of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) 121(e)(1) permit exemption to the Topock remediation project. Under the CERCLA regulations, administered here by the U.S. Department of the Interior (DOI), PG&E would not be required to apply for or obtain federal, state, or local permits for impacts to jurisdictional wetlands and waters as long as the Project actions are implemented in compliance with the substantive elements of Section 404 of the Clean Water Act. as applicable. Through email correspondence between Mr. Salas and Environmental Science Associates on March 4, 2013, it was determined that in 2008, PG&E was cleared for CERCLA exemption per Nationwide Permit (NWP) 38. During a meeting between USACE and PG&E in February 2013, the USACE confirmed that consistent with NWP 38 and the USACE's 5-year NWP update in the spring of 2012, activities undertaken entirely on a CERCLA site by authority of CERCLA as approved or required by EPA are not required to obtain permits under Section 404 of the Clean Water Act or Section 10 of the Rivers and Harbors Act. Therefore, neither a 404 permit nor a 401 permit would be required for the proposed Project and no further USACE action is required (USACE 2013).

On December 11, 2012, PG&E consulted with CDFW District Regional Manager and his staff at the Blythe, California, office regarding the substantive requirements of the CDFW Section 1602 and the application of the CERCLA 121(e)(1) permit exemption to the Topock remediation project. On February 21, 2013, CDFW staff from the Blythe office conducted a field review of the Project. On March 6, 2013, the CDFW issued a letter to PG&E confirming that CERCLA

121(e)(1) applies to response actions conducted on-site at Topock, specifically to soil and groundwater investigation activities and to remedial actions at the Project Site (CDFW 2013<u>b</u>). As a result, no Lake or Streambed Alteration Agreement is required by CDFW. However, PG&E must still comply with avoidance and minimization measures (AMMs) attached to the March 6, 2013, letter and any additional mitigation measures in this DEIR. The AMMs that apply to the proposed Project are summarized below (note that one additional AMM was included in the CDFW letter that does not apply to the Soil Investigation Project; therefore, the numbering below does not exactly correspond with the original letter).

- 1. Formal environmental training will be provided for all on-site personnel prior to soil investigation activities. This training will include biological, environmental laws, and guidelines.
- 2. If required for species or habitat protection, a biological monitor will be on-site during all ground-disturbing activities.
- 3. No direct or indirect impacts shall occur to any State or federally listed threatened, endangered, or candidate species. Any and all impacts to these species are strictly prohibited and are punishable by Federal and State laws. If threatened, endangered or candidate species occur within the proposed work area or could be impacted by the proposed Project, PG&E shall obtain the required State and Federal threatened and endangered species permits or comply with the substantive requirements of such laws, pursuant to CERCLA Section 121(e)(1).
- 4. No discharges to the CDFW Jurisdictional Washes or Colorado River shall occur without permits or compliance with the substantive requirements of applicable federal and state laws, pursuant to CERCLA Section 121 (e)(1).
- 5. Spoil sites shall not be located within the bed, bank, and channel of any watercourse, where spoil could be washed back into a stream, or where it will cover aquatic or riparian vegetation. Any materials placed in seasonally dry portions of a stream that could be washed downstream or could be deleterious to aquatic life shall be removed from the Project Site prior to inundation by high flows.
- 6. Structures and associated materials, including Project-related debris, not designed to withstand high seasonal flows shall be removed to areas above the high water mark before such flows occur.
- 7. All debris, bark, slash, sawdust, rubbish, silt, cement or concrete or washings thereof, asphalt, paint or other coating material, oil or other petroleum products, or any other substances resulting from Project-related activities that could be hazardous to aquatic life or waters of the state, shall be prevented from contaminating the soil and/or entering the waters of the state and shall not be deposited within 150 feet of the high water mark, unless containerized. None of these materials shall be allowed to enter into or be placed within or where they may enter or be washed by rainfall or runoff into waters of the State. When soil investigation activities are completed, any excess materials or debris shall be removed from the work area.
- 8. Erosion control measures shall be implemented where necessary to reduce erosion and sedimentation in wetlands, waters of the United States, waters of the state, and habitat

occupied by covered species and plant species when activities are the source of potential erosion impacts.

- 9. During soil investigation activities, the contractor shall not dump any litter or debris within the riparian/stream zone. All such debris and waste shall be removed daily and properly disposed of at an appropriate site.
- 10. PG&E shall comply with all litter and pollution laws. All contractors, subcontractors, and employees shall also obey these laws and it shall be the responsibility of PG&E to ensure compliance. The cleanup of all pollution spills shall begin immediately. PG&E shall notify CDFW immediately of any spills and shall consult with CDFW regarding cleanup procedures and requirements.
- 11. Spills and releases of materials shall be cleaned up immediately and thoroughly. Appropriate spill response equipment, including spill kits preloaded with absorbents in an over-pack drum (where feasible), will be provided at convenient locations throughout the Project Site. Spent absorbent material will be managed and disposed of in accordance with applicable regulations. In particular, absorbents used to clean spills of hazardous materials or waste will be managed as hazardous waste unless characterized as nonhazardous.
- 12. Trash and scrap receptacles shall be located throughout work areas, as necessary, to promote proper disposal of solid wastes. Receptacles shall be provided with lids or covers to prevent windblown litter.
- 13. Proper receptacles to dispose of hazardous wastes shall be provided at each work area.
- 14. Excess concrete will be collected and disposed of in designated concrete washout facilities.
- 15. Any sanitary and septic waste facilities provided during Project work will be located away from drainage courses and traffic areas. These facilities will be maintained regularly.
- 16. Staging/storage areas for equipment and materials shall be located outside of the Colorado River's bed, bank, and channel. No equipment maintenance shall be done within 150 feet of the Colorado River channel where petroleum products or other pollutants from the equipment may enter these areas under any flow.
- 17. Stationary equipment such as motors, pumps, generators, and welders, located within or adjacent to the Colorado River, shall be positioned over drip pans.
- 18. Vehicles shall not be driven or equipment operated in water-covered portions of the Colorado River or in wetted areas (including but not limited to ponded, flowing, or wetland areas) or where riparian vegetation may be destroyed, except as necessary to complete authorized work as described under the plan.
- 19. Any equipment or vehicles driven and/or operated within or adjacent to the Colorado River shall be checked and maintained daily to prevent leaks of materials that, if introduced to water, could be deleterious to aquatic life, wildlife, or riparian and wetland habitat.
- 20. Project-related vehicle traffic and equipment storage shall be restricted to established roads, designated access roads, the working strip, storage areas, staging and parking areas, and other designated Project areas. All of these areas shall be clearly marked by posting signs.

- 21. All vehicles and equipment regularly entering and leaving work areas shall be cleaned to reduce material track-out.
- 22. Vehicles shall not exceed a speed limit of 15 mph in the ROWs or on unpaved roads within sensitive land-cover types.
- 23. All disturbed portions of the Colorado River shall be restored to as near original condition as possible, except as otherwise indicated to CDFW.
- 24. No vehicles shall be refueled within 100 feet of a wetland, stream, or other waterbody unless done within a constructed secondary containment area that includes, at a minimum, a perimeter berm and leakproof liner.
- 25. All equipment and vehicles will have federal- or state-approved spark arrestors. All vehicles will carry an approved fire extinguisher (or backpack pump filled with water) and a shovel.
- 26. The development of new access and ROW roads by PG&E and vegetation clearing and blading for temporary vehicle access shall be minimized.
- 27. Covered storage for materials, especially toxic or hazardous materials, shall be provided to prevent exposure of these materials to stormwater. Toxic or hazardous materials will be stored or transferred on impervious surfaces that will provide secondary containment for spills. Vehicles and equipment used for material delivery and storage, as well as all contractor vehicles, shall be parked in designated areas.
- 28. Trash dumping, firearms, open fires (such as barbecues) not required by the activity, hunting, and pets will be prohibited in work activity sites.
- 29. The perimeter of the work area shall be adequately flagged to prevent damage to adjacent riparian and wetland habitats. The upstream and downstream limits of the work area, including all areas of impact to existing desert riparian habitat and "Environmentally Sensitive Areas," shall be identified with flagging or brightly colored mesh fencing or some other means readily conveyed to the equipment operators. These limits will be identified by a supervisor familiar with the terms of these AMMs, prior to the beginning of activities, and will be confined to the minimal area needed to accomplish the proposed work.
- 30. No herbicides shall be used on vegetation unless specifically authorized, in writing, by CDFW.
- 31. PG&E assumes responsibility for the restoration of any wildlife habitat that may be impaired or damaged, either directly or incidental to the Project, as a result of failure to properly implement or complete the listed mitigative features or from activities that were not included in PG&E's Notification.
- 32. All Project resident engineers, Project engineers, Project inspectors, and contractors and subcontractors shall be provided with a copy of the AMMs, and shall abide by the terms and conditions of the AMMs.
- 33. PG&E shall notify CDFW, in writing, at least 5 days prior to initiation of construction activities and at least 5 days prior to completion of soil investigation activities. The notification shall be sent to: Department of Fish and Wildlife, Colorado River Program, P.O. 2160, Blythe, California 92226; FAX No. (760) 922-5638.

IMPACT Substantial Adverse Effects on Waters, Riparian, or Sensitive Habitats

BR-1 Protected by Federal or State Regulations. Implementation of the proposed Project could result in disturbance and/or removal of riparian vegetation, wetlands and other waters of the United States under U.S. Army Corps of Engineers and California Department of Fish and Wildlife jurisdiction along the Colorado River; specifically within Bat Cave Wash and East Ravine. This impact would be significant.

Mitigation Measure BR-1: No-net-loss of Wetland, Riparian or other Sensitive Habitat

Function or Value. The Project shall be implemented to avoid effects to the habitat values and functions of identified jurisdictional areas (i.e., floodplain and riparian areas, wetlands, and waters of the United States and habitats designated by CDFW as sensitive, including ephemeral washes and western honey mesquite bosque). Before undertaking ground-disturbing activities within East Ravine and Bat Cave Wash, a qualified biologist shall coordinate with PG&E to ensure that the footprints of investigation activities, including drill pads, staging areas, and access routes, are designed to avoid disturbance to sensitive habitats to the extent feasible. Where complete avoidance to sensitive habitat is not feasible DTSC shall be notified and Project activities shall be implemented to ensure no-net-loss of habitat value or function <u>under the direction of a qualified biologist</u>. The following avoidance measures shall be implemented when working in Bat Cave Wash and East Ravine:

- a. No plants or vegetation shall be completely removed only pruning, trimming, clearing, or similar approaches which allow the natural regrowth of the plant will be allowed;
- b. Vegetation pruning, trimming, or clearing shall only occur to access investigation sites and clear around the sample areas where absolutely necessary;
- c. The only vegetation to be cut off at the base (cleared rather than pruned or trimmed) will be salt cedar at the mouth of Bat Cave Wash. The roots of the salt cedar at the mouth of Bat Cave Wash will be left in place where possible to allow for natural, rapid regrowth of vegetation;
- d. No more than 20 percent of the crown on all native trees, such as palo verde, shall be trimmed, and no main branches shall be trimmed. This is consistent with what is recommended by the International Society of Arboriculture (ISA 2011);
- e. Complete removal of vegetation in any work area shall be prohibited; and
- f. Project equipment and materials from work areas shall be completely removed and, if the area is not paved, it shall be raked/brushed to remove tire tracks.

"No net loss" shall be achieved through any combination of the following, in descending order of desirability: (1) avoidance; (2) where avoidance is not possible, minimization of impacts on the resource (a – f above); or (3) 1:1 like kind habitat compensation, including use of a mitigation banking program that provides the opportunity to mitigate impacts to rare, threatened, and endangered species and /or the habitat which supports these species in wetland and riparian

<u>areas.</u> A biological monitor shall be present for all vegetation trimming, pruning, and clearing to ensure the above measures are implemented and that vegetation is protected to the extent feasible.

Timing:	During Project planning and implementation.
Responsibility:	PG&E would be responsible for the implementation of these measures. DTSC would be responsible for ensuring compliance with input from the jurisdictional agencies.
Significance after Mitigation:	Avoidance of impacts to habitat function and value of wetlands, other waters of the U.S. and riparian habitat would occur through the reduction of vegetation removal and restoration as described in Mitigation Measure BR-1. Using these measures, revegetation is expected to occur naturally within one to two growing seasons ensuring a no-net-loss of habitat value or function within this timeframe. This would reduce impacts on sensitive habitats to a less than significant level.

Special-Status Species

Disturbance of Special-Status Plants

Mousetail suncup is the only special-status plant species that occurs within the Project Site. There are no Project activities planned in areas where <u>Mm</u>ousetail suncup is established as the species occupies steep vertical rock cliffs which are a highly unlikely site for soil sampling activities, bench scale tests, pilot studies, geotechnical evaluations and plant or other biota tissue sampling. As described in the Project Description (Chapter 3), no collection of special-status and culturally-sensitive plant species will be necessary for the tissue sampling activities. Therefore, this species is not anticipated to be impacted by Project activities.

IMPACTImpacts to Special-Status Plant Species. Implementation of the proposed ProjectBR-2would not affect special-status plants. Mousetail suncup is the only special-status
plant species that was observed within the Project Site. However, there are no
Project activities planned in areas where Mousetail suncup is established. For this
reason, this impact would be less than significant. No mitigation would be required.

For a discussion of impacts that may occur to indigenous plants of biological and cultural significance (identified in the Ethnobotany Survey Report included as **Appendix D-3** of this DEIR) and proposed mitigation measures, see Section 4.4, "Cultural Resources" (Section 4.4.3.3), specifically, Mitigation Measure CR-1e-4.

Disturbance of Special-Status Invertebrates

The Project Site provides suitable habitat containing the larval host plant (quail bush) and sufficient nectar-bearing sources for the MacNeill's sootywing skipper. Although not observed during the various biological surveys, the species could occur along the banks of the Colorado River near the outlet of the East Ravine. Impacts to the species are anticipated to be less than significant as only pore water sampling is proposed at this location. Impacts associated with the pore water sampling will be minimal as all work will be completed by hand and access to each

pore water sampling site will be by boat or by foot. Therefore, this impact would be less than significant.

No impacts are anticipated to occur to special-status invertebrates as a result of bench scale tests, pilot studies, geotechnical evaluations, or plant or other biota tissue sampling. Invertebrate tissue sampling is not anticipated to impact MacNeill's sootywing skipper as the sampling is aimed at other ground-dwelling species subject to capture by pit fall trapping.

IMPACT Direct Disturbance of and Loss of Habitat for Special-Status Invertebrate

BR-3 Species. Implementation of the proposed Project could affect special status invertebrates, specifically the MacNeill's sootywing skipper, either directly or through habitat modifications. Impacts to MacNeill's sootywing skipper habitat at East Ravine would be minimal as all work will be completed by hand and access to each pore water sampling site would be by boat or by foot. This impact would be less than significant. No mitigation would be required.

Disturbance of Special-Status Birds and Loss of Habitat

The Project Site provides foraging and/or nesting habitat for a variety of special-status bird species. Many of the special-status bird species listed in Table 4.3-3 have potential to nest in the Project Site, including the crissal thrasher, Sonoran yellow warbler, Arizona Bell's vireo, California black rail, Yuma clapper rail, western least bittern, and yellow-breasted chat. Soil sampling activities, bench scale tests, pilot studies, geotechnical evaluations and plant or other biota tissue sampling would result in temporary and short-term disturbance in the Project Site, which includes habitat for sensitive species. Clearing and drilling in upland areas could result in disturbance or loss of foraging and nesting habitat, and clearing of roads and staging areas could adversely affect other habitat areas. Because these Project-related effects would be temporary (see Section 3.5.8 of this DEIR) and limited (up to 74 acres) given the overall foraging habitat in Topock Marsh and HWNR, etc.), this temporary loss of foraging areas will be located in previously disturbed and existing operational areas to the extent feasible; thereby reducing impacts to nesting birds and their habitat.

Removal or disturbance of active nests and impacts to nesting habitat of both sensitive species and other common nesting birds could result during soil sampling activities, bench scale tests, pilot studies, geotechnical evaluations, and plant or other biota tissue sampling. Visual or noise disturbance of active nests could result in nest abandonment and loss for various special-status bird species. Loss of occupied habitat (including foraging and nesting habitat) and active nests of special-status birds could result in a substantial adverse effect on local populations of the affected species. While there are currently no regulations that identify noise thresholds for determining a significant impact on nesting birds, the USFWS has often used a noise level of 60 A-weighted decibels (dBA) at an energy-equivalent noise level (L_{eq}) (or ambient noise levels, whichever is loudest) at the outer edge of habitat for federally listed threatened or endangered species, as the point at which Project-related noise may affect a listed bird species. Of particular note, Yuma clapper rails are known to inhabit portions of the Topock Marsh and Topock Gorge just north and east of the Project Site in Arizona (KBS 2012), and annual surveys conducted by USFWS biologists have indicated that both the Topock Marsh and the Topock Gorge support relatively steady populations (BOR 2008:9). Although no clapper rails have been detected near the Project Site during the most recent focused surveys conducted by Konecny Biological Services (KBS 2012), potentially suitable habitat occurs within the emergent freshwater marsh habitats scattered along the western shore of the Colorado River, most notably near the East Ravine (AOC 10). Yuma clapper rails within the vicinity of Topock Marsh may occupy this habitat in subsequent breeding seasons. Soil and water sampling activities and access road improvements could occur within 300 feet of marsh habitat. If it is determined that Yuma clapper rail occupy this habitat during subsequent surveys by USFWS or during soil investigation activities, direct and indirect effects could occur, such as habitat loss, stranding of active nests (usually built at edge of water), and increasing predation and nest failure. Project-related disturbance from traffic or noise during the rail's breeding season could cause rails to have nest failures and/or abandon nesting territories. Direct and indirect effects could also occur to the other special-status bird species, such as the Arizona Bell's vireo and California black rail, other species shown in Table 4.3-3, and the nests of species covered under the federal Migratory Bird Treaty Act through habitat loss, impacts to nests, and traffic noise potentially resulting in nest abandonment.

IMPACT Direct Disturbance of and Loss of Habitat for Special-Status Bird Species.

BR-4 While the proposed Project could result in the temporary loss of foraging habitat for these species, the loss of foraging habitat would not substantially affect any special-status birds due to the abundance of foraging habitat in the vicinity of the Project Site. Implementation of the proposed Project could affect the active nests of special-status birds. In addition, visual or noise disturbance of active nests could result in nest abandonment and loss of sensitive bird species. This impact would be significant.

Mitigation Measure BR-4: Disturbance of Special-Status Birds. The following measures shall be implemented to avoid impacts to active nests and nesting birds and to ensure compliance with the Migratory Bird Treaty Act and California Fish and Game Code:

- a. Where possible, v Vegetation trimming, pruning, or clearing and other activities shall be timed to avoid the nesting season for special-status bird species that may be present (March 15 through September 30) except as provided for in item b, below.
- b. If vegetation removal or other Project activities are necessary in vegetated areas between March 15 and September 30, <u>DTSC shall be notified and</u> focused surveys for active nests of special-status birds (including Arizona Bell's vireo, California black rail, Yuma clapper rails and other species identified in Table 4.3-3) shall be conducted no more than 72 hours before such activities begin. A qualified biologist shall conduct pre-investigation surveys to identify active nests that could be affected. The appropriate area to be surveyed and the timing of the survey may vary depending on the activity and species that could be affected and shall be determined by the qualified Project biologist. For the Yuma clapper rail, the pre-investigation

surveys shall specifically identify habitat within 300 feet of investigation areas, in accordance with measures set forth in the Bird Avoidance and Minimization Plan (BIAMP) which was finalized on April 30, 2014 (CH2M HILL 2014).

- c. The qualified Project biologist shall implement all of the avoidance and minimization measures that are outlined in the BIAMP (CH2M HILL 2014).
- d. The <u>qualified</u> biologist shall consult the BIAMP (CH2M HILL 2014) for required nesting bird avoidance buffers and requirements for the on-site biological monitor. Buffers vary depending on the species of bird, so the BIAMP (CH2M HILL 2014) should be consulted once a nest is identified.

Timing:	Before and during Project activities.
Responsibility:	PG&E would be responsible for the implementation of these measures. DTSC would be responsible for ensuring compliance.
Significance after Mitigation:	Conducting pre-investigation surveys for special-status birds and nesting birds and developing and following avoidance and minimization measures (including establishing buffers for active nests) as described in Mitigation Measure BR-4 would reduce the impact on nesting special-status birds to a less than significant level.

Disturbance of Desert Tortoise and Loss of Habitat

Desert tortoises may have historically used the Project Site, but no evidence of current use has been documented during the protocol-level surveys conducted yearly since 2004 (CH2M HILL 2005b:9, 2007a:5-10, 5-11, 2010b; GANDA 2008a:5, 2009b:7-8). The PBA stated that although it is possible that the desert tortoise could enter the Project Site from the west, the quality of the present creosote scrub habitat is poor, typically lacking annual vegetation for foraging and burrows for shelter (CH2M HILL 2007a:5-11 to 5-12, included as Appendix D-1 to this DEIR). The Project Site is also highly fragmented by steep rocky slopes of the Chemehuevi Mountains, deep drainages, pipelines, roads, and rail lines. These conditions make permanent occupation of the survey area unlikely. Removal of upland habitat through clearing to access and drill boreholes, reoccupy previously disturbed staging areas, and improve roadways during implementation of the proposed Project could result in disturbance and loss of marginal desert tortoise habitat, but these effects would be relatively minor in terms of potential acres disturbed. However, since there is a slight potential for the desert tortoise to enter the Project Site, the species could be directly impacted by the implementation of the Project.

IMPACTDirect Disturbance of and Loss of Habitat for Desert Tortoise. ImplementationBR-5of the proposed Project could affect desert tortoises, either directly or through
habitat modifications. This impact would be significant.
Mitigation Measure BR-5: Disturbance of Desert Tortoise and Loss of Habitat. Consistent with the PBA and the USFWS letter concurring with the PBA, the following measures shall be implemented:

- a. Before any ground-disturbing Project activities begin, a qualified desert tortoise biologist (i.e., an experienced tortoise expert whom USFWS would be confident in the evaluation and survey for the presence of the desert tortoise under the PBA) shall identify potential desert tortoise habitat in areas that could be affected by the Project activities. The qualified <u>desert</u> <u>tortoise</u> biologist shall conduct a pre-investigation desert tortoise clearance survey prior to the start of investigative activities. They <u>The qualified desert tortoise biologist</u> shall also conduct monitoring on a <u>periodic</u> spot basis (1–2 days for a 2-week period) or as a result of a change in investigation boundaries or limits.
- b. PG&E shall designate a field contact representative (FCR) who will be responsible for overseeing compliance with proper execution of the mitigation measures. The field contact representative FCR shall be trained by the qualified desert tortoise biologist and have authority to halt activities that are in violation of the mitigation measures/or pose a danger to listed species. The field contact representative FCR will have a copy of the mitigation measures when work is being conducted on the Project <u>sS</u>ite. The field contact representative FCR may be a project manager, PG&E representative, or <u>qualified</u> biologist.
- c. Prior to Project activities and immediately prior to the initiation of ground disturbance, a qualified desert tortoise biologist shall conduct worker awareness training for all PG&E employees and the contractors involved with the proposed Project.
- d. The <u>field contact representative</u> FCR will be on-site during all Project activities. The qualified <u>desert tortoise</u> biologist will examine work areas for desert tortoises and their sign (i.e., burrows, scat, tracks, remains, and pallets), ensuring 100 percent coverage of the area, and clear each area of activity prior to work initiation. Any desert tortoise burrows and pallets outside of, but near, the project footprint shall be flagged at that time so that they may be avoided during work activities. At conclusion of work activities, all flagging shall be removed. Should any live tortoises be found during the clearance survey, or if a tortoise moves into the work area, all work shall stop immediately and the animal shall be left to move out of the work area on its own accord. Tortoises shall not be handled. Encounters with desert live desert tortoises shall be reported to BLM Lake Havasu biologists. Information to be reported will include for each individual: the location (narrative, vegetation type, and maps) and date of observation; general conditions and health; any apparent injuries and state of healing; and diagnostic markings.
- e. All workers shall be required to check under their equipment or vehicle before it is moved. If a desert tortoise is encountered under vehicles or equipment, the vehicle shall not be moved until the animal has voluntarily moved to another location or to a safe distance from the parked vehicle.

Timing:

Before and during Project activities.

Responsibility:	PG&E would be responsible for the implementation of these measures. DTSC would be responsible for ensuring compliance.
Significance after Mitigation:	Conducting pre-investigation surveys for desert tortoises, conducting worker awareness training, and conducting biological monitoring as described in Mitigation Measure BR-5 would reduce the impact on the species to a less than significant level.

Disturbance of Ring-Tailed Cat and Loss of Habitat

An individual ring-tailed cat was observed within the Station on October 25, 2007. A second ring-tailed cat sighting was made at the Station a few years later. Removal of habitat through clearing to access and drill samples, reoccupy previously disturbed staging areas, and improve roadways during implementation of the proposed Project could result in disturbance and loss of habitat for ring-tailed cats, but these effects would be relatively minor in terms of the potential acres disturbed. However, since there is a potential for the ring-tailed cat to nest on the Project Site, the species could be directly impacted by the implementation of the Project. Impacts to the species could include injury or death through direct contact with Project equipment, through collapse or damage of an active or occupied nest, or indirectly through nest abandonment as a result of nearby Project-related disturbances.

As the soil investigation proceeds, additional data may identify additional key COPECs (e.g., dioxins/furans, PCBs, or other organic chemicals). If unacceptable risk is predicted for carnivorous receptors, a validation study may be required where small mammal tissue would need to be collected from the Project Site; however, tissue would be collected using Sherman live or similar traps deployed on the ground surface, which are not large enough to capture ring-tailed cat. For this reason, no impacts would occur to ring-tailed cat from tissue sampling.

IMPACTDisturbance of Ring-Tailed Cat and Loss of Habitat. Implementation of theBR-6proposed Project could affect ring-tailed cat, either directly or through habitat
modifications. This impact would be significant.

Mitigation Measure BR-6: Disturbance of Ring-Tailed Cat and Loss of Habitat. The following measures shall be implemented:

- a. Pre-investigation surveys for ring-tailed cats will be conducted by a qualified biologist prior to the start of investigation activities. No activities that will result in disturbance to nests or ring-tailed cats will proceed prior to completion of the surveys. If no active nests are found, no further action is needed. If a ring-tailed cat nest is present, part b (below) additional measures will be implemented as outlined below. The CDFW and DTSC will also be notified of any active nests within the proposed disturbance zones.
- b. Ring-tailed cats are fully protected under Fish and Game Code Section 4700, as described above. If an active ring-tailed cat nest is found, the Project shall be redesigned to avoid the loss of the site occupied by the nest if feasible. If the Project cannot be redesigned to avoid the nest, the CDFW and DTSC will be contacted for their input. If approved by the CDFW and DTSC, demolition of the nest site will commence outside of the breeding season

(February 1 to August 30) <u>when the nest is vacated</u>. If a non-breeding nest is found in a site scheduled to be removed, prior to disturbance, the CDFW<u>and DTSC</u> will be notified to review and approve <u>the</u> proposed procedures to ensure that no take occurs as a result of the action. Sites with <u>inactive</u> nests that need to be removed will first be disturbed at dusk, just prior to removal that same evening, to allow <u>adult</u> ring-tailed cats to escape during the darker hours.

Timing:	Before and during Project activities.
Responsibility:	PG&E would be responsible for the implementation of these measures. DTSC would be responsible for ensuring compliance.
Significance after Mitigation:	Conducting pre-investigation surveys for ring-tailed cats and following avoidance and minimization measures as described in Mitigation Measure BR-6 would reduce the impact on the species to a less than significant level.

Disturbance of Nelson's Bighorn Sheep

The primary risk to Nelson's bighorn sheep is disturbance during soil investigation activities from noise or visual disruptions. Habitat loss is not expected as no lambing habitat occurs on-site and any vegetation community impacts within suitable foraging areas would be temporary.

There is evidence that human disturbance can alter habitat use and activity patterns of bighorn sheep, although the response to disturbance varies among individuals and with the degree of previous exposure to human contact. Potential disturbance could include disruption of the movement of sheep passing through the area from late October to mid-May, as inferred in the northern portion of the site from the observed presence of burro and sheep trails (PG&E 2014c). However, sightings near the Station by PG&E personnel indicate that sheep have already habituated to human activities in and around the Station, including operations and maintenance activities at the Station, vehicle traffic on roads, and the general presence of people in the area (Russell 2015). Additionally, Nelson's bighorn sheep in the region could be affected by respiratory disease (as evident in Mojave Preserve), however this respiratory disease (pneumonia) is passed to bighorn sheep from contact with domestic sheep, therefore, the Project has no potential to contribute to the potential spread of respiratory disease in bighorn sheep. There would be no permanent loss of Nelson's bighorn sheep habitat and Nelson's bighorn sheep are likely habituated to human activities in and around the Station. Implementation of Mitigation Measure BR-7 would ensure impacts from the Project would remain less than significant.

As the soil investigation proceeds, additional data may identify additional key COPECs (e.g., dioxins/furans, PCBs, or other organic chemicals). If unacceptable risk is predicted for carnivorous receptors, a validation study may be required where small mammal tissue would need to be collected from the Project Site. Tissue would be collected from smaller mammals using Sherman live or similar traps deployed on the ground surface if a validation study is required. These traps are not large enough to capture Nelson's bighorn sheep, and therefore no impacts would occur to Nelson's bighorn sheep from tissue sampling.

IMPACTDisturbance of Nelson's Bighorn Sheep. Implementation of the proposed ProjectBR-7may result in human disturbance that can alter habitat use and activity patterns of
Nelson's bighorn sheep which are known to occur at the Project Site. This potential
impact would be significant.

Mitigation Measure BR-7: Disturbance of Nelson's Bighorn Sheep. If a bighorn sheep is observed at the Project Site during soil investigation activities, work shall be halted in the vicinity of the sheep (within 250 feet of the sheep). Project activities can recommence after the animal moves away on its own.

Timing:	During Project activities.
Responsibility:	PG&E would be responsible for the implementation of these
	measures. DTSC would be responsible for ensuring compliance.
Significance after Mitigation:	Following the avoidance measure for Nelson's bighorn sheep
	described in Mitigation Measure BR-7 would reduce the impact
	on the species to a less than significant level.

Disturbance or Loss of Special-status Bat Species

The primary risk to special-status bat species would be from potential Project-related disturbances to foraging habitat and active day and maternity roost sites during soil investigation activities including any future bench scale tests, pilot studies, geotechnical evaluations, and plant or other biota sampling. The operation of machinery in desert washes could disturb the vegetation that attracts insects for bats to prey on, thus impacting their foraging habitat. In addition, activities adjacent to slopes and cliff faces on the Project Site, which provide potential roosting habitat for bats, could result in disturbance to bats during the maternity roosting season of mid-March through August.

Project-related impacts to special-status bats would be considered significant if the action would result in the loss of a maternity roost or result in the greater population of the species to drop below self-sustaining levels. Townsend's big-eared bat is a candidate species for listing under the CESA, and as such, is afforded protection by CDFW similar to other CESA listed species. This protection is greater than that afforded to California Species of Special Concern species. Due to the sensitivity of the Townsend's big-eared bat, any Project-related impact to this species would be considered a significant impact. One male Townsend's big-eared bat was observed on the Project Site during spring 2015 focused bat surveys (PG&E 2015c). Therefore the potential for the occurrence of this species on the Project Site exists due to previous observations and the presence of suitable roosting and foraging habitat.

<u>Foraging</u>

Suitable foraging habitat for special-status bat species occurs in the bottoms of drainages and areas that contain scattered palo verde and ironwood trees on the Project Site, adjacent to proposed work areas. Special-status bats with a potential to occur on the Project Site generally forage within desert microphyll woodland communities that exist within Bat Cave Wash-gleaning insects from vegetation, and catching insects on the wing. A bat habitat assessment survey was conducted on the Project Site by Dr. Pat Brown, a biologist specializing in bats, on January 29 and 30, 2015 and identified suitable foraging opportunities within the desert washes such as Bat Cave Wash and the East Ravine, as well as the Topock Marsh and areas adjacent to the Colorado River.

The proposed Project would remove some vegetation, primarily salt cedar at the mouth of Bat Cave Wash. Up to two acres of the vegetation in this area would be trimmed, pruned, or cleared using hand tools and a wood chipper. Complete vegetation removal is not anticipated in any work areas. Trimming, pruning, or clearing of vegetation may be needed to access some sites and clear around sample areas. No action would be taken to revegetate work areas, instead (as described in the Soil Work Plan) roots would be left in place to allow for regrowth, which includes the area at the mouth of Bat Cave Wash. Revegetation is expected to occur naturally and rapidly within one to two growing seasons based on past project experiences. As such, any potential impact to foraging habitat would be considered temporary.

The Project has also been designed to avoid work from dusk till dawn when bats are most active and foraging. Drilling would be limited to daytime hours. Daytime is generally defined as the time between sunrise and sunset when there is enough natural light to conduct Project activities without assisted lighting.

Project-related disturbance that results in the temporary loss of foraging habitat is not considered a significant impact to special-status bat species because the action will not result in injury or mortality to bats. Additionally, due to the amount of available foraging habitat in offsite areas surrounding the Project Site there are adequate alternative foraging opportunities for bat species known to occur in the area. The temporary effects to the vegetation that would be removed or trimmed would not be significant and would not cause any resident or migratory bat species to drop below self-sustaining levels. Because there would be no permanent loss of foraging habitat and bats are able to use adjacent offsite areas for foraging, and given the thousands of acres of open habitat along the Colorado River that provides ample suitable foraging habitat in offsite areas, impacts from the Project would be less than significant on bat foraging habitat.

<u>Roosting</u>

The special-status bat species with a potential to occur and known to occur on the Project Site generally roost (day roost) in crevices located in rocky outcrops and cliffs, caves, mines, trees, and structures such as buildings and bridges, hanging from walls and ceilings, and with an available drop off for flight. Day roosts may be used by bats during the day time for sleeping (torpor) and can consist of individuals, groups of males (bachelor roost), or a colony of bats.

The Project Site provides suitable roosting habitat for special-status bat species particularly within the crevices and erosional features along cliff faces and slopes associated with the desert washes on the Site. At the time of the winter 2015 bat habitat assessment, no roosting activity was observed on the Project Site, which is typical given the time of year, but suitable roosting habitat was observed on the Project Site that could support day roosting for special-status bats (PG&E 2015b). Bats were observed emanating from crevices on the western walls of Bat Cave Wash about 200 feet south of the I-40 culverts, as well as from the outcove in the upstream extent of Bat Cave Wash, during the spring 2015 focused bat surveys (PG&E 2015c). Project activities are

proposed primarily within upland areas and the channel bottom of desert washes; however some permanent roosting habitat loss may occur as a result of Project activities along slopes that contain rock crevices and cliff faces, as well as a temporary disturbance to vegetation, washes and slopes, as discussed in Chapter 3, "Project Description." Project-related impacts to a day roost (bachelor roost) of a Townsend's big-eared bat would be considered significant because potential impacts to a Candidate species that may result in injury or mortality require consultation with CDFW.

Maternity Roosting

Due to the presence of suitable roosting habitat and observed bat activity during winter and spring 2015 surveys, there is a potential for maternity roosting to occur on the Project Site. Maternity roosting habitat is similar to day roosting habitat, but a maternity roost contains one or several lactating female bats raising their young (pups). Maternity roosts are defined from the time when pregnant females congregate as much as two month prior to parturition, through birth and lactation to weaning of juveniles until the time they are able to fly (volant). This period can span 5 months. Maternity roosts are afforded additional protection because they are considered bat nursery sites that contains the next generation of bats (pups) that are unable to fly or feed themselves. Project activities that occur during the maternity roosting season of mid-March through August may result in potential direct and indirect impacts to a bat maternity roost. Based on the results of the spring 2015 focused bat survey, maternity roosting colonies of California myotis, Yuma myotis and pallid bat were determined to be located within and immediately adjacent to Bat Cave Wash. These three species were mist-netted during the spring 2015 focused bat survey, and included pregnant and lactating females (PG&E 2015c).

Potential Project-related impacts to maternity roosting bats from increased human activity, noise and vibration can be considered a significant impact if the level of disturbance results in the abandonment of a maternity roost (CalTrans 2004). For example, Townsend's big-eared bats are very sensitive to site disturbance and entering a known maternity roost can result in females leaving the roost and abandoning their pups, thereby reducing population growth and propagation of subsequent generations. Project-related impacts, even indirect and temporary in nature, that results in the disturbance to a maternity roost for special-status bat species is considered a significant impact.

IMPACT
BR-8Disturbance or Loss of Special-status Bat Species. Effects to special-status bat
species (which includes the pallid bat, the Townsend's big-eared bat, and any other
special-status bat species that may be found at the site) would be considered
significant if project activities would result in the loss or abandonment of a
maternity roost or nursery site, which could result in significant effects to the
overall population of the species. The Project could result in disturbance to
maternity roosts on the Project Site given the presence of potential maternity
roosting habitat. Potential direct and indirect impacts to the maternity roost of any
special-status bat species would be significant.

Implementation of the proposed Project could also result in the disturbance of day roosts and other harassment, injury or mortality of individual Townsend's big-eared

bats. A single male Townsend's big-eared bat was observed on the Project Site during the spring 2015 focused bat surveys and this species is considered present. Additionally, due to the presence of suitable habitat on-site, this species has the potential to use the Project Site for foraging and roosting. Due to their heightened sensitivity as a Candidate species under CESA (as of April 2013), any harassment, injury or mortality of individual Townsend's big-eared bats would be considered significant. The Project's potential to result in direct and indirect impacts to active Townsend's big-eared bat roosts and individuals would therefore be significant.

Mitigation Measure BR-8: Disturbance or Loss of Special-status Bat Species. The following measures shall be implemented to avoid impacts to active maternity roosts of special-status bat species during the maternity roosting season (mid-March through August) and direct harassment, injury or mortality to Townsend's big-eared bats, consistent with the California Fish and Game Code.

- a. Implementation of soil investigation activities within avoidance areas for potential bat maternity roosting habitat shown in Figure 4.3-5 shall not occur during the maternity season (mid-March through August) with the exception of those activities described in b. However, if soil investigation activities critical to meeting the Project objectives are determined necessary in avoidance areas for potential bat maternity roosting habitat (Figure 4.3-5) during the maternity season, a qualified biologist shall conduct a pre-investigation survey to identify potential active roosts. The pre-investigation survey shall occur the night before soil investigation activities to observe if any bats are exiting crevices and cavities within 100 feet of the proposed work area. The pre-investigation survey will be conducted at sunset for 90 minutes by a qualified biologist with the use of a thermal imaging camera to observe and record any exiting bats. If no bats are observed, work may proceed in the proposed work area the following day, and will remain cleared for the duration of the work activity. Additional pre-investigation surveys will be required in new work areas located more than 100 feet away from the previously surveyed work area. If active roosts are observed (i.e., bats exiting from semi-consolidated sediment or rock), no soil investigation activities may take place in the proposed work area the following day and not until it can be verified with thermal imaging that bats have left the area or the maternity roosting season is over.
- b. Some soil investigation activities will be allowed to occur without a pre-investigation survey in limited work areas located within the larger avoidance areas depicted on Figure 4.3-5 during the bat maternity season (mid-March through August). These activities are limited to: pedestrian foot traffic; non-construction transportation vehicles; use of hand tools; and low noise groundwater sampling by submerged pump powered either by electric line, battery or small generator that emits 59 decibel or less at 33 meters and is located a minimum of 20 meters away from potential maternity roosting habitat.² Additional discrete ongoing activities may also continue to occur in the bottom of the wash areas depicted, including pedestrian and

² Limited work areas were identified in the spring 2015 focused bat survey report (PG&E 2015c) as areas in the bottom of the washes that do not contain bat roosting habitat where some limited, non-noisy soil investigation activities may occur during the bat maternity roosting season. The list of allowable soil investigation activities was developed by Dr. Dave Johnson, Associate Wildlife Ecologist and Bat Biologist (Johnson 2015).

passenger car access for cultural surveys, educational tours and groundwater sampling, and activities associated with the approved 2011 Groundwater Remediation Project.

- c. If Project related work will continue into the 2016 bat maternity season, additional focused bat surveys for Townsend's big-eared bats will be required, since changes in the presence or absence of Townsend's big-eared bats could occur. A focused bat survey shall be required no more than 30 days prior to the start of Project field implementation during the 2016 bat maternity season to specifically determine if any Townsend's big-eared bats are present on or immediately adjacent to work areas. If Townsend's big-eared bats are detected, Mitigation Measure BR-8d shall be required.
- d. If Townsend's big-eared bat, a Candidate species under CESA, is observed or detected on the Project Site during the surveys described in Mitigation Measures BR-8a or BR-8c, the Project shall be modified if necessary, with input from a qualified biologist, to avoid all potential harassment, impact or injury to this species. If the Project cannot be modified to avoid impacts to the Townsend's big-eared bat, removal or modification of roosts could occur if approved by CDFW and when the roost is vacant. Prior to disturbance of the roost, the CDFW will be notified to review and approve the proposed procedures (such as the use of exclusion devises or other roost modification) to ensure that no injury or impact occurs as a result of the action.

Timing:	Before and during Project activities.
Responsibility:	PG&E would be responsible for the implementation of these measures. DTSC would be responsible for ensuring compliance.
Significance after Mitigation:	Conducting pre-investigation surveys for bats and following avoidance and minimization measures as described in Mitigation Measure BR-8 would reduce the impact on maternity roosts for special-status bat species and direct injury or mortality to Townsend's big-eared bat to a less than significant level.



4.3 Biological Resources

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Aquatic Species

Project activities could result in increases in sediments, turbidity, and contaminants that could adversely affect fish and their habitat immediately adjacent to and downstream of the Project Site. Project activities conducted near the Colorado River, including drilling, clearing, grading, soil and water sampling and road improvements, would disturb soil that could enter water bodies and result in increased turbidity and sedimentation adjacent to and downstream of the disturbed areas.

The Project footprint would allow drilling and access routes near the river. Drilling and access road improvements would occur in Bat Cave Wash or other drainages, which could convey sediments or contaminants during a flash flood. Additionally, a pilot study for in- situ flushing and soil stabilization/ chemical fixation may be located in the bottom of the Bat Cave Wash, in an area that is generally devoid of vegetation. The pilot study would include the construction of either an infiltration gallery or injection well network for applying water. It should be noted, however, that National Trails Highway was built to cross Bat Cave Wash using an earthen berm with a brick culvert to allow for ample flow under the road during a storm event. there is an existing earthen dam across Bat Cave Wash Flow is constricted through this narrow opening which is filled with dense vegetation. The dense vegetation and restricted flow should prevent any sediment detached by Project activities from reaching the aquatic habitats in the Colorado River.

Fish population levels and survival have been linked to levels of turbidity and siltation in a watershed. Prolonged exposure to high levels of suspended sediment could create a loss of visual capability in fish, leading to a reduction in feeding and growth rates; a thickening of the gill epithelia, potentially causing the loss of respiratory function; clogging and abrasion of gill filaments; and increases in stress levels, reducing the tolerance of fish to disease and toxicants.

Also, high levels of suspended sediments would cause the movement and redistribution of fish populations and could affect physical habitat. Once suspended sediment is deposited, it could reduce water depths in pools, decreasing the water's physical carrying capacity for juvenile and adult fish. Increased sediment loading could also degrade food-producing habitat downstream of the Project Site. Sediment loading could interfere with photosynthesis of aquatic flora and displace aquatic fauna.

Avoidance is the most common fish response to increases in turbidity and sedimentation for most species. However, certain species, including the razorback sucker, have evolved in riverine conditions with naturally high turbidity levels and, as a result, may be attracted to naturally high turbidity. Fish will not occupy areas unsuitable for survival unless they have no other option. Some fish, such as bluegill and bass species, will not spawn in excessively turbid water. Therefore, soil investigation activities could cause fish habitat to become limited if high turbidity caused by Project-related erosion were to preclude a species from occupying habitat required for specific life stages.

In addition, the potential exists for contaminants such as fuels, oils, and other petroleum products used in soil sampling activities and geotechnical evaluations, as well as chemicals used in the in situ pilot studies to be introduced into the water system directly (groundwater) or through surface runoff. Contaminants may be toxic to fish or may alter oxygen diffusion rates and cause acute and chronic toxicity to aquatic organisms, thereby reducing growth and survival.

Sedimentation and increased turbidity or other contamination could degrade water quality and adversely affect fish habitat and fish populations in the Colorado River, and could result in fish mortality through stranding during soil investigation activities. However, as discussed in Section 4.6.3.1 of this DEIR, the Soil Work Plan describes and references Standard Operating Procedures (SOPs) and Best Management Practices (BMPs) that have been developed during the previous investigations. Among other things, the SOPs and BMPs will reduce potential impacts to hydrology and water quality during the Project activities (see Section 4.6, "Hydrology and Water Quality"). In addition, PG&E will meet the substantive provisions of the state Construction General Permit (CGP) in accordance with the CERCLA exemption (see Section 2.3), and prepare and implement an erosion control plan as part of the Project. These provisions will become Conditions of Approval for the Project if it is approved and would reduce the potential for increased sedimentation and turbidity and the release of contaminants during Project activities to a less than significant level.

IMPACTFish Mortality, Interference with Spawning Habitat, and Other AdverseBR-79Aquatic Effects. Increased sedimentation and turbidity and the release of
contaminants during Project activities could adversely affect fish habitat and
movement in the Colorado River. This impact would be less than significant. No
mitigation would be required.

Regional and Local Plans

Regional and local plans include the LCR MSCP, *County of San Bernardino 2007 General Plan*, BLM *Lake Havasu Resource Management Plan*, and *Lower Colorado River National Wildlife Refuges Comprehensive Management Plan*.

The LCR MSCP focuses primarily on river flows including diversions, discharges, hydroelectric facilities, return flows, and water quality within the three states through which the river flows: Nevada, California, and Arizona. The Project would affect upland and potentially riparian habitat, but the overall scale of the proposed activities is small, given the landscape. Thus, the Project would likely have little effect on the attainment of the LCR MSCP goals and objectives, the conservation strategy of the LCR MSCP, or the viability of the covered species.

BLM's *Lake Havasu Land Management Plan* outlines guidance for managing habitat, fish, wildlife, and special-status species. The plan also requires BLM to protect water quality or other potentially harmful conditions for resident wildlife, fish, and human populations. The Project Site is located within an Area of Critical Environmental Concern (ACEC), designated the Beale Slough Riparian and Cultural ACEC. This area is designated to protect both cultural and natural resources. This large ACEC contains regional rare riparian resources and wildlife habitat at Beale

Slough to the north of the Project Site (BLM 2007:106, Map 28), but the Project Site contains the cultural element of the ACEC. <u>Per BLM's *Lake Havasu Resource Management Plan*, the Beale Slough ACEC would be managed to protect and prevent irreparable damage to the relevant characteristics or important values:</u>

Relevance

- <u>Regional rare riparian resources and wildlife habitat.</u>
- <u>Significant cultural resources, cultural sites within part of a regional cultural complex.</u>
- <u>Place of traditional Native American importance.</u>

Importance

- The area has regional importance as it was set in reserve to stop the gradual decline of aquatic and associated riparian and terrestrial habitat along the Colorado River.
- <u>The area's fragile and irreplaceable prehistoric sites are eligible for inclusion on the</u> <u>NRHP.</u>
- Ensure that the public will continue to have an opportunity to interact with the natural environment and cultural values of the area.
- <u>This area was part of mitigation for the channelization by Reclamation in 1951 and</u> identified by the LCRMSCP for its fish and wildlife values.

No conflicts with BLM's management plan or the ACEC management prescriptions described in the BLM's 2007 *Lake Havasu Resource Management Plan* are anticipated with implementation of the proposed Project. The proposed Project <u>activities are is</u> not considered a prohibited in the ACEC per the *Lake Havasu Resource Management Plan* and the Project activities would not cause irreparable damage to the ACEC's relevant characteristics or important values described <u>above degrade the biological resources element of the ACEC</u>. In addition, Aactions associated with cleanup of the contaminated soil would not conflict with management goals because these actions would reduce the potential for long-term adverse effects on sensitive resources in the ACEC.

The *Lower Colorado River National Wildlife Refuges Comprehensive Management Plan* for HNWR offers guidance for managing habitat, fish, wildlife, and special-status species and is similar to the BLM plan in the protection of resident wildlife and fish. The plan also delineates sensitive and important habitats, or areas of substantial biodiversity into Special Project and Protection Areas (USFWS 1994b). These areas have defined management goals and objectives assigned to them within the plan. USFWS lands in the Project Site are not delineated into Special Project/Protection Areas and therefore do not have more specific management goals. The Project would not conflict the overall management goals of the HNWR and would not be a prohibited activity under the plan. The proposed Project is intended to clean up contaminated soil that may be harmful to biological resources in the future. Although the physical implementation of Project activities (i.e., drilling and clearing) may not be compatible with the purposes of the refuge, reducing the potential for long-term harm from contaminated soil would be compatible and could be permitted.

The goals and policies for the *County of San Bernardino 2007 General Plan* are not in conflict with implementation of the Project. The proposed Project would not affect substantial areas of habitat and would not substantially diminish habitat values because the Project would have a small overall footprint and would not occur within pristine habitat. Because of the relatively small area affected, the area disturbed by the proposed Project would not substantially diminish habitat values.

IMPACT
BR-810Consistency with Regional and Local Plans. Implementation of the proposed
Project would not have substantial adverse effects on the viability of populations of
species covered in the Lower Colorado River Multi-Species Conservation Program
(LCR MSCP), the effectiveness of the LCR MSCP's conservation strategy, and
attainment of the goals and objectives of the LCR MSCP. Additionally, the Project
would not conflict with resource management goals of the USFWS, BLM, or DOI.
This impact would be less than significant. No mitigation would be required.

Wildlife Movement Corridors or Native Wildlife Nursery Sites

Wildlife movement corridors or linkages are a concern to local, state, and federal resource and conservation agencies because these corridors allow wildlife to move between adjoining open space areas that are becoming increasingly isolated as open space becomes increasingly fragmented from urbanization, rugged terrain, or changes in vegetation. However, corridors mitigate the effects of this fragmentation by (1) allowing wildlife to move between remaining habitats, thereby permitting depleted populations to be replenished and promoting genetic exchange; (2) providing escape routes from fire, predators, and human disturbances, thus reducing the risk of catastrophic events (such as fire or disease) on population or local species extinction; and (3) serving as travel routes for individual animals as they move within their home ranges in search of food, water, mates, and other needs (Noss 1983:704; Simberloff and Cox 1987:63-65).

Wildlife movement activities typically fall into one of three movement categories: (1) dispersal (e.g., juvenile animals from natal areas, or individuals extending range distributions); (2) seasonal migration; and (3) movements related to home range activities (foraging for food or water, defending territories, searching for mates, breeding areas, or cover). A wildlife corridor is defined as a piece of habitat, usually linear in nature that connects two or more habitat patches that would otherwise be fragmented or isolated from one another. Wildlife corridors are usually bounded by urban land areas or other areas unsuitable for wildlife. The corridor generally contains suitable cover, food, and/or water to support species and facilitate movement while in the corridor. Larger, landscape-level corridors (often referred to as "habitat or landscape linkages") can provide both transitory and resident habitat for a variety of species.

Within the aquatic environment of the river, the Project would not interfere with the upstream and downstream movement of any fish or wildlife species. In the terrestrial setting, the Project would not adversely interfere with any wildlife movement through the Project Site, or through the region. Project components such as bore holes, improvements to access roads, and staging areas would leave little to no obstacles that would present a barrier to wildlife movement. The

dispersed nature of the Project components would result in the Project Site retaining relatively large, contiguous, and intact areas of wildlife habitat within the Project Site, which would remain as viable areas for use by wildlife.

Native wildlife nursery sites are areas that a species specifically chooses for the purposes of breeding and/or rearing their offspring. These can include, but are not limited to, known breeding/nesting grounds for migratory birds, maternity roosting sites for bats (e.g., rock crevices, caves, large trees, bridges, and buildings), and spawning sites for fish species. The portion of the HNWR located north and east of the Project Site in Arizona, is the closest known nursery site for migratory birds and fish species (both common and special-status) to the Station (USFWS 2007 and 2008). The Project will not impact this portion of the HNWR. Buildings associated with the Station and bridges that occur within and adjacent to the Project Site (I-40 and the BNSF railroad) could support maternity roosting site for bats; however, impacts from the Project are not anticipated to affect these structures.

The Project Site contains suitable bat maternity roosting areas, particularly within Bat Cave Wash and the East Ravine, for a number of common and special-status bat species known to occur on and in the vicinity of the Site. As currently designed, the proposed soil investigation activities that would occur within Bat Cave Wash and the East Ravine may result in impacts to active bat maternity roosts. A Project-related impact to a maternity roost containing a special-status bat species is considered a significant impact.

IMPACT Substantial Interference with Fish or Wildlife Movement Corridors or Native

BR-911 Wildlife Nursery Sites. Implementation of the proposed Project would not substantially interfere with the movement of any native resident or migratory fish or wildlife species, or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites. However, the Project could impede the use of bat maternity roosts, which are considered a type of native wildlife nursery site. Modifying, destroying or impeding the use of active maternity roosts of special-status bat species could result in substantial interference to the species reproduction and distribution. This impact would be less than significant. No mitigation would be required.

<u>Mitigation Measure BR-11: Substantial Interference with Fish or Wildlife Movement</u> <u>Corridors or Native Wildlife Nursery Sites.</u> Mitigation Measure BR-8 shall be implemented to address potential impacts to special-status bat maternity roosts.

<u>Timing:</u>	Before and during Project activities.
Responsibility:	PG&E would be responsible for the implementation of these measures. DTSC would be responsible for ensuring compliance.
Significance after Mitigation:	Conducting pre-investigation surveys for bats and following
	<u>Measure BR-8 would reduce the impact on maternity roosts for</u>
	special-status bat species to a less than significant level.

4.4 Cultural Resources

This chapter addresses the potentially significant adverse impacts of the proposed Pacific Gas and Electric Company (PG&E) Topock Compressor Station Soil Investigation Project (Project) to cultural resources in the Project vicinity in accordance with the significance criteria established in Appendix G of the California Environmental Quality Act (CEQA) Guidelines. This chapter is based primarily on information provided in *Cultural Resources Investigations for Interim Measures No. 3: Topock Compressor Station Expanded Groundwater Extraction and Treatment System* (Davy et al. 2004), *Archaeological and Historical Investigations Third Addendum: Survey of the Original and Expanded APE for Topock Compressor Station Site Vicinity* (McDougall and Horne 2007), and *Topock Remediation Project Additional Soils Investigation: Condition Assessments at Fourteen Archaeological and Historical Sites* (Hearth et al. 2013).

The categorical term "Cultural Resources" refers to remains and sites associated with human activities and includes: prehistoric and historic archaeological resources; architectural/builtenvironment resources; human remains; and places important to Native Americans and other ethnic groups, including elements or areas of the natural landscape which have traditional cultural significance. Under CEQA, paleontological resources, although not associated with past human activity, are analyzed with cultural resources. For the purposes of this analysis, cultural resources are categorized into the following groups: archaeological resources; historic-period built resources (including architectural/engineering resources); places important to Native Americans; and human remains. Paleontological resources are also addressed in this Cultural Resources chapter.

Archaeological resources are places that contain tangible remnants of past human activity. Archaeological resources may be either prehistoric (before European contact), ethnohistoric (Native American settlements occupied after the arrival of European settlers in California), or historic-period (after European contact and generally reflecting land uses introduced by Euro-Americans). The most frequently encountered prehistoric or historic Native American-associated archaeological sites are village settlements with residential areas and sometimes cemeteries; temporary camps where food and raw materials were collected; smaller, briefly occupied sites where tools were manufactured or repaired; and special-use areas like caves, rock shelters, and rock art sites. Historic-period archaeological sites may include foundations or features such as privies, corrals, and trash dumps.

Historic-period "built" resources include standing structures, infrastructure, transportation corridors, and landscapes of historic or aesthetic significance that are generally 50 years of age or older. Historic-period built resources are often associated with archaeological deposits of the same or similar age. In California, historic-period built resources considered for protection tend to focus on architectural sites dating from the Spanish Period (1529–1822) through World War II (WWII) (1939–1945). As Post WWII–era facilities become 50 years or older, they become eligible for protection. Some historic-period resources less than 50 years old may warrant protection despite their age if they meet criteria for exceptional significance.

Places and elements of the natural landscape of cultural importance to Native Americans, also referred to as ethnographic resources can include: sacred sites, archaeological resources, rock art, and the prominent topographical areas, features, habitats, plants, animals, and minerals that contemporary Native Americans value and consider essential for the preservation of their traditional values. Such resources may also constitute a Traditional Cultural Property (TCP) or cultural landscape. Generally, locations of cultural importance to Native Americans are difficult to define because traditional culture often prohibits Native Americans from sharing information about these locations with the public. Additional information on TCPs and cultural landscapes is provided in Section 4.4.1.5.

Human remains (inhumations and cremations) include burials both within and outside formal cemeteries, including: town cemeteries and burial grounds; family burial plots; church graveyards; military cemeteries; Native American burial mounds; and prehistoric and historic-period isolated grave sites. Native American groups in California practiced both inhumation and cremation, with inhumations either flexed (where the body is interred in a fetal position) or extended (where the body is laid flat on its back). Cremations were often placed in ceramic vessels (commonly referred to as *ollas*) and buried. Large burial mounds containing hundreds of individuals have been documented in California, although single or small-group burials are also common. After Spanish settlement, many missionized Native Americans were interred in mission cemeteries. Burial practices varied among immigrant groups to California. For example, many Chinese immigrants in the late 19th century observed Confucian doctrine, where remains were disinterred after a set period of time and returned to China. Historic-period burial sites range from large formal cemeteries to small family plots to isolated burials in remote areas.

Paleontology is a branch of geology that studies prehistoric life forms through the study of plant and animal fossils. Paleontological resources represent a limited, nonrenewable, and impactsensitive scientific and educational resource. As defined in this section, paleontological resources are the fossilized remains or traces of multicellular invertebrate and vertebrate animals and multicellular plants, including their imprints. Fossil remains such as bones, teeth, shells, and leaves are found in the geologic deposits (rock formations) where they were originally buried. Paleontological resources include not only the actual fossil remains but also the collecting localities, and the geologic formations containing those localities.

4.4.1 Existing Setting

4.4.1.1 Archaeological Setting

This section is largely derived from the Cultural Resources section of the *Final Environmental Impact Report for the Topock Compressor Station Groundwater Remediation Project* (DTSC 2011), referred to as the Groundwater Final Environmental Impact Report (FEIR) or Groundwater Remediation Project.

The Project Site is located at the boundary between the Mojave Desert and the Sonoran Desert biotic zones, each of which has a somewhat distinct prehistory. Three broad prehistoric periods can be identified for the California deserts (Davy et al. 2004); these are discussed below.

Paleoindian, or Paleoarchaic

Archaeologists refer to the earliest established period of human occupation of the California deserts as the Paleoindian, or Paleoarchaic, period. In the Mojave Desert, the Lake Mojave complex (ca. 12,000 to 7,500 years "Before Present" [B.P.]) is the local manifestation of this broad cultural period (Davy et al. 2004). In California's Sonoran Desert, Paleoindian-Paleoarchaic sites are often placed within the San Dieguito complex, which shares many characteristics with the Lake Mojave complex. Lake Mojave assemblages are marked by various artifact types, including long-stemmed and leaf-shaped projectile points and occasional fluted projectile points that may be related to the Clovis culture. Also present are flaked-stone crescents, domed scrapers, and heavy core tools. While Warren and Crabtree (1986) believe that ground stone artifacts are rare or absent in the complex, occasional milling tools have been found in Lake Mojave complex contexts (Grayson 1993). Some researchers have argued that certain intaglios, rock rings, and trails date as early as the San Dieguito complex in the Sonoran Desert (Hayden 1982), but these features are extremely difficult to date accurately.

Because sites of the Lake Mojave complex are often found in association with the shorelines of ancient lakes and outwash drainages, some researchers have argued that Lake Mojave people focused their subsistence pursuits on lacustrine (lake-related) resources; in contrast, other archaeologists suggest that grasslands suitable for the grazing of large game would have surrounded the lakes, and that these were the primary subsistence focus of Lake Mojave groups. Relatively few robust faunal assemblages (dense groups of animal bones) have been recovered from Lake Mojave sites, but investigations of Lake Mojave sites at Fort Irwin (DTSC 2011) and elsewhere provide some evidence for the exploitation of a broad range of fauna, including freshwater mollusks, fish, and large and small game animals. Hence, a relatively broad-spectrum subsistence strategy, rather than a narrow focus on large game or lacustrine resources, may be suggested.

To date, no scientifically verified evidence of Lake Mojave complex sites has been reported in the Topock area, but it is possible that such sites could be present on stable surfaces such as well-developed desert pavements. Additionally, archaeological sites associated with Lake Mojave complex sites could occur in depositional environments along the Colorado River floodplain but would be very deeply buried within Holocene alluvial sediments.

Archaic

The Archaic period (ca. 7,500 to 1,500 B.P.) in the California Desert was a time when humans were becoming increasingly adapted to a variety of local conditions. During this period, the lands in the southwest were transformed through natural processes into the deserts seen in the region today. Early Archaic people (7,500 to 6,800 B.P.) followed a highly mobile hunter-gatherer lifestyle, moving through various procurement grounds where subsistence resources were located (Davy et al. 2004). This largely nomadic existence led to a large sphere of interaction among native people.

Evidence indicates that the Middle Archaic period in this region, which began around 6,800 B.P. and lasted until 3,500 B.P., was substantially drier and more arid than in previous times (Grayson

1993). This period is contemporaneous with the Pinto period (Warren and Crabtree 1986). Pinto period sites contain the diagnostic Pinto projectile point type, as well as a conspicuous rarity of grinding tools, suggesting that seed processing was not common. Other tools common in the assemblages of Middle Archaic sites include Elko projectile point types, large and small leaf-shaped projectile points and knives, keeled scrapers, and well-made flake scrapers (Davy et al. 2004).

The Late Archaic period, which began around 3,500 B.P. and lasted until 1,500 B.P., shows evidence of a gradual cultural shift within the region. Settlement patterns during the Late Archaic period begin to show evidence of a more localized way of life, with evidence suggesting the increased importance of agriculture, wild-plant horticulture, and regional trade networks that spanned from the Pacific Coast to the interior southwest. Sites from this time period exhibit evidence of semi-permanent pit-houses, increased economic importance of seeds, and the introduction of the bow and arrow (Davy et al. 2004).

Archaic period sites could be present in the Project Site on stable surfaces such as well-developed desert pavements, or in depositional environments along the Colorado River floodplain. If present, materials associated with this time period could be deeply buried within Holocene alluvial sediments.

Late Prehistoric

During the Late Prehistoric period (1,500 B.P. to 150 B.P.), floodplain agriculture became firmly established along the lower Colorado River and pottery production was introduced. The term "Patayan" is typically used to describe the particular Late Prehistoric cultural manifestation that is found in the region of the Project Site (McGuire and Schiffer 1982). The Patayan period is typically divided into three main phases: Patayan I (1,500 to 1,000 B.P.), Patayan II (1,000 B.P. to 500 B.P.) and Patayan III (500 B.P. to historic times). Within these phases are two culturally distinct regions included in the Patayan period, the "Upland Patayan" and "Lowland Patayan." Evidence suggests the Upland Patayan had contact with and influence from the Anasazi of the Colorado Plateau. Lowland Patayan sites also exhibit evidence of influence from the Hohokam of central southern Arizona. Sites along the Colorado River in proximity to the Project Site are considered Lowland Patayan.

The Patayan period is characterized by evidence of large-scale trade networks involving shells from the coast of California and ceramics from southeastern Nevada. Based on the presence of ceramics in many assemblages, it is believed that this period also marks the beginning of focused agriculture along this area of the Colorado River. Archaeological evidence in this region suggests a gradual evolution of agricultural behavior that likely began with wild-plant horticulture, transitioning through the seeding of untended plots to augment a hunting and gathering lifestyle, and eventually resulting in intensive agriculture with irrigation strategies and substantial dietary shifts. This shift is evidenced by increased use of storage pits, increased population, and domesticate varieties of plants, including corn, becoming more common in the assemblage over time (Davy et al. 2004). Patayan sites near the Project Site have not typically produced clear evidence of subsistence history. However, one site identified by Geib and Keller in 2002 (Davy et al. 2004), Bighorn Cave, suggests a rich plant-based diet that complemented hunting and gathering expeditions. The earliest components of the Bighorn Cave site include agave parts, cactus stems, screwbean mesquite pods, juniper bark, and goosefoot or pigweed greens. Domesticated corn kernels, squash rinds, and a bean were also found, although in small quantities in the earliest components of the site (Davy et al. 2004).

Population increases during the Patayan II and III phases occurred in conjunction with increases in cultural complexity and differentiation, including the adoption of some ceramic decorative styles (recurved rims, stucco finishes) and the abandonment of others (incised decoration). Increased complexity and regional differentiation appears to be related to increases in migration of people from the Lake Cahuilla area sometime around 600 B.P., with ceramic traditions such as Colorado Buff, Palomas Buff, and Parker Buff found at Patayan sites and throughout the region (Davy et al. 2004).

Topock Maze

The Topock Maze (Maze) (CA-SBR-219) is an archaeological resource associated with the California Desert region. The Maze, as described by McDougall and Inoway (2005:1), is "a very large desert intaglio or geoglyph consisting of parallel windrows of dark, patinated desert pavement gravels 'raked' from the desert pavement surface, exposing the white-to-buff colored calcareous silts underlying the desert pavement between the windrows. This creates a maze-like scene of alternating dark rock lines separated by light-colored bands devoid of gravels." As documented archaeologically, the Maze comprises three distinct locations (or "loci"), designated as Loci A, B, and C (McDougall and Inoway 2005). Locus A is the largest (17.7 acres) and is west of the PG&E Topock Gas Compressor Station (Station), south of I-40. Locus B (9 acres) and Locus C (6 acres) are north of I-40 on the east and west sides of Bat Cave Wash, respectively. Locus A is the most pristine archaeological manifestation of the Maze, having the most well-preserved rows.

The Maze as understood and documented by archaeologists is limited to the physical manifestation or modifications visible on the landscape. For local Native American Tribes, however, the Maze represents only one, albeit an integral, component to a complex traditional cultural landscape of indescribable significance to the belief systems, values, and personal and group identity of Tribal people. Some Native American Tribes view the archaeological interpretation of the Maze (three distinct loci) as limited to that which meets definitions of value in the scientific community, whereas some Native American Tribes' value of the Maze includes both physical and intangible aspects, with the Maze extending to disturbed inter-locus areas, as well as surrounding lands, all of which are linked conceptually and spiritually to other landforms in the area as a single "whole."

The origin of the Maze has been disputed. Some support a Native American origin, while others have suggested that it is a byproduct of railroad construction, which occurred between 1888 and 1893. On the assumption that the Maze is of Native American origin, there is also little agreement

as to its age or how it was created. The Maze holds religious, mythological, and ceremonial significance to some Native American Tribes who associate the Maze with the transition to the afterlife. The interpretive plaque at the southern boundary of Locus A refers to the Maze as a place where warriors "cleansed themselves" after battle before returning to their home villages (McDougall and Inoway 2005). According to the Mojave people, the Maze has always been there, and they disclaim that the Maze was built. Those who consider its origin related to the construction of the railroad typically cite a memo from a railroad engineer in 1891 that describes the collection of gravel into windrows by Mojave workers prior to the gravel being hauled and used to support a bridge caisson (Haenszel 1978; Musser-Lopez 2011). Photographic evidence of the bridge construction, interviews with railroad workers from that time, and statements from Needles residents present at the time of the bridge construction all suggest, however, that the Maze was present prior to bridge construction, even if portions of it were later collected for ballast or support material (DTSC 2011).

4.4.1.2 Ethnographic Setting

This section is largely derived from the Cultural Resources section of the Groundwater FEIR (DTSC 2011).

Several culturally distinct Native American Tribes have long-standing historical and cultural ties to the Project Site and the surrounding region. The following section contains ethnographic information regarding these cultural groups, including the Cahuilla, Chemehuevi, Cocopah, Halchidhoma, Havasupai, Hualapai, Maricopa, Mojave, Quechan, Serrano, and Yavapai peoples.

Cahuilla

Groups speaking the Cahuilla language occupied much of central-southern California from the inland valleys of western Riverside County, across the San Jacinto and Santa Rosa Mountains, throughout the Coachella Valley, and into the northern Colorado Desert (Bean 1978). The Cahuilla language is classified within the Takic family of the Uto-Aztecan stock, closely related to several other southern California languages such as Luiseno, Serrano, and Gabrielino. Ethnographers have divided the Cahuilla into three geographic units—the Mountain, Pass, and Desert Cahuilla. Of these groups, the Desert Cahuilla resided closest to Topock; their territory extended from the Coachella Valley into the Chuckwalla Valley west of the Colorado River. Earle (2009) documents historic-era Desert Cahuilla use and knowledge of sites on or adjacent to the Native American trail that later became the route of the Bradshaw Trail leading to the Colorado River corridor. The Cahuilla participated in alliance and exchange relationships with the Halchidhoma during the early historic period, activities that may have brought them periodically to the Topock vicinity.

The Desert Cahuilla subsistence economy focused on the gathering of wild plant foods from lowland environments, including mesquite, screwbean, cactus, and hard seeds (Bean 1978). Groups inhabiting settlements in the Coachella Valley in the 19th century often retained gathering areas in the Santa Rosa Mountains or in other upland environments, such as the northern Chocolate Mountains. At least by 1824, the Desert Cahuilla were practicing irrigation agriculture (Bean 1978), producing foods similar to those grown by Yuman-speaking groups on the Colorado River, including maize, beans, squashes, pumpkins, melons, and wheat.

Cahuilla religious beliefs and practices include sacred songs and oral texts that tell of the creation of the world and place of the Cahuilla within that creation. These traditional sources also provide moral and ethical guidance. The Cahuilla creation narrative includes several key elements that are common amongst the Takic- and Yuman-speaking groups of southern California and eastern Arizona (Kroeber 1925). Public ceremonies were important components of Cahuilla culture and were held for a variety of occasions, including marriage, naming of children, male and female initiation, cremation of the dead, and the annual mourning ceremony.

Population estimates for pre-contact Cahuilla range from 3,600 to as high as 10,000 persons. Due to European diseases, such as smallpox, the Cahuilla population was decimated during the 19th century. However, unlike other Native American populations in southern California, the Cahuilla were able to retain their autonomy even after the arrival and increasing control of European explorers and the settling governments that followed. It was not until the late 19th century that the Cahuilla culture and its population began to be impacted by the pressure of European and, later, United States governing bodies (Bean 1978). Reservation lands were created for the Cahuilla beginning in the 1870s. Today there are nine Cahuilla reservations in California: Agua Caliente, Augustine, Cabazon, Cahuilla, Los Coyotes, Morongo, Ramona, Santa Rosa, and Torres-Martinez.

Chemehuevi

In addition to Yuman-speaking groups such as the Mojave, the lower Colorado River was also traditionally inhabited by the Numic-speaking Chemehuevi (a Mojave word that means "those that play with fish") (Chemehuevi Indian Tribe 2013). The Chemehuevi name for themselves is Nuwu (The People). The Chemehuevi are considered to be the most southern sociopolitical division of the Southern Paiute, although a substantial amount of intercultural interaction occurred between the Chemehuevi and Mojave. Individual bands of Chemehuevi people traditionally inhabited a large range, containing areas in Nevada, California, and Arizona. Halmo (as quoted in DTSC 2011:4.4-5) described the range of the Chemehuevi as:

...territory that extended in the north from roughly (east to west) Indian Springs through Ash Meadows in Nevada to the Funeral and Black Mountains immediately east of Death Valley; the western boundary encompassed the San Bernardino Mountains and Barstow, and extended from (north to south) Death Valley and the Panamint Range to the western flanks of the Avawatz Mountains, just east of Soda Lake south to the western flank of the Old Dad Mountains, near to or encompassing Cadiz Dry Lake, to the Big Maria and Little Maria Mountains, and to the area around Blythe, California. In the east, Chemehuevi territory included alluvial floodplain lands east of the Colorado River and up along the Bill Williams River and northward....

Through much of prehistory, the Chemehuevi were largely hunter-gatherers who traveled cyclically through a traditional range over the course of a year; however, at the time of contact with European explorers, many Chemehuevi practiced floodplain agriculture. Habitation styles

varied depending on the band, with some bands inhabiting caves or protected canyons, while others lived in conical brush structures and wickiups, which are dome-shaped structures covered with grass or bark. In contrast with the rest of the Southern Paiute bands, the Chemehuevi would also sometimes build a modified version of a mud-covered house that was usually built without a front wall (Kelly and Fowler 1986). Settlements were typically close to horticultural fields and riverine areas, or near oases.

The earliest European explorers to come in contact with the Chemehuevi documented an irrigated horticultural system along the river. In areas where population densities were higher and villages were present, agriculture was employed as a subsistence technique. Plants typically raised in this manner included gourds, winter wheat, yellow maize, and grasses (Kelly and Fowler 1986). The collection of wild plants supplemented the Chemehuevi diet, including the collection of seeds, pine nuts, and acorns. Communal hunting parties generally hunted rabbits, antelope, and mountain sheep, with deer, bear, mountain lion, water fowl, small rodents, fish, lizards, and some insects rounding out the menu of Chemehuevi protein sources (Kelly and Fowler 1986).

Historical accounts suggest that the Chemehuevi belief systems include a form of shamanism where power was bestowed upon a person through dreams. A prospective shaman would be visited in his dream by one or more guardians—usually in animal form—who would teach them instructions, songs, and bestow upon them shamanistic power (Kelly and Fowler 1986). The songs passed on through dreams were, and remain, of great importance culturally and include the Funeral, Deer and Mountain Sheep, Bird, Salt, Quail, and Coyote songs. These songs are generally descriptions of travels, complete with place names, important landmarks, natural phenomena, and environmental conditions (including the animals present). The recitation of important songs is common at Chemehuevi cultural events even today, again reflecting the importance of Tribal history and Tribal territory in modern Chemehuevi culture.

The oral traditions of the Chemehuevi are similar to those of the other Southern Paiute bands, with the origin of the people located near Mount Charleston (near present-day Las Vegas). Coyote is a principal personality in the Chemehuevi oral tradition and is responsible for naming the animals, stealing fire for mankind, inventing agriculture, establishing customs, teaching mankind about archery, and passing down pottery making (Kelly and Fowler 1986). Chemehuevi stories reinforce the belief that all things are alive and possess a certain amount of power. Thus, interactions with the natural environment are typically accompanied by an explanation and thanks to the resource for benefiting mankind.

In 1853 the Chemehuevi lost their traditional lands to the United States Government. The Chemehuevi Valley Reservation was established in 1907. However, Tribal members were soon relocated to the Parker, Arizona, area and their status as a Tribe was taken away. In 1935, the United States Congress authorized as much acquisition of the reservation land as necessary for the Parker Dam Project, which resulted in the inundation of nearly 8,000 acres of reservation land (Chemehuevi Indian Tribe 2013). The Tribe was reinstated and recognized as the Chemehuevi Tribe in 1970. Today, the Chemehuevi Indian reservation comprises approximately 32,000 acres of trust land, including 30 miles of Colorado River frontage downstream of the Project Site. Chemehuevi descendents also reside on the Colorado River Indian Tribes (CRIT) Reservation

and the Twentynine Palms Band of Mission Indians Reservation, as well as on several other reservations.

Cocopah

During the historic period, the Cocopah occupied the banks of the Hardy River in northern Baja California and the Colorado River south of the Quechan and other portions of the Colorado River delta (Alvares de Williams 1983). The Cocopah share linguistic and cultural traditions with the other lower Colorado River groups. This included flood horticulture generally similar to that practiced by their Quechan neighbors to the north, growing grains, beans, corn, and melons in the floodplains of the Colorado River. Agriculture was, and remains, important to Cocopah Tribal members. Like other lower Colorado River groups, the Cocopah travelled widely in pre-contact times across the desert and along the Colorado River corridor. They maintain a cultural interest in this traditional cultural area. During the late 18th and early 19th centuries, the Cocopah were traditional allies of the Maricopa of the middle Gila River and the Halchidhoma, who then occupied the river corridor in the vicinity of Blythe. This alliance and religious travel to Yuman sacred sites may have brought the Cocopah to the Topock vicinity on occasion.

When Don Juan de Oñate and Father Escobar sailed up the river in 1604, there were estimated to be about 6,000 to 7,000 Cocopah people living along the delta and the lower Colorado River (Cocopah 2013). Westward expansion and the discovery of gold in California in 1849 brought many American and European travelers and settlers through the area. Throughout the 19th and 20th centuries, the Cocopah Indian Tribe worked to maintain its social, religious, and cultural identity.

The 6,500-acre Cocopah Reservation was established in 1917 and is currently divided into three parcels: East, West, and North. Much of the reservation is agricultural land that is leased to non-Native American farmers. The reservation is located approximately 13 miles south of Yuma, Arizona near the community of Somerton, Arizona in Yuma County. Currently, about 1,000 Tribal members live and work on or near the reservation. In 1964, the Tribe founded its first constitution and established a Tribal Council (Cocopah 2013).

Halchidhoma/Maricopa

During the early historic period, the Yuman-speaking Halchidhoma occupied the banks of the Colorado River north of the Quechan (Kroeber 1925). They were closely linked culturally and politically with the Maricopa of the middle Gila River (Harwell and Kelly 1983). Spanish- and Mexican-era accounts, including statements by Halchidhoma and Maricopa themselves, tend to use the designations somewhat interchangeably. The Halchidhoma were thought of by other native groups as simply a division of the Maricopa located on the Colorado River. The subsistence and settlement practices, social organization, and general cultural characteristics of the Halchidhoma appear to have been very similar to those of other Lower Colorado River groups of Yuman speech.

The Halchidhoma were allies of the Maricopa to the east and of the Cahuilla to the west. During the late 18th and early 19th century, there was severe conflict between the Halchidhoma and

Mojave to their north and of the Quechan downriver. Around 1828, the Halchidhoma were defeated and survivors took refuge with their Maricopa allies and relatives primarily in central Arizona. As a result, very little ethnographic or ethnohistoric information is available on Halchidhoma utilization of southern California. However, it is likely that they periodically visited the Topock area during the times that they maintained villages along the river to the south.

Today, the Halchidhoma are part of the 52,600-acre, 9,000-member Salt River Pima-Maricopa Indian community, located near Phoenix, Arizona. The reservation consists of Akimel O'Odham (Pima) and Xalychidom Piipaash (Maricopa) peoples (Salt River 2013).

Havasupai

The Havasupai are another Upland Yuman-speaking group, closely related to the Hualapai and Yavapai. The traditional territory of the Havasupai includes an area south of the Colorado River in the Grand Canyon area, extending to Bill Williams Mountain and the San Francisco Peaks. The territory extends laterally from the Aubrey Cliffs in the west to the Little Colorado River in the east (Schwartz 1983). The Havasupai are closely tied linguistically and culturally with the nearby Hualapai, and relations with the Hualapai have been generally friendly. There is some evidence to suggest that relations between the Havasupai and Hopi were also friendly, although relations with Yavapai and Navajo were reportedly antagonistic up until the mid-19th century. Havasupai trade networks extended to the Hopi, Hualapai, Navajo, and Mojave areas surrounding the Havasupai traditional range, with buckskins, basketry, and foodstuffs traded to these tribes in return for cotton goods, horses, jewelry, and hides (Schwartz 1983).

The Havasupai had a relatively set annual subsistence cycle, with agriculture in the low-lying Cataract Canyon area occupying most of the warmer months, and hunting on the surrounding plateau occurring in the cooler months of autumn and winter. Corn, beans, and squash were raised in the irrigated agricultural fields of the low-lying canyons, with other crops, including peaches, figs, and apricots, becoming more common in historic times. Subsistence during the winter months on the surrounding plateau included deer, antelope, and rabbits, as well as the collection of plant materials, including pinon nuts and mescal (Schwartz 1983).

In a manner similar to other Yuman-speaking tribes in the region, the Havasupai place great importance on dreams and dreaming. It is through dreams that important songs and power were transmitted to shamans. Dreams can have malevolent or healing qualities, depending on their nature. Upon death, it is believed that the spirit will travel to a land of the dead in the sky but can reappear as ghosts and cause illness or death. The primary ceremony held every year, the round dance, was in conjunction with harvest time and was meant to secure prosperity and rain. Neighboring Hualapai, Hopi, and Navajo were typically invited to this ceremony (Schwartz 1983).

The Havasupai reservation is located east of the Hualapai Reservation, in northern Arizona, directly south of the Grand Canyon and west of the Kaibab National Forest. Established in 1882, the Havasupai Reservation originally consisted of 518 acres in Havasu Canyon. However, in 1975, the United States Congress returned 185,000 acres of the Grand Canyon to the Havasupai (Biggs 2013). The Havasupai Tribe currently has about 650 members.

Hualapai

Like the Mojave, the Hualapai, or "Hwal'bay," speak a Yuman language. The word "Hualapai" means "People of the Tall Pines" (HDCR 2010). The Hualapai once inhabited a large area of northwestern Arizona and continue to have cultural interest in the area. According to McGuire (1983), the canyons of the Colorado River formed the northern border of their traditional area, while the Black Mountains formed its western boundary. The southern boundary of their traditional area is near the Bill Williams and Santa Maria Rivers, with the eastern border generally running across the Coconino Plateau to Cataract Creek Canyon.

Throughout much of prehistory, the Hualapai were hunter-gatherers, organized socially by families and camps into larger "subtribes" and tribes (McGuire 1983). For much of the year, families would live together in small camps that numbered approximately 25 persons. Wickiups and caves or other rock shelters were common habitation sites in early prehistory, although ramada-like structures became more common for summer use. Semi-permanent winter homes made of arrowwood and covered with juniper bark were common in the early 20th century; however, little evidence suggests that this building style has much antiquity.

While the area of northwestern Arizona is arid, it is relatively diverse biologically. This variation provided the Hualapai an adequate foundation for a hunter-gatherer lifestyle that was fairly consistent in its seasonal pattern. The spring would start with the gathering and processing of mescal and agave in the canyons and foothills, with summer bringing a move to the valley floor in search of stick-leaf, which was an important carbohydrate source. Cactus, prickly pear, saguaro, barrel cactus, and yucca were collected during the summer as well, with plant collecting shifting toward nuts, juniper berries, piñon cones, and sumac berries in the autumn. Hualapai men would typically hunt rabbits, rodents, mule deer, bighorn sheep, and pronghorn antelope over the year. Oral histories suggest that the Hualapai created irrigation networks and diversion dams to seasonally flood nearby fields. In addition to their reliance on wild foods, the Hualapai grew squash, maize, beans, watermelons, and wheat on irrigated plots. Today, ranching and recreational enterprises are economically important.

Like the Chemehuevi, Coyote plays a primary role in the traditions of the Hualapai, which also includes Coyote's older brother (*Matvila*) and younger brother (*Turcupa*). A fourth entity, *Kathat Kanave*, "Told the Coyote" is also present in the mythology, but is not necessarily considered a character, but a designation of the type of story being told and its place in time (McGuire 1983).

According to an origin story recorded by Ewing (1961), Kathat Kanave and Coyote were instructed by the Great Spirit to cut large bundles of canes from the western bank of the Colorado River. At night, the Great Spirit created people from the canes, but, being interrupted by an excited Coyote, only a few people were created. Kathat Kanave then took the people to Meriwhitica Canyon and instructed them in irrigation techniques, hunting, and food gathering. Eventually, the Yavapai were forced by Kathat Kanave to move to the southeast, Mojaves to the west, Southern Paiute to the north, and the Navajos, Hopis, and Havasupais to the south, with the Hualapai remaining at the canyon. Contact with Europeans and Americans led to social, political, and territorial changes for the Hualapai. Having engaged in military conflicts with Americans in the 1860s, the Hualapai and the United States Government signed a peace agreement in 1868 (HDCR 2010). In 1871, the Hualapai were relocated to Fort Beale, near present-day Kingman, Arizona. In 1874, the United States Government forcibly removed the Hualapai from their traditional lands and relocated them to the Colorado River lowlands near La Paz. The Hualapai remember this long, arduous journey as the "Trail of Tears." The Hualapai Tribal Reservation was created in 1883 and occupies a large area in three northern Arizona counties. Peach Springs, the Tribal capital, is 50 miles east of Kingman on Historic Route 66. Today, approximately 2,300 Hualapai live both on and off of the reservation and belong to 1 of 14 different Hualapai bands (HDCR 2010).

Mojave

The Mojave, or Aha Makav, are a Yuman-speaking people whose pre-contact territory included both riverine and inland areas, according to the ethnographic literature. The Mojave riverine settlement area was mainly north of the Bill Williams River up to the present Nevada border. This main area of Mojave occupation extended on both sides of the lower Colorado River from south of Davis Dam to Topock (Stewart 1983). At one time, however, they also occupied Cottonwood Island, farther to the north, and the Chemehuevi and Colorado valleys to the south (Stewart 1969). The historical record indicates that the Mojave were encountered by the Juan de Oñate Spanish expedition as far south as the present CRIT Reservation in 1604 (Stewart 1969) and that they intermittently controlled areas as far south as Palo Verde valley. Sherer (1965) describes their settlement area thus:

Their river holdings stretched from Black Canyon, where the tall pillars of First House of Mutavilya loomed above the river, past Avi Kwa Ame or Spirit Mountain, the center of spiritual things, to the Quechan Valley, where the lands of the Native Americans began. Translated into present landmarks, their lands began in the north at Hoover Dam and ended about one hundred miles below Parker Dam. Their Tribal name was *Aha Macav*, means the people who live along the water (the river).

In addition to the Mojave occupation of the river, there are ethnographic accounts and archaeological evidence that groups of Mojave also occupied interior regions in both California and Arizona for extended periods of time. Habitation patterns and types at the time of contact with European explorers typically consisted of flat-topped shade structures during the summer months and low, rectangular, sand-covered structures during the winter months. The roofs were typically covered with arrow weed thatch, upon which a thick layer of muddy sand was created for insulation (Kroeber 1925).

Subsistence for the Mojave was dependent partially on agriculture, with crops such as maize, tepary beans, pumpkins, and melons forming the foundation of their diet. Maize was by far the most principal of all the crops, however, with a family typically clearing between 1 and 2 acres. Silt deposited by river overflows fertilized the fields, while women did most of the planting and cultivation (Stewart 1983). Wild plant gathering augmented agriculture production, with women gathering cactus, wild seeds, and screwbean. Fish was the most important protein source for the

Mojave, with dip nets, drag nets, traps, and large basketlike scoops used to catch fish out of the river. Agriculture remains an important income source for the Mojave on the Fort Mojave Indian Tribe (FMIT) and CRIT Reservations.

Traditional Mojave religion places special emphasis on the experience of and interpretation of dreams, with dreams affecting nearly all facets of life and behavior. Stewart (1983:65) states:

Mohave religion featured an unusual conception of dreaming, which was in fact a pivotal concept in their culture as a whole, permeating almost every phase of Mohave thought and endeavor. All special talents and skills, and all noteworthy successes in life, whether in warfare, lovemaking, gambling, or as a shaman, were believed to be dependent upon proper dreaming.

Alfred Kroeber (1925:754) noted that Mojave interviewed in the early 20th century explained that dreams were often experienced in close connection with Tribal history and mythological traditions. Many Mojave comments gathered during the Groundwater Remediation Project and the current draft environmental impact report (DEIR) processes demonstrate that there is still a very strong tie with Tribal history in the sense that the relationship between dreams and history is seen as a key aspect of Tribal identity. Theodora Kroeber (1959:193–194) stated that:

There is the further peculiarity in Mohave-Yuman narratives that the stories and songs are first dreamed, and it is the dreamer who then sings and tells his dream, and in this way his listeners learn the songs and at least parts of the narrative.... It is reserved to these Colorado River peoples to dream their entire literary corpus. To them, dreaming is moving back in time and in understanding to the beginnings of things when gods walked the new earth. They participate in the events and feelings and beliefs of those days by way of the dream, so that even the creation of the world may become part of the dreamer's own experience...

It is possible—it has been done—to pinpoint on a modern geodetic map of the Colorado River area of California and Arizona the villages, the scenes of wars, the mountains, the passes, the springs, and the desert washes which are named and described in such a dreamed myth, even to tracing in detail the routes of long migrations made in mythical times...

This accuracy, this lingering and savoring of place and event in story is, of course, something the Mohave like to do today next best to actually travelling to familiar but distant places within their own land...

Oral traditions of the Mojave people are generally rich with detail, with mythical occurrences commonly associated with identifiable places and landmarks. Mojave stories typically recount journeys and/or the transformation of mythical persons into animals or landmarks. Many stories are part of traditional song cycles, and the landmarks identified in the stories include those within traditional Mojave territory as well as places in the surrounding region (Kroeber 1925). This strong identification with the landscape of traditional Mojave territory continues today.

Additionally, Mojave tradition involves the naming of clans. Clan names were given by Mutavilya, the Creator, based on aspects of the natural world, including (but not limited to) the sun, rain, small birds, the coyote, prickly pear cactus, and the frog (Sherer 1965). According to oral tradition, each clan went in different directions from Avi kwame (Spirit Mountain) after receiving its name. Each clan has a song commemorating the journey and various encounters experienced during that journey. Modern Mojave consultants indicate that three somewhat distinct geographic groupings of clans were recognized: a northern group in the Davis Dam vicinity, a middle group in the Mojave Valley, and a southern group south of Needles.

The Mojave successfully resisted Spanish attempts at colonization and maintained traditional lifeways and political systems until the U.S. military gained control of the area in the 1850s. Subsequently, many Tribal members relocated to an area south of Parker in 1859. Additional Mojave settled there when the CRIT Reservation was founded in 1865. Many Mojave, however, remained in Mojave Valley. The FMIT Reservation was founded in 1870 and currently has over 1,100 members. The FMIT Reservation is located along the Colorado River and covers nearly 42,000 acres in Arizona, California, and Nevada (FMIT 2013a). The CRIT Reservation includes almost 300,000 acres of land in both California and Arizona, and is centered on the Colorado River. This reservation includes business interests focusing on agriculture, a casino, outdoor recreation, and light industry (CRIT 2013). The CRIT Reservation has about 3,500 Mojave, Chemehuevi, Hopi, and Navajo members. Although the four combined groups are united within the CRIT Reservation and act as a single geopolitical unit, each Tribe continues to maintain and observe its individual traditions, distinct religion, and unique cultural character.

Quechan

At the time the first Spanish missions were established, the Quechan occupied the lower Colorado River corridor up and downstream of the Gila River confluence near Yuma. Their settlements ranged from just south of the international border to as far north as Palo Verde Valley; beyond this core territory, they travelled widely both up and down the river corridor from the delta to southern Nevada and east and west from the Phoenix basin to the Pacific Coast. This long-distance travel was facilitated by a regional trail system, portions of which have may have passed near the Topock area (Johnson 2001). The Quechan language is a member of the Yuman linguistic family, closely related to Mojave and Cocopah, and numerous native speakers continue to reside on the Fort Yuma Reservation.

Like other lower Colorado River groups, the Quechan practiced flood-based agriculture, and agriculture remains important economically to the Quechan Tribe. Maize, tepary beans, squash, pumpkins, and melons were staple crops. This farming system depended upon the annual flooding of the Colorado River to provide new soil nutrients and particularly moisture to make river bottom planting possible. Anthropologists generally conclude that agricultural production provided less than 50 percent of the diet (Bee 1983). Thus, fishing and the gathering of wild plant foods, especially mesquite and screwbean, were also very important in the subsistence economy.

For the Quechan, like other lower Colorado River groups, individual dreaming to seek guidance in life and spiritually based power was a principal aspect of religious belief and practice (Forde 1931; Kroeber 1925). This included learning sacred songs about events that occurred at the time of the creation of the world through dreaming. Singing these songs was, and remains, a principal avenue of religious expression. The dreaming experience meant that sacred places could be visited, and the sacred landscape traversed, through dreaming rather than through conventional travel, although physical travel along trails to sacred places was also an important aspect of the religious experience. Travel on key Native American trails continues to be a cultural practice today to commemorate and experience traditional culture. The geography of sacred places related to the sacred song cycles of Yuman groups is a major cultural feature of the lower Colorado River region. Alfred Kroeber (1925) collected large quantities of information on places mentioned in Mojave song cycles, from as far afield as the Pacific Ocean, the Tehachapi Mountains, the Gulf of California, Tucson, and southern Nevada. Modern Quechan have stated that a similar geography of sacred places is important in their culture, but place names have not been compiled to the same extent.

The Fort Yuma-Quechan Reservation was established in 1884. The reservation is located near Yuma, Arizona, and includes 45,000 acres of land in Yuma County, Arizona, and in Imperial County, California. Approximately 2,475 members are currently enrolled in the Fort Yuma-Quechan Reservation (ITCA 2013).

Serrano

The Serrano are a group whose language belongs to the Takic branch of the Uto-Aztecan stock, like the Cahuilla, and they shared many cultural traits with the Cahuilla. Serrano territory included the slopes and upland areas of the San Bernardino Mountains, parts of the San Bernardino Valley, and the desert region east of the San Bernardino Mountains to Twentynine Palms (Bean and Smith 1978). From there, the Serrano carried on exchange relations with the Halchidhoma by way of Pinto Basin and Rice Valley. A number of Serrano clan communities were located along the Mojave River from its headwaters to the sinks of the Mojave near Baker. Unlike the mountain groups, Serrano groups along the Mojave River were friends and allies of the Mojave of the Colorado River.

Like the Desert Cahuilla, Desert Serrano readily harvested mesquite. Given the absence of desert agave in Serrano territory, various species of yucca were harvested instead, though still in a manner similar to how the Cahuilla used agave. Serrano villages on the Mojave River did not have direct local access to piñon and acorns but were able to procure them either through exchange or through visits to mountain area clans that had direct access to these resources. The Mojave River Serrano clan communities formed part of a long-distance exchange route that moved Olivella shell and other beads to the east, and textiles and other goods to the west, between Oraibi in northeastern Arizona and the Santa Barbara Channel. The Mojave also played a key role in this long-distance trade to the Pacific.

Despite early European and Spanish contact in 1771, the Serrano remained relatively autonomous until the period between 1819 and 1834, when most of the western Serrano were forcibly removed and placed into missions (Bean and Smith 1978). Today, there are two sovereign nations that claim a Serrano heritage: the federally recognized San Manuel Band of Serrano Mission

Indians, and the federally recognized Morongo Band of Mission Indians, whose members represent Serrano, Cahuilla, and Cupeño cultures.

Yavapai

The Yavapai are a group whose language is classified as Upland Yuman, which is related closely to the languages of the Hualapai and the Havasupai. The Yavapai are typically arranged into four general subtribe groups: Tolkapaya, Yavepe, Wipukpaya, and Kewevkapaya. The Yavapai occupied much of what is now central and west-central Arizona. The Tolkapaya subtribe occupied an area in the mid 19th century that ranged approximately 30 miles north of the Bill Williams River, near the Colorado River, to present-day Yuma. As such, parts of the Yavapai traditional territory include portions of the Havasu National Wildlife Refuge and areas immediately to the west and southwest of Topock (Khera and Mariella 1983). Yavapai historically had a number of hostile encounters with their neighbors to the north and south, including the Hualapai, Havasupai, Papago, Pima, and Maricopa. However, relations were generally peaceful with neighboring Navajo and Hopi Tribes, with whom they exchanged mescal and buckskin for blankets and jewelry. Relations with neighboring Quechan, Mojave, and Cocopah were reportedly peaceful as well, with some evidence that members of the Tolkapaya subtribe joined the Cocopah Tribe in the mid-1800s and that agreements were made with the Quechan to share land and resources along the Colorado River (Khera and Mariella 1983).

Subsistence practices of the Yavapai generally followed the seasonal ripening of different plant foods, with bands migrating throughout their local territory as food became available throughout the year. Important plant materials collected for subsistence included nuts, seeds, and berries, as well as the fruit of the banana yucca. These crops were typically more plentiful in higher elevations and during the autumn months, with leafy greens collected in the spring and desert fruits collected in the summer. Agave was collected throughout the year and provided a dietary staple. Small-scale agriculture also supplemented the Yavapai diet, primarily including corn, beans, squash, and tobacco, although historical evidence suggests that intertribal warfare made sedentary agricultural activities difficult for some bands (Khera and Mariella 1983).

The homeland of the Yavapai is centered on the Sedona Red Rock and Verde Valley area in Arizona. The Yavapai believe that all human beings were sent forth from the Red Rock Mountains to the rest of the world, with the Yavapai remaining in the immediate region. Like other Yuman-speaking groups, spiritual leaders can gain knowledge, power, and songs through sleeping in sacred places (such as caves). Prayer is a central concept for the Yavapai religion, with those offering a prayer regularly drawing a cross, square, or diamond on the ground to indicate the four cardinal directions while the person positions oneself in the middle of the figure. Ritual and prayer may include the use of certain pollens, musical instruments, eagle features, and colored beads. Sweat lodge ceremonies are commonly held to provide opportunities for purification (Khera and Mariella 1983).

As with other tribes, the westward expansion of the United States and the discovery of gold brought many changes to the Yavapai in the mid-19th century. In 1871, the United States Government forced the Yavapai to move onto the Rio Verde Reservation, and again in 1875 to

the San Carlos Apache Reservation. Many Yavapai died of malnutrition and disease during this time. In the 1880s and 1890s, some Yavapai were able to return to the Prescott, Arizona, area (BLM 2012).

There are three modern-day reservations with Yavapai membership, the Yavapai-Prescott Indian Tribe, the Yavapai-Apache Nation, and the Fort McDowell Reservation, all of which are located in central and northern Arizona. The Yavapai-Prescott Indian Reservation is 1,395 acres in size and is located near Prescott, Arizona. The Yavapai-Prescott Indian Tribe has 159 members (Yavapai-Prescott 2013). The Yavapai-Apache Nation is located in the Verde Valley in Arizona and has more than 2,300 enrolled Tribal members from both the Yavapai and Apache cultures (Yavapai-Apache Nation 2013). The Fort McDowell Reservation has over 900 members living both on and off of the reservation, which is located on 40 square miles in Maricopa County, Arizona (Fort McDowell Yavapai Nation 2013).

4.4.1.3 Historical Setting

This section is largely derived from the Cultural Resources section of the Groundwater FEIR (DTSC 2011).

The most significant trends and events of the historic era (starting around 1800 A.D.) in the Project Site had mainly to do with the development of the Topock crossing area of the Colorado River as a major transportation corridor. Today, the Project Site funnels railroad traffic across the Burlington Northern Santa Fe Railway (BNSF) bridge, truck and automobile traffic across the I-40 bridge, and natural gas through large interstate pipelines, including the pipelines that cross the river on the Old Trails Arch Bridge. The latter was, originally, the first automobile bridge across the Colorado River in this region.

Surveys conducted in the Project Site for the first railroad crossing over the Colorado River resulted in the selection of an area near present-day Needles, which was initially established to serve as a primary depot for the Atlantic and Pacific (A&P) railroads as trains moved across the desert. The initial bridge was destroyed in 1890 and the crossing was moved to the Red Rock Bridge, at present-day Topock, which was one of the first steel bridges and the longest cantilever bridge in the Americas. Early automobile traffic typically ferried across the Colorado River in the Topock area, but ferrying proved unreliable, depending on river flows, and a new bridge—Old Trails Arch Bridge—was constructed in 1916 to create a more reliable crossing. This bridge later served as the primary crossing for the National Old Trails Road, and later Route 66. Railroad realignments in the area resulted in the creation of a new bridge. Route 66 was routed across the Red Rock Bridge, while Old Trails Arch Bridge was adopted for use as a natural gas pipeline bridge, which it remains today. By the 1970s, the Red Rock Bridge was dismantled and Route 66 in the Project Site was relinquished by the California Department of Transportation.

During the operation of Route 66, the town of Needles remained an important stopping place for westbound travelers as they moved across the Mojave Desert, serving as one of the closest places to purchase fuel, water, and food before journeying across California. Route 66 itself began as the favored route of an influential citizen of Tulsa, Oklahoma, named Cyrus Avery. He promoted a

route between Chicago and Los Angeles that passed through St. Louis, Tulsa, Oklahoma City, Amarillo, Santa Fe, Albuquerque, Flagstaff, Barstow, and San Bernardino. The route was eventually approved by a committee of state and federal transportation officials in 1926, and U.S. Route 66 was born. While the roadway was barely more than a collection of local, county, and state routes (most of them in poor condition), marketing efforts by Avery promoted the route as "The Main Street of America" and the route received increasing use and fame. Throughout the 1920s and 1930s, passenger automobile and trucking traffic started to grow, as the average family could afford an automobile and expanded distribution networks became cheaper for farmers to support (Davy et al. 2004).

Despite being neither one of the earliest nor one of the longest American highways, Historic Route 66 is arguably the most famous highway route in the United States, inspiring songs and television shows and featured prominently in John Steinbeck's novel *The Grapes of Wrath*. Historic Route 66 exemplifies a number of highly significant historical themes having to do with the development of the United States during the first three-quarters of the 20th century. These include the expanding role of the federal government in transportation and other realms; the rise of the trucking industry; the penetration of the mass market by automotive technology and the massive changes in the American culture and lifestyle that the automobile brought; public works labor during the Depression; the migration of poor southern farmers to California during the Dust Bowl years and their return home; and prewar, wartime, and postwar mass migration to the Sun Belt, to name just a few. The Route 66 Study Act of 1990 (PL 101-400, 101st Congress) states, "Route 66 has become a symbol of the American people's heritage of travel and their legacy of seeking a better life...." By the 1960s, Route 66 began to show signs of age and was eventually decommissioned in 1986 (Davy et al. 2004).

In the years following WWII, California experienced tremendous growth in industry, transportation, agriculture, and housing, with the demand for energy increasing exponentially. PG&E, originally formed in 1905, responded to this demand by building hydro plants, steam plants, and thousands of miles of transmission line and gas pipeline (PG&E 2014). The Station, constructed in 1951, was the largest of the three original compressor stations constructed in the 1950s as part of PG&E's natural gas transportation and distribution system. Additional structures were added to the Station complex throughout the decade of the 1950s (Smallwood 2013).Today PG&E's infrastructure includes more than 40,000 miles of distribution pipelines, 6,000 miles of transport pipelines, and eight compressor stations (Smallwood 2013).

4.4.1.4 Individual Tribal Perspectives

The Topock area and adjacent lands along the Colorado River, beginning in the Hoover Dam area and extending to the Mexican border, are the ancestral home of a number of Native American Tribes, including the Cahuilla, Chemehuevi, Cocopah, Halchidoma, Havasupai, Hualapai, Maricopa, Mojave, Quechan, Serrano, and Yavapai peoples. Six of these Native American Tribes, the Chemehuevi Indian Tribe, Cocopah Indian Tribe, CRIT, FMIT, the Fort-Yuma Quechan Indian Tribe, and the Hualapai Indian Tribe have actively participated in the Topock project and are hereafter referred to as "Interested Tribes." Each of the Interested Tribes has been, and continues to be, economically and culturally reliant on the Colorado River, and all are historically and spiritually rooted in the Colorado River region. Although each Interested Tribe has its own history and belief system tied to the region and the river, the Interested Tribes share an interest in the health and welfare of all people, the land, wildlife, things above and below ground, and natural resources. As indicated in the *Topock Compressor Station Tribal Cultural Values Assessment* (McDowell et al. 2013), several of the Interested Tribes feel that:

Plants, animals, minerals, artifacts, rock arrangements, view-sheds, the Colorado River, and many other tangible and intangible elements are interwoven into the very fabric of tribal cultures. Topock, in being such a significant religious and spiritual "place," involves a dynamic understanding of traditions, religion, ceremonies, oral histories, and a plethora of other social-communal aspects, that is difficult for non-tribal entities to grasp with its many different layers of existence (McDowell et al. 2013).

The following section provides an overview of the comments and information provided to date by each of the six Interested Tribes. In an effort to provide a meaningful account of each Interested Tribe's input, the following includes a summary of information provided by each during the Groundwater Remediation Project and the current DEIR processes.

Chemehuevi Indian Tribe

On April 26, 2013, the California Department of Toxic Substances Control (DTSC) met with the Chemehuevi Tribal Council regarding the proposed Project. Chairman Tito Smith indicated that moving dirt is a sensitive subject for some of the Interested Tribes up north and the Chemehuevi are cognizant of this and respect the religious values and cultures of the Interested Tribes located upriver. During outreach for the Groundwater FEIR, the chairman of the Chemehuevi Indian Tribe expressed that the Tribe does not have any cultural resource concerns in the Project Site (DTSC 2011).

Cocopah Indian Tribe

The Cocopah Indian Tribe feels strongly in the belief that the Topock area embodies significant cultural importance for Native American Tribes of the region. According to the Cocopah, "[o]nce, this was all our land; it belonged to all Indian people. The entire Colorado River corridor was home to many Tribes, and the river is the life blood of these people. The river and the surrounding landscape is a sacred place. Its reverence is shown through the Creation Story, and the many songs of the Tribes. These stories and songs commemorate the significant events and places that make the river sacred to all Indian people of the region" (BLM 2012: 50).

The Cocopah have expressed concern about the lack of conceptual understanding of the region as a landscape and encourage that it be treated as a whole. Jill McCormick, Cocopah Cultural Resources Manager, indicated at a meeting on October 28, 2013, that looking at individual key views is contradictory to the way that Native American Tribes view the relationships amongst landscape features and the significance of the landscape and its associated viewshed. During a site visit on September 30, 2013, Ms. McCormick expressed concern that, although archaeological resources only comprise one aspect of the cultural significance of the area, many

of the resources require more detailed documentation and that undocumented resources such as trails be documented.

During the Groundwater FEIR process, the vice chairman of the Cocopah Indian Tribe expressed that the Colorado River is an important cultural element to all Native American Tribes along the river, and the region has been occupied and utilized by Yuman-speaking tribes throughout history (DTSC 2011). The Cocopah creation story tells how the twin creators, Sipa and Komat, after creating the earth, traced a line through the desert—the Colorado River (Cocopah, n.d.(a)).

The Colorado River provides "physical and spiritual nourishment" for the Tribe and the plants that grow along the river, such as arrow weed, creosote, mesquite, cottonwood, and wild rice, are considered culturally significant as well. Arrow weed was traditionally used to construct homes, and its smoke was used in spiritual cleansing and sacred death ceremonies. Cottonwood, creosote, and longleaf ephedra had many medicinal uses. Honey and screwbean mesquite pods were an important source of food, and their wood provided fuel. Tule was used for food, pigment, basketry, and to make rafts (Cocopah, n.d.(b)). In addition to the wild plants found along the river, the Cocopah also practiced agriculture in the river's floodplain, growing maize, squash, beans, and gourds.

Equal in importance to the river, however, are the cultural resources in the surrounding landscape, which some Native American Tribes consider irreplaceable and unique to the region. The Tribe has great concern over the destruction of cultural resources in the area and believes that the preservation of the Topock Maze (as well as the surrounding landscape) should be at the forefront in all future remediation plans for the area. The Cocopah Indian Tribe supports the concerns expressed by the FMIT.

Colorado River Indian Tribes

The CRIT have numerous enrolled members who are identified as being of Mojave and Chemehuevi cultural descent, as well as Navajo, Hopi, and other cultural groups. The CRIT have expressed significant concern over the impacts to the resources in the Topock area. Howard Magill, CRIT representative, indicated on October 28, 2013, feeling that the area was very special, and that the landscape should be viewed as contiguous.

During the Groundwater FEIR process, some Tribal members suggested that the Topock Maze is of relatively recent origin and do not believe that it is highly significant culturally. It was also noted by this representative that the Topock Maze area has been repeatedly disturbed over the past 100 years by transportation corridors, hydrographic changes, and other linear infrastructure (DTSC 2011). Subsequently, statements from the CRIT Tribal Council during meetings with DTSC suggested that the Topock Maze area continues to be of cultural concern for some members of CRIT.

In a resolution provided to DTSC on April 16, 2007, by the CRIT Chairman, Daniel Eddy Jr., the following statements were made with regard to the Topock Compressor Station Groundwater Remediation Project and Tribal concerns regarding environmental impacts (DTSC 2011):

- The affected and contaminated land, water, and air, and especially the Colorado River, has critical and defined cultural significance and meaning to both the Mohave and Chemehuevi people.
- The CRIT, a federally recognized Tribal government, has been representing members of both the Mohave and Chemehuevi people since 1865.
- As a downstream entity, the CRIT will bear the brunt of any health, economic, and/or cultural impacts resulting from any contamination-related activities directly upstream at the site of the spill.
- Although some Mohave cultural sites may be potentially affected by investigative, remedial, and final remedies, and/or other cleanup-related activities, the overriding health and safety concerns of living people shall have priority in this situation.

In a June 2009 letter sent to DTSC by Envirometrix, a consultant hired on behalf of the CRIT stated a number of specific concerns regarding cultural resources, including (DTSC 2011):

- Based on the constitution of the CRIT, the Tribal government has the expressed power to preserve and protect, as well as encourage the culture and traditions of the Tribes.
- The large population of Mojave members enrolled at CRIT. "CRIT has both Mohave and Chemehuevi members, and encompasses politically the largest membership for both Tribes." It is noted that some Mojave people are not enrolled in either Tribe, and that Chemehuevi and Mojave people can be found on reservations throughout the region.
- The Groundwater Remediation project area, including portions of the Topock Maze, "does not appear to be an untouched or pristine cultural or historical site that is not impacted by [more modern] human activities."

Fort Mojave Indian Tribe

The FMIT provided comments on the Soil Investigation notice of preparation (NOP) in a letter dated January 17, 2013 (Coyle 2013). Regarding cultural resources, the FMIT indicated that the Project Site is part of a larger, connected Tribal cultural landscape that should be considered within the CEQA process. They also requested that cultural resources studies include more than just physical aspects, such as archaeological remains. Many Tribal members feel that they have been entrusted with serious and weighty responsibilities as caretakers of the natural and cultural resources within their traditional territories, as has been traditionally known and passed down for generations to its membership since time immemorial (McDowell-Antone 2010a; McDowell 2014). The following paragraphs provide a synthesis of information and concerns voiced by the FMIT over the past 5 years.

To the FMIT, the Topock area is an important, integral part of a much larger cultural landscape along the Colorado River. This landscape includes important named places such as *Avi Kwa Ame* (Spirit Mountain), *Avi Vas Qui* (Boundary Cone), and *Huqueamp-Avi* (The Needles Peaks). The FMIT's traditional beliefs about the Topock area are tied to Tribal history and identity and are integral to FMIT's traditional culture. "[T]raditional songs are tied to the land on and surrounding the project site. The songs describe the Tribe's creation and history and provide guidance about
the Creator's commandments about how to live life" (McDowell-Antone 2010a). FMIT Tribal members hold "the Topock landscape within their minds—knowledge of a place of peace, a place of holiness, a place that is inscribed within our hearts, a place specific to our natural being, a holy place of existence for the Mojave people, atonement for the soul of our people, past, present, and the future" (McDowell-Antone 2010a).

The FMIT also maintains a deep cultural connection to the Colorado River and the water in the area. It is widely noted that the Mojave term for themselves, the Aha Makav, means "People of the Water," which suggests a strong connection by itself. Tribal representatives also noted that the linguistic part "Makav" is also used in the term for "diaper" and has a connotation similar to "swaddle," suggesting that "People Swaddled by Water" could be a more literal translation of Aha Makav. This is an important distinction because it suggests a more nuanced connection between the Mojave people and the Colorado River. Aside from being a people in close proximity to the river, the Mojave believe that they are protected and secured by the river, as it provides everything for them and is a constant, reliable force in the Mojave culture as a source of water and nourishment (McDowell-Antone 2010b). Today, the Colorado River remains an important natural resource and aspect of the Topock cultural landscape, as well as a social link for several Native American Tribes. As described by Ms. McDowell of the FMIT on October 28, 2013, each year, many Native American Tribes associated with the Colorado River meet on the river to socialize and engage in traditional cultural education (McDowell 2013a). Key activities involve camping and the teaching of moral codes.

The Topock area is critical to FMIT cultural beliefs about the afterlife. According to FMIT representatives, the Topock Maze area is where spirits of the deceased go to pass on to the next world (McDowell 2013a). The Maze, which is an array of windrows, is not considered to be a true Maze with an entrance and exit, but is represented as a place where a final test of character for a spirit of the deceased occurs (Montoya 2010).

To the FMIT, the Topock Maze is more than just the site as it has been defined by archaeologists. Rather, it is a larger area that includes the spaces between the loci, the areas where the Maze physically once was, and associated intaglios, both those still visible and those no longer present. In addition, there is a belief that the remaining parts of the Topock Maze are part of a larger system of cultural sites that once existed that were important areas for rituals and celebrations. To the FMIT, these areas within the larger landscape are interconnected and spiritually linked and therefore "[i]f you impact or sever one area, that affects the whole. Like cutting off a limb, it can affect your well being and cannot be recreated" (McDowell-Antone 2010b).

For Tribal members, the Topock Maze is representative of larger, intangible cultural beliefs. An example given by one Tribal member likened the Topock Maze to Arlington National Cemetery, with both areas serving as a symbolic image of honor, sacrifice, and shared history associated with those who have passed on from this world. The Topock Maze area is a place for purification, for example, after engaging in warfare or, in more modern times, for other types of spiritual healing and strength. It is also a teaching area for Tribal youth.

The FMIT notes that the cultural resources of importance to the Tribe not only include the artifacts found within the Project Site, but also that "the cultural landscape within which the artifacts are located...has the deepest importance to the Tribe, and the desecration of this landscape, not simply the disturbance or destruction of artifacts that needs to be, and must be, acknowledged" (DTSC 2011). The Tribe believes that the naturally occurring reactive zone in the fluvial sediments of the Colorado River is, "owed to the wisdom of Providence," and believes that, "this is earth's natural process of self-healing after an unnatural intrusion" (DTSC 2011). The FMIT is affiliated deeply with the land, plants and animals, air, and water of the region and feels a responsibility to be stewards of its historical land and the environment. The Tribe respects the land and the spirit of the place, and believes they were put there by the Creator for a purpose. They have never severed their relationship with the land and the environment.

Impacts to the Topock area are considered to be devastating to the Tribe. There is a strong feeling that if impacts to the Topock area occur, this would be a desecration that could not be remedied, mitigated, or undone (Aha Makav Cultural Society 2010).

The FMIT is also concerned about physical modifications to the landscape. Visible changes in the landscape can affect FMIT Tribal members' "relational/spiritual perceptions" of the landscape. These "perceived impacts are as significant to Tribal members as visible impacts. It is important to the Tribes to include and describe both the visual and perceptual impacts of any site activities" (FMIT 2013). Since the Topock area is where spirits of the deceased go to pass on to the next world, the FMIT believe that visual cues on the landscape serve as important paths for both living and deceased Tribal members, and can help the spirits find their way to the afterlife. Changes to the landscape in the Topock area could disrupt this spiritual journey (McDowell 2013; McDowell-Antone 2010a; Otero 2010).

According to the FMIT, the viewshed of this cultural landscape is integral to the landscape's connection to Tribal history and culture. To the Tribe, the scale of the viewshed extends far beyond any lines-of-sight associated specifically with the Topock Maze (McDowell 2013a). Although the Tribe is concerned about visual disturbances in and around the immediate area of the Topock Maze and physical intrusions on the current cultural and spiritual use of the area by Tribal members, the Tribe also shares a broader concern involving the visual intrusion on a much larger scale. Many of the prominent natural landform features that are visible from the Topock area, including Spirit Mountain (Avi Kwa Ame), Boundary Cone (Avi Vas Oui), and the Needles Mountains (Huqueamp-Avi), are sacred to many Native American Tribes and play a significant role in their history and cultural traditions, which are generally rich in detail and mythical occurrences commonly associated with identifiable places and landmarks. Mojave oral histories and songs, for example, recount journeys, places, and the transformation of mythical persons into animals or landforms. For the Tribe, sensitive viewsheds also include those of the river, the mountains, the valley, and other features of the landscape, which create a context for spiritual and cultural experiences (McDowell 2013a). Furthermore, from the perspective of the FMIT, important views are not limited to a view(s) in a particular direction(s), but also in the direction of an "area situated along an important spiritual alignment between two features that are located on either side of the area" (FMIT 2013b). On a visit to the Project Site on October 28, 2013, Ms. McDowell, expressed that the viewshed is the natural physicality of the land itself, and represents

a collective power that enables a discussion of how important the landscape is. The viewshed is as, if not more, important in some respects than actual physical land itself, and since the entire viewshed is connected and contiguous, it should be considered as a whole (McDowell 2013a).

Also considered sacred by the FMIT is the soil itself, as it is part of the cultural landscape. Physical alterations or removal of the earth are considered to be an impact to the cultural landscape. In a scoping meeting held December 12, 2012, Dr. Michael Sullivan, FMIT consultant, stated "Soil samples are generally not considered a big deal. Here it constitutes a significant and irreversible change. It is significant because it is desecrating an area; irreversible because it can't be placed back in." In a later meeting (October 28, 2013), Nora McDowell likened this Project to someone putting hundreds of holes in the floor of the Vatican. On several occasions FMIT representatives have requested that a Tribal Land Use Scenario alternative be included in the Soil Investigation DEIR, which would result in fewer samples and sampling locations (Coyle 2013; Sullivan 2012, 2013). The Tribal Land Use Alternative is addressed in Chapter 7, "Alternatives to the Proposed Project," Section 7.5.1.

As pointed out by some Tribal representatives, they are sensitive not only to permanent intrusions but also to those that may be characterized by some as "temporary." They feel that even those activities or physical intrusions characterized as "temporary" result in spiritual disturbances that remain for long periods of time and although these disturbances may not be visible to the physical eye, they can still be seen from the "mind's eye" (McDowell 2013a). According to Tribal members, the knowledge of alterations to the landscape remain in the collective consciousness of those who associate deep spiritual beliefs and values with the area long after the landscape has been restored and the evidence of destruction is no longer physically visible. In other instances, physical evidence of disturbance lasts long after the project and "restoration" have concluded. The desert is easily scarred and slow to heal, such as the old pond area where trails were altered and the scarring of the land use remains (McDowell 2013b).

Because the Topock area is sacred, excessive noise is considered to be disruptive to those who use the area for religious or ceremonial purposes. FMIT representatives have generally voiced concerns over noise in the vicinity of the Topock Maze and consider Tribal users as sensitive noise receptors. The FMIT is also concerned about inappropriate land uses and behavior in and near this sacred area. This can include use of recreational machinery, alcohol, loud music, inappropriate language, firearms, and alarms. These uses conflict with Tribal values and uses.

In a letter response to a request for FMIT review and comment on Tribal perspectives dated February 19, 2014, the FMIT also noted (McDowell 2014):

• Regarding the landscape, it is the Tribe's perspective that all of the landscape scales for the significance of Topock must be evaluated. This evaluation must include the critical interconnection among what might otherwise be considered a separate landscape. Scales for ethnographic landscape assessments can range from the relatively local to the regional and trans-regional.

- Regarding Tribal cultural values, the Tribe's perspective is that the Topock project has been subject to archaeological biases in the past on surveys, significance determinations and treatment, whereas the Tribal perspectives have at times gone unacknowledged.
- Finally, the Tribe is concerned that Tribal perspectives be fully integrated into Project design and analysis.

Fort Yuma-Quechan Indian Tribe

The Fort-Yuma Quechan Indian Tribe did not provide any input or comments on the soil investigation project; however, the Tribe did provide the following comments and information during the Groundwater FEIR process. The Fort Yuma-Quechan Tribal Historic Preservation Officer, with members of the Cultural Committee, expressed concerns that government entities have not taken tribal concerns into consideration, citing as an example the installation of wells in Arizona despite Native American opposition. Another concern of the Fort-Yuma Quechan Indian Tribe is the lack of staff continuity within the government agencies, which results in tribal members having to repeat the same concerns with each new agency person who becomes involved in the project.

Specific cultural resources concerns cited during the meeting included the preservation of the water in the river and the aquifer, both of which are important parts of the Quechan culture. The river and aquifer also nourish the plants and animals in the area, which were cited as also being important. For the Tribe, the river, plants, animals, land, and air are all interconnected, with damage to one resulting in damage to the entire whole.

The Colorado River is the link for all the people living along it, and a number of songs and stories tell of the history and travels that once occurred along the river. Trails in the region mark where ancestors travelled, with travelling occurring both in the physical realm and also in the dream realm. Geoglyphs/intaglios and cleared areas may indicate ceremonial areas, as well as lithic scatters, pottery scatters, and rock rings, which are not always associated with subsistence activities. Finally, clay deposits were identified as important cultural sites, as high-quality clay was important for pottery-making, face-painting, and as a form of sunscreen (DTSC 2011).

Hualapai Indian Tribe

The Hualapai provided comments on the Soil Investigation NOP in a letter dated January 14, 2013. The letter indicated that the Hualapai expected protocols and measures developed previously would equally apply to the Soil Investigation Project, and requested that DTSC meet with the Tribe regarding cultural resources, alternatives, and mitigation measures. The Tribe requested that a "future-Tribal-land-use-risk-based evaluation" be included in the CEQA document (Jackson-Kelly 2013). The Tribe also requested to review any draft language relative to cultural issues. On December 12, 2012, during a Project scoping meeting, Dawn Hubbs likened the effects of soil sampling on the earth as "Swiss cheese" and stated: "In the overall project, there has been so much done already, to even think of more soil samples is incredible." The following paragraphs provide a synthesis of information and concerns voiced by the Hualapai over the past 5 years.

The Hualapai Department of Cultural Resources has been actively engaged with PG&E at Topock since the mid-1990s through consultations, monitoring and participating in governmentto-government meetings. During interviews, several Hualapai Elders who were asked to discuss Topock and Needles, stated that regarding Topock, "...there is a common history that all River Tribes shared at one time," while another Elder also said that, "years ago all the River Tribes use to gather and meet at different places along the River. This is probably one of those places because the roads now days follow some of the old trails. Today we still try to keep up those kinds of things with the other Tribes" (HDCR 2014). On February 4, 2014, Ms. Hubbs told of an important annual event that the Hualapai practice. Tribal members gather and spend 1 to 2 weeks traveling down the river, stopping at significant and extremely meaningful cultural sites where they pay reverence, teach children, and engage Tribal elders ensuring Tribal values and beliefs are transferred to future generations.

The Colorado River and its associated canyons are central to Hualapai cultural history and Tribal identity. The northern and western boundaries of the Hualapai's territory traditionally are considered by the Tribe to be the middle of the Colorado River, referred to as the *Ha' yidt ta*, or the "Backbone of the River" (BLM 2012: 38). "The long expanse of the River through the canyon and the riparian eco-systems makes a life-way connection that flows through the hearts of the Hualapai people. The Hualapai maintain this connection through ties of sacredness to the Colorado River" (HDCR 2010). Hualapai tradition holds that they were created from the sediment clay, and reeds found along the river's banks (Jackson 2008). A sacred spring called *Ha'thi-el*, meaning "Salty Spring," flows from a side canyon, and petrogylphs there tell the story of Creation (HDCR 2010).

According to the late Hualapai Elder Auggie Smith, prior to European contact, Hualapai occupied lands in the area of Topock (The Needles, or Kwid-Kwid) and Boundary Cone, or Wi Veskwiya, at the base of the Black Mountains. Wi kwid-kwid is the south-western most boundary. Today all of these areas are tied to Hualapai's place of creation, Wikame. When the world was covered in flood waters, all the Yuman people were created on Wikame. In the Hualapai's Creation Story, depicted in the petroglyphs at *Wikahme*, which is located 20 miles north of the point where Arizona, Nevada, and California meet, (and visible from the Station as are the Needles) the Hualapai originated from 'Wikahme', also known as Spirit Mountain and Newberry Mountain. According to the Hualapai creation story, a spirit prayed life into canes cut from along the Colorado River near Spirit Mountain. "The Creator...made two more beings. These ones He made and called Land Older Brother and Land Younger Brother. He placed them at 'Wikahme' and they lived there," (HDCR 2013:33). Wi Veskwiya is mentioned in Hualapai Oral Traditional Stories including traditional songs, and is an important land marker for the Hualapai Band who traversed in the southernmost ancestral territories delineated by this butte known in English as Boundary Cone Butte. The Gods (the two brothers) at Wik- ame' (Spirit Mountain) specified this Butte to be the traditional marker for Hualapai territory therefore reinforcing the Butte as a Sacred Site. Since traditional practitioners limited secular activities on the mountain, the absence of indigenous material other than the sacred petroglyphs, highlights the significance of Spirit Mountain for Yuman-speaking people. It also suggests that the area was used exclusively for religious purposes. Another oral account tells of a huge flood covering the world. All the Pai fled

to Spirit Mountain. Once the waters receded, the Needles, or Wi kwid-kwid were formed, therefore Needles and the locality of Topock are considered sacred landscapes, or TCPs by the Hualapai Tribe (HDCR 2014).

To the Hualapai Tribe, the land, water, plants, and animals are seen as inherently connected and are all valued: "The air, the earth's surface, and the subsurface of the landscape are all part of a sacred continuum" (DTSC 2011). The Hualapai see the water and springs, rocks, plant and animal life, and material culture within the Topock and Colorado River region, without temporal limits, as a traditional cultural place. The Hualapai people regard their traditional lands in the Topock and Colorado River Region with "the highest esteem and most profound respect" (BLM 2012: 39).

The Hualapai consider many of the natural features in the Topock area to be important. These include the Needles (Wi kwið-kwið), Boundary Cone (Wi Veskwiya), and Spirit Mountain (Wikame), the Hualapai's place of creation, all of which are visible from the Project Site (BLM 2012). Dawn Hubbs indicated on a site visit on April 19, 2013, that smaller natural features, such as rock alignments or cleared areas, are interconnected or have meaning across the landscape—they often line up with larger features like Boundary Cone and Spirit Mountain. The Topock area is also where the Tribe used to collect arrow weed (Hubbs 2013).

Because of the connected nature of the cultural landscape, impacts to one part of the landscape inevitably are felt throughout the rest. The notion that holes are being punctured into such a sacred space brings on hurt and pain for the Tribe. The collective pain the Tribe feels is inexpressible.

To the Tribe, the best practice related to places of spiritual or cultural importance is to respect it and not to disturb it. Physical impacts to these important places, including to the Topock area, represent an irreparable destruction and desecration of the land. The Hualapai believe strongly that reparation for destruction to the land and larger environment rests on the Tribe and presents an enormous personal and spiritual burden to Tribal members. These impacts also disrupt traditional and religious practices. The Hualapai have always sought to protect their ancestral lands, and feel a strong sense of responsibility to do so. As spoken by Delbert Havatone (as quoted in BLM 2012: 44):

If these sites are defiled, it becomes impossible to practice Hualapai traditional and religious thought..."thought," being essential because it comes from within each individual spirit. This is an abstraction to many people, but it is real to the Hualapai. At an archaeological site, or cultural landscapes, we pray to the land to everything in the cultural environment...we talk in Hualapai language to the spirits that are there, letting them know that our visit is not meant to be disrespectful; we are there to insure that the Hualapai are working to protect the home site of our ancestors. Essential to Hualapai traditional thought is the knowledge that if you don't talk in that manner, these things come back on you to harm your family or yourself. Without fulfilling Hualapai responsibility for the protection of these sites and the opportunity to express respect for

these sites, great harm can come to the Tribe. That is what Hualapai religion means. That is what Wikahme means.

For the Tribe, the puncturing of the land represents much more than visual scars. While the action of digging the hole is short lived, the impact of soil borings will be felt long after the action has taken place. The sensitive nature and values of the Topock area are such that it may never be possible to return it to its former, whole, state.

4.4.1.5 Cultural Resources

Topock Traditional Cultural Property

The Project Site is located within, and is encompassed by, a TCP of traditional religious and cultural significance to several Interested Tribes. As a result of Section 106 consultation for the Topock Remediation Project (defined by the U.S. Bureau of Land Management [BLM] to include remedial investigations and groundwater and soil removal and response actions pursuant to the Comprehensive Environmental Response, Compensation, and Liability Act [CERCLA]), which resulted in the preparation of a Programmatic Agreement (PA) (BLM et al. 2010) and a Cultural and Historical Properties Management Plan (CHPMP) (BLM 2012), the BLM determined that there was a TCP of religious and cultural significance to several Interested Tribes within the Area of Potential Effects (APE) for the Groundwater Remediation Project, a larger area of approximately 1,600 acres that surrounds and encompasses the Project Site. The BLM defined the boundaries of the TCP as corresponding to the then identified APE. However, the BLM also acknowledged that "Tribal members believe that the area known as the Topock TCP is part of a broader cultural landscape that includes the Colorado River, extending beyond the limits of the currently designed APE, and should not be understood as a discrete or detached site, but as part of a larger area of cultural significance" (BLM 2012). The BLM did not identify the contributing elements of the Topock TCP with the exception of prehistoric archaeological sites, which were identified as "contributing properties" to the TCP (BLM 2012).

The BLM determined that the TCP was eligible for inclusion in the National Register of Historic Places (NRHP) under Criterion A (BLM et al. 2010). Because the TCP has been determined eligible for inclusion in the NRHP, it is automatically listed in the California Register of Historical Resources (CRHR) (Public Resources Code Section 5024.1(d)(1)) and is considered a historical resource per CEQA Guidelines Section 15064.5(a). The resource identified in the Groundwater FEIR (DTSC 2011) as the Topock Cultural Area (TCA) is within and part of the TCP defined by the BLM.

DTSC, through coordination with Interested Tribes, identified additional physical characteristics that convey the significance of the Topock TCP, which include land (including landforms, soil, and clays), water, plants (particularly indigenous plants of traditional cultural significance), animals, and the viewshed. These physical characteristics, including prehistoric archaeological sites previously identified by the BLM as "contributing properties," are described hereinafter as "contributing elements."

Archaeological and Historic-Period Built Resources

Several archaeological and historic-period built resources inventories that encompass the Project Site were previously conducted for the Groundwater Remediation Project. These studies included records searches of the California Historical Resources Information System (CHRIS) at San Bernardino Archaeological Information Center (SBAIC) housed at the San Bernardino County Museum in Redlands, California, in 2004 and 2011 and archaeological and historic-period built resource surveys conducted between 2004 and 2007 (Davy et al. 2004; McDougall and Horne 2007).

In addition, a site condition assessment field visit was conducted by Applied Earthworks, Inc. (AE) on behalf of PG&E on September 30 and October 1, 2013 (Hearth et al. 2013). Attendees included representatives from AE, PG&E, DTSC, Environmental Science Associates, FMIT, CRIT, Hualapai Indian Tribe, and Cocopah Indian Tribe. The field visit included site conditions assessments for 14 previously recorded resources within the Project Site to determine if site conditions have changed since their most recent documentation (see **Table 4.1-1**). As a result of the site condition assessment field visit, updates to California Department of Parks and Recreation (DPR) 523 forms were prepared for resources CA-SBR-11867 and -11993, and three new archaeological sites were documented (AE-Topock-183, AE-Topock-184/H, and AE-Topock-185) (Hearth et al. 2013).

As a result of these past studies, a total of 208 archaeological and historic-period built resources have been identified within approximately one mile of the Project Site, including 143 prehistoric archaeological sites, 17 historic archaeological sites, 4 multicomponent archaeological sites, 38 isolated artifacts, and 6 historic-period built resources. Of the 208 archaeological and historic-period built resources, 23 are located within the Project Site, including 18 archaeological resources and five historic-period built resources (Table 4.1-1). Of the 18 archaeological resources within the Project Site, 6 are prehistoric archaeological sites (CA-SBR-11867, -11993, -13796, -14698, AE-Topock-183, and AE-Topock-185), 7 are historic-period archaeological sites (CA-SBR-11704H, -11862H, -11865H, -11866H, -12642H, -13791H, and -13793H), two are multicomponent archaeological sites (CA-SBR-11705/H and AE-Topock-184/H), 2 are historic-period isolates (36-020379 and -023219), and one is a prehistoric isolate (36-021491). The five historic-period built resources include Route 66/National Old Trails Highway (CA-SBR-2910H), the A&P/Atchison Topeka & Santa Fe Railway (AT&SF) railroad alignment (CA-SBR-6693H), a bridge (CA-SBR-11997H), the Route 66 sign (36-012486), and the PG&E Topock Gas Compressor Station.

Of the 23 resources in the Project Site, three (CA-SBR-11704H [historic-period archaeological site associated with a gravel processing site]) (see Earle and Price 2014), 36-020379 [historic-period isolate], and 36-023219 [historic-period isolate]) are not eligible for listing in the CRHR and are not considered historical or unique archaeological resources under CEQA. Two resources, CA-SBR-2910H (Historic Route 66/National Old Trails Highway) and CA-SBR-6693H (A&P/AT&SF railroad alignment), have been determined eligible for listing in the NRHP

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Resource Identifier	Resource Type	Description	Date Recorded	NRHP/CRHR Eligibility Status	Contributing Element of Topock TCP
CA-SBR-2910H	Historic Built Resource	Historic Route 66/National Old Trails Highway	2012	^a Determined eligible	No
CA-SBR-6693H	Historic Built Resource	Atlantic & Pacific/Atchison Topeka & Santa Fe Railroad alignment	1999	^b Determined eligible	No
*CA-SBR-11704H	Historic Arch Site	Historic Gravel Processing Site/ Refuse Scatter	2004	°Not eligible	No
*CA-SBR-11705/H	Multicomponent Arch Site	Refuse scatter, roads, quarries/tailings, and a lithic scatter	2009	^e Historic component not evaluated/ Discretionarily eligible; ^f Prehistoric component not evaluated/ Discretionarily eligible	Prehistoric component only
*CA-SBR-11862H	Historic Arch Site	Remains of the El Rancho Colorado Road House and Gas Station	2004	^d Recommended eligible	No
*CA-SBR-11865H	Historic Arch Site	Segment or siding of the 1890–1947 Atlantic & Pacific/Atchison Topeka & Santa Fe RR	2004	^e Not evaluated/ Discretionarily eligible	No
*CA-SBR-11866H	Historic Arch Site	Sedimentation ponds and ditch	2007	eNot evaluated/ Discretionarily eligible	No
*CA-SBR-11867	Prehistoric Arch Site	Lithic Assay Station	2004	eNot evaluated/ Discretionarily eligible	Yes
*CA-SBR-11993	Prehistoric Arch Site	Rock Shelter	2004	^f Not evaluated/ Discretionarily eligible	Yes
*CA-SBR-11997H	Historic Built Resource	Rock and Mortared Bridge	2005	eNot evaluated/ Discretionarily eligible	No
*CA-SBR-12642H	Historic Arch Site	Concrete Bridge Footing	2007	eNot evaluated/ Discretionarily eligible	No
*CA-SBR-13791H	Historic Arch Site	Railroad-related Refuse Scatter	2008	^e Not evaluated/ Discretionarily eligible	No
*CA-SBR-13793H	Historic Arch Site	TNT/Nitro storage hole cut into an arroyo	2009	^e Not evaluated/ Discretionarily eligible	No
*CA-SBR-13796	Prehistoric Arch Site	Lithic Reduction Station	2010	^f Not evaluated/ Discretionarily eligible	Yes
*CA-SBR-14698	Prehistoric Arch Site	Lithic Assay Station	2010	^f Not evaluated/ Discretionarily eligible	Yes
36-020379	Historic Isolate	Possible truck body or hopper	2004	Not eligible	No
*36-021486	Historic Built Resource	Historic Route 66 Sign	2009	eNot evaluated/ Discretionarily eligible	No
36-021491	Prehistoric Isolate	2 chert cortical flakes	2010	^f Not evaluated/ Discretionarily eligible	Yes
36-023219	Historic Isolate	2 spheres refractory material	2008	Not eligible	No
AE-Topock-183	Prehistoric Arch Site	Lithic Assay Station	2013	^f Not evaluated/ Discretionarily eligible	Yes
AE-Topock-184/H	Multicomponent Arch Site	Lithic Assay Station/Historic Refuse Scatter	2013	^f Not evaluated/ Discretionarily eligible	Prehistoric component only
AE-Topock-185	Prehistoric Arch Site	Lithic Assay and Reduction Station	2013	^f Not evaluated/ Discretionarily eligible	Yes
-	Historic Built Resource	PG&E Topock Gas Compressor Station (19 bldgs./structures constructed between 1950 and 1961)	2013	^g Recommended eligible	No

*denotes resource re-visited during 2013 site condition assessment field visit ^a Davy et al. 2004 ^b BLM 2012

^c Earle and Price 2014

^d Earle and Price 2013

^e denotes resource determined discretionarily eligible (DTSC 2011)

fdenotes resource determined discretionarily eligible by DTSC for the purposes of this DEIR pursuant to CEQA Section 15064.5(a)(3)

g Smallwood 2013

through consensus and are therefore listed in the CRHR and considered historical resources under CEQA (BLM 2012; Davy et al. 2004). Two resources, CA-SBR-11862H (El Rancho Colorado Roadhouse and Gas Station) and the PG&E Topock Gas Compressor Station, have been evaluated and recommended eligible for listing in the NRHP and are considered historical resources under CEQA (CEQA Guidelines Section 15064.5) (Earle and Price 2013; Smallwood 2013).

The remaining sixteen of the 23 resources (CA-SBR-11705/H, -11865H, -11866H, -11867, -11993, -1997H, -12642H, -13791H, -13793H, -13796, -14698, 36-021486, 36-021491, AE-Topock-183, AE-Topock-184/H, AE-Topock-185) identified in the proposed Project Site that have not been evaluated for listing in the NRHP or the CRHR have been discretionarily determined to be historically significant by DTSC under CEQA Section 15064.5(a)(3) and are considered historical resources for purposes of this DEIR.

Archaeological Sites

***Resource CA-SBR-11704H:** This resource is a historic-period archaeological site consisting of a historic gravel processing area and refuse dump. The site was originally recorded by CH2M HILL in 2004, who documented six features (Features 1-6). Features 1 through 4 are shaker screens locations. Feature 5 is a north-south oriented trench measuring approximately 70 feet long by 18 feet wide and 4 feet deep. It may have been used for loading of gravel and sand into haul trucks (Ballantyne 2004). A refuse dump is located in the trench. Artifacts in the trench include gray stoneware fragments, white hotelware fragments, church-key opened beer cans, brown glass beverage bottles, condensed milk cans, paint or grease cans, and oil cans. Feature 6 consists of a scatter of steel plate, carriage spring fragment, carriage bolts, thick steel wire, brass machine fittings and valves, brass rivets, and unidentified steel fragments in an approximate 5-foot by 6--oot area. The site was interpreted as a gravel processing area for road construction during pipeline installations. The historic refuse dump was interpreted as a deposit related to the El Ranch Colorado Roadhouse and Gas Station (CA-SBR-11862H) (Davy et al. 2004). Part of the site was graded/bladed and used as a staging area during the construction of Interim Measure 3 (IM-3) and the Eastern Access Road (Hearth et al. 2013). This site was re-visited during the 2013 site condition assessment field visit and appears to have been disturbed since the time of its original recording. Part of the site had been cleared since its recordation, likely relating to the use of the site as a staging area during PG&E's construction of IM-3 and an access road. Resource CA-SBR-11704H was previously recommended not eligible for listing in the NRHP (Davy et al. 2004; Earle and Price 2014). The site is not eligible for listing in the CRHR and is not considered a historical resource or unique archaeological resource under CEQA.

Resource CA-SBR-11705/H: This resource is a multi-component archaeological site with two prehistoric lithic reduction stations and gravel processing area. The prehistoric component of the site was originally recorded in 2004 by CH2M HILL and measures 23 meters (N-S) by 15 meters (E-W) (Davy et al. 2004; McDougall and Gothar 2009a). This component was recommended not eligible for listing in the NRHP in 2004 (Davy et al. 2004). In 2009, AE revisited the site and documented a historic component, expanding the site boundary to approximately 275 meters (NNW-SSE) by 72 meters (WSW-ENE). The historic component is a gravel processing area that

likely dates to the 1940s or '50s and consists of four loci and ten features, as well as an associated historic artifact scatter. The artifact scatter consists of multiple beverage and condiment bottle fragments, two 55-gallon drums, motor oil cans, sanitary cans, beer cans, braided metal cable, iron pipe, scrap iron, and one tire rim (McDougall and Gothar 2009b). This site was re-visited during the 2013 site condition assessment field visit and appears unchanged since the original recordation. The historic component of resource CA-SBR-11705/H has not been evaluated for listing in the NRHP or the CRHR; however, it has been discretionarily determined historically significant by DTSC under CEQA Section 15064.5(a)(3) and is considered a historical resource under CEQA (DTSC 2011). Furthermore, because the resource includes a prehistoric component that is considered a contributing element of the Topock TCP, it has been discretionarily determined to be historically significant by DTSC under CEQA for the purposes of this DEIR.

***Resource CA-SBR-11862H:** This resource is a historic-period archaeological site consisting of the remnants of the El Rancho Colorado Roadhouse and Gas Station associated with Historic Route 66. The roadhouse and gas station were owned by Harold and Vera Workman, and was probably in operation from about 1947, when Route 66 was constructed, until about the 1960s, when Route 66 was replaced by I-40. The buildings and structures were demolished sometime in the 1970s (Davy et al. 2004). The site was documented by AE in 2004 and measures 775 feet (NW-SE) by 460 feet (NE-SW) (McDougall and Gothar 2004). AE documented three loci (Loci 1-3) and four features (Features 1-4). Locus 1 is located on an upper terrace and measures 165 feet (NW-SE) by 400 feet (NE-SW). This locus includes the poured cement foundation of the roadhouse/gas station (Feature 1) and erosion control ditch (Feature 2), as well as a flat graded parking area. Locus 2 is located on a lower terrace and measures 65 feet (N-S) by 120 feet (E-W). This locus consists of two poured cement foundations (Features 3 and 4). Locus 3 is located in a ravine and measures 65 feet (N-S) by 180 feet (E-W). This locus consists of the structural remains of the demolished roadhouse and a refuse scatter. Artifacts include thousands of glass bottles and cans, ceramics, car parts, oil drum, water heater, plumbing parts, electrical conduits, and oil filters. This site was re-visited during the 2013 site condition assessment field visit and appears to have been disturbed by recreational users and other visitors, who have used the lower NE portions of the site for parking vehicles. Resource CA-SBR-11862H was previously recommended not eligible for listing in the NRHP (Davy et al. 2004); however, the site has recently been re-evaluated and recommended eligible for listing in the NRHP under Criterion D (Earle and Price 2013). The archaeologically significant portion of the site is restricted to the historic-period refuse deposit in Locus 3 and the immediately adjacent portions of Locus 1, and Locus 2. The lower NE portion of the site that has been previously disturbed by vehicle parking does not contribute to the eligibility of the site as a whole. Since the site was recommended eligible for the NRHP, it is also considered eligible for listing in the CRHR and is considered a historical resource under CEQA.

***Resource CA-SBR-11865H:** This resource is a historic-period archaeological site consisting of a 213-foot-long railroad grade or siding associated with CA-SBR-6693H (A&P/AT&SF). The site was recorded in 2004 by AE (McDougall and Horne 2007). One related feature (Feature 1) was documented and consists of a 26-foot-long rock alignment that may have been constructed as

a retaining wall to support fill for the grade (Farrugia 2004). This site was re-visited during the 2013 site condition assessment field visit and appears largely unchanged from 2007, aside from some riverbank erosion. Resource CA-SBR-11865H has not been evaluated for listing in the NRHP or the CRHR; however, it has been discretionarily determined to be historically significant by DTSC under CEQA Section 15064.5(a)(3) and is considered a historical resource under CEQA (DTSC 2011).

*Resource CA -SBR-11866H: This resource is a historic-period archaeological site that consists of two concrete-lined sedimentation ponds (Features 1 and 2) and an associated northeast-southwest trending ditch located to the east. The site was originally recorded by AE in 2004. Each sediment pond measures about 25-feet square by 2.5 feet deep. The ponds are lined with concrete and have 45 degree sloping walls surrounded by earthen berms (McDougall and Horne 2007). Archival research indicated that the ponds are associated with a temporary workers camp known as Camp J. Itinerant laborers working on the construction of U.S. Route 66 were housed at this location from January 1 to April 15, 1932 (McDougall 2007). This site was re-visited during the 2013 site condition assessment field visit and appears unchanged since its previous recordation. Resource CA-SBR-11866H has not been evaluated for listing in the NRHP or the CRHR; however, it has been discretionarily determined to be historically significant by DTSC under CEQA Section 15064.5(a)(3) and is considered a historical resource under CEQA (DTSC 2011).

*Resource CA-SBR-11867: This resource is a prehistoric archaeological site consisting of a lithic assay station. The site was originally recorded by AE in 2004 and measures 2 meters by 1 meter. Cultural constituents include two tested quartzite cobbles, three pieces of quartzite debitage, two chert (a type of sedimentary rock) flakes, and a quartzite cobble hammerstone (McDougall and Horne 2007). This site was re-visited during the 2013 site condition assessment field visit and the north-northeast boundary was extended 2 meters to include previously undocumented lithics. An update to the DPR 523 form was prepared (Hearth et al. 2013). Resource CA-SBR-11867 has not been evaluated for listing in the NRHP or the CRHR; however, it has been discretionarily determined to be historically significant by DTSC under CEQA Section 15064.5(a)(3) and is considered a historical resource under CEQA (DTSC 2011). Furthermore, because the resource is a prehistoric archaeological site, it is also considered a contributing element of the Topock TCP.

*Resource CA-SBR-11993: This resource is a prehistoric archaeological site consisting of a rock-shelter located within Bat Cave Wash. The site was originally recorded by AE in 2004. One feature (Feature 1) was documented. Feature 1 is a low wall at the mouth of the shelter constructed of water-rounded cobbles. Artifacts noted include one tested quartzite cobble with a single flake removed and a ceramic sherd (pottery fragment). This site was re-visited during the 2013 site condition assessment field visit. Additional ceramic sherds and manuports were noted and a DPR 523 form update was prepared (Hearth et al. 2013). Resource CA-SBR-11993 has not been evaluated for listing in the NRHP or the CRHR; however, it has been discretionarily determined to be historically significant by DTSC under CEQA Section 15064.5(a)(3) and is considered a historical resource under CEQA for the purposes of this DEIR. Furthermore, because the resource is a prehistoric archaeological site, it is also considered a contributing element of the Topock TCP.

***Resource CA-SBR-12642H:** This resource is a historic-period archaeological site recorded by AE in 2007 consisting of a poured concrete footing, which is the last surviving component of the Red Rock Bridge. The bridge was constructed over the Colorado River in 1890 for the A&P Railroad. It was converted to a highway bridge for Route 66 in 1947, and was dismantled in the 1970s. The footing measures 10 feet long by 23.5 feet wide, and ranges in height from 23 to 64 inches (McDougall and Gothar 2007). This site was re-visited during the 2013 site condition assessment field visit and appears unchanged since its previous recordation. Resource CA-SBR-12642H has not been evaluated for listing in the NRHP or the CRHR; however, it has been discretionarily determined to be historically significant by DTSC under CEQA Section 15064.5(a)(3) and is considered a historical resource under CEQA (DTSC 2011).

***Resource CA-SBR-13791H:** This resource is a historic-period archaeological site recorded by AE in 2008, consisting of a diffuse scatter of railroad-related debris. The site is located immediately north of Park Moabi Road which was originally the alignment for the A&P/AT&SF railroads (CA-SBR-6693H) from 1890 to 1947. Artifacts within the site consist of approximately 1,000 fragments of broken locomotive firebox bricks, timbers, bolts, tie-plates, spikes, various metal cans, brown glass bottle fragments, cast-iron stanchions, wooden fence posts and white earthenware dinner plates. One intact firebox brick with a maker's mark of the "American Arch Security Co." was identified. A maker's mark of "O.P. Co. Syracuse China" was noted on the earthen ware dinner plates. The site likely represents a dump used by the AT&SF railroad, and may date to the late 19th and early 20th centuries based on the observed maker's marks (Moloney and McDougall 2008). This site was re-visited during the 2013 site condition assessment field visit and appears largely unchanged, aside from some impacts from water erosion. Resource CA-SBR-13791H has not been evaluated for listing in the NRHP or the CRHR; however, it has been discretionarily determined to be historically significant by DTSC under CEQA Section 15064.5(a)(3) and is considered a historical resource under CEQA (DTSC 2011).

*Resource CA-SBR-13793H: This resource is a historic-period archaeological site recorded by AE in 2009 consisting of a manually excavated rectangular hole cut into the base of a cut-bank of an arroyo. The entrance the hole is approximately 5 feet wide by 6 feet tall, and it extends approximately 6 feet into the cut-bank. The back wall measures 5.5 feet high by 3.25 feet wide, and the floor is capped by a layer of tar. Artifacts noted include one piece of sheet metal, one piece of strap metal, one clear glass jug fragment, and numerous wire-cut nails of various sizes. It is postulated that the hole was used to store unstable explosives such as TNT during the construction of Route 66 (McDougall and Gothar 2009c). This site was re-visited during the 2013 site condition assessment field visit and appears largely unchanged, aside from some dust and silt accumulation. Resource CA-SBR-13793H has not been evaluated for listing in the NRHP or the CRHR; however, it has been discretionarily determined to be historically significant by DTSC under CEQA Section 15064.5(a)(3) and is considered a historical resource under CEQA (DTSC 2011).

***Resource CA-SBR-13796:** This resource is a prehistoric archaeological site recorded by AE in 2010, consisting of a single lithic reduction station located on a level area of desert pavement just above a deep arroyo. The site measures 7.7 meters by 5.7 meters and contains one chert core, three chert flakes, and one fragment of chert shatter. The site likely represents a single episode of

lithic reduction (Moloney 2010a). This site was re-visited during the 2013 site condition assessment field visit and appears unchanged. Resource CA-SBR-13796 has not been evaluated for listing in the NRHP or the CRHR; however, it has been discretionarily determined to be historically significant by DTSC under CEQA Section 15064.5(a)(3) and is considered a historical resource under CEQA for the purposes of this DEIR. Furthermore, because the resource is a prehistoric archaeological site, it is also considered a contributing element of the Topock TCP.

***Resource CA-SBR-14698:** This resource is a prehistoric archaeological site recorded by AE in 2010, consisting of a lithic testing or assay station with two concentrations (Concentrations A and B), located on a highly disturbed terrace overlooking the Colorado River (Moloney 2010b). Concentration A consists of a total of 14 artifacts that include three quartzite flakes, four quartz flakes, six chert flakes and one chert core. Concentration B consists of nine artifacts and includes seven chert flakes, one tested chert cobble, and one chalcedony flake. Additional artifacts within the site boundaries include four tested quartzite cobbles, four quartzite flakes, two rhyolite flakes, one chert core, and chert flake. The site likely represents the opportunistic assaying of naturally occurring river cobbles (Moloney 2010b). This site was re-visited during the 2013 site condition assessment field visit and appears unchanged. Resource CA-SBR-14698 has not been evaluated for listing in the NRHP or the CRHR; however, it has been discretionarily determined to be historically significant by DTSC under CEQA Section 15064.5(a)(3) and is considered a historical resource under CEQA for the purposes of this DEIR. Furthermore, because the resource is a prehistoric archaeological site, it is also considered a contributing element of the Topock TCP.

Resource *Æ***-Topock-183:** This resource is a prehistoric archaeological site recorded by AE as a result of the 2013 site condition assessment field effort. The site consists of a discrete scatter of 14 lithic artifacts in two concentrations (Concentration 1 and Concentration 2). Concentration 1 consists of five chert flake cores and one primary chert flake. Concentration 2 consists of three quartzite flake cores and three primary quartzite flakes. There are also two artifacts outside of the concentrations, which include a tested quartzite cobble and one chert core (Moloney and Hearth 2013a). Resource *Æ*-Topock-183 has not been evaluated for listing in the NRHP or the CRHR; however, it has been discretionarily determined to be historically significant by DTSC under CEQA Section 15064.5(a)(3) and is considered a historical resource under CEQA for the purposes of this DEIR. Furthermore, because the resource is a prehistoric archaeological site, it is also considered a contributing element of the Topock TCP.

Resource Æ-Topock-184/H: This resource is a multicomponent archaeological site recorded by AE as a result of the 2013 site condition assessment field visit. The site consists of a discrete lithic assay station and historic refuse scatter located above the Colorado River on the northeast toe of a disturbed hill (Moloney and Hearth 2013b). The site measures 20 meters (NW-SE) by 4 meters (NE-SW) and includes 13 lithic artifacts and 13 fragments from two glass insulators. The lithic artifacts include one quartzite primary flake, one piece of quartz shatter, one chalcedony primary flake, one chalcedony core, two chert primary flakes, one chert secondary flake, and one rhyolite flake. The glass insulator fragments represent two insulators: a

Whithall-Tatum #2 insulator with a date of manufacture range from 1935 to 1938; and a Hemingrey #16 with a date of manufacture range from 1944 to 1945 (Moloney and Hearth 2013a). The prehistoric component of the site likely represents the opportunistic testing and reduction of lithic materials and may be the remnants of a larger site that was possibly connected to CA-SBR-14698 (Moloney and Hearth 2013b). The historic component may represent the discard of insulators from nearby utility poles. Resource Æ-Topock-184/H has not been evaluated for listing in the NRHP or the CRHR; however, it has been discretionarily determined to be historically significant by DTSC under CEQA Section 15064.5(a)(3) and is considered a historical resource under CEQA for the purposes of this DEIR. Furthermore, the prehistoric component of the site is also considered a contributing element of the Topock TCP.

Resource Æ-Topock-185: This resource is a prehistoric archaeological site recorded by AE as a result of the 2013 site condition assessment field effort. The site consists of a lithic assay and reduction station located above the Colorado River on the northeast toe of a mechanically disturbed hill (Moloney and Hearth 2013c). The site measures 16.8 meters (NE-SW) by 2.3 meters (NW-SE) and includes 45 lithic artifacts, 39 of which are concentrated in the northwestern portion of the site (Concentration A). Concentration A measures 4.8 meters (SW-NE) by 2.3 meters (NW-SE) and is composed of 18 chert artifacts (16 flakes, 2 cores), 14 quartizte artifacts (13 flakes, 1 hammerstone), one piece of chalcedony shatter, and 6 rhyolite artifacts (5 flakes, 1 core). The six outlying artifacts not located within Concentration A consist of three chert flakes, two quartzite flakes, and one quartzite hammerstone. The site likely represents the opportunistic testing and reduction of lithic materials and may be the remnants of a larger site that was possibly connected to CA-SBR-14698 (Moloney and Hearth 2013c). Resource Æ-Topock-185 has not been evaluated for listing in the NRHP or the CRHR; however, it has been discretionarily determined to be historically significant by DTSC under CEQA Section 15064.5(a)(3) and is considered a historical resource under CEOA for the purposes of this DEIR. Furthermore, because the resource is a prehistoric archaeological site, it is also considered a contributing element of the Topock TCP.

Historic-Period Built Resources

Resource CA-SBR-2910H: This resource consists of several abandoned portions of Historic Route 66. Portions of the resource were documented by CH2M HILL in 2004 and by AE in 2007 (Davy et al. 2004; McDougall and Horne 2007). From 1911 to 1926 the route was known as the National Old Trails Highway and provided a roadway for automobiles in the southern California desert (McDougall and Horne 2007). In 1926 the highway was designated U.S. Route 66 and was one of the main routes from the Midwest to southern California. In 1932 portions of the route were realigned for road-straightening purposes and by 1938, the entire route was paved. In 1957, eight miles of the route was realigned to eliminate sharp curves and dips between Needles, CA and Topock, AZ (Davy et al. 2004). Segments and obliterated portions of the National Old Trails Highway and Historic Route 66 and associated features have been documented within the Project Site. The segments located within the Project Site include Sections 1 through 4, which are graded and gravel-bedded road segments of the 1914-1932 route located north of the post 1932 route. Associated features include three culverts, a rock-lined ditch (TP-5), a concrete route marker (TP-4), a retaining wall (Feature 14), a utility pole used for erosion control (Feature 23), an upright wooden post (Feature 24), a porch possibly associated with the Teapot Dome Restaurant (Feature 25), a wooden sign (Feature 26), a cement bag revetment (TP-3), and a historic refuse scatter (Locus A). The California portion of Historic Route 66 was determined eligible for listing in the NRHP through consensus in 1990 under Criterion A, with some segments and features eligible under B and C, and is therefore automatically listed in the CRHR (Davy et al. 2004). As a result, resource CA-SBR-2190H is considered a historical resource under CEQA. Segments of Historic Route 66 and associated features within the Project Site are considered contributing elements to the eligible property for the purposes of this DEIR.

Resource CA-SBR-6693H: This resource is a historic-period built resource consisting of the A&P/AT&SF railroad alignment which bisects portions of the Project Site. This resource was documented by CH2M HILL in 2004 and by AE in 2007. The alignment was the first railroad to cross the Colorado River in the Topock region when it was constructed in 1890 (McDougall and Horne 2007). The alignment was originally built as part of the A&P Railroad Company and was acquired by the AT&SF in 1890. The original alignment, which was used from 1890 through 1947, corresponds to the present route of the Park Moabi Road and bisects portions of the Project Site (Davy et al. 2004). In 1947, the AT&SF moved the alignment to its present location just north of, and generally parallel to, I-40. The current alignment is operated by BNSF and also bisects portions of the Project Site. Resource CA-SBR-6693H was determined eligible for listing in the NRHP under Criterion A through consensus in 1994 (BLM 2012) and is therefore automatically listed in the CRHR. As a result, resource CA-SBR-6693H is considered a historical resource under CEQA.

*Resource CA-SBR-11997H: This resource is a historic-period built resource originally recorded by AE in 2005 consisting of a flagstone and masonry bridge and culvert located at the intersection of Park Moabi Road (National Old Trails Highway) and Bat Cave Wash (McDougall and Horne 2007). The bridge measures 90 feet by 80 feet and was originally constructed in 1890 to channel flood water under the A&P Railroad right-of-way. It was modified in 1947 by the addition of a concrete extension when the alignment was widened for conversion into a roadway for automobiles. This resource was re-visited during the 2013 site condition assessment field visit and appears unchanged. Resource CA-SBR-11997H has not been evaluated for listing in the NRHP or the CRHR; however, it has been discretionarily determined to be historically significant by DTSC under CEQA Section 15064.5(a)(3) and is considered a historical resource under CEQA (DTSC 2011).

*Resource P-36-021486: This resource is a historic-period built resource that consists of a large "Welcome to Historic Route 66" sign likely constructed by at least 1935 (McDougall and Gothar 2009b). The sign measures 40 feet in length and is approximately 15.5 feet tall. The sign consists of a sunken cement foundation, two cement columns, a rock-faced cement base, a white-washed cement central portion with the Route 66 logo. On the northwest side of the sign "HISTORIC/ROUTE 66/WELCOME!/TURN RIGHT/NEXT EXIT" is written in large black letters and on the southeast side "HISTORIC/ ROUTE 66/COME/BACK/AGAIN" is written. This resource was revisited during the 2013 site condition assessment field visit and appears unchanged. Resource P-36-021486 has not been evaluated for listing in the NRHP or the CRHR; however, it has been discretionarily determined to be historically significant by DTSC under CEQA Section 15064.5(a)(3) and is considered a historical resource under CEQA (DTSC 2011).

PG&E Topock Gas Compressor Station: This resource consists of the historic-period PG&E Topock Gas Compressor Station. This resource was documented by AE in 2012 and subsequently evaluated for the National Register in 2013, and is an irregularly shaped compound of 33 structures located on approximately 12 acres of land. The PG&E Topock Gas Compressor Station is one of the three original compressor stations constructed for PG&E's natural gas transportation and distribution system, which supplies natural gas to customers from Bakersfield to Portland (Smallwood 2013). The compound consists of 33 buildings and structures, 19 of which were constructed between 1951 and 1960. The other 14 structures have been installed within the past 30 years. The 19 buildings and structures dating to the 1950s include the main compressor building, the generator building, the former water conditioning building, the former chemical building, the maintenance supervisor's office, the parking structure, the district office, two water tanks, the A and B-side scrubbers, the old meter house, the odorant tank saddle and drain tank, the oil tank farm, the A and B-side valve nests, the cooling system power generator, the cooling system for the A and B-side compressors, the radio mast and control room, the PG&E Topock Gas Compressor Station sign, the blow-down stack, and the weather station box. The 19 buildings and structures constructed between 1950 and 1961 (the period of significance) of the PG&E Topock Gas Compressor Station have been evaluated as eligible for listing in the NRHP under Criteria A and C (Smallwood 2013). These 19 buildings and structures are therefore considered historical resources under CEOA. The other 14 buildings and structures in the complex are modern in age, post-dating the station's period of significance (1951-1960), and therefore are not eligible for the NRHP or considered historical resources under CEQA.

Isolates

Resource P-36-020379: This resource is a historic isolate that consists of a possible truck body or hopper located in a wash approximately 25 meters south of Route 66. The resource is constructed of thick gauge iron sheeting braced with angle iron and bar stock bolted to a wooden frame (Gothar and Everett 2004). Some plate glass was noted, suggesting the presence of a windshield. Because of their isolated nature and lack of important contextual information, isolated artifacts are generally not considered significant resources and therefore resource P-36-020379 is not considered eligible for listing in either the NRHP or CRHR, nor does it qualify as a historical resource or unique archaeological resource under CEQA.

Resource P-36-021491: This resource is a prehistoric isolate consisting of two chert cortical flakes found on a desert pavement surface located approximately 180 meters west of the Station (Moloney 2010c). Although isolated artifacts are not generally eligible for listing in the NRHP or CRHR due to the lack of archaeological context associated with them, because this prehistoric isolate could be considered a contributing element of the Topock TCP it has been discretionarily determined to be historically significant by DTSC under CEQA Section 15064.5(a)(3) and is considered a historical resource under CEQA for the purposes of this DEIR.

Resource P-36-023219: This resource is a historic isolate consisting of two spheres measuring 13 centimeters in diameter and composed of a refractory material (Moloney 2008). The spheres were discovered approximately 1 to 1.5 meters below the ground surface and were located in a wash collection basin approximately 120 meters south of Interstate 40. Due to its isolated nature and lack of important contextual information, resource P-36-023219 is not considered eligible for listing in either the NRHP or CRHR, nor does it qualify as a historical resource or unique archaeological resource under CEQA.

4.4.1.6 Geoarchaeological Review

A desktop geoarchaeological analysis was conducted for this Project to determine which landforms have the potential for surface and subsurface archaeological resources (Lockwood 2014). This analysis included an examination of available geologic maps and studies and review of *Geoarchaeological Assessment for the Topock Remediation Project, Mohave County, Arizona, and San Bernardino County, California*, prepared by Brady and Associates Geologic Services January 2013.

The Project Site is located within the Mojave Desert along the western bank of the Colorado River in southeastern San Bernardino County, California. The Project Site is situated within the Basin and Range physiographic province, in which crustal extension has caused widespread faulting and the formation of valleys or basins (Dickinson 2002). Elevation within the Project Site ranges between approximately 450 feet above mean sea level (amsl) along the Colorado River to approximately 800 feet amsl at the southern boundary of the survey area within the Chemehuevi Mountains. Surface topography consists of alluvial terrace deposits dissected by incised, ephemeral washes, including Bat Cave Wash and East Ravine. A low-lying floodplain, less than 40 feet above water level, lies along the Colorado River (DTSC 2011).

The effects of topographic variation, an arid climate with flashy precipitation, and sparse vegetation combine to create a landscape characterized by coalesced alluvial fans composed of coarse-grained sediments, including sand, gravel, and boulders, which fill valleys over time. Steeply sloped upper segments of alluvial fans tend to be less stable and more susceptible to erosion and debris flows when compared with flatter, lower fan segments. During intense episodes of rain, large quantities of runoff may flow violently down washes. Younger alluvial wash deposits are inset within fan surfaces.

In the vicinity of the Project Site, sediments comprising of alluvial fans are eroded from the adjacent, uplifted mountain ranges, the Chemehuevi Mountains. Mountain bedrock in the area is a complex set of extremely old (> 1 billion to approximately 5 million years [my]) Paleoproterzoic, Cretaceous, and Tertiary (Miocene) intrusive igneous and metamorphic rocks (Miller et al. 1983; Howard et al. 2013). Alluvial processes have operated at least intermittently since the Miocene (23.0 to 5.3 my), and the oldest alluvial deposits have become lithified into fanglomerate or sedimentary rock.

Washes act as tributaries to the Colorado River, which has been evolving within this area since the Pliocene (5.3 to 2.6 my). Evidence of the river's earliest history is seen in the form of

outcroppings of sandstone and conglomerate. Due to channel incision, elevated portions of the Project Site have not been subject to alluvial deposition from the Colorado River since the Pleistocene (2.6 my to 12,000 years ago), although the low-lying floodplain adjacent to the channel has continued to aggrade.

The Project Site has been subject to extensive modification within the historic and recent period. The area is crossed by the A&P/AT&SF (BNSF) railroads, construction of which in the late 1800s involved placement of ballast/railbed material ostensibly collected locally (DTSC 2011). Roadways, including the historic US-66/I-40 corridor, traverse the area, and are easily discerned as anthropogenic fill. In 1938, the Bureau of Reclamation (BOR) completed Parker Dam approximately 40 river miles south of the Project Site, and the impoundment resulted not only in filling of Lake Havasu, but also the formation of Topock Marsh upstream. The area west of the Colorado River has been subject to development as the Station, and multiple pipelines have been installed across this area.

A total of 11 separate geological units have been mapped within those parts of the Project Site that would be subject to soil investigation activities (Howard et al. 2013; **Table 4.4-2**; **Figure 4.4-1**). These units range from Paleoproterzoic bedrock south of I-40 and west of the Colorado River to Holocene/Recent deposits along active washes. Two geological units formed by humans (anthropogenic) are also identified within soil sampling areas, including those where artificial fill has been placed along railways and roadways, and those areas disturbed as result of the Station.

Anthropogenic units (af, d) have all been formed since the historic period. While these units lack the potential to contain in situ prehistoric archaeological resources, roadbeds, railbeds, and other locally derived borrow material may contain disturbed archaeological resources and may bury other geological units that have the potential to contain archaeological resources. Furthermore, these units may contain historic-period archeological resources associated with their construction, use, and maintenance.

Based solely on age, geological units formed during the Holocene (Qa3 andQa4), have the potential to contain subsurface prehistoric archaeological resources. However, high-energy environments, such as washes dominated by coarse-grained gravel and sand, are often too dynamic to bury and preserve archaeological resources very well. These geomorphic processes have continued into the historic and recent period. Younger piedmont alluvium (Qa3) was formed in the pre-contact period and therefore has the potential to contain buried prehistoric resources, but not historic-period resources. Deposition of recent Holocene youngest piedmont alluvium (Qa4) began in the pre-contact period and extended into the historic period; it therefore has the potential to contain both subsurface prehistoric and historic-period resources. The Holocene piedmont alluvial units (Qa3 and Qa4) exhibit virtually no surface prehistoric archaeological resources, particularly toward the south. A possible explanation is that fluvial processes discouraged significant cultural use of the washes and/or destroyed or buried whatever cultural residues were deposited.

TABLE 4.4-2 GEOLOGIC UNITS WITHIN AREAS OF PROPOSED SOIL INVESTIGATION ACTIVITIES							
Unit Symbol	Unit Name	Age	Description	Sensitivity for Surface Archaeological Resources	Sensitivity for Subsurface Archaeological Resources		
af	Artificial fill	Historic-Recent	Unconsolidated: Fill materials in highway and railway grades	Moderate (historic only) - may have historic resources at surface. No potential for prehistoric resources at surface.	Moderate (prehistoric/historic) - may contain disturbed prehistoric and/or historic, and in situ historic subsurface.		
d	Disturbed ground	Historic-Recent	Original geology obscured	Moderate (historic only) - may have historic resources at surface. No potential for prehistoric resources at surface.	Low to moderate (prehistoric/historic) - depending on location, may contain isolated intact historic and/or prehistoric remnants subsurface.		
Qa4	Youngest piedmont alluvium	Holocene-Recent	Unconsolidated: Angular to subangular, poorly to moderately sorted, unconsolidated sand and gravel in active washes	Moderate (prehistoric/historic) - may have prehistoric and historic resources at surface.	Low (prehistoric/historic) - may contain prehistoric and historic resources subsurface.		
Qa3	Younger piedmont alluvium	Holocene	Unconsolidated: Angular to subangular, poorly to moderately sorted, unconsolidated sand and gravel terraces above modern washes	Moderate (prehistoric/historic) - may have prehistoric and historic resources at surface.	Moderate (prehistoric only) - may contain prehistoric resources subsurface. No potential for historic resources.		
Qa2	Intermediate-aged piedmont alluvium	Upper Pleistocene	Unconsolidated: Fan remnants dissected and isolated by modern washes; typically surfaced with varnished desert pavement	High (prehistoric) to moderate (historic) - contains a disproportionate percentage of prehistoric resources at surface. May contain historic resources at surface.	Low (prehistoric only) – unlikely to contain prehistoric resources subsurface, but cannot be discounted. No potential for historic resources subsurface.		
Qtp	Pink silty sand	Upper Pleistocene	Moderately consolidated: Massive to bedded, pale- orange-gray, quartz-rich clayey silty sand	Moderate (prehistoric/historic) - may have prehistoric and historic resources at surface.	Low (prehistoric only) – unlikely to contain prehistoric resources subsurface, but cannot be discounted. No potential for historic resources subsurface.		
Trbb	Boulder conglomerate of Bat Cave Wash	Upper Pliocene(?)- Pleistocene	Moderately consolidated to cemented: Boulder and cobble conglomerate, containing rounded quartz pebbles	High (prehistoric) to moderate (historic) – likely source of lithic materials during prehistoric period. May have historic resources at surface.	None (prehistoric/historic) – no potential to contain prehistoric or historic resources subsurface.		
Tf	Fanglomerate	Pliocene-Miocene	Consolidated conglomerate: Poorly sorted sandy conglomerate of locally derived angular to subangular clasts	High (prehistoric) to moderate (historic) - likely source of lithic materials during prehistoric period. May contain historic resources at surface.	None (prehistoric/historic) – no potential to contain prehistoric or historic resources subsurface.		

TABLE 4.4-2 GEOLOGIC UNITS WITHIN AREAS OF PROPOSED SOIL INVESTIGATION ACTIVITIES							
Unit Symbol	Unit Name	Age	Description	Sensitivity for Surface Archaeological Resources	Sensitivity for Subsurface Archaeological Resources		
Tcgn	Gneiss-clast conglomerate	Middle Miocene	Consolidated conglomerate: Red/red-brown weathering, poorly sorted alluvial fan deposits; derived from rocks above the Chemehuevi Fault	Moderate (prehistoric/historic) - may have prehistoric and historic resources at surface.	None (prehistoric/historic) – no potential to contain prehistoric or historic resources subsurface.		
TKwq	Quartz monzonite	Cretaceous(?)- Miocene	Bedrock: Horneblend-biotite quartz monzonite, granodiorite, and granite rocks	Moderate (prehistoric/historic) - may have prehistoric and historic resources at surface.	None (prehistoric/historic) – no potential to contain prehistoric or historic resources subsurface.		
Xgm	Mylonitic gneiss and migmatite	Paleoproter-zoic	Bedrock: mylonitic, heterogeneous rocks including migmatite, granite, and amphipolite-facies orthogneiss and paragneiss	Moderate (prehistoric/historic) - may have prehistoric and historic resources at surface.	None (prehistoric/historic) – no potential to contain prehistoric or historic resources subsurface.		
SOURCE: Adapted from Howard et al. 2013.							



4.4 Cultural Resources

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Intact, unconsolidated sediments (intermediate-aged piedmont alluvium [Qa2] and pink silty sand [Qtp]) date to the Upper Pleistocene (126,000 to 11,700 years ago) and generally lack the potential to contain subsurface prehistoric and historic-period archaeological resources; however, the very youngest of these Pleistocene deposits overlaps with the initial onset of PaleoIndian occupation of the California Desert region. Subsurface prehistoric archaeological resources associated with these two units would be unlikely, but is possible. Intermediate-aged piedmont alluvium (Qa2) has been shown to be strongly associated with surface evidence of prehistoric archaeological resources, including the Topock Maze, possibly due to attractive stable surfaces during the Holocene that may have encouraged use of these areas.

Consolidated rock units (Xgm, TKwg, Tcgn, Tf, and Trbb), include igneous and metamorphic rocks, as well as sedimentary rocks such as sandstone and conglomerate, which formed millions of years before the arrival of people and in geological settings that preclude the possibility for containing prehistoric or historic-period archaeological resources within them; however, prehistoric and historic-period archaeological resources may be encountered at the surface of these rock exposures. Loose cobbles and gravel eroded and weathered from upper Miocene fanglomerate (Tf) and especially upper Pliocene-aged conglomerate of Bat Cave Wash (Trbb), which lies on the western shore of the Colorado River adjacent to National Trails Highway, were sources of lithic raw material in the past and are more strongly associated with surface archaeological scatters.

Conclusions

Based on the geoarchaeological review, all 11 geological units within the proposed soil sample collection locations have the potential to contain surface archaeological resources. Two units (af and d) are considered moderately sensitive for historic-period resources at surface, but do not have the potential for intact prehistoric resources at surface. Three units (Qa2, Tf, and Trbb) are considered highly sensitive for prehistoric resources at surface and moderately sensitive for historic-period resources at surface. The remaining six units (Qa4, Qa3, Qtp, Tcgn, Tkwq, and Xgm) are considered moderately sensitive for both prehistoric and historic-period resources at surface.

In addition, some units have a higher potential for subsurface archaeological resources. Artificial fill may contain subsurface disturbed prehistoric/historic-period resources or intact historic-period resources and this unit should be considered moderately sensitive. Although disturbed (d) areas have been subject to ground-disturbing alterations, the depths of the disturbances may vary and therefore would not completely preclude the presence of prehistoric/historic-period archaeological materials at depths and should be considered low to moderately sensitive depending on nature of previous disturbances. Youngest piedmont alluvium (Qa4) and younger piedmont alluvium (Qa3) may contain subsurface prehistoric and/or historic-period resources and should be considered moderately sensitive. Intermediate-aged piedmont alluvium (Qa2) and pink silty sand (Qtp) are unlikely to contain subsurface prehistoric resources, although this possibility cannot be completely discounted. These two units (Qa2 and Qtp) are considered to have low sensitivity for prehistoric resources and no potential for subsurface historic-period resources. The remaining five units (Trbb, Tf, Tcgn, Tkwq, and Xgm) do not have the possibility to contain

subsurface prehistoric or historic-period resources and are not considered sensitive for archaeological resources.

4.4.1.7 Native American Scoping

Scoping involving Native American Tribes with affiliation to the Project Site began with a search of the California Native American Heritage Commission (NAHC) Sacred Lands File (SLF). The NAHC was contacted on February 13, 2013 to request a search of the SLF. The NAHC responded to the request in a letter dated February 14, 2013. The letter did not indicate the presence of Native American cultural resources within the Project Site; however, the NAHC stated that the FMIT has indicated that a number of sacred sites are present in the Topock area. The letter also included an attached list of Native American contacts.

In support of the Native American scoping program, a Native American contact list was compiled from sources that included contacts from earlier phases of the Topock project, as well as the list of contacts provided by the NAHC as part of this DEIR process. The individuals and organizations contacted were divided into actively participating and not actively participating Native American Tribes. The actively participating Tribes included the Chemehuevi Indian Tribe, Cocopah Indian Tribe, CRIT, FMIT, and Hualapai Indian Tribe. The Native American Tribes not actively participating included the Fort Yuma-Quechan Indian Tribe,¹ Havasupai Indian Tribe, Las Vegas Paiute Tribe, San Manuel Band of Mission Indians, Serrano Nation of Mission Indians, Torres-Martinez Desert Cahuilla Indian Tribe, Twenty-Nine Palms Indian Tribe, and Yavapai-Prescott Indian Tribe.

On March 5, 2013, DTSC sent letters to actively participating Native American Tribes requesting Tribal input regarding cultural resources impacts and potential mitigation measures. The letters described the proposed Project and asked that all participants reply by April 19, 2013 if they had concerns regarding the Project. No responses were received.

On March 19, 2013, DTSC sent letters to the remaining Native American Tribes not actively participating in order to solicit input about the Project. The letters described the proposed Project and included a map depicting its location. Recipients were requested to reply with any information they are able to share about places of cultural importance to Native Americans that might be affected by the Project by April 19, 2013. No responses were received.

On April 11, 2013 and May 23, 2013, follow-up phone calls were made to the not actively participating Native American Tribes in an effort to make sure any Tribal input/concerns were captured. The following five individuals were reached by phone and provided input regarding the Project:

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¹ The Fort-Yuma Quechan Indian Tribe's participation in the Topock project has diminished since the Groundwater FEIR and the Tribe was re-invited into the soil investigation scoping process via the March 13, 2014 letter sent to tribes identified as not actively participating in the Topock project. The Tribe did not respond to the letter or follow-up phone calls. Nonetheless, the Tribe has been included as one of the six "Interested Tribes" for the soil investigation project because of its role as an Interested Tribe during the Groundwater EIR process.

- Preston J. Arrow-Weed of the Ah-Mut-Pipa Foundation expressed his concern about the Project and stated that he opposes it, although it is outside of his area of concern. However, he stated that he is related to the Mojave and that the Project Site is very culturally sensitive. He requested that DTSC continue to mail him information regarding the Project.
- Dr. Marshall Cheung, Environmental Coordinator for the Twenty-Nine Palms Indian Tribe, had no comment on the Project, but wished to remain on the mailing list.
- Roland Ferrer, Planning Director for the Torres-Martinez Desert Cahuilla Indian Tribe, requested that DTSC keep him and Matt Krystall, the Tribal Resource Manager, on the mailing list. Mr. Ferrer also requested that a Native American cultural monitor be present for all ground-disturbing activities.
- Matthew Putesoy, Vice Chairperson of the Havasupai Indian Tribe, stated that cultural and archaeological information and impacts should be included in the DEIR analysis. Mr. Putesoy requested additional information be emailed to him, and that he would bring up the Project at the council meeting to be held on April 12, 2013 to see if there was any Tribal interest. No additional comments have been received from the Havasupai Indian Tribe.
- Ms. Goldie Walker, Chairwoman of the Serrano Nation of Mission Indians, requested that a copy of the final cultural resources report be sent to her.

The DEIR for the proposed soil investigation was initiated with release of the NOP and associated public comment period held between November 28, 2012 and January 14, 2013. DTSC convened public scoping meetings during this period to inform interested parties and seek input on the proposed Soil Work Plan and associated potential environmental impacts. DTSC also requested Tribal and stakeholder input at the January 2013 Consultative Work Group. On February 19, 2013, during the Topock Clearinghouse Task Force meeting, participating Interested Tribes requested that the Cultural Resources analysis (Section 4.4) of the Groundwater FEIR (January 2011) be distributed to facilitate their review as they consider the future analysis for the Soil Investigation DEIR. The requested section was provided on March 1, 2013, as was a copy of the Project description contained in the NOP.

A total of five formal Tribal scoping meetings were held by DTSC:

- DTSC presented information on the Project and requested input from the FMIT and Hualapai Tribes at the FMIT Tribal council office on December 12, 2012.
- DTSC presented information on the Project and requested input from the Chemehuevi Tribe during a Chemehuevi Tribal council meeting on April 26, 2013.
- DTSC met with the FMIT, Hualapai, CRIT, and Cocopah Tribes on October 1, 2013 to garner input regarding the aesthetics and visual analysis.
- DTSC met with FMIT, Hualapai, <u>Chemehuevi</u>, and Cocopah on December 16, 2013 to request input regarding conceptual mitigation measures.
- DTSC met with FMIT, Hualapai, and CRIT on January 23, 2014 to request input regarding conceptual mitigation measures.

In addition to these formal scoping meetings, DTSC has conducted informal meetings and field visits with Tribal members and representatives, and have solicited written comments. Information obtained through the scoping meetings, informal meetings and field visits has been incorporated into this DEIR.

During the planning phase of this Project, archaeologists and Tribal representatives, together with PG&E, DTSC, visited the proposed sampling locations in order to incorporate resource avoidance into the design. Prior to the submittal of the May 2011 Soil Work Plan, DTSC held multiple coordination meetings and site visits with Interested Tribes and other stakeholders during the soil data gap evaluation process in order to garner input on the Soil Work Plan.

The Phase 1 data gaps and the proposed Phase 2 sampling plan were presented at two meetings with the United States Department of the Interior (DOI), DTSC, and several Interested Tribes held at the Station on October 6 and 7, 2010, and November 2 and 3, 2010. During the meeting, soil data were reviewed with stakeholders, each AOC was visited, and preliminary data gap evaluations were discussed. A subsequent meeting was held on December 7, 2010, between DOI, DTSC, and several Interested Tribes to discuss Unincorporated Area (UA)-1/UA-1 alternate and sampling at the mouth of Bat Cave Wash. On December 13, 2010, DTSC issued direction to PG&E on UA-1 and UA-1A alternate location. On December 15, 2010, DOI issued direction to PG&E on sampling at the mouth of Bat Cave wash. On January 13, 2011, a meeting was held to discuss Interested Tribes' comments on the preliminary data gaps evaluation (CH2M HILL 2013 – Appendix A).

In response to concerns raised by some Interested Tribes through letters provided by the FMIT consultants and the Hualapai Department of Cultural Resources, and as a result of meetings with several Interested Tribes held December 7, 2010, and January 13, 2011, DOI and DTSC evaluated the possibility of reducing the number of Phase 2 samples. Based on the number of samples and disturbances to sensitive cultural resources, the agencies evaluated each sample location to determine which, if any, sample locations could be eliminated. DOI and DTSC issued a joint letter dated February 25, 2011, with a revised Phase 2 sampling plan removing approximately 50 sample locations as a result of input received from some of the Interested Tribes (CH2M HILL 2013 – Appendix A).

A Draft Final Part A Phase 1 Draft Final Data Gaps Evaluation Report was provided in Appendix A to the *Soil RCRA Facility Investigation/Remedial Investigation Work Plan, Pacific Gas and Electric Company (PG&E) Topock Compressor Station, Needles, California,* submitted to the DTSC and DOI in May 2011 (CH2M HILL 2013 – Appendix A). This work plan is referred to as the 2011 Draft Soil RFI/RI Work Plan. Comments on the 2011 Draft Soil RFI/RI Work Plan were received from the following:

- 1. Karen Baker of DTSC Geological Services Unit, August 19, 2011
- 2. Pamela S. Innis of DOI, August 16, 2011
- 3. Leo S. Leonhart of Hargis + Associates, Inc on behalf of the FMIT, August 1, 2011
- 4. Loretta Jackson-Kelly of the Hualapai Department of Cultural Resources, July 21, 2011

Three Topock Working Group (TWG) meetings were held in September and December, 2011 with several Interested Tribes and other stakeholders at the Station to discuss comments on the Draft Soil RFI/RI Work Plan. On September 15, 2011, DTSC and DOI met with the FMIT and Hualapai. Items discussed during these meetings included comments related to perimeter and storm drain sampling, AOC 14 Monitoring Well (MW)-24 Bench, UA-1, management of displaced soil, mouth of Bat Cave Wash, East Ravine sediment and pore water sampling, and sampling inside the station fence line. On April 4, 2012, a meeting was held in Needles to discuss risk evaluation and land use related items. On June 15, 2012, a meeting was held to discuss items related to the response to the comments table. The FMIT submitted a letter dated July 23, 2012, regarding items related to the Draft Soil RFI/RI Work Plan, to which DOI and DTSC responded in a joint letter dated August 31, 2012. A revised version of the Draft Soil Work Plan was circulated for public review and comment in September 2012. Comments were submitted by DTSC, DOI, the FMIT, and the Hualapai. Responses to these comments were provided by PG&E (see Appendix I of the Soil Work Plan). The Soil Work Plan was then revised and presented to DTSC and DOI in a final document dated January 2013 (CH2M HILL 2013; included as Appendix A to this DEIR).

In response to comments received from the FMIT and Hualapai, DTSC/DOI made the following revisions to the workplan to resolve or address their concerns:

- 1. Minimized sample locations by eliminating potentially redundant sample locations, combining and optimizing data from different investigation areas (multi-purpose sample locations), and making assumptions about potential physical barriers that may confine contaminant extent.
- 2. Utilized the lesser intrusive X-ray fluorescence (XRF) method to reduce and optimize soil sample locations and at UA-1.
- 3. Developed soil repatriation procedures to assist in the proper handling and potential reuse of displaced soil resulting from the investigation activities.
- 4. Used a phased approach using XRF and surface geophysics prior to making decisions on drilling/trenching.
- 5. Addressed the potential harm of the dye to be used in the dye-testing of the storm drains.

4.4.1.8 Paleontological Resources

A Paleontological Resources Management Plan (PRMP) was prepared for the Groundwater Remediation Project by ARCADIS in December, 2012. This plan included a paleontological literature review, records check, and field survey of the Groundwater Remediation project area, which encompasses the Project Site.

As part of the PRMP, a paleontological records check was conducted by Dr. Samuel McLeod, Vertebrate Paleontology Division of the Natural History Museum of Los Angeles County (LACM), by Eric Scott, Curator of Paleontology Division of Geological Sciences Museum of San Bernardino County (SBCM), and at the online databases of the LACM, Invertebrate Paleontology Section, and the University of California Museum of Paleontology database (ARCADIS 2012).

The records check from the SBCM indicated that three fossil localities (SBCM 1.39.1, SBCM 1.39.2 and SBCM 1.39.3) have been recorded in the vicinity of the Project Site. These fossil localities are located just west and south of the Station and are associated with the presumed Pleistocene-age sediments of the Chemehuevi Formation.

The PRMP identified the following formations within the Project Site and assigned each a paleontological sensitivity rating based on the federal Potential Fossil Yield Classification (PFYC) system (ARCADIS 2012).

Holocene Deposits

Holocene alluvial deposits (Qal, Qs, Qya) (<0.01 my) include silts, sands, and conglomerates exist in the form of drainage fill, alluvial fans, and dunes (Qs). The character of River deposits (Qal) differs depending on stream flow energy and distance from the source. In the Colorado River area, River deposits consist of poorly to moderately sorted sands and gravels having angular to subangular clasts (rock fragments) composed of igneous and metamorphic rock. The younger alluvial fan deposits (Qya) may overlie older deposits. Available borehole data indicates that recent alluvium is present at depths up to 10 to 25 feet across the Project Site. Holocene alluvial deposits (Qal, Qs, Qya) are assigned a PFYC ranking of 2 (Low) because they are too young to contain fossils. However, they may overlie older, more paleontologically sensitive formations.

Chemehuevi Formation

Sediments of the Chemehuevi Formation (Qrg, Qrs) (11,000 years to 2.5 my) consist of about 800 feet of sands (Qrs) and gravels (Qrg) from the ancestral Colorado River that form terraces along the river valleys. Chemehuevi Formation gravels are interbedded with Chemehuevi Formation sands. The Chemehuevi Formation gravels consist of well-sorted sands and gravels composed of well-rounded clasts of limestone, quartzite, and chert, much of which is derived as erosional debris from the Colorado Plateau. Locally derived clasts of gneiss and volcanic rocks are also present and include boulders up to 3 feet in diameter. The Chemehuevi Formation sands consist of pink to tan, weakly to moderately indurated clays, silts, and sands interbedded with well-sorted, well-rounded pebble conglomerates.

According to the record search results from the SBCM, the Chemehuevi Formation has "high potential to contain significant nonrenewable paleontologic resources subject to adverse impact by development-related excavation." Two localities (SBCM 1.39.1 and SBCM 1.39.3) within the vicinity of the Project consist of root casts, animal burrows, and mollusk shells of the presumed Pleistocene-age Chemehuevi Formation. Locality SBCM 1.39.2, located within one-half mile of the southern portion of the Project Site, yielded fossil root casts and microvertebrate bones. Exposures of the Chemehuevi Formation are located on the western and eastern shores of the Colorado River. No borehole data is available for depth of the Chemehuevi Formation. The Chemehuevi Formation (Qrg, Qrs) has been assigned a PFYC ranking of 3a (Moderate with

uneven distribution) because it is known to produce vertebrate fossils or scientifically significant nonvertebrate fossils, but only as unpredictable scatters or isolates.

Pleistocene Older Alluvium

The Pleistocene (11,000 years to 2.5 my) older alluvium (Qc) are undifferentiated sediments of the Chemehuevi Formation. This unit is up to tens of meters thick, and consists of poorly sorted sands to boulder conglomerates, dissected by younger stream channels. The Pleistocene fan deposits can be distinguished from similar Holocene deposits by the Pleistocene fans' deep dissection, varnishing, terracing, thickness, and presence of clasts of basalt from the Black Mountains and gneiss from the Hualapai Mountains. Boreholes in the part of Bat Cave Wash south of I-40 indicate that contact between recent and older alluvium is at between 10.5 to 12 feet in that area. The Pleistocene older alluvium (Qc) is also ranked as PFYC 3a (Moderate with uneven distribution) because it is essentially similar to the Chemehuevi Formation, but has not been formally described.

Miocene Fanglomerate

Miocene (7 to 26 my) nonmarine deposits within the Project Site consist of a gneiss-rich fanglomerate (Tf). These are dark-red to brown, poorly sorted alluvial fan deposits having subangular to subrounded clasts of Proterozoic gneiss, granite, and amphibolite from the Chemehuevi Mountains. Exposures of Miocene conglomerate are present in Bat Cave Wash and along the Colorado River corridor. Available borehole data indicates that contact between alluvium and Miocene sediments varies from 23 to 200 feet across the Project Site. The Miocene Fanglomerate (Tf) has been assigned a PFYC ranking of 2 (Low) because it is too coarse-grained to contain fossils.

Cretaceous or Jurassic Whale Mountain Quartz Monzonites

A Cretaceous (65 to 136 my) or Jurassic (136 to 190 my) granitoid bodies of the Whale Mountain sequence occurs within the Project Site. It consists of a porphyritic hornblende-biotite monzogranite and quartz monzonite (KJqm), and is tan to pale-pink, medium- to coarse-grained with feldspar crystals of up to 1.25 inches long. Exposures of Cretaceous or Jurassic Whale Mountain quartz monzonite are present in a couple of shallow caves in Bat Cave Wash. No borehole data is available for depth of the Cretaceous or Jurassic Whale Mountain quartz monzonite. Because it consists of igneous and metamorphic rocks the Jurassic Whale Mountain Quartz Monzonites (KJqm) are ranked PFYC 1 (Very Low) due to heat and pressure of their formation.

Early Proterzoic Gneiss

Early Proterozoic (1.6 to 2.5 billion years [by]) gneiss ($p \in g$) is composed of highly metamorphosed rocks including augen gneiss, granitic to dioritic gneiss, and several named gneisses. No exposures of Early Proterzoic Gneiss were noted during the paleontological survey. No borehole data is available for depth of the Early Proterzoic Gneiss. Because it consists of igneous and metamorphic rocks Early Proterzoic Gneiss ($p \in g$) is ranked PFYC 1 (Very Low) due to heat and pressure of formation.

4.4.2 Regulatory Background

Cultural and paleontological resources are considered under a variety of federal and state laws, regulations, guidelines, and policies. These are presented below as they are relevant to the analysis required by CEQA or potential future actions and approvals that may be associated with the proposed Project.

4.4.2.1 Federal

Section 106 of the National Historic Preservation Act

Resources that qualify as historic properties under the National Historic Preservation Act (NHPA) are considered historical resources under CEQA. Therefore, the NHPA is relevant to the identification and management of cultural resources under CEQA. Section 106 of the NHPA requires federal agencies to consider the effect of their undertakings on historic properties, to provide the Advisory Council on Historic Preservation an opportunity to comment, and to resolve any adverse effects on historic properties through the process provided in the Section 106 regulations (36 CFR Part 800 et seq.). Historic properties consist of resources listed in or eligible for listing in the NRHP. Because DTSC is not a federal agency and is not responsible for compliance with the NHPA, DTSC cannot make a determination of what resources in the Project Site constitute historic properties or the effect that federal undertakings necessary to implement the remediation would have on these resources. This section, however, reviews the process for determining if cultural resources qualify as historic properties under the Section 106 implementing regulations because it is relevant to the identification of historical resources under CEQA. This is because Public Resources Code Section 5024.1(d), provides that the CRHR includes California properties determined eligible for the NRHP. Similarly, Public Resources Code Section 21084.1 provides that a historical resource includes CRHR-eligible properties based on the NRHP. Given this, properties potentially eligible for the NRHP are also potentially historical resources under CEQA.

To be eligible for listing in the NRHP, a property must possess both significance and integrity, as defined at 36 CFR Section 60.4:

The quality of significance in American history, architecture, archeology, engineering, and culture is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association and,

- (a) that are associated with events that have made a significant contribution to the broad patterns of our history; or
- (b) that are associated with the lives of persons significant in our past; or
- (c) that embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or

(d) that have yielded, or may be likely to yield, information important in prehistory or history.

Ordinarily, cemeteries, birthplaces, or graves of historical figures; properties owned by religious institutions or used for religious purposes; structures that have been moved from their original locations; reconstructed historic buildings; properties primarily commemorative in nature; and properties that have achieved significance within the past 50 years shall not be considered eligible for the NRHP, unless certain limited exceptions apply (none of which are relevant on the Project Site).

National Register Bulletin 38

The NHPA provides that historic properties may include TCPs of religious and cultural significance to Native American Tribes. National Register Bulletin 38, Guidelines for Evaluating and Documenting Traditional Cultural Properties (NPS 1998), outlines in more detail how to evaluate and document these types of historic properties. TCPs are resources eligible for the NRHP based on traditional cultural significance derived from the "role the property plays in a community's historically rooted beliefs, customs, and practices" (NPS 1998:1). National Register Bulletin 38 defines a TCP as "one that is eligible for inclusion in the National Register because of its association with cultural practices or beliefs of a living community that (a) are rooted in that community's history, and (b) are important in maintaining the continuing cultural identity of the community" (NPS 1998:1). TCPs can embrace a wide range of historic properties, such as the location associated with a Native American group's origin or the origin of the world (cosmogony), or an urban neighborhood that is the traditional home of a particular cultural group and that still reflects and is associated with their beliefs and practices. Other examples of TCPs include places where traditional people historically have gone and continue to visit for ceremonial practices. These examples are not intended to be exhaustive, but instead to illustrate the range of possible TCPs. The identification and evaluation of TCPs can be conducted only by consultation with members of the relevant group of people that ascribe value to the resource, or through other forms of ethnographic research. TCPs retain an essential importance to the communities who value them. "Traditional cultural values are often central to the way a community or group defines itself, and maintaining such values is often vital to maintaining the group's sense of identity and self respect. Properties to which traditional cultural value is ascribed often take on this kind of vital significance, so that any damage to or infringement upon them is perceived to be deeply offensive to, and even destructive of, the group that values them" (Parker and King 1998:2).

Evaluation of Traditional Cultural Properties for NRHP Eligibility

Evaluation of a TCP requires that it be identified as such by the community which recognizes its traditional and cultural value. TCPs may be evaluated for their eligibility to the NRHP, in the same way that other types of resources are evaluated, considering the four NRHP criteria as set forth in 36 CFR Section 60.4 (criteria [a]–[d]).

As with any resource that is evaluated for listing on the NRHP, the TCP must be a tangible district, site, building, structure, or object (NPS, 1998). These terms are not meant to limit or

exclude places from evaluation as a TCP; for instance, a bare grassy expanse at Mt. Tonaachaw on Truk, an island that is part of the Federated States of Micronesia, has been evaluated as a component of a TCP (NPS 1998) because it is associated with at least two different spirits who reside on or are represented by the mountain. This consideration requires merely that the TCP be a tangible property, rather than the intangible beliefs or values alone.

Integrity

The TCP must have integrity, like any property eligible for listing on the NRHP. For traditional cultural resources this means that they must have "integrity of relationship" and "integrity of condition" (NPS 1998). Integrity of relationship means simply that the specific place is integral and necessary to a traditional cultural group's beliefs or specific practices (NPS 1998). National Register Bulletin 38 gives the example of two different cultures, one that believes that baptism at a specific river is necessary to accept individuals as members, and another that simply requires baptism in any body of water. For the first example, the river is integrated into beliefs and practices of a traditional culture and thus has integrity of relationship.

Integrity of condition requires simply that the TCP has not been altered in such a way that it no longer can serve its function for the traditional cultural group. For example, a pilgrimage route to a sacred site would no longer have integrity of condition if modern construction had physically interrupted the route and thus made it unusable. This requirement does not mean that the TCP must be completely intact without any changes to the setting or features of the resource; rather, the test is whether or not the resource can still function for traditional cultural purposes or whether the presence of new elements disrupts the function. National Register Bulletin 38 offers an example of a resource that has integrity despite changes to the setting. One reach of the Klamath River in Northern California is within the ancestral and present territory of the Karuk people, and is the place where they carry out world renewal ceremonies and other rituals despite the presence of a modern highway, a U.S. Forest Service ranger station, and modern residences (NPS 1998).

If the TCP has integrity of relationship and integrity of condition, evaluation progresses to the second step of evaluating the resource for eligibility for listing on the NRHP applying the criteria set forth in 36 CFR Section 60.4, as described above.

National Park Service Preservation Brief 36: Protecting Cultural Landscapes

The NPS defines cultural landscapes as an additional category of resources that can qualify as historic properties. Cultural landscapes consist of (NPS 1994):

a geographic area, including both cultural and natural resources and the wildlife or domestic animals therein, associated with a historic event, activity, or person or exhibiting other cultural or aesthetic values.

The NPS defines four general types of cultural landscapes, which are not mutually exclusive: historic sites, historic designed landscapes, historic vernacular landscapes, and ethnographic landscapes (NPS 1994):

- 1. A historic site is a landscape significant for its association with a historic event, activity, or person. Examples include battlefields and president's house properties.
- 2. A historic designed landscape is significant as a design or work of art; was consciously designed and laid out either by a master gardener, landscape architect, architect, or horticulturist to a design principle, or by an owner or other amateur according to a recognized style or tradition; has a historical association with a significant person, trend, or movement in landscape gardening or architecture, or a significant relationship to the theory or practice of landscape architecture. Examples include parks, campuses, and estates.
- 3. A historic vernacular landscape is one whose use, construction, or physical layout reflects endemic traditions, customs, beliefs, or values; expresses cultural values, social behavior, and individual actions over time; is manifested in physical features and materials and their interrelationships, including patterns of spatial organization, land use, circulation, vegetation, structures, and objects. Examples include rural villages, industrial complexes, and agricultural landscapes.
- 4. An ethnographic landscape contains a variety of natural and cultural resources that associated people define as heritage resources, including plant and animal communities, geographic features, and structures, each with their own special local names. Examples include contemporary settlements, religious sacred sites, and massive geological structures. Small plant communities, animals, and subsistence and ceremonial grounds are often components [of the landscape].

Antiquities Act of 1906

The Antiquities Act of 1906 (U.S. Code, Title 16, Sections 431–433) is meant to protect cultural resources by requiring a fine and/or imprisonment be leveled upon any person "who shall appropriate, excavate, injure, or destroy any historic or prehistoric ruin or monument, or any object of antiquity, situated on lands owned or controlled by the Government of the United States."

Historic Sites Act of 1935

The Historic Sites Act of 1935 sets forth as a national policy that the United States should "preserve for public use historic sites, buildings and objects of national significance for the inspiration and benefit of the people of the United States." The act also sets forth duties by the National Park Service related to the preservation and interpretation of historic sites.

American Indian Religious Freedom Act of 1978

The American Indian Religious Freedom Act of 1978 makes it the policy of the United States to "protect and preserve for the American Indians their inherent right to freedom to believe, express, and exercise the traditional religions of the American Indian, Eskimo, Aleut, and Native Hawaiians, including but not limited to access to sites, use and possession of sacred objects, and the freedom to worship through ceremonials and traditional rites."

Archaeological Resources Protection Act of 1979

The Archaeological Resources Protection Act is meant to secure the protection of archaeological resources on public and Tribal land for the present and future benefit of the American people. It is designed to prevent looting and the destruction of archeological resources and provides for civil and criminal penalties. It is also meant to increase information exchange between professional archaeologists, governmental officials, and private individuals concerning collections and archaeological resources. Under the Act, "archaeological resources" are defined as items: (1) of archaeological interest over 100 years old; and (2) found in an archaeological context on federal or Indian lands. The Act requires finders of such resources to obtain a federal permit before excavating, and potentially recovering these objects, consistent with the standards and requirements of the Federal Archaeology Program.

Native American Graves Protection and Repatriation Act of 1990

The Native American Graves Protection and Repatriation Act provides for the protection of Native American graves, including human remains, funerary objects, and "objects of cultural patrimony" throughout the United States and its territories. It outlines the procedures for determining ownership for Native American human remains, funerary objects, and other sacred objects that may be discovered intentionally or unintentionally on federal land.

Religious Freedom Restoration Act of 1993

The Religious Freedom Restoration Act prohibits the government from substantially burdening religious exercise without demonstrating a compelling governmental interest as a justification for the burden. The government must also demonstrate that the action contemplated is the least restrictive means of furthering the demonstrated compelling governmental interest.

Paleontological Resources Preservation Act

The Paleontological Resources Preservation Act (PRPA) requires the Secretaries of the Interior and Agriculture to manage and protect paleontological resources on federal land using scientific principles and expertise (BLM 2013). The PRPA provides authority for the protection of paleontological resources including criminal and civil penalties for fossil theft and vandalism. The PRPA affirms the authority for many of the policies the federal land managing agencies, including the BLM, already have in place for the management of paleontological resources, such as issuing permits for collecting paleontological resources, curation of paleontological resources, and confidentiality of locational data (BLM 2013).

Executive Order 11593

Executive Order 11593, entitled Protection and Enhancement of the Cultural Environment, mandates that the federal government preserve, restore, and maintain the "historic and cultural environment" of the United States for future generations. It requires the federal government to initiate measures that protect federally owned, and nonfederally owned, "sites, structures, and objects of historical, architectural or archaeological significance."

Executive Order 12875

Executive Order 12875, entitled Enhancing the Intergovernmental Partnership, establishes regular and meaningful consultation and collaboration with state, local, and Tribal governments on federal matters that significantly or uniquely affect their communities.

Executive Order 13007

Executive Order 13007, entitled Indian Sacred Sites, mandates that agencies managing federal lands shall, to the extent feasible, permitted by law, and not clearly inconsistent with essential agency functions "(1) accommodate access to and ceremonial use of Indian sacred sites by Indian religious practitioners and (2) avoid adversely affecting the physical integrity of such sacred sites." For the purposes of this executive order, sacred sites are considered to be any specific, discrete, narrowly delineated location on federal land that is identified by an Indian Tribe or associated Native American individual to be representative of the Native American religion in discussion.

Executive Order 13175

Executive Order 13175, entitled Consultation and Coordination with Indian Tribal Governments, mandates that federal agencies conduct "regular and meaningful consultation and collaboration with Tribal officials in the development of federal policies that have Tribal implications...." It also requires agencies to participate in these consultation processes to strengthen government-to-government relations with Native American Tribal entities. Consultation guidance from the BLM is also discussed specifically in Manual Section 8120 and BLM Handbook 8120-1. Further, on November 5, 2009 President Obama issued a Presidential Memorandum For the Heads of Executive Departments and Agencies Re: Tribal Consultation. This memorandum reaffirms the federal government's commitment to regular and meaningful consultation and collaboration with Tribal officials in policy decisions that have Tribal implications. All federal agencies are required to complete a detailed plan of actions the agency will take to implement the policies and directives of Executive Order 13175, after consultation by the agency with Native American Tribas and Tribal officials.

Executive Order 13287

Executive Order 13287, entitled Preserve America, is meant to outline the role of the federal government in creating partnerships between governmental entities in the preservation and reuse of historic properties. It actively advances the protection, enhancement, and contemporary use of the historic properties owned by the federal government and promotes intergovernmental cooperation and partnerships for the preservation and use of historic properties. It advocates that each federal agency seek partnerships with state and local governments, Native American Tribes, and the private sector to promote local economic development. Specifically, by pursing these partnerships, the federal government can "promote the preservation of the unique cultural heritage of communities and of the Nation and to realize the economic benefit that these properties can provide."
Executive Order 13352

Executive Order 13352, entitled Facilitation of Cooperative Conservation, is meant to ensure that the Department of Interior (as well as other federal departments) implements laws relating to the environment and natural resources in a manner that promotes cooperative conservation. According to the executive order, the term cooperative conservation means, "actions that relate to use, enhancement, and enjoyment of natural resources, protection of the environment, or both, and that involve collaborative activity among federal, state, local, and Tribal governments, private for-profit and nonprofit institutions, other nongovernmental entities and individuals."

Presidential Memorandum on Government-to-Government Relationship with Tribal Governments (September 23, 2004)

This presidential memorandum reaffirms the existence and durability of the unique governmentto-government relationship and commitment to working with federally recognized Tribal governments on a government-to-government basis. It advocates that all departments and agencies adhere to these principles and work with Tribal governments in a manner that cultivates mutual respect and fosters greater understanding to reinforce these principles.

Bureau of Land Management Manual 8100, Handbook 8120-1

Sections 8110 through 8140 of this BLM Manual provide specific guidance for the BLM concerning cultural resources, which may include TCPs. Section 8100 provides a general summary of the framework for managing cultural resources. Specific objectives include, among others, the recognition of the public uses and values attributed to cultural resources on public lands, the preservation of cultural resources on public lands for current and future generations, and the assurance that proposed land uses would avoid inadvertent damage to cultural resources. Section 8110 outlines the procedures recommended for the identification and description of cultural resources. Specific objectives of Section 8120 include the assurance that Tribal issues and concerns are given consideration during the planning and decision-making process. Objectives of consultation should also include input from Native American Tribes as to proper collection, evaluation, and protection methodologies employed during the consultation process. Guidelines for this process are specifically outlined in BLM Handbook 8120-1. BLM Handbook 8120-1 also outlines the process for determining NRHP eligibility for a TCP and states that eligibility must be based on application of the NRHP criteria, that only places fulfilling one or more of the criteria may be found eligible, and that no type of property is automatically eligible for the NRHP, including TCPs. Section 8130 provides planning guidance for the BLM that considers the current and future use of cultural resources with the aim to resolve use allocation conflicts that have the potential to affect cultural properties. Finally, Section 8140 outlines objectives for the preservation of cultural resources, including the safeguarding of cultural resources from improper use and responsibly maintained in the public interest. Section 8140 also outlines the BLM's responsibility to adequately consider the effects on cultural properties from land use decisions.

Bureau of Land Management Manual 8270 and Handbook H-8270-1

BLM Manual 8270 and BLM Handbook H-8270-1 (General Procedural Guidance for Paleontological Resource Management) contain the agency's guidance for the management of

paleontological resources on public land. The Manual has information on the federal authorities and regulations related to these resources. The handbook gives procedures for permit issuance, requirements for qualified applicants, information on paleontology and planning, and a classification system for potential fossil-bearing geologic formations on public lands (BLM 2013).

In October 2007, BLM formalized the use of the new classification system for identifying fossil potential on public lands with the release of instruction memorandum 2008-2009. The classification system is based on the potential for the occurrence of significant paleontological resources in a geologic unit, and the associated risk for impacts to the resource based on federal management actions. It is intended to be applied in a broad approach for planning efforts, and as an intermediate step in evaluating specific projects. This IM is part of a larger effort to update the Handbook H-8270-1.

In October 2008, the BLM introduced guidelines for assessing potential impacts on paleontological resources in order to determine mitigation steps for federal actions on public lands under the Federal Land Policy and Management Act (FLPMA) and the National Environmental Policy Act (NEPA) in IM 2009-011. In addition, this IM provides field survey and monitoring procedures to help minimize impacts to paleontological resources from federal actions cases where it is determined that significant paleontological resources would be adversely affected by a federal action.

Bureau of Land Management Lake Havasu Field Office Resource Management Plan

In 2007, BLM approved the Lake Havasu Field Office Resource Management Plan (RMP), which outlined the BLM's plan for managing approximately 1.3 million acres of public land, including the Beale Slough Areas of Critical Environmental Concern (ACECs) that overlap in part with the Project Site. The RMP requires that "Beale Slough Riparian and Cultural ACEC will be managed to protect and prevent irreparable damage to the relevant characteristics and important values," acknowledging that the ACEC contains "significant cultural resources [and] cultural sites within part of a regional cultural complex." The RMP also notes that "the area's fragile and irreplaceable prehistoric sites are eligible for inclusion on the NRHP." The RMP designates an area near Topock as part of the Topock-Needles Special Cultural Resource Management Area (SCRMA), which is categorized as an area for "Conservation for Future Use" and as an area for "Traditional Use" (BLM 2007). As an area categorized as allocated for Traditional Use, the Topock-Needles SCRMA is considered a site that is "important for maintaining [Native American] cultural identity, heritage, or wellbeing." The final environmental impact statement for the RMP addresses these designations in the context of the Project, stating, "ACEC designation or SCRMA allocation is meant to protect significant cultural resources. Management decisions relating to Chromium VI remediation will take into account the special status of these lands but will not preclude necessary actions to protect the Colorado River from contamination" (BLM 2006:5-117).

4.4.2.2 State of California

California Environmental Quality Act

CEQA requires lead agencies to determine if a proposed project would have a significant effect on the environment, including significant effects on historical or archaeological resources.

Under CEOA (Section 21084.1), a project that may cause a substantial adverse change in the significance of a historical resource is a project that may have a significant effect on the environment. The CEQA Guidelines (Title 14 California Code of Regulations [CCR] Section 15064.5) recognize that an historical resource includes: (1) a resource listed in, or determined to be eligible by the State Historical Resources Commission for listing in, the CRHR; (2) a resource included in a local register of historical resources, as defined in Public Resources Code (PRC) Section 5020.1(k) or identified as significant in a historical resource survey meeting the requirements of PRC Section 5024.1(g); and (3) any object, building, structure, site, area, place, record, or manuscript which a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California by the lead agency, provided the lead agency's determination is supported by substantial evidence in light of the whole record. The fact that a resource does not meet the three criteria outlined above does not preclude the lead agency from determining that the resource may be an historical resource as defined in PRC Sections 5020.1(j) or 5024.1. PRC Section 21084.1 and CEQA Guidelines Section 15064.5(a) establish three analytical categories for use in determining whether a historical resource exists for purposes of CEQA. These are (1) mandatory historical resources; (2) presumptive historical resources; and (3) discretionary historical resources. A mandatory historical resource is one that has been listed in, or determined to be eligible by the State Historical Resources Commission, for listing in the CRHR). Only an official determination by the State Historical Resources Commission triggers this mandatory determination.

Resources presumed to be historically or culturally significant include those that have been listed in a local register of historical resources, as defined in Section 5020.1(k) of the PRC, or identified as significant in an a historical resources survey that meets specified criteria (e.g., PRC 5024.1[g]), unless the preponderance of evidence demonstrates otherwise.

A discretionary historical resource is a resource that does not fit within the mandatory or presumptive categories, but that is determined to be a historical resource in the exercise of the lead agency's discretion. This includes, in relevant part, "[a]ny object . . . site, area, place which a lead agency determines to be historically significant or significant in the . . . cultural annals of California may be considered to be an historical resource, provided the lead agency's determination is supported by substantial evidence in light of the whole record." (CEQA Guidelines Section 15064.5, subd. (a)(3)). A lead agency evaluating potential project impacts under CEQA therefore has broad discretion to determine whether a particular resource that may be affected by a proposed project is a historical resource for purposes of CEQA. When such a determination is made, the criteria to be applied include the criteria for listing on the CRHR.

If a lead agency determines that an archaeological site is an historical resource, the provisions of Section 21084.1 of CEQA and Section 15064.5 of the CEQA Guidelines apply. If a project may cause a substantial adverse change (defined as physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of an historical resource would be materially impaired) in the significance of an historical resource, the lead agency must identify potentially feasible measures to mitigate these effects (CEQA Guidelines Sections 15064.5(b)(1), 15064.5(b)(4)).

If an archaeological site does not meet the criteria for a historical resource contained in the CEQA Guidelines, then the site may be treated in accordance with the provisions of Section 21083, which is a unique archaeological resource. As defined in Section 21083.2 of CEQA a "unique" archaeological resource is an archaeological artifact, object, or site, about which it can be clearly demonstrated that without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria:

- Contains information needed to answer important scientific research questions and there is a demonstrable public interest in that information;
- Has a special and particular quality such as being the oldest of its type or the best available example of its type; or,
- Is directly associated with a scientifically recognized important prehistoric or historic event or person.

If an archaeological site meets the criteria for a unique archaeological resource as defined in Section 21083.2, then the site is to be treated in accordance with the provisions of Section 21083.2, which state that if the lead agency determines that a project would have a significant effect on unique archaeological resources, the lead agency may require reasonable efforts be made to permit any or all of these resources to be preserved in place (Section 21083.1(a)). If preservation in place is not feasible, mitigation measures shall be required.

The CEQA Guidelines note that if an archaeological resource is neither a unique archaeological nor a historical resource, the effects of the project on those resources shall not be considered a significant effect on the environment (CEQA Guidelines Section 15064.5(c)(4)).

California Register of Historical Resources

The CRHR is "an authoritative listing and guide to be used by state and local agencies, private groups, and citizens in identifying the existing historical resources of the state and to indicate which resources deserve to be protected, to the extent prudent and feasible, from substantial adverse change" (PRC Section 5024.1[a]). The criteria for eligibility for the CRHR are based upon NRHP criteria (PRC Section 5024.1[b]). Certain resources are determined by the statute to be automatically included in the CRHR, including California properties formally determined eligible for, or listed in, the NRHP.

To be eligible for the CRHR, a resource must be significant at the local, state, and/or federal level under one or more of the following criteria:

- 1. Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;
- 2. Is associated with the lives of persons important in our past;
- 3. Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or
- 4. Has yielded, or may be likely to yield, information important in prehistory or history.

A resource eligible for the CRHR must meet one of the criteria of significance described above, and retain enough of its historic character or appearance (integrity) to be recognizable as a historical resource and to convey the reason for its significance. It is possible that a resource may not retain sufficient integrity to meet the criteria for listing in the NRHP, but it may still be eligible for listing in the CRHR.

Additionally, the CRHR consists of resources that are listed automatically and those that must be nominated through an application and public hearing process. The CRHR automatically includes the following:

- California properties listed on the NRHP and those formally determined eligible for the NRHP;
- California Registered Historical Landmarks from No. 770 onward; and,
- Those California Points of Historical Interest that have been evaluated by the California Office of Historic Preservation (OHP) and have been recommended to the State Historical Commission for inclusion on the CRHR.

Other resources that may be nominated to the CRHR include:

- Historical resources with an NRHP code of 3 through 5 (those properties identified as eligible for listing in the NRHP, the CRHR, and/or a local jurisdiction register);
- Individual historical resources;
- Historical resources contributing to historic districts; and,
- Historical resources designated or listed as local landmarks, or designated under any local ordinance, such as an historic preservation overlay zone.

Another category of "historical resources" are those "deemed significant pursuant to criteria set forth in PRC Section 5024.1(g), which states that "[a] resource identified as significant in an historical survey may be listed in the CRHR if the survey meets all of the following criteria:

- (1) The survey has been or will be included in the State Historic Resources Inventory.
- (2) The survey and the survey documentation were prepared in accordance with...procedures and requirements [of the (California) Office of Historic Preservation OHP].
- (3) The resource is evaluated and determined [by the OHP] to have a significance rating of Category 1 to 5 on [the DPR Historic Resources Inventory Form].

(4) If the survey is 5 years or more old at the time of its nomination for inclusion in the CRHR, the survey is updated to identify historic resources which have become eligible or ineligible due to changed circumstances or further documentation and those which have been demolished or altered in a manner that substantially diminished the significance of the resource.

Resources identified by such surveys are presumed to be historically or culturally significant unless the preponderance of evidence demonstrates otherwise.

TCPs may also be eligible for the CRHR under CEQA Guidelines Section 15064.5(a)(3). Section 15064.5 provides that, in general, a resource not listed in state or local registers of historical resources shall be considered by the lead agency to be historically significant if the resource meets the criteria for listing in the CRHR.

Section 15064.5(e) of the CEQA Guidelines requires that excavation activities be stopped whenever human remains are uncovered and that the county coroner be called in to assess the remains. If the county coroner determines that the remains are those of Native Americans, the NAHC must be contacted within 24 hours. At that time, CCR Section 15064.5(d) of the CEQA Guidelines directs the lead agency to consult with an appropriate Native American as identified by the NAHC and directs the lead agency (or applicant), under certain circumstances, to develop an agreement with the Native Americans for the treatment and disposition of the remains.

Public Resources Code 5020.7

PRC Section 5020.7 directs public agencies to carry out their responsibilities in a manner that encourages owners of identified (and unidentified) historical resources to preserve and enhance these historical resources for the general public.

Public Resources Code 5097.9

PRC Section 5097.9 requires that no public agency (or private party using or occupying public property) interfere with "the free expression or exercise of Native American religion as provided in the United States Constitution and the California Constitution." Specifically, no part shall cause, "severe or irreparable damage to any Native American sanctified cemetery, place of worship, religious or ceremonial site, or sacred shrine located on public property, except on a clear and convincing showing that the public interest and necessity so require."

Public Resources Code 5097.91

PRC Section 5097.91, as amended by Assembly Bill 2641, establishes the NAHC, "consisting of nine members appointed by the Governor with the advice and consent of the Senate."

Public Resource Code 5097.98

PRC Section 5097.98, as amended by Assembly Bill 2641, provides procedures in the event human remains of Native American origin are discovered during project implementation. PRC Section 5097.98 requires that no further disturbances occur in the immediate vicinity of the discovery, that the discovery is adequately protected according to generally accepted cultural and

archaeological standards, and that further activities take into account the possibility of multiple burials. PRC Section 5097.98 also requires the NAHC, upon notification by a County Coroner, designate and notify a Most Likely Descendant (MLD) regarding the discovery of Native American human remains. Once the MLD has been granted access to the site by the landowner and inspected the discovery, the MLD then has 48 hours to provide recommendations to the landowner for the treatment of the human remains and any associated grave goods. In the event that no descendant is identified, or the descendant fails to make a recommendation for disposition, or if the land owner rejects the recommendation of the descendant, the landowner may, with appropriate dignity, reinter the remains and burial items on the property in a location that will not be subject to further disturbance.

Public Resources Code 5097.99

PRC Section 5097.99 prohibits acquisition or possession of Native American artifacts or human remains taken from a Native American grave or cairn after January 1, 1984, except in accordance with an agreement with the NAHC.

Public Resources Code 5097.991

PRC Section 5097.991 states that it is the policy of California that Native American remains (and associated grave artifacts) shall be repatriated.

Public Resources Code 5097.993 and 5097.994

This section establishes as a misdemeanor the unlawful and malicious excavation, injury, destruction, or defacement of any property eligible for listing in the CRHP, including, "any historic or prehistoric ruins, any burial ground, any archaeological or historic site, any inscriptions made by Native Americans at such site, any archaeological or historic feature of a Native American historic, cultural, or sacred site" located on public land or on private land, by a person, other than the landowner.

Health and Safety Code 7050.5-7055

Health and Safety Code Sections 7050.5-7055 provide for punishment relating to the intentional disturbance, mutilation, or removal of interred human remains as a misdemeanor. In some cases, this intention disturbance, mutilation, or removal can be considered a felony. The Health and Safety Code Section 7050.55 requires that in the event human remains are discovered, the County Coroner be contacted to determine the nature of the remains. In the event the remains are determined to be Native American in origin, the Coroner is required to contact the NAHC within 24 hours to relinquish jurisdiction.

California Executive Order W-26-92

California Executive Order W-26-92 affirms that all state agencies shall recognize, preserve, and maintain the significant heritage resources of the state.

California Executive Order B-10-11

California Executive Order B-10-11 affirms that all state agencies shall encourage communication and consultation with California Indian Tribes.

California Environmental Protection Agency (EPA) Policy Memorandum CIT-09-01: EPA for Working with California Indian Tribes

EPA Policy Memorandum CIT-09-01 is meant to provide "a framework for EPA and its Boards, Departments and Offices (BDOs) to improve and maintain communication and collaboration between EPA, its BDOs, and California Indian Tribes to further the mission of EPA." The memorandum puts forth a number of guidance principles for EPA and its BDOs, including, but not limited to; the acknowledgement of Tribal sovereignty; to identify, include, and communicate with California Native American Tribes in decision-making processes that may affect Tribal lands and/or cultural resources; and consider the potential impact of activities on Tribal lands and cultural resources. The memorandum includes 10 actions that are identified to help EPA achieve its guiding principles, with many focusing on increasing and/or improving communication between EPA and Native American Tribes (EPA 2009).

4.4.2.3 Local

County of San Bernardino 2007 General Plan

According to the *County of San Bernardino 2007 General Plan*, nearly 12,000 cultural resources have been recorded in the San Bernardino County. This includes 122 properties within the county on the California Point of Historic Interest list, 39 on the California Historical Landmarks list, 413 properties eligible for the NRHP, and 49 properties that are listed on the NRHP. A goal of the County General Plan is the preservation and promotion of San Bernardino County's historic and prehistoric cultural heritage. Policies related to cultural resources include:

- **Policy CO 3.1:** Identify and protect important archaeological and historic cultural resources in areas of the County that have been determined to have known cultural resource sensitivity.
- **Policy CO 3.2:** Identify and protect important archaeological and historic cultural resources in all lands that involve disturbance of previously undisturbed ground.
- **Policy CO 3.3:** Establish programs to preserve the information and heritage value of cultural and historical resources.
- **Policy CO 3.4:** The County will comply with Government Code Section 65352.2 (SB 18) by consulting with Tribes as identified by the California Native American Heritage Commission on all General Plan and specific plan actions.
- **Policy CO 3.5:** Ensure that important cultural resources are avoided or minimized to protect Native American beliefs and traditions.

Programs identified in the County General Plan with specific application to this Project include two programs related to Policy CO 3.5:

- **Program 1:** Consistent with SB 18, as well as possible mitigation measures identified through the CEQA process, the County will work and consult with local Tribes to identify, protect and preserve TCPs. TCPs include both manmade sites and resources as well as natural landscapes that contribute to the cultural significance of areas.
- **Program 3:** The County will work in good faith with the local Tribes, developers/applicants and other parties of the local affected Tribes request the return of certain Native American artifacts from private development projects. The developer is expected to act in good faith when considering the local Tribe's request for artifacts. Artifacts not desired by the local Tribe will be placed in a qualified repository as established by the California State Historical Resources Commission. If no facility is available, then all artifacts will be donated to the local Tribe.

In the event that archaeological sites are affected by a project, the following actions related to Policy CO 3.5 are required by the County regarding the disposition of archaeological sites and cultural remains (including human remains):

- (a) The NAHC and local reservation, museum, and other concerned Native American leaders will be notified in writing of any proposed evaluation or mitigation activities that involve excavation of Native American archaeological sites, and their comments and concerns solicited.
- (b) The concerns of the Native American community will be fully considered in the planning process.
- (c) If human remains are encountered during grading and other construction excavation, work in the immediate vicinity will cease and the County Coroner will be contracted pursuant to the state Health and Safety Code.
- (d) In the event that Native American cultural resources are discovered during project development and/or construction, all work in the immediate vicinity of the find will cease and a qualified archaeologist meeting U.S. Secretary of the Interior standards will be hired to assess the find. Work on the overall project may continue during this assessment period.
- (e) If Native American cultural resources are discovered, the County will contact the local Tribe. If requested by the Tribe, the County will, in good faith, consult on the discovery and its disposition with the Tribe.

4.4.3 Environmental Impacts

4.4.3.1 Impact Methodology

Analysis of impacts on cultural and paleontological resources was based on consideration of the nature and scope of soil investigation activities, the location of known cultural and paleontological resources, and the potential for the inadvertent discovery of unknown cultural or paleontological resources. The resulting data is described in Sections 4.4.1.5 (Cultural Resources), 4.4.1.6 (Geoarchaeological Review), 4.4.1.7 (Native American Scoping), and 4.4.1.8 (Paleontological Resources). Several historic-period built resources and archaeological resources inventories were previously conducted for the Groundwater Remediation Project, which encompass the Project Site. These studies include records searches of the CHRIS-SBAIC in 2004

and 2011 and historic-period built resources and archaeological resources surveys conducted between 2004 and 2007 (Davy et al. 2004; McDougall and Horne 2007).

A site condition assessment field visit was conducted by AE on behalf of PG&E on September 30 and October 1, 2013 (Hearth et al. 2013). Attendees included representatives from AE, PG&E, DTSC, Environmental Science Associates, FMIT, CRIT, Hualapai Indian Tribe, and Cocopah Indian Tribe. The field visit included site conditions assessments for 14 previously recorded resources within the Project Site to determine if site conditions have changed since their most recent documentation.

A geoarchaeological review was conducted, focusing on the sampling locations within the Project Site. The desktop geoarchaeological review (Lockwood 2014) consisted of a review of existing geologic maps and literature in order to characterize the various landforms for their potential to contain surface and subsurface archaeological resources.

Information gleaned through Native American scoping efforts in connection with this Project, comment letters on the Groundwater FEIR, and other information provided by Interested Tribes was reviewed in order to assess potential impacts to the Topock TCP. The Soil Work Plan was prepared through a multiyear public involvement process. In May 2011, PG&E submitted the draft Soil Work Plan to agencies, Native American Tribes, and other stakeholders. The draft Soil Work Plan was refined after comments were received from these entities. PG&E and DTSC worked together to minimize, to the extent possible, the effects of the proposed soil investigation activities on sensitive resources, particularly within the Topock TCP. Section 4.4.1.7, "Native American Scoping," provides a description of the Native American scoping process undertaken as part of the soil investigation project. Section 7.4, "Alternatives" provides a summary of the changes that were made to the Soil Work Plan based on input from agencies, Native American Tribes, and other stakeholders.

In addition, a PRMP was prepared for the Groundwater Remediation Project by ARCADIS in December, 2012. This plan included a paleontological literature review, records check, and field survey of the Groundwater Remediation project area, which encompasses the Project Site.

4.4.3.2 Thresholds of Significance

Consistent with Appendix G of the CEQA Guidelines, the proposed Project would result in a significant impact if it would:

- Cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5;
- Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5;
- Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature; or
- Disturb any human remains, including those interred outside of formal cemeteries.

According to CEQA Guidelines (Section 15064.5(b)), a project with an effect that may cause a substantial adverse change in the significance of a historical resource is a project that may have a significant effect on the environment. The guidelines further state that a substantial adverse change in the significance of a resource means the physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of a historic resource would be materially impaired. Actions that would materially impair the significance of a historical resource are any actions that would demolish or adversely alter those physical characteristics of a historical resource that convey its historical significance and qualify it for inclusion in the CRHR or in a local register or survey that meet the requirements of PRC Sections 5020.1(k) and 5024.1(g). A lead agency must also take into account impacts to unique archaeological resources (CEQA Guidelines Section 15064.5(c)(1)-(4)).

4.4.3.3 Impact Analysis

Impacts to cultural and paleontological resources could result from Project-related activities. Specific Project activities that may impact cultural and paleontological resources include:

- The presence of equipment, workers, and vehicles during soil investigations;
- Access road improvements to create physical access to certain locations where limited access currently exists;
- Trimming, pruning, or clearing of up to 2 acres of vegetation at the mouth of Bat Cave Wash, or movement of boulders to enhance access to some of the soil sampling collection locations;
- Setting up Using existing staging areas that are, to the extent feasible, located in previously disturbed and existing operational areas (approximately 26 acres) for equipment storage, maintenance/fueling, and decontamination (work area exclusion zones); and for displaced soil management;
- Foot traffic during these events including, sampling, survey of subsurface utilities, establishment of temporary weather- and dust-monitoring stations, bench scale tests, pilot studies, geotechnical evaluations, and other Project activities;
- Operation of equipment including truck- or track-mounted drilling rigs, backhoes, and excavators;
- Drilling or excavation of soil borings using the following methods:
 - o small hand tools (trowel, shovel, slide-hammer, and hand auger),
 - o a sonic or hollow-stem auger drilling rig,
 - o a hydrovac truck in conjunction with hand tools, or
 - o a backhoe/excavator;
- Removal of soil from the Project Site through the collection of soil samples, the disposal of investigation-derived waste, and bench scale tests;

- Implementation of bench scale tests using hand tools or an excavator;
- Implementation of geotechnical evaluations using a hollow-stem auger drill;
- Implementation of pilot studies to test the effectiveness of in situ soil flushing (within the bottom of Bat Cave Wash) and in situ stabilization/chemical fixation (within the bottom of Bat Cave Wash and the Station);
- Sampling of plant or other biota; and
- Raking of the ground to remove tire tracks during work area restoration.

These types of activities could result in significant impacts to cultural and paleontological resources, which would require measures to avoid or mitigate substantial adverse changes in the significance of historical or unique archaeological resources, unique paleontological resources, or human remains. Pursuant to Section 106 of the NHPA, in 2010, BLM, the U.S. Fish and Wildlife Service (USFWS), State Historic Preservation Officers (SHPOs) of California and Arizona, PG&E, the Advisory Council on Historic Preservation (ACHP), and the Hualapai Tribe entered into a PA for the Topock Remediation Project (including the soil investigation). In 2012, in conformance with the PA, BLM developed a CHPMP that specifies how cultural and historic properties are to be treated during the Topock Remediation Project (including the soil investigation). The mitigation presented in this section is intended to shall be implemented in addition to any treatment requirements under PA and CHPMP.

Topock Traditional Cultural Property

The Project Site is located within a larger area determined by the BLM to encompass the NRHPeligible Topock TCP. Impacts to those physical characteristics (contributing elements) that convey the TCP's historical significance, such as the Topock Maze, land, water, plants, animals, prehistoric archaeological resources, and the viewshed, would result in a significant impact to the historical resource identified as the Topock TCP. Contributing elements that would not be affected by the Project include the Topock Maze, <u>known prehistoric archaeological resources</u>, and water and animals. Contributing elements that could be affected by the Project include land, plants, <u>animals</u>, <u>unknown</u> prehistoric archaeological resources, and the viewshed. Impacts to each of these elements are considered below.

Land

Activities involving ground disturbance would directly and adversely affect the soil and landforms identified by some Interested Tribes as contributing elements of the Topock TCP. Because the land itself is essential to the significance of the TCP, the disturbance and removal of soil is considered a profound disruption in the belief system of some Interested Tribes and would affect the TCP long after the Project is completed.

<u>Animals</u>

Activities involving biota sampling would directly and adversely affect animals identified by some Interested Tribes as contributing elements of the Topock TCP. Because animals themselves

are essential to the significance of the TCP, biota sampling is considered disruptive to the natural environment of the Topock TCP.

Plants

Up to 2 acres of vegetation at the mouth of Bat Cave Wash would be trimmed, pruned, or cut (leaving roots in place) to enhance access to some of the soil investigation locations. Impacts to vegetation may also occur from the proposed plant or other biota sampling. Native vegetation, particularly those indigenous species of ethnobotanical importance, is significant to some Interested Tribes as an integral part of the Topock TCP. Pruning or alteration of the natural growth of native and traditional plant species for reasons other than traditional uses is considered disruptive to the natural environment of the Topock TCP.

Prehistoric Archaeological Resources

Some Interested Tribes value prehistoric archaeological resources as an integral part of the TCP (see **Table 4.4-3** for list of nine known prehistoric archaeological resources in the Project Site that contribute to the Topock TCP). <u>Although known prehistoric archaeological resources are being avoided through Project design, there is the potential for the Project to inadvertently impact unknown prehistoric archaeological resources. Any damage, destruction, or alteration to such an archaeological resource would negatively affect the TCP.</u>

Viewshed

Some Interested Tribes have expressed that the viewshed, comprising a panoramic 360-degree view of the Project Site and vicinity (see Figures 4.1-2A-2C) is more important than individual line-of-sight views. Because some Interested Tribes have broad conception of visual intrusions to the Topock TCP, impacts to the TCP viewshed go beyond visible physical disturbances and extend into the metaphysical plane in the opinion of the some Interested Tribes. The viewshed of the Topock TCP is not limited to a view in a particular direction, or even to a 360-degree view, but includes a three-dimensional perspective that extends below ground surface. Soil sample collection activities would include drilling hundreds of bore holes that would be backfilled. Following Project completion, the ground surface would closely resemble pre-investigation conditions and would not leave a permanent visual impact on the landscape. Nonetheless, as noted above in Section 4.4.1.4, for some Interested Tribes these disturbances can still be seen from the "mind's eye." The knowledge of physical alterations to the landscape remain in the collective consciousness of those Interested Tribes who associate deep spiritual beliefs and values with the area long after the landscape has been restored and evidence of destruction is no longer physically visible.

TABLE 4.4-3 PROJECT IMPACTS TO KNOWN HISTORICAL RESOURCES (INCLUDING THE TOPOCK TCP)						
					Project Impact	
Historical Resource	Resource Type	Description	Contributing Element of Topock TCP	Significant Impact	No Impact – Avoided through Project Design	Less than Significant Impact
Topock TCP	Traditional Cultural Property	TCP of traditional religious and cultural significance to several local Tribes. Contributing elements include: the Topock Maze, land, water, plants, animals, prehistoric archaeological resources, and the viewshed		Х		
CA-SBR-2910H	Historic Built Resource	Historic Route 66/National Old Trails Highway				Х
CA-SBR-6693H	Historic Built Resource	Atlantic & Pacific/Atchison Topeka & Santa Fe Railroad alignment			Х	
CA-SBR-11705/H	Multicomponent Archaeological Resource	Refuse scatter, roads, quarries/tailings, and a lithic scatter	Х		Х	
CA-SBR-11862H	Historic-Period Archaeological Resource	Remnants of El Rancho Colorado Roadhouse				Х
CA-SBR-11865H	Historic-Period Archaeological Resource	Segment or siding of the 1890–1947 Atlantic & Pacific/Atchison Topeka & Santa Fe RR			Х	
CA-SBR-11866H	Historic-Period Archaeological Resource	Sedimentation ponds and ditch			Х	
CA-SBR-11867	Prehistoric Archaeological Resource	Lithic assay station	Х		Х	
CA-SBR-11993	Prehistoric Archaeological Resource	Rock-shelter	Х		Х	
CA-SBR-11997H	Historic Built Resource	Rock-and-mortared bridge			Х	
CA-SBR-12642H	Historic-Period Archaeological Resource	Concrete bridge footing			Х	

TABLE 4.4-3 PROJECT IMPACTS TO KNOWN HISTORICAL RESOURCES (INCLUDING THE TOPOCK TCP)						
					Project Impact	
Historical Resource	Resource Type	Description	Contributing Element of Topock TCP	Significant Impact	No Impact – Avoided through Project Design	Less than Significant Impact
CA-SBR-13791H	Historic-Period Archaeological Resource	Railroad-related refuse scatter			Х	
CA-SBR-13793H	Historic-Period Archaeological Resource	TNT/Nitro storage hole cut into an arroyo			Х	
CA-SBR-13796	Prehistoric Archaeological Resource	Lithic reduction station	Х		Х	
CA-SBR-14698	Prehistoric Archaeological Resource	Lithic assay station	Х		Х	
36-021486	Historic Built Resource	Historic Route 66 Sign			Х	
36-021491	Prehistoric Archaeological Resource	2 chert cortical flakes	Х		Х	
AE-Topock-183	Prehistoric Archaeological Resource	Lithic assay station	Х		Х	
AE-Topock-184/H	Multicomponent Archaeological Resource	Lithic assay station/historic refuse scatter	Х		Х	
AE-Topock-185	Prehistoric Archaeological Resource	Lithic assay and reduction station	Х		Х	
-	Historic Built Resource	PG&E Topock Gas Compressor Station				Х

IMPACT Potential Impacts to the Topock Traditional Cultural Property. Implementation **CR-1** of the proposed Project could cause a substantial adverse change in the significance of the historical resource identified as the Topock TCP as a result of the physical destruction and alteration to the characteristics of the property that convey its historical significance and qualify it for inclusion in the CRHR as defined in CEQA Guidelines Section 15064.5. The substantial adverse change to the TCP and its contributing elements would result from ground-disturbing activity that would directly and adversely affect the soil, landforms, and unknown prehistoric archaeological resources; pruning or alteration of the natural growth of native and traditional plant species; plant and biota sampling; and the presence of equipment, workers, and vehicles, which would introduce activities that are inconsistent with the natural setting associated with the Topock TCP. These activities would also materially affect the cultural values ascribed to the TCP by Tribes. This impact would be significant.

Mitigation Measure CR-1: Historical Resource Identified as the Topock TCP

CR-1a: Tribal Coordination

CR-1a-1: Tribal Document Review and Comment. Interested Tribes shall continue to be afforded the opportunity to review and comment on all cultural resources-related documentation prepared as a result of this Project. Tribal comments shall be considered to the extent feasible by DTSC, in coordination with Interested Tribes, PG&E, and representative landowners (BLM, BOR, FMIT, PG&E, and USFWS). Cultural resources documents shall include, but not be limited to, pre-investigation verification survey memoranda; daily archaeological monitoring logs; monitoring report to be prepared at the close of ground-disturbing activities; annual monitoring reports; <u>DPR forms;</u> and any documentation arising as a result of the inadvertent discovery of potential historical resources of a Tribal nature pursuant to CR-2d (Inadvertent Discovery of Potential Historical Resources and Unique Archaeological Resources). Interested Tribes shall also be afforded the opportunity to review and comment on technical documents including, but not limited to, soil investigation-related plans and reports, bench and pilot study implementation plans, and biological resources reports.

CR-1a-2: Tribal Access. Interested Tribes shall be provided access to the Project Site to the extent PG&E has the authority to facilitate such access and be consistent with existing laws, regulations, and agreements as they pertain to property within the Project Site. On federal property, access shall be governed by the provisions of Appendix B (*Tribal Access Plan*) of the CHPMP. On non-federal property, access shall be accommodated by PG&E to the extent feasible; the access plan may place restrictions on access into certain areas, such as the Station and the existing evaporation ponds, subject to DTSC review with regard to health and safety concerns and to ensure noninterference with approved investigation activities. PG&E shall retain copies of all access-related communications to be provided to DTSC on a quarterly basis, as required by CR-1a-3.

CR-1a-3: Tribal Communication. Consistent with past practices and the communication processes previously entered into by PG&E with Interested Tribes, PG&E shall continue to communicate with Interested Tribes prior to the start of and during investigation activities for the Project. PG&E shall document, and accommodate where feasible, the Tribes' preferences for method of communication and for transmitting large documents, and shall seek to avoid scheduling conflicts between scientific survey (i.e., pre-investigation historical resources verification survey, annual historical resources monitoring, and biological resources survey) and Topock-related meeting activities to the greatest extent possible. Outreach efforts between the Interested Tribes and PG&E shall be communicated by PG&E to DTSC quarterly during investigation activities for review and input.

Communication protocols as they relate to Tribal involvement in the worker cultural resources sensitivity training shall be governed by CR-1b.

Communication protocols as they relate to Tribal monitoring of scientific survey and Projectrelated ground-disturbing activities shall be governed by CR-1d.

Communication protocols as they relate to Tribal monitoring of annual historical resource monitoring shall be governed by CR-2c.

Communication protocols as they relate to inadvertent discoveries of potential historical resources as defined by CEQA will be governed by CR-2d. Human remains will be governed by CR-4.

CR-1b: Worker Education Program

A worker cultural resources sensitivity program shall continue to be implemented for the Project consistent with existing practices in addition to any requirements under the PA and CHPMP, but may be integrated in a manner that avoids duplication of requirements under the PA and CHPMP. Specifically, an initial sensitivity training session shall be provided by PG&E to all Project employees, contractors, subcontractors, and other professionals prior to their involvement in any ground-disturbing activities, with subsequent training sessions to be held as new personnel become involved in the Project. PG&E shall invite Interested Tribes to participate in and present Tribal perspectives during the training sessions. The sensitivity program shall address: the cultural (Native American, archaeological, and paleontological) sensitivity of the Project Site and a tutorial providing information on how to identify these types of resources; appropriate behavior; worker access routes and restrictions; work area cleanliness; procedures to be followed in the event of an inadvertent discovery; safety procedures when working with monitors; and consequences in the event of noncompliance. PG&E shall notify DTSC and the Interested Tribes no less than 2 weeks prior to the initial training session. Subsequent training sessions may be of a less formal nature; however, they must be comprehensive in the subject matter covered. Tribes will be provided the opportunity to participate in informal training sessions if available. DTSC and Tribes will be notified prior to the occurrence of subsequent training sessions and afforded

the opportunity to participate. <u>PG&E will keep records of The program agenda and training</u> materials together with attendance rosters, <u>and provide them to</u> DTSC <u>quarterly</u> will be provided to DTSC within 1 week of each training session.

CR-1c: Pre-Investigation Historical Resources Field Check Verification

CR-1c-1: Personnel Qualifications Standards. Cultural resources consulting staff shall meet, or be under the direct supervision of individuals meeting, the minimum professional qualifications standards (PQS) set forth by the Secretary of the Interior (codified in 36 CFR Part 61; 48 FR 44739). DTSC shall have approval authority over PG&E's cultural resources consultant.

CR-1c-2: Pre-Investigation Historical Resources Field Check Verification. A pre-investigation historical resources field check-verification for soil sampling locations shall be conducted by PG&E after approval of the work plan but not less than four weeks prior to the commencement of ground-disturbing activities in these locations. Additional field verifications may be completed as Project work progresses, provided the field portions of the verifications are conducted not less than four weeks prior to the start of ground disturbance in that area. Also, field verifications for contingency and pilot studies shall occur after approval work plan(s) but not less than four weeks prior to the start of ground disturbance. The field check-verification shall include all sampling locations, including any future pilot study areas, new access areas, and equipment and materials staging areas, plus a 50-foot buffer surrounding sampling areas where topography allows. Sampling activities may occur within the buffer area without additional field check-verification. Interested Tribes shall be afforded the opportunity to participate and shall be provided 2 weeks (14 calendar days) notice prior to the start of the field check-verification. The objective of the field eheck-verification will be to verify that additional resources qualifying as historical resources under CEQA are not present within the investigative location areas. Interested Tribes shall be afforded the opportunity to identify, and DTSC to consider, for the purposes of avoidance, any physical features of Tribal significance within the field check-verification area, including but not limited to trails, rock features, desert pavement areas, and cleared circles that might be considered contributors to the TCP. A Pre-Investigation Historical Resources Field Check-Verification Memorandaum following the California Office of Historic Preservation's (OHP's) Archaeological Resource Management Reports (ARMR) guidelines, shall be prepared by PG&E that documents the methods of the field eheck verification, participants involved in the field check verification, and the results of the field check verification. Interested Tribes shall be invited to prepare a section that reports Tribal observations during the field check-verification, and asked to provide any observations to PG&E within 2 weeks of the field portion of the verification. The Memorandaum shall be submitted to DTSC for review and comment within 3 weeks from completion of the field check no later than 10 days prior to the start of ground disturbance in an area, and the submission shall include any Tribal observations given to PG&E within the two-week time frame set forth above. Tribal review and comment of the Pre-Investigation Historical Resources Field Check-Verification Memorandaum shall be governed by CR-1a-1.

In the event that resources qualifying as historical resources under CEQA are found in the investigation areas, including physical features of traditional cultural value to Interested Tribes as contributors to the TCP or archaeological resources, are identified during the field eneck verification, treatment of such resources shall be governed by procedures outlined in CR-1e and CR-2, respectively. If avoidance of the identified resources is determined by DTSC, in coordination with respective landowners, Interested Tribes, and PG&E to be infeasible because it would impede the fundamental Project objective to obtain sufficient information to allow for a complete soil characterization of the area, protective actions (such as elevated ramps, protective coverings or other types of temporary capping) shall be taken to reduce or minimize impacts to the resource to the maximum extent feasible. Any protective measures would be implemented in coordination with DTSC. Work areas would be restored to pre-investigation conditions consistent with CR-1e-6.

CR-1d: Cultural Resources Monitoring Program

The Cultural Resources Monitoring Program shall be consistent with Appendix C (*Topock Remediation Project Programmatic Agreement Tribal and Archaeological Monitoring Protocols*) of the PA and Section 6.6.4, "*Construction Monitoring*," of the CHPMP. PG&E shall include DTSC as a party requiring notification and coordination along with the parties already listed in the Appendix C Monitoring Protocols.

Archaeological monitoring shall be conducted during all Project-related ground-disturbing activities for the purpose of identifying and avoiding impacts to archaeological resources that could potentially qualify as historical resources under CEQA. Archaeological monitors shall work under the direct supervision of an archaeologist meeting the PQS as described in CR-1c-1 and shall complete daily monitoring logs. Upon completion of investigation activities, a Soil Investigation Monitoring Report shall be prepared following ARMR guidelines. The monitoring report shall document dates of monitoring and monitoring participants, activities observed, soil types observed, and any archaeological resources encountered. PG&E shall provide Interested Tribes an opportunity to contribute their observations to the monitoring report. To be included in the monitoring report, the Tribal section must be provided to PG&E within 8 weeks after completion of monitoring activities. DPR 523 forms, following the OHP's Instructions for *Recording Historical Resources*, shall be prepared and filed with the SBAIC for all newly identified and updated resources and shall be appended to the monitoring report. The report shall be provided to the Tribes for review and comment consistent with CR-1a-1. The report shall be provided to DTSC and the Tribes for review and comment within 16 weeks of Project completion.

Interested Tribes shall be invited to monitor during scientific survey (as defined in CR-1a-3) and all ground-disturbing activities associated with the Project. PG&E shall provide Tribal monitors with reasonable compensation consistent with historic rates, for all monitoring work performed. Interested Tribes shall be afforded a minimum of 1 week's notice prior to the commencement of

project-related ground-disturbing activities. During Project activities, Interested Tribes shall be provided with weekly work forecasts to facilitate scheduling of monitors. Because Project implementation activities are often unpredictable, there may be changes in work activities. Interested Tribes shall be notified by PG&E of any scheduling changes as soon as possible. PG&E will utilize daily field meetings, telephone, and email as methods of communicating work schedules. Tribal Monitors shall be alerted at the end of each work day whether work activities will be taking place the following day.

CR-1e: Protective Measures for the Topock TCP

CR-1e-1: Avoidance and Preservation in Place. PG&E shall carry out, and require all subcontractors to carry out, all Project activities in ways that minimize significant impacts to resources associated with the Topock TCP consistent with Stipulation I (B) of the PA and Section 7.1 of the CHPMP, and to the maximum extent feasible as it relates to the Project objectives of soil characterization as determined by DTSC, in coordination with PG&E, Interested Tribes, and respective landowners.

CR-1e-2: Restrict Personnel Access Beyond Delineated Work Areas. Work areas (including sampling locations, new access areas, and materials and equipment staging areas) shall be fenced, or otherwise delineated, in coordination with Tribal monitors to prevent incursion of personnel outside of designated work areas.

CR-1e-3: Prioritized use of Previously Disturbed Areas. <u>To minimize impacts to intact</u> <u>landforms and natural features important to Tribes as part of the Topock TCP</u>, priority shall be given to siting project elements <u>that have not formerly been subject to Tribal review and input as</u> <u>part of the Soil Work Plan (including the potential 25 percent contingency samples, bench scale</u> <u>tests, pilot studies, and geotechnical evaluations</u>) within previously disturbed areas (areas disturbed within the last 50 years) over undisturbed or pristine areas to the maximum extent feasible as determined by DTSC, in coordination with Interested Tribes, PG&E, and respective landowners, to minimize impacts to intact landforms and natural features important to Tribes as part of the Topock TCP. Interested Tribes shall be afforded the opportunity to express, and DTSC shall consider, whether there are specific instances where disturbed areas may be more culturally sensitive than non-disturbed areas.

CR-1e-4: Avoidance of Indigenous Plants of Biological and Cultural Significance. Prior to Project initiation, a qualified biologist capable of identifying both native and non-native plants within the region (to species) shall flag (or otherwise mark) indigenous plant specimens that shall be protected and avoided. The qualified biologist shall educate all on-site Project personnel about the indigenous plants prior to their involvement in Project activities at the Project Site. During Project activities, a biological monitor shall be present at all times to ensure the indigenous plant species of biological and traditional cultural significance as identified in Appendix D-3 of this DEIR are protected and avoided during Project implementation to the extent practicable. Flagging of indigenous plant species and worker education (consistent with CR-1b) shall occur prior to Project initiation. Protection of identified species shall occur through biological monitoring during investigative activities and Project implementation.

CR-1e-5: Minimize Noise Disturbances. Impacts to the natural auditory setting associated with the TCP shall be minimized to the extent feasible as governed by NOI-1.

CR-1e-6: Work Area Restoration. As discussed in the "Project Description," Section 3.5.6, following completion of work in each work area, all Project equipment and materials shall be removed from the work areas. If the area is not paved, the area will be raked/brushed to remove tire tracks and restored to substantially the same condition(s) as prior to the soil investigation sampling, to minimize impacts to the natural environment associated with the Topock TCP.

CR-1e-7: Displaced Soil Procedures. Treatment, handling, and disposition of Resource Conservation and Recovery Act (RCRA) and non-RCRA hazardous materials, nonhazardous materials, and clean materials shall comply with *Management Protocol for Handling and Disposition of Displaced Site Material, Topock Remediation Project, Needles, CA* of the Soil RCRA Facility Investigation/Remedial Investigation Work Plan. Soil export, including clays, and soil import will be limited where feasible as determined by DTSC, consistent with the *Protocol*.

CR-1e-8: Technical Review Committee. The Technical Review Committee (TRC), constituting a multidisciplinary panel of independent scientific and engineering experts to advise the Interested Tribes, shall continue through soil remedy selection and construction phase of the Groundwater Remedy (whichever comes later), at which time the necessity and dollar value of the TRC shall be assessed by PG&E and, with the approval of DTSC, shall either be extended, reduced, or terminated. This TRC is the same committee established by CUL-1a-4 of the January 2011, Certified Groundwater Remedy EIR.

CR-1e-9: Open Grant Funding. Open grant funding, constituting two part-time cultural resource specialist/project manager positions, shall continue through soil remedy selection and construction phase of the Groundwater Remedy (whichever comes later), at which time the necessity and dollar value of the open grant program shall be assessed by PG&E and, with the approval of DTSC, shall either be extended or terminated. This Open Grant Funding is the same as established by CUL-1a-11 of the January 2011, Certified Groundwater Remedy EIR.

Timing:	Before, during, and after Project activities, as detailed in the individual Mitigation Measures CR-1a through CR-1e.
Responsibility:	PG&E would be responsible for the implementation of these measures. DTSC would be responsible for ensuring compliance.
Significance after Mitigation:	The impact would be significant and unavoidable after implementation of the measures detailed above. The Project would result in the destruction or alteration of contributing elements which convey the historical significance of the Topock TCP.

Although the implementation of Mitigation Measures CR-1a through CR-1e would reduce or minimize impacts to the Topock TCP, they would not be reduced to a less than significant level. Therefore, impacts to the historical resource identified as the Topock TCP would be significant and unavoidable.

Historical Resources (other than the Topock TCP) and Unique Archaeological Resources

Known Historical Resources

A total of 23 known cultural resources are located within the Project Site, including 18 archaeological resources and 5 historic-period built resources (see Table 4.4-1). Three resources (CA-SBR-11704H [historic-period archaeological site associated with a gravel processing site], 36-020379 [historic-period isolate], and 36-023219 [historic-period isolate]) are not eligible for listing in the CRHR and are not considered historical or unique archaeological resources under CEQA. Two resources, CA-SBR-2910H (Historic Route 66/National Old Trails Highway and CA-SBR-6693H (A&P/AT&SF railroad alignment), have been determined eligible for listing in the NRHP through consensus and are therefore listed in the CRHR. Two resources, CA-SBR-11862H (El Rancho Colorado Roadhouse and Gas Station) and the PG&E Topock Gas Compressor Station (19 buildings and structures) have been evaluated and recommended eligible for listing in the NRHP and are considered historical resources per CEQA Guidelines Section 15064.5. An additional 16 resources (CA-SBR-11705/H, -11865H, -11866H, -11867, -11993, -11997H, -12642H, -13791H, -13793H, -13796, -14698, 36-021486, 36-021491, AE-Topock-183, AE-Topock-184/H, AE-Topock-185) have not been evaluated for listing in the NRHP or the CRHR; however, they have been discretionarily determined to be historically significant by DTSC under CEQA Section 15064.5(a)(3) and are considered historical resources under CEQA for the purposes of this DEIR. Therefore, a total of 20 historical resources, including 15 archaeological resources and 5 historic-period built resources, are located within the Project Site (see Table 4.4-3).

Five of the historic-period built resources (CA-SBR-2910H, CA-SBR-6693H, CA-SBR-11997H, 36-012486, and the PG&E Topock Gas Compressor Station), resource CA-SBR-6693H (A&P/AT&SF railroad alignment), CA-SBR-11997H (a bridge), and 36-012486 (the Route 66 sign), would not be impacted by the Project. Resource CA-SBR-2910H, Historic Route 66/National Old Trails Highway, would be used as an access route and would be subject to physical impacts from two borings. Use as a vehicle access route would be consistent with the historic use of the resource and would not constitute a significant impact. The bore holes would be restored after sampling is completed and the pavement returned to its original condition, and therefore would not constitute a significant impact. These Project impacts would not materially impair the significance of resource CA-SBR-2910H and therefore would not be considered significant. Project work at the Station would consist primarily of the excavation of borings and the use of the area for staging. This would not impact any of the structures that were evaluated as eligible for listing in the NRHP. Therefore, the PG&E Topock Gas Compressor Station would not be significantly impacted.

Fourteen of the 15 significant archaeological resources (CA-SBR-11705/H, -11865H, -11866H, -11867, -11993, -12642H, -13791H, -13793H, -13796, -14698, 36-021491, AE-Topock-183, AE-Topock-184/H, AE-Topock-185), including 9 prehistoric archaeological resources contributing to the Topock TCP (see Table 4.4-3), would be avoided by Project design (CH2M HILL 2013). Therefore, there would be no direct impact to <u>these 14</u> known archaeological resources that qualify as historical resources. In addition, indirect impacts to known archaeological resources from erosion are not anticipated because the Project would adhere to the SOPs and BMPs described in the Soil Work Plan and adhere to the substantive provisions of applicable local, state, and federal laws that address potential erosion and drainage pattern alteration impacts (see Section 4.6, "Hydrology and Water Quality"). None of the 14 known archaeological resources have been assessed for qualification as unique archaeological resources under CEQA Section 15064.5 and PRC Section 21083.

One of the significant archaeological resources (CA-SBR-11862H) would be used as a construction staging area; however, staging would be limited to the lower NE part of the site that has been previously disturbed by vehicle parking. The Project would avoid the significant portion of the site (historical debris deposit in Locus 3 and adjacent areas in Loci 1 and 2 on its perimeter). Because staging would occur in a portion of the site that does not contribute to the site's eligibility under NRHP/CRHR Criterion D/4 (information), the site would not be significantly impacted. This resource has not been assessed for qualification as unique archaeological resources under CEQA Section 15064.5 and PRC Section 21083.

Implementation of Mitigation Measures CR-1a through CR-1d, and CR-2 would ensure that known <u>prehistoric archaeological resources</u> qualifying as historical resources under CEQA are avoided during Project implementation, and impacts to known historic-period and historic-period archaeological resources qualifying as historical resources under CEQA are less than significant.

Unknown Historical Resources and Unique Archaeological Resources

The majority of the Project Site lacks potential for subsurface archaeological deposits. Consolidated rock units, such as igneous and metamorphic rocks, as well as sedimentary rocks such as sandstone and conglomerate, were formed millions of years before the arrival of humans in southern California and do not have potential to contain subsurface archaeological deposits. These types of rock units are located northeast and south of the Station, on both sides of Bat Cave Wash south of I-40, adjacent to the Colorado River between the National Old Trails Arch Bridge and to just north of the Route 66 sign where the Station main access road bends to the west. Upper Pleistocene geological units generally lack the potential to contain subsurface prehistoric and historic-period archaeological resources; however, the very youngest of these Pleistocene deposits overlaps with the initial onset of PaleoIndian occupation of the California Desert region. Subsurface prehistoric archaeological resources associated with these two units would be unlikely, but possible. Based solely on age, Holocene alluvium in Bat Cave Wash has the potential for subsurface archaeological deposits; however, high-energy environments, such as washes, are often too dynamic to bury and preserve archaeological resources very well. The areas with the greatest potential for subsurface archaeological deposits include a Holocene alluvium pocket near the Transwestern Bench and artificial fill and disturbed areas, which may contain intact historic-period resources or disturbed prehistoric resources, though they may overlie other

geological units with the potential to contain intact prehistoric resources. These areas are located just east of the Station and on both sides of the main access road east to the security gate. See **Table 4.4-4** for a summary of subsurface archaeological resources sensitivity by geologic unit.

Because the Project involves ground-disturbing activities, there is the potential for such activities to disturb unknown potentially significant resources qualifying as historical resources under CEQA. Ground-disturbing activities associated with the Project would have the potential to cause substantial adverse changes to unknown historical resources. Any damage to or destruction of such resources during the discovery process could result in significant impacts. Mitigation Measures CR-1a through CR-1d and CR-2 would reduce the impacts to historical resources in the event of inadvertent discovery. Because prehistoric archaeological resources are considered contributors to the Topock TCP, even with the implementation of these mitigation measures, impacts to these resources would not be reduced to a less than significant level. Therefore, impacts to unknown historical resources would be significant and unavoidable.

TABLE 4.4-4 GEOLOGIC UNITS AND SUBSURFACE POTENTIAL				
Unit Symbol	Unit Name	Age	Description	
Greatest Potential t	o Encounter Subsurface Archae	ological Deposits		
Af	Artificial fill	Historic-Recent	Unconsolidated: Fill materials in highway and railway grades	
D	Disturbed ground	Historic-Recent	Original geology obscured	
Qa3	Younger piedmont alluvium	Holocene	Unconsolidated: Angular to subangular, poorly to moderately sorted, unconsolidated sand and gravel terraces above modern washes	
Potential (Though U	Unlikely) to Encounter Subsurfa	ce Archaeological Deposits	·	
Qa4	Youngest piedmont alluvium	Holocene-Recent	Unconsolidated: Angular to subangular, poorly to moderately sorted, unconsolidated sand and gravel in active washes	
Qa2	Intermediate-aged piedmont alluvium	Upper Pleistocene	Unconsolidated: Fan remnants dissected and isolated by modern washes; typically surfaced with varnished desert pavement	
Qtp	Pink silty sand	Upper Pleistocene	Moderately consolidated: Massive to bedded, pale-orange-gray, quartz- rich clayey silty sand	
No Potential to Encounter Subsurface Archaeological Deposits				
Trbb	Boulder conglomerate of Bat Cave Wash	Upper Pliocene (?)-Pleistocene	Moderately consolidated to cemented: Boulder and cobble conglomerate, containing rounded quartz pebbles	
Tf	Fanglomerate	Pliocene-Miocene	Consolidated conglomerate: Poorly sorted sandy conglomerate of locally derived angular to subangular clasts	

TABLE 4.4-4 GEOLOGIC UNITS AND SUBSURFACE POTENTIAL			
Unit Symbol	Unit Name	Age	Description
Tcgn	Gneiss-clast conglomerate	Middle Miocene	Consolidated conglomerate: Red/red-brown weathering, poorly sorted alluvial fan deposits; derived from rocks above the Chemehuevi Fault
TKwq	Quartz monzonite	Cretaceous(?)-Miocene	Bedrock: Horneblend-biotite quartz monzonite, granodiorite, and granite rocks
Xgm	Mylonitic gneiss and migmatite	Paleoproterzoic	Bedrock: mylonitic, heterogeneous rocks including migmatite, granite, and amphipolite-facies orthogneiss and paragneiss
SOURCE: Adapted fro	om Howard et al. 2013.		

IMPACT
CR-2Potential Impacts to Known and Unknown Historical Resources and Unknown
Unique Archaeological Resources. Impacts to Kknown historical resources would
be less than significant avoided through Project design. No known unique
archaeological resources have been identified within the Project Site.
Implementation of the proposed Project could, however, cause a substantial adverse
change in the significance of unknown historical resources (other than the TCP)
and unknown unique archaeological resources pursuant to CEQA Guidelines
Section 15064.5 resulting from ground-disturbing activity. This impact would be
significant.

Mitigation Measure CR-2: Historical Resources (Other than the Topock Traditional Cultural Property [TCP]) and Unique Archaeological Resources.

CR-2a: Avoidance and Preservation in Place. PG&E shall carry out, and require all subcontractors to carry out, all investigation activities in ways that avoid significant impacts to historical resources consistent with General Principle I(B) of the PA and Section 7.3 of the CHPMP to the maximum extent feasible as it relates to the Project objectives of soil characterization as determined by DTSC, in coordination with Tribes, PG&E, and respective landowners.

CR-2b: Additional Protective Measures. Mitigation Measures CR-1a through CR-1d, CR-1e-2, and CR-1e-3 shall be implemented to further reduce impacts to historical resources (other than the Topock TCP) and unique archaeological resources.

CR-2c: Annual Historical Resources Monitoring Program. PG&E shall add the known 20 historical resources (including 15 archaeological resources and 5 historic-period built resources located within the Project Site [see Table 4.4-3]), plus any additional historical resources that may be identified during Project implementation, to the established annual monitoring program as prescribed by Section 6.6.5, "Periodic Site Monitoring," of the CHPMP. Monitoring shall

continue on an annual basis (or less frequently as determined by DTSC) until completion of the soil investigation. PG&E shall afford Tribes the opportunity to participate in Tribal monitoring during the annual monitoring program and provide, at a minimum, 2 weeks' written notice to Tribes prior to the commencement of annual monitoring.

The annual monitoring program shall include: confirmation of resource boundaries with submeter GPS; any relocation of previously identified features; confirmation of locations, quantities, and types of artifacts present; and photography to document whether any change in resource condition has occurred. Field observations shall be documented in a Site Condition Assessment Form and a database spreadsheet (such as Microsoft Access of Excel) in accordance with Section 6.6.5, "Periodic Site Monitoring" of the CHPMP. DPR 523 form updates, following OHP *Instructions for Recording Historical Resources*, will be prepared and filed with the SBAIC for all resources where changes in setting or condition are observed. The Site Condition Assessment Forms, database spreadsheet, and DPR 523 form updates shall be provided to DTSC upon completion of each annual monitoring event. Each annual monitoring event shall be documented in an *Annual Monitoring Report* following *ARMR* guidelines and shall be submitted to DTSC by December 1 of each year. Review and comment of the report by Tribes shall be governed by CR-1a-1.

CR-2d: Inadvertent Discovery of Potential Historical Resources and Unique Archaeological **Resources.** In the event that resources potentially qualifying as historical resources or unique archaeological resources per CEOA Guidelines Section 15064.5 are inadvertently discovered during ground-disturbing activities, work in the vicinity of the discovery shall immediately cease within a 50-meter radius and temporary protective measures shall be implemented. The radius of the protected area may be modified if determined appropriate by DTSC, BLM, PG&E, and the Tribal Monitor the relevant landowner, PG&E, and the Tribal Monitor, with final approval by DTSC on non-federal and private land and final approval by BLM on federal land. PG&E shall notify DTSC within 24 hours of the discovery of any potential historical or unique archaeological resources. Avoidance and preservation in place shall be the preferred manner of mitigating impacts to such resources to maintain the important relationship between artifacts and their archaeological context in order to preserve each resource's scientific value, as well as to preserve the cultural values ascribed to resources by the Tribes. The feasibility of avoidance, as it relates to the Project objectives, shall be determined by DTSC, in coordination with PG&E, Tribes, and respective landowners. Preservation alternatives for consideration shall include (and are listed here in order of preference as indicated by Interested Tribes from most to least preferred): avoidance, data recovery of the materials associated with the resource, and capping. Tribes generally prefer avoidance over data recovery or capping.

Treatment of discoveries shall be managed under Stipulation IX, "Discoveries" of the PA and Section 8, "Discoveries" and Appendix C, "Discovery Plan" of the CHPMP. PG&E shall notify DTSC and coordinate with the parties already listed in the Appendix C Discovery Plan protocols. Avoided resources may be determined discretionarily eligible by DTSC pursuant to CEQA Section 15064.5(a)(3) as individual resources eligible for listing in the NRHP and the CRHR and as contributors to the Topock TCP. In the event, data recovery is the only feasible mitigation available, resources subject to data recovery shall be evaluated for individual listing in the NRHP and CRHR and as contributors to the Topock TCP, taking into consideration all four register criteria, and as unique archaeological resources. Curation of recovered archaeological materials recovered from federal lands shall be consistent with Stipulation XIII(A) and (B) of the PA. Curation of recovered materials from non-federal lands shall be coordinated by and between DTSC, Tribes, and the respective landowner.

Timing:	Before, during, and after Project activities, as detailed in the individual Mitigation Measures CR-2a through CR-2d.
Responsibility:	PG&E would be responsible for the implementation of these measures. DTSC would be responsible for ensuring compliance.
Significance after Mitigation:	The impact would be significant and unavoidable after
	implementation of the measures detailed above. The Project as
	designed would avoid impacts to known prehistoric
	archaeological resources qualifying as historical resources under
	CEQA and would result in less than significant impacts to
	historic-period archaeological resources qualifying as historical
	resources under CEQA. No unique archaeological resources
	have been identified. The implementation of Mitigation
	Measures CR-2a through CR-2d would ensure avoidance of
	impacts to known prehistoric and historic-period archaeological
	resources qualifying as historical resources and would reduce
	impacts in the event of inadvertent discovery of unknown
	historic-period archaeological resources, potentially qualifying
	as historical resources or unique archaeological resources under
	CEQA, to a less than significant level. However, even with the
	implementation of Mitigation Measures CR-2a through CR-2d,
	impacts to historical resources and unique archaeological
	resources resulting from the inadvertent discovery of unknown
	prehistoric archaeological resources would be significant and
	unavoidable given their relationship as contributors to the
	Topock TCP. Therefore, impacts to known and unknown
	historical resources and unique archaeological resources would
	be significant and unavoidable.

Paleontological Resources

Given the geologic setting of the Project Site, there is the potential for unique paleontological resources to occur. Two of the five geologic formations mapped within the Project Site, the Chemeheuvi Formation and the Pleistocene Older Alluvium, have been assigned a PFYC ranking of 3a (Moderate with uneven distribution), meaning that these formations are known to produce

vertebrate fossils or scientifically significant nonvertebrate fossils, generally as unpredictable scatters or isolates, some of which may be considered unique paleontological resources under CEQA. Excavation in the Miocene Fanglomerate, Whale Mountain Quartz Monzonites, Early Proterzoic Gneiss, or Holocene Alluvium has a low potential to encounter any significant vertebrate fossils. Ground-disturbing activities within the Chemehuevi Formation and the Pleistocene Older Alluvium would have the potential to encounter, and therefore impact, unique paleontological resources, which would result in a potentially significant impact to paleontological resources.

Grading for the purposes of enhanced access and hand sampling are unlikely to impact paleontological resources because these activities will cause only shallow disturbances. Drill sampling and geotechnical evaluations could potentially impact paleontological resources; however, given the small diameter of the bore holes, it is unlikely that any potentially significant fossils would be destroyed. Backhoe excavation could impact paleontological resources; fossil specimens that may be uncovered during this excavation could, however, be feasibly recovered.

IMPACTPotential Impacts to Significant Paleontological Resources. Implementation of
the proposed Project could directly or indirectly destroy a unique paleontological
resource or site or unique geologic feature as a result of ground disturbing
activity. This impact would be significant.

Mitigation Measure CR-3: Paleontological Resources

CR-3a: Worker Education Program

PG&E shall fully enforce participation in the Worker Education Program as governed by CR-1b to ensure personnel awareness of cultural and paleontological sensitivities associated with the Project Site.

CR-3b: Inadvertent Discovery of Paleontological Resources

In the event of inadvertent discovery of paleontological resources, all work shall be halted within a 50-meter radius and temporary protective measures shall be implemented until the discovery can be evaluated by a qualified paleontologist (defined as a paleontologist meeting the requirements of the Society of Vertebrate Paleontology [SVP, 2010]). The radius of the protected area may be modified if determined appropriate by <u>DTSC</u>, <u>BLM</u>, <u>PG&E</u>, and the <u>qualified</u> <u>paleontologist</u> the relevant landowner, <u>PG&E</u>, and the <u>qualified</u> paleontologist, with <u>final</u> approval by DTSC <u>on non-federal and private land and final approval by BLM on federal land.</u> (Appropriate treatment of the discovery shall be determined by DTSC, in coordination with the qualified paleontologist, PG&E, and respective landowners. Based on the nature of the discovery, the qualified paleontologist shall also reassess the need to initiate paleontological monitoring and make recommendations of such to DTSC, PG&E, and the respective landowner. PG&E shall provide DTSC notification of any paleontological discoveries within 24 hours.

Timing:	During Project activities.
Responsibility:	PG&E would be responsible for the implementation of these measures. DTSC would be responsible for ensuring compliance.
Significance after Mitigation:	The impact would be less than significant after implementation of the measure detailed above. Ground disturbing activities could potentially encounter paleontological resources. Mitigation Measure CR-3 would reduce impacts to any unique paleontological resource or site or unique geologic feature to a less than significant level.

Human Remains

Ground-disturbing activities associated with the Project could result in the inadvertent discovery of human remains. The lack of any identified human remains in the Project Site does not preclude the possibility that unknown human remains may be present given the length of human occupation of the area.

IMPACTPotential Impacts to Human Remains. Implementation of the proposed ProjectCR-4could, through the process of ground-disturbing activities, disturb human remains,
including those interred outside of formal cemeteries. This impact would be
significant.

Mitigation Measure CR-4: Human Remains

In the event of inadvertent discovery of human remains, all work shall be halted within a 50meter radius and temporary protective measures shall be implemented. The radius of the protected area may be modified if determined appropriate by <u>DTSC</u>, <u>BLM</u>, <u>PG&E</u>, and the <u>Tribal</u> <u>Monitor the relevant landowner</u>, <u>PG&E</u>, and the <u>Tribal Monitor</u>, with <u>final</u> approval by DTSC <u>on</u> <u>non-federal and private land and final approval by BLM on federal land</u>. Avoidance and preservation in place shall be emphasized as the preferred manner of mitigation for human remains and disturbances shall be avoided to the maximum extent feasible as it relates to the Project objectives of soil characterization, as determined by DTSC, in coordination with Tribes, PG&E, and respective landowners. PG&E shall notify DTSC of any inadvertent discovery of human remains within 24 hours of the discovery.

On non-federal land, PG&E shall contact the San Bernardino County Coroner to evaluate the remains and follow the procedures and protocols set forth in Section 15064.4 (e)(1) of the California Environmental Quality Act. If the Coroner determines the remains are Native American in origin, the Coroner shall contact the NAHC. As provided in PRC Section 5097.98, the NAHC shall identify the person or persons believed to be most likely descended from the deceased Native American. The MLD shall be afforded the opportunity to provide recommendations concerning the future disposition of the remains and any associated grave goods as provided in PRC 5097.98. Per PRC Section 5097.98, the landowner shall ensure that the

immediate vicinity, according to generally accepted cultural or archaeological standards or practices, where the Native American human remains are located, is not damaged or disturbed by further development activity until the landowner has discussed and conferred with the MLD regarding their recommendations, taking into account the possibility of multiple human remains.

On federal land, the BLM Havasu City Field Office shall be notified and human remains and associated funerary objects shall be treated pursuant to the Native American Graves Protection and Repatriation Act and in accordance with Sections IX and XIII of the PA and Section 8.2 and Appendix D of the CHPMP.

Timing:	During Project activities.
Responsibility:	PG&E would be responsible for the implementation of these measures. DTSC would be responsible for ensuring compliance.
Significance after Mitigation:	The impact would be significant and unavoidable after implementation of the measure detailed above. The Project could result in the destruction or alteration of human remains of significance to Native American Tribes in the extraordinary context of the Topock TCP. Although the implementation of Mitigation Measure CR-4 would reduce or minimize impacts to human remains, it would not be reduced to a less than significant level. Therefore, impacts to human remains would be significant and unavoidable.

4.5 Hazards and Hazardous Materials

This section describes the existing conditions contributing to hazards and hazardous materials at the proposed Pacific Gas and Electric Company (PG&E) Topock Compressor Station Soil Investigation Project (Project) Site; describes relevant federal, state, regional, and local laws and regulations; and addresses the potential hazards and hazardous materials impacts of the proposed Project.

4.5.1 Existing Setting

4.5.1.1 Listed Hazardous Materials Sites

The California Department of Toxic Substances Control (DTSC) EnviroStor and the State Water Resources Control Board (SWRCB) GeoTracker websites were checked for listed hazardous materials sites in the local area (DTSC 2013; SWRCB 2013). The PG&E Topock Compressor Station (Station) is listed as a DTSC hazardous waste site and as a DTSC Corrective Action site. In 1996, PG&E, the owner and operator of the Station, entered into a voluntary agreement to investigate and remediate contaminants if necessary. Investigations have been on-going and DTSC has identified specific chemicals released to the environment as a result of the PG&E Station's historical activities. The soil sampling activities described within the *Soil RCRA Facility Investigation/Remedial Investigation (RFI/RI) Work Plan* (Soil RFI/RI Work Plan or Soil Work Plan) (CH2M HILL 2013; Appendix A to this DEIR) will provide necessary information to further determine the nature and extent of chemicals released at the Project Site. Samples collected in accordance with the Soil Work Plan will be analyzed for the chemicals listed below. Not all chemicals listed below are necessarily present at elevated concentrations or at significant risk levels. For additional information on the sampling proposed, please refer to Table 3-2 in Chapter 3, "Project Description."

- Title 22 metals (antimony, arsenic, barium, beryllium, cadmium, chromium, cobalt, copper, lead, mercury, molybdenum, nickel, selenium, silver, thallium, vanadium, zinc) and hexavalent chromium
- Volatile organic compounds (VOCs)
- Semivolatile organic compounds (SVOCs)
- Polycyclic aromatic hydrocarbons (PAHs)
- Polychlorinated biphenyls (PCBs)
- Total petroleum hydrocarbons (TPH) purgeable and extractable
- Dioxins/Furans
- Pesticides
- Acid volatile sulfides

- Total organic carbon
- Ammonia
- Target Compound and Target Analyte Lists (TAL/TCL) Analytical Suite¹
- Dissolved oxygen
- Asbestos
- General chemicals (may include sodium, potassium calcium, magnesium, manganese, and iron or alkalinity, cation exchange capacity, ² electric conductance, orthophosphate, pH, phosphate, sulfide, total organic carbon, chloride)

The Cortese List website (CalEPA 2012), which includes the GeoTracker and EnviroStor websites, was also checked for nearby listed sites such as landfills. There are no other active listed hazardous materials sites within at least 7.5 miles of the Project Site.

4.5.1.2 Schools

The nearest public school is the Topock Elementary School, located in Topock, Arizona, about 4 miles north of the Project Site. The Chemehuevi Indian Education Center is located at the Needles Airport, about 6 miles northwest of the Project Site. The Chemehuevi Education Center is located in Lake Havasu, about 18 miles south of the Project Site.

4.5.1.3 Aviation

The SkyVector website was checked to identify public, private, and military airports in the Project vicinity (SkyVector 2013). The nearest public use airport is the Needles Airport, located south of Needles and approximately 6 miles northwest of the Project Site. The Chemehuevi Valley Airport and the Lake Havasu City Airport are located about 13.5 and 13 miles south, respectively, from the Project Site. The nearest military airport is the Twentynine Palms Strategic Expeditionary Landing Field, located approximately 95 miles west-southwest of the Project Site. The nearest privately owned airstrip in the Project vicinity is the Massey airstrip, located in Arizona about 22 miles to the southeast. The dirt Massey airstrip has no fueling or maintenance facilities.

¹ TAL/TCL Analytical Suite – The USEPA Contract Laboratory Program (CLP) laboratories use CLP analytical methods for the isolation, detection, and quantitation of specific target compounds and analytes. The CLP TAL/TCLs were originally derived from the USEPA Priority Pollutant List. In the years since the inception of the CLP, compounds and analytes have been added to, and deleted from, the list based on advances in analytical methods, evaluation of method performance data, and the needs of the Superfund program. The target compounds and analytes for TCL include volatile organic compounds (VOCs), semivolatile organic compounds (SVOCs), and pesticides/Arochlors (polychlorinated biphenyl (PCBs). The target compounds and analytes for TAL include metals and cyanide. Further details are on the USEPA website at http://www.epa.gov/superfund/programs/clp/target.htm

² Cation exchange capacity is a measure of the soil's ability to hold positively charged ions (e.g., sodium, potassium calcium, magnesium are positively charged ions). It is a very important soil property influencing soil structure stability, nutrient availability, soil pH, and the soil's reaction to amendments such as those that would be added for the soil fixation/stabilization pilot study, if conducted.

4.5.1.4 Vegetation and Wildfire Hazards

As discussed in Section 4.3, "Biological Resources," most of the Project Site consists of sparsely vegetated desert, unvegetated desert pavement, numerous washes, and gently rolling hills. Vegetation in the area is typical of Mojave Desert uplands and includes creosote bush scrub, saltbush scrub, mesquite, palo verde, mesquite/palo verde, salt cedar/mesquite, arrow weed, and salt cedar (tamarisk). Aquatic habitats associated with the Colorado River include freshwater marsh and emergent wetlands. Tamarisk is an invasive, exotic plant species that develops into dense monotypic stands commonly growing with a sparse understory of native arrow weed (*Pluchea sericea*) and is associated with wetter environments.

The California Department of Forestry and Fire Protection (CAL FIRE) fire hazard severity zone map identifies the Project Site as within the lowest level of its fire hazard severity zones, which is the lowest possible risk category (CAL FIRE 2008).

4.5.2 Regulatory Background

As described in Section 2.3, the various on-site response and corrective actions required to investigate and clean up contamination are exempt from obtaining federal, state, and local permits pursuant to the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Section 121(e)(1). This does not, however, remove the requirement to meet the substantive provisions of applicable laws.

4.5.2.1 Federal

Resource Conservation and Recovery Act

The Resource Conservation and Recovery Act (RCRA) established a regulatory system to track hazardous wastes from the time of generation to final disposal, frequently described as "cradle-to-grave." The law requires safe and secure procedures to be used in treating, transporting, storing, and disposing of hazardous wastes. RCRA's provisions give state regulatory agencies authority to regulate solid and hazardous wastes. In California, the DTSC is authorized to implement RCRA in lieu of the U.S. Environmental Protection Agency (USEPA).

Hazardous waste generated during operation of the proposed Project would be required to comply with all applicable hazardous waste laws and regulations, including RCRA. The goal of RCRA is to protect human health and the environment, reduce waste, conserve energy and natural resources, and eliminate generation of hazardous waste as expeditiously as possible. The Hazardous and Solid Waste Amendments (HSWA) of 1984 significantly expanded the scope of RCRA by adding new corrective action requirements, land disposal restrictions, and technical requirements. HSWA also provided for more oversight by USEPA, related to the investigation and corrective action within certain facilities where hazardous materials may have been discharged. The corresponding regulations in Title 40 of the Code of Federal Regulations (CFR), Parts 260 through 279, provide the general framework for managing hazardous waste, including requirements for entities that generate, store, transport, treat, and dispose of hazardous waste.

Wastes generated during facility operations and investigation activities must be classified as either nonhazardous or hazardous waste, based on specific criteria, and must then be transported and disposed of in accordance with the classification. Transportation requirements for hazardous wastes include packaging for transport, generating a manifest, and displaying the placard required by the hazardous materials transportation regulations in 49 CFR Part 172, Subpart F.

Comprehensive Environmental Response, Compensation, and Liability Act

CERCLA, commonly known as Superfund, was enacted by Congress on December 11, 1980, and reauthorized and amended by the Superfund Amendments and Reauthorization Act on October 17, 1986. This law created a tax on the chemical and petroleum industries and provided broad federal authority to respond directly to releases or threatened releases of hazardous substances that may endanger public health or the environment. CERCLA established prohibitions and requirements concerning closed and abandoned hazardous waste sites, provided for liability of persons responsible for releases of hazardous waste at these sites, and established a trust fund to provide for cleanup when no responsible party could be identified.

CERCLA authorizes appointed federal agencies, in this case the DOI for this Project, to respond directly to releases of hazardous substances that could endanger public health or the environment. CERCLA directs the federal agency to list national priorities among the known "releases or threatened releases" of hazardous substances.

The various on-site response and corrective actions required to investigate and clean up contamination are exempt from obtaining federal, state, and local permits pursuant to CERCLA Section 121(e)(1). (See 42 U.S.C. § 9621(e).) The intent behind this provision is that CERCLA actions should not be delayed by time-consuming and duplicative administrative requirements such as permitting, although remedial remedies should achieve the substantive standards of otherwise applicable laws. However, the substantive elements or conditions that would be required by a particular permit must still be attained after conferring with the applicable agency as appropriate, consistent with the requirements of CERCLA.

U.S. Department of Transportation Hazardous Materials Regulations (Title 49 CFR Parts 100–185)

The U.S. Department of Transportation (DOT) Hazardous Materials Regulations cover all aspects of hazardous materials packaging, handling, and transportation. Parts 173 ("Packaging Requirements"), 177 ("Highway Transportation"), 178 ("Packaging Specifications"), and 180 ("Packaging Maintenance") would apply to the proposed Project activities. Additional potentially applicable parts include Part 171 ("General Information, Regulations and Definitions") and Part 172 ("Hazardous Materials Table, Special Provisions, Hazardous Materials Communications, Emergency Response Information, Training Requirements, and Security Plans").

Under DOT regulations, a hazardous material is "a substance or material that the Secretary of Transportation has determined is capable of posing an unreasonable risk to health, safety, and property when transported in commerce, and has designated as hazardous under section 5103 of Federal hazardous materials transportation law (49 U.S. Code 5103)." The term includes

hazardous substances, hazardous wastes, marine pollutants, elevated temperature materials, and materials designated as hazardous in the Hazardous Materials Table (49 CFR 172.101). DOT classifies hazardous materials into nine primary classes: explosives, gases, flammable liquids, other flammable substances, oxidizing substances and organic peroxides, toxic (poisonous) and infectious substances, radioactive materials, corrosives, and miscellaneous dangerous goods. Some have subclasses. For example, compressed gases are divided into subclasses for flammable, nonflammable, and poisonous gases. The Hazardous Materials Transportation Act requires that carriers report accidental releases of hazardous materials to DOT at the earliest practical moment.

Emergency Planning and Community Right-to-Know Act (42 U.S. Code 11001 et seq.)

Also known as Title III of the Superfund Amendments and Reauthorization Act, the Emergency Planning and Community Right-to-Know Act (EPCRA) was enacted by Congress as the national legislation on community safety. This law was designated to help local communities protect public health, safety, and the environment from chemical hazards. To implement EPCRA, Congress required each state to appoint a State Emergency Response Commission (SERC). SERCs are required to divide their states into Emergency Planning Districts and to name a Local Emergency Planning Committee for each district. EPCRA provides requirements for emergency release notification, chemical inventory reporting, and toxic release inventories for facilities that handle chemicals.

Safe, Efficient Use, and Preservation of Navigable Airspace (14 CFR Part 77.9 – Construction or alteration requiring notice)

The maximum Federal Aviation Administration (FAA) Notification Surface for construction is 20,000 feet or 3.79 miles from any point on the runway of any public use airport, military airport, or airport operated by a federal agency of the Department of Defense, or airport or heliport with at least one FAA-approved instrument approach procedure.

U.S. Department of Agriculture Standard for Spark Arresters for Internal Combustion Engines

The U.S. Department of Agriculture enforces standards establishing the minimum performance and maintenance requirements of spark arresters for single and multiposition small internal combustion engines used in proximity to grass, brush, timber, and similar cellulose materials. The regulations require installation and maintenance requirements of eternal combustion engines.

4.5.2.2 State of California

Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65)

In 1986, California voters approved an initiative to address their growing concerns about exposure to toxic chemicals. That initiative became the Safe Drinking Water and Toxic Enforcement Act of 1986, better known by its original name of Proposition 65. Proposition 65 requires the State to publish a list of chemicals known to cause cancer or birth defects or other reproductive harm. This list, which must be updated at least once a year, has grown to include approximately 800 chemicals since it was first published in 1987.

Proposition 65 requires businesses to notify Californians about significant amounts of chemicals in the products they purchase, in their homes or workplaces, or that are released into the environment. By providing this information, Proposition 65 enables Californians to make informed decisions about protecting themselves from exposure to these chemicals. Proposition 65 also prohibits California businesses from knowingly discharging significant amounts of listed chemicals into sources of drinking water. The following section is relevant to this Project because the Colorado River is a source of drinking water.

Section 25249.5. Prohibition On Contaminating Drinking Water With Chemicals Known to Cause Cancer or Reproductive Toxicity. No person in the course of doing business shall knowingly discharge or release a chemical known to the state to cause cancer or reproductive toxicity into water or onto or into land where such chemical passes or probably will pass into any source of drinking water, notwithstanding any other provision or authorization of law except as provided in Section 25249.9.

NPDES Construction General Permit

In accordance with the CERCLA exemption (see Section 2.3), PG&E would not be required to submit a Notice of Intent (NOI) or a Stormwater Pollution Prevention Plan (SWPPP) to the Regional Water Quality Control Board (RWQCB) for their review and approval to comply with the requirement of the state Construction General Permit (CGP). This does not, however, remove the requirement to meet the substantive provisions of applicable laws. Therefore, as part of the Project, PG&E will develop and implement an erosion control plan that is in conformance with the substantive requirements of the CGP. Because the erosion control plan will fulfill the requirements of the CGP, it will have substantive components similar to those that would be included in an SWPPP. The general CGP requirements are summarized below.

The RWQCB administers the National Pollutant Discharge Elimination System (NPDES) stormwater permitting program in the Colorado River Basin region. Construction activities disturbing one acre or more of land are subject to the permitting requirements of the NPDES Construction General Permit for Discharges of Storm Water Runoff Associated with Construction Activity (CGP; Order 2009-0009-DWQ). Project activities such as clearing, grading, stockpiling, and excavation would be subject to the statewide general construction activity NPDES permit.

The CGP requires that the site be assigned a risk level of 1 (low), 2 (medium), or 3 (high) based on sediment and receiving waters risk. The sediment risk level is the relative amount of sediment that can be discharged given the project and location details. The receiving waters risk level reflects the risk sediment discharges pose to the receiving waters. A construction analysis provides a preliminary risk level assessment.

For non-exempt projects, the CGP requires the preparation and implementation of a SWPPP prior to construction commencement. At a minimum, the SWPPP includes the following:

• Description of construction materials, practices, and equipment storage maintenance
- List of pollutants likely to contact stormwater and site specific erosion and sedimentation control practices
- List of provisions to eliminate or reduce discharge of materials to stormwater
- BMPs for fuel and equipment storage
- Non-stormwater management measures such as installing specific discharge controls during activities such as paving operations and vehicle and equipment washing and fueling
- Equipment, materials, and workers will be available for rapid response to spills and/or emergencies. All corrective maintenance or BMPs will be performed as soon as possible, depending upon worker safety

An SWPPP provides specific construction-related BMPs to prevent soil erosion and loss of topsoil. BMPs implemented could include, but would not be limited to, physical barriers to prevent erosion and sedimentation, construction of sedimentation basins, limitations on work periods during storm events, use of swales, protection of stockpiled materials, and a variety of other measures that would substantially reduce or prevent erosion from occurring during construction. Post-construction requirements require that construction sites match pre-project hydrology to ensure that the physical and biological integrity of aquatic ecosystems are sustained in their existing condition, unless the site is located within an area subject to the post-construction standards of an active Phase I or II municipal separate storm sewer system (MS4) permit that has an approved stormwater management plan. This Project Site is not within a MS4 area. The post-construction standards (post-investigation standards for the purposes of the proposed Project) include structural and nonstructural control measures to replicate the pre-project water balance and pre-project drainage density, and reduce pollutants in storm water discharges.

Hazardous Waste Control Law (California Health and Safety Code, Division 20, Chapter 6.5)

This statute is the basic hazardous waste law for California. The Hazardous Waste Control Law implements the federal RCRA cradle-to-grave waste management system in California, although this program regulates more materials as hazardous wastes than the federal program. California hazardous waste regulations can be found in the CCR Title 22, Division 4.5, "Environmental Health Standards for the Management of Hazardous Wastes." The program is administered by DTSC.

Hazardous Material Release Response Plans and Inventory Law (California Health and Safety Code, Division 20, Chapter 6.95)

This state law requires businesses to disclose the hazardous materials used in their businesses and to develop a Hazardous Material Management Plan or a "business plan" for hazardous materials emergencies if they handle, at any one time, more than 500 pounds, 55 gallons, or 200 cubic feet of hazardous materials. The business plan includes an inventory of all hazardous materials stored or handled at a facility above these thresholds. This law is designed to reduce the occurrence and severity of hazardous material releases and to promote emergency response preparedness by local

agencies. The Hazardous Materials Management Plan must be submitted to the Certified Unified Program Agency (CUPA), which for the Project vicinity is the San Bernardino County Fire Department, Hazardous Materials Division. The state has integrated the federal EPCRA reporting requirements into this law; once a facility is in compliance with the local administering agency requirements, submittals to other agencies are not required. The Hazardous Material Management Plan also defines response procedures and equipment for spills or releases of hazardous materials.

Cortese List (California Government Code, Section 65962.5)

The Hazardous Waste and Substances Sites List (Cortese List) is a planning document used by the state, local agencies, and developers to comply with requirements in providing information about the location of hazardous materials release sites. Government Code Section 65962.5 requires the California Environmental Protection Agency to develop an updated Cortese List at least annually. The DTSC is responsible for a portion of the information contained in the Cortese List, as are other state and local government agencies. The Cortese List documents active and inactive landfills, underground pipelines, federal and state hazardous waste sites, Leaking Underground Storage Tank (LUST) sites, and solid waste disposal facilities with known migration of hazardous waste. As noted above, the Station is listed on the DTSC EnviroStor website; however, no other listed sites are located near the Station.

California Vehicle Code Section 38366

The California Vehicle Code, Section 38366, requires spark arresting equipment on vehicles that travel off-road. The section is as follows.

- (a) Notwithstanding Section 4442 of the Public Resources Code, and except for vehicles with mufflers as provided in Article 2 (commencing with Section 27150) of Chapter 5 of Division 12, no person shall use, operate, or allow to be used or operated, any off-highway motor vehicle, as defined in Section 38006, on any forest-covered land, brush-covered land, or grass-covered land unless the vehicle is equipped with a spark arrester maintained in effective working order.
- (b) A spark arrester affixed to the exhaust system of a vehicle subject to this section shall not be placed or mounted in such a manner as to allow flames or heat from the exhaust system to ignite any flammable material.
- (c) A spark arrester is a device constructed of nonflammable materials specifically for the purpose of removing and retaining carbon and other flammable particles over 0.0232 of an inch in size from the exhaust flow of an internal combustion engine or which is qualified and rated by the United States Forest Service.
- (d) Subdivision (a) shall not be applicable to vehicles being operated off the highway in an organized racing or competitive event upon a closed course, which is conducted under the auspices of a recognized sanctioning body and by permit issued by the fire protection authority having jurisdiction.

California Emergency Services Act

The California Emergency Services Act provides the basic authority for conducting emergency operations following a proclamation of emergency by the governor and/or appropriate local authorities. Local government and district emergency plans are considered to be extensions of the California Emergency Plan, established in accordance with the California Emergency Services Act.

4.5.2.3 Local

San Bernardino County Fire Department, Hazardous Materials Division

The purpose of the Hazardous Materials Division (HMD) is to protect the health and safety of the public and the environment of San Bernardino County by ensuring that hazardous materials are properly handled and stored. HMD accomplishes this through inspection, emergency response, site remediation, and hazardous waste management services. An overview of these services is provided below.

- Inspections: HMD inspects hazardous material handlers and hazardous waste generators to ensure full compliance with laws and regulations. HMD also implements CUPA programs for the development of accident prevention and emergency plans, proper installation, monitoring, and closure of underground tanks and for the handling, storage, transportation, and disposal of hazardous wastes.
- Emergency Response: HMD provides 24-hour response to emergency incidents involving hazardous materials or wastes to protect the public and the environment from accidental releases and illegal activities.
- Investigation/Remediation Oversight: HMD oversees the investigation and remediation of environmental contamination caused by releases from underground storage tanks, hazardous waste containers, chemical processes, or the transportation of hazardous materials. However, in cases where a site such as the Station was previously subject to DTSC oversight due to hazardous waste treatment, disposal, or other activities, DTSC usually continues to oversee the cleanup and remediation activities.
- Enforcement Actions: HMD conducts investigations and takes enforcement action as necessary against anyone who disposes of hazardous waste illegally or otherwise manages hazardous materials or wastes in violation of federal, state, or local laws and regulations.

San Bernardino County Hazardous Waste Management Plan

California Assembly Bill 2948 authorized counties to prepare hazardous waste management plans designed to serve as the primary planning document for the management of hazardous waste within the counties. The *San Bernardino County Hazardous Waste Management Plan* identifies the types and amounts of wastes generated in the county; establishes programs for managing these wastes; identifies an application process for the siting of specified hazardous waste facilities; identifies mechanisms for reducing the amount of waste generated in the county; and identifies goals, policies, and actions for achieving effective hazardous waste management.

4.5.3 Environmental Impacts

4.5.3.1 Impact Methodology

The potential impacts relative to hazards and hazardous materials were evaluated by assessing the proposed access, investigation, and restoration activities for the Project, as described in the Project Description (Chapter 3), the Soil Work Plan (CH2M HILL 2013), and the *Corrective Measures/Feasibility Study Work Plan* (CM/FS Work Plan) (CH2M HILL 2008). In addition to soil sampling, the proposed soil investigation activities may include bench scale tests and pilot studies to assess potential soil remedy options if remedial action is necessary; geotechnical evaluations; and plant or other biota sampling. The CM/FS Work Plan describes the bench scale tests and pilot studies that may be conducted to evaluate various treatment technologies.

The Soil Work Plan describes and references standard operating procedures (SOPs) and Best Management Practices (BMPs) that have been developed during the previous investigations. Among other things, the SOPs and BMPs will reduce potential impacts relative to hazards and hazardous materials during the soil investigation activities. The proposed Project will follow the SOPs in the Topock Program Sampling, Analysis, and Field Procedures Manual, PG&E Topock Compressor Station, Needles, California (CH2M HILL 2005), which are included as Appendix G of the Work Plan. Section 2.2 of the Work Plan describes the BMPs that have been developed as part of the Project. These provisions are also described in the Project Description, Section 3.5.7, and will be implemented as part of the proposed Project. These provisions apply to all Project activities including soil sampling, bench scale tests, pilot studies, geotechnical evaluations, and plant or other biota sampling. Accordingly, the impact analysis for hazards and hazardous materials takes into consideration the full implementation of the SOPs and BMPs. In addition, PG&E will meet the substantive provisions of the state CGP in accordance with the CERCLA exemption (see Section 2.3), and prepare and implement an erosion control plan as part of the Project. To ensure the implementation of the SOP, BMP, and erosion control plan provisions, DTSC will include them as Conditions of Approval for the Project if the Project is approved.

4.5.3.2 Thresholds of Significance

Based on the CEQA Guidelines, Appendix G, a project may be deemed to have a significant effect on the environment with respect to hazards and hazardous materials if it would:

- Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials;
- Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment;
- Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school;

- Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment;
- For a project located within an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area;
- For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area;
- Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan; or
- Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands.

Based on the location and characteristics of the proposed Project, the following criteria are not considered in the impact analyses for the reasons described below.

- The proposed soil investigation activities consist of a short-term sampling program and do not include routine transport, use, or disposal activities. Therefore, there would be no impact relative to routine transport, use, or disposal of hazardous waste and this threshold is not considered further in this draft environmental impact report (DEIR). Potential hazards could occur through reasonably foreseeable upset and accident conditions, as analyzed below.
- The proposed soil investigation activities would not occur within one-quarter mile of an existing or proposed school. The nearest school is the Topock Elementary School, located in Topock, Arizona, about 4 miles north of the Project Site. Therefore no impacts would occur, and this threshold is not considered further in this DEIR.
- The nearest airport to the proposed Project is the public-use Needles Airport, located 6 miles to the northwest. The Project is not located within 2 miles of an airport, within an area covered by an airport land use plan, or within the vicinity of a private airstrip. Therefore no impacts would occur, and these thresholds are not considered further in this DEIR.
- The proposed soil investigation activities would utilize existing public roads for access and delivery purposes, similar to existing operations at the Station. No new access roads would be built for the proposed Project and no increases in traffic volumes are anticipated that would conflict with an adopted emergency response plan or emergency evacuation plan. Therefore no impacts would occur, and this threshold is not considered further in this DEIR.

4.5.3.3 Impact Analysis

The proposed Project includes the collection of soil and pore water samples at 292 locations using drilling rigs, hydrovac trucks, excavators, support trucks, and hand tools. Further, due to

unforeseen circumstances or data gaps, additional samples/ sampling locations may be necessary. As part of this draft environmental impact report (DEIR), therefore, a contingency of up to 25 percent additional sampling locations (i.e. up to 73 additional locations) is included in the DEIR evaluation. In addition, bench tests, pilot studies, geotechnical evaluations, and plant or other biota sampling may be conducted to evaluate possible treatment technologies. The bench tests would involve the collection of small volumes of contaminated soil (three to five 5 gallon buckets) for offsite testing. The in situ soil flushing pilot study, if conducted, would involve grading a small depression to create an infiltration gallery that is 35 foot by 115 foot in size. Alternately, the infiltration could be accomplished with injection wells. The in situ stabilization agent to soil known to be contaminated through the same delivery system as described for soil flushing. The soil would then be sampled to evaluate the effectiveness of the stabilization agent (see Section 3.5.3.2 for a list of reagents that may be used). Access to investigation sites would be predominantly on existing roadways. Some areas would require minor improvement of existing roadways, and/or the trimming, pruning, or clearing of some vegetation to provide access.

After sampling is complete, up to five boreholes would be converted to soil gas probes. The remaining boreholes drilled by the sonic method would be decommissioned by grouting the boreholes from the bottom up to the ground surface with cement grout. Hydrovac potholes would be sealed with bentonite chips and the surface restored to the previous condition (asphalt, concrete, or soil). Potholes and trenches excavated by an excavator or hand tools would be backfilled with the excavated soil cuttings and the surface restored to the previous condition (asphalt, concrete, or soil). Decontamination of sampling equipment would use existing staging areas within the Station. Staging areas used for previous projects will be used for these soil investigation activities, thus eliminating the need for the construction of any new staging areas. Any decontamination water would be collected on a decontamination pad lined with plastic-sheeting and collected into covered portable storage tanks within secondary containment.

Potential for Hazardous Materials Release

Grading and Site Preparation Activities

The proposed soil investigation activities would require the use of a sonic drilling rig, hydrovac truck, or excavator, depending on access and depth considerations, to collect soil and pore water samples for analysis. Activities may also include preparing a surface depression, infiltration gallery, or injection and recovery wells for the in situ pilot studies (35-foot by 115-foot area). Minor improvements to existing roads would be required to access some of the investigation locations. The types of equipment to be used will depend on sample location, access, and sample depth considerations and could include a sonic drilling rig, a hydrovac truck, an excavator, and support trucks. The equipment would be used for minor grading and ground disturbance to facilitate access and to collect samples either by drilling boreholes or excavating boreholes or trenches. These ground disturbance activities could disturb soil such that rain events could result in the discharge of sediments to drainages and eventually to the Colorado River. The ground disturbance activities could also result in the generation of airborne dust. In addition, to reach the desired sample depth intervals, the sampling process would generate waste soil from drilling, hydrovacing, or excavation activities. Some of the sample intervals could contain soil with

chemicals at elevated concentrations. If improperly managed and disposed of, sediment and/or chemicals from the waste soil could be released to the environment, mobilized by storm water runoff, and enter drainages and eventually the Colorado River. As discussed in Section 4.5.2, "Regulatory Background," action levels have been established for various chemicals that would prohibit their release into the environment. Discharge of excess sediment or chemical pollutants from Project activities could exceed sediment discharge objectives or chemical action levels, or otherwise violate water quality standards prescribed for the Colorado River in the Colorado River Basin Regional Water Quality Control Basin Plan.

The improvement of existing roads and the grading of investigation locations and/or the in situ pilot study locations to facilitate access would result in the collective disturbance of more than one acre of land. In addition, some of the investigation locations are within or adjacent to areas designated as Waters of the United States, as discussed in Section 4.6, Hydrology and Water Quality. Any impacts within or adjacent to Waters of the United States would not require the acquisition of permits under Section 401 or 404 of the CWA as the Project activities fall under the CERCLA Section 121(e)(1) permit exemption (see Section 2.3). As described previously however, PG&E will develop and implement an erosion control plan as part of the Project (see Section 3.5.7). The erosion control plan would be in conformance with the substantive requirements of the CGP and would therefore be similar to an SWPPP.

The plan, moreover, would be prepared by a Qualified SWPPP Developer and would be under the direction of a Qualified SWPPP Practitioner. The provisions in the erosion control plan will be required as Conditions of Approval for the Project if the Project is approved.

As a part of the grading and site preparation elements of the Project, PG&E will implement and conduct the following actions:

- Complete a Risk Assessment to determine pollution prevention requirements pursuant to the three Risk Levels as established in the CGP and relevant for the proposed Project.
- Eliminate or reduce non-stormwater discharges to Waters of the United States
- Prepare and implement an erosion control plan, which would include, but not be limited to the following BMPs developed by the California Stormwater Quality Association (CASQA 2011):
 - Scheduling (EC-1): Proper scheduling assists in identifying ways to minimize disturbed areas, which allows for a reduction in the active Project Site requiring protection and also minimizes the length of time disturbed soils are exposed to erosive processes. This would include limitations on construction work during storm events.
 - Preservation of Existing Vegetation (EC-2): Preserving existing vegetation to the maximum extent practicable facilitates protection of surfaces from erosion and can also help to control sediments. Sensitive areas should also be clearly identified and protected.

- Hydraulic Mulch (EC-3), Straw Mulch (EC-6), and Wood Mulching (EC-8): Using various mulches is a method for temporarily stabilizing soil and can be used on surfaces with little or no slope.
- Geotextiles, Plastic Covers, and Erosion Control Blankets/Mats (EC-7): These erosion control methods can be used on flat or, usually, sloped surfaces, channels, and stockpiles.
- Stabilized Construction Entrance/Exit (TC-1): A graveled area or pad located at points where vehicles enter and leave a construction site can be built. This BMP provides a buffer area where vehicles can drop their mud and sediment to avoid transporting it onto public roads, to control erosion from surface runoff, and to help control dust.
- Silt Fence (SE-1): A temporary sediment barrier consisting of fabric is designed to retain sediment from small disturbed areas by reducing the velocity of sheet flows.
- Gravel Bag Berm (SE-6) and Sand Bag Barrier (SE-8): A temporary sediment barrier consisting of gravel-filled fabric bags is designed to retain sediment from small disturbed areas by reducing the velocity of sheet flows.
- Secondary concerns include potential pollutants from inappropriate material storage and handling procedures and non-stormwater discharges. These will be addressed through the following types of BMPs, which will be included in the erosion control plan:
 - Material Delivery and Storage (WM-1): Provide covered storage for materials, especially toxic or hazardous materials, to prevent exposure to stormwater. Store and transfer toxic or hazardous materials on impervious surfaces that will provide secondary containment for spills. Park vehicles and equipment used for material delivery and storage, as well as contractor vehicles, in designated areas.
 - Spill Prevention and Control (WM-4): Ensure that spills and releases of materials are cleaned up immediately and thoroughly, including soil or water being transported off-site for disposal. Ensure that appropriate spill response equipment, preferably spill kits preloaded with absorbents in an overpack drum, is provided at convenient locations throughout the site. Spent absorbent material must be managed and disposed of in accordance with applicable regulations. In particular, absorbents used to clean up spills of hazardous materials or waste must be managed as hazardous waste unless characterized as nonhazardous.
 - Vehicle and Equipment Fueling (NS-9): Use off-site fueling stations as much as possible. Absorbent spill cleanup materials and spill kits should be available in fueling areas and on fueling trucks, and should disposed of properly after use. Drip pans or absorbent pads should be used during vehicle and equipment fueling, unless the fueling is performed over an impermeable surface in a dedicated fueling area. Maintain clean fuel-dispensing areas using dry cleanup methods, such as sweeping or using rags and absorbents for leaks and spills. Cover the fueling area to prevent contact with stormwater. Train personnel in pollution prevention, focusing on containment of spills and leaks.
 - Outdoor Loading/Unloading (SC-30): Load and unload chemicals during dry weather, if possible, and load and unload in designated areas. Check equipment regularly for leaks.

- Solid Waste Management (WM-5): Provide a sufficient number of conveniently located trash and scrap receptacles to promote proper disposal of solid wastes. Ensure that the receptacles are provided with lids or covers to prevent windblown litter.
- Hazardous Waste Management (WM-6): Provide a sufficient number of proper receptacles to promote proper disposal of hazardous wastes.
- Sanitary/Septic Waste Management (WM-9): Locate sanitary and septic waste facilities away from drainage courses and traffic areas. Maintain the facilities regularly.
- Vehicle and Equipment Cleaning (NS-8): Clean vehicles and equipment that regularly enter and leave the construction site.
- Vehicle and Equipment Maintenance (NS-10): Use off-site maintenance facilities whenever possible. Any on-site maintenance areas must be protected from stormwater runoff and on-site flooding.

Adherence to the erosion control plan would substantially reduce or prevent waterborne pollutants or sediments from entering drainages, per Colorado River Basin RWQCB standards. The provisions would prevent the accidental release of contaminants during grading and investigation activities and ensure that the proposed Project would not result in significant hazards to the public and the environment during the field work.

In accordance with the Soil Work Plan, the Project will implement SOPs and BMPs to control fugitive airborne dust. Vehicle speeds will be limited to 15 miles per hour or slower to limit generation of dust on unimproved roads. Dust may also be created from soil sampling activities. Fugitive dust emissions resulting from vehicle traffic or soil sampling activities would be controlled by wetting surfaces or spraying approved dust suppressants. Appropriate dust control measures will be implemented to avoid visible dust from any earthmoving activities, and/or any earthmoving activities may be curtailed if dust control measures are not sufficient to reduce visible dust during high winds. Implementation of these BMPs would reduce and control the generation of fugitive dust.

Some sample locations in AOC 10 along the shoreline of the Colorado River would be sampled for sediment and pore water. Boats would be used to access some of these locations (e.g., the East Ravine Sediment and Pore Water (ERPW) sampling locations -2, -4, and -9) and, in these locations, only hand tools would be used to collect samples. Planks would be placed on vegetation and shoreline soil to facilitate access and further minimize ground disturbance. This access method would minimize ground disturbance and reduce the mobilization of sediment.

Management of Waste Soil from Investigation Activities

As part of the Project, the Soil Work Plan provides SOPs and BMPs to manage waste soil generated from drilling and excavating activities. Displaced soil will be handled in accordance to the *Management Protocol for Handling and Disposition of Displaced Site Material, Topock Remediation Project, Needles, CA* provided in Appendix J of the Soil Work Plan (CH2M HILL 2013). The Appendix presents specific displaced soil and hazardous waste management procedures that would be implemented for the Project.

As explained in the Soil Work Plan, the waste soil will be stored in DOT-compliant drums or lined, steel roll-off soil bins that would be temporarily staged in previously used staging areas to the extent practicable. Additional procedures that are required for the storage containers are described in the *Displaced Soil and Hazardous Waste Management Procedures* provided in Appendix J of the Soil Work Plan (CH2M HILL 2013), including the following:

- Only DOT-specification containers will be used for soil accumulation.
- Drums will be inspected and inventoried upon arrival onsite for signs of contamination and/or deterioration.
- Drums and small containers will be transported to the temporary accumulation areas on wood pallets and will be secured together with nonmetallic banding.
- Drums will be placed within a bermed and lined area or otherwise will be provided with secondary containment.
- Adequate aisle space (for example, 36 inches) will be provided for containers such as 55gallon drums to allow the unobstructed movement of personnel and equipment.
- Drums will be placed with no more than two drums per row. The column length must fit within the lined, bermed area.
- Each drum will be provided with its own label, and labels will be visible for inspection purposes.
- Drums will remain closed except when removing or adding soil to the drum. Closed means that the lid and securing ring must be on and securely tightened.
- Drums will be disposed of with the contents. If the contents are removed from the drums for offsite transportation and treatment or disposal, the drums will be reused only for compatible soil and waste streams.

The number and size of drums and roll off bins would vary depending on how many borings are installed, the drilling method used, and how quickly investigation activities are required to proceed. Standard practices, such as use of plastic sheeting over the ground surface, would be employed in the drilling and staging areas as necessary to keep the drilling materials and equipment clean and to minimize contact of the drilling materials and equipment with the ground surface.

Soil analytical results would be used to identify appropriate management of waste soil. All soil and other investigation-derived waste (IDW) would be handled, transported, and disposed of in accordance with applicable local, state, and federal laws. Displaced soil would be analyzed and characterized as described in the *Management Protocol for Handling and Disposition of Displaced Site Material, Topock Remediation Project, Needles, CA* provided in Appendix J of the Soil Work Plan (CH2M HILL 2013) and will be identified as one of the following categories based on the characterization results: (1) RCRA or non-RCRA hazardous waste; (2) non-hazardous clean soil (unregulated); (3) or nonhazardous soil for long-term storage (also unregulated). After sampling and characterization, the drums or bins with hazardous soil cuttings

would be removed within 90 days of generation from the IDW staging area and transported for disposal in a permitted off-site hazardous waste disposal facility. Soil that is classified as hazardous waste and placed in containers must comply with Title 22 of the California Code of Regulations (CCR) Div. 4.5, Chapter 15, Article 9 (Container Management); Article 27, Article 28, and Article 28.5 (Air Emission Standards); and with 22 CCR Div. 4.5, Chapter 14, Article 9 (Container Management). Unregulated soil would be stockpiled at designated soil storage areas, in accordance with Appendix J, Attachment 1, of the Soil Work Plan, which describes the protocols, including planning (including Tribal input), short-term and long-term handling and storage procedures, contamination assessment, and determination of final disposition.

Decontamination of the sampling tools would be conducted on a temporary decontamination pad lined with plastic sheeting located on PG&E property at specific locations to be determined. Heavy equipment such as drill rigs and drill rods will be decontaminated at the concrete-lined decontamination pad located adjacent to the Station's access road. Downhole drilling tools, excavator and backhoe buckets, tracks on track rigs, and the back ends of the drilling rigs will be decontaminated prior to arrival at the site and will be cleaned between investigation areas as determined necessary by the field team leader. In addition, downhole drilling tools, excavator and backhoe buckets, core barrel, drill stem, and drive casings will be decontaminated between boring locations. Decontamination will be accomplished by steam cleaning or pressure-washing the equipment, and back of the drilling rig. Equipment may also be cleaned using dry methods prior to leaving an excavation area to prevent the tracking of material out of the area. The backs of drill rigs and downhole drilling tools will be decontaminated before arrival at the site. Drilling equipment will be decontaminated prior to removal from the site. Equipment will also be inspected, and any soil will be removed from the equipment prior to moving the equipment via any publicly maintained roads.

Water generated during decontamination activities would be stored temporarily in drums, bins, or portable storage tanks. These tanks would be located temporarily at the drilling sites and/or at the existing IDW staging areas developed during previous investigations. Samples of the decontamination water would be analyzed and the results would be used to identify the appropriate disposal of the decontamination water. After characterization, water generated from decontamination activities would likely be processed on-site at the existing IM-3 treatment facility and reinjected into the aquifer, or trucked off-site for disposal Prior to treatment of water at IM-3 treatment facility, the water will be tested to determine whether it contains contaminants (i.e., organics) that the IM-3 is not designed to treat. If the water contains contaminants that the IM-3 will not treat, then it will be disposed of off-site at an appropriate facility.

Potential for Flood Damage

In the event that a flood were to occur in the Bat Cave Wash at the same time that a pilot study was being conducted, the flood waters would be expected to inundate the pilot study area. However, because the majority of infrastructure (infiltration galleries or trenches) for the pilot study (In Situ Soil Flushing or In Situ Soil Stabilization) would predominantly be flush with or buried below ground. Injection wells would have stovepipe well heads set in concrete well pads that would resist damage from floods. In the event that the surface area of an infiltration gallery or trench is scoured by the flood, the area would be reworked with a backhoe. In the event that a flood damages a well head, the damage would be repaired after the flood receded. This is consistent with current protocols practiced in Bat Cave Wash. Therefore, the potential for flood-induced damage is minimal and therefore less than significant.

IMPACTCreate a significant hazard to the public or the environment through reasonablyHAZ-1foreseeable upset and accident conditions involving the release of hazardous materials
into the environment. Implementation of the proposed Project could result in the release
of hazardous materials from the use of equipment (fuels, oils and grease, solvents) or from
the release of chemicals from the sampled media at hazardous levels. This impact would be
less than significant. No mitigation would be required.

Hazards Related to Existing Contamination

The Station is a listed hazardous waste site. There are no other active listed sites within at least 7.5 miles. In 1996, PG&E, the owner and operator, entered into a voluntary agreement to investigate and remediate contaminants to agreed-upon action levels, and the Station is in the DTSC Cleanup Program. The access, investigation, sample collection, and restoration activities proposed as part of the soil investigation will determine the nature and extent of chemicals released from the Station's historical activities. As described above, the access and sampling activities could result in the release of chemicals that could present a significant hazard to the public or environment.

As discussed above, the soil investigation activities would involve implementation of the SOPs and BMPs discussed above and adherence to the substantive provisions of local, state, and federal laws.

IMPACT Effects related to existing hazardous waste site. The Station is a listed hazardous waste
HAZ-2 site. Implementation of the proposed Project could create a significant hazard to the public or the environment by the potential release of contaminants known to be present in soil and groundwater at and beneath the Station. This impact would be less than significant. No mitigation would be required.

Wildland Fires

The improvement of existing roads and the proposed soil investigation activities would require the use of mechanized equipment with internal combustion engines. The equipment would include sonic drilling rigs, hydrovac trucks, excavators, and support trucks. Parts of the engines and exhaust systems could get hot enough to ignite dry vegetation and cause a wildfire and expose people or structures to significant risk.

As previously discussed, the CAL FIRE fire hazard severity zone map identifies the Project Site as within the lowest level of its fire hazard severity zones, which is the lowest possible risk category. In addition, the adherence to provisions of the DOT and California Vehicle Code for spark arrester protection on vehicles would further reduce the potential risk.

IMPACT Increased Risk of Wildland Fires. Soil investigation equipment that uses internal combustion engines could ignite wildland fires that could expose people or structures to significant risk. However, the CAL FIRE fire hazard severity zone map identifies the Project Site as within the lowest level of its fire hazard severity zones which is the lowest possible risk category. Moreover, the Project would adhere to substantive provisions of federal and state regulations that address spark arrester protection to prevent potential wildland fire impacts. This impact would be less than significant. No mitigation would be required.

4.6 Hydrology and Water Quality

This section describes the existing conditions contributing to the hydrology and water quality at the proposed Pacific Gas and Electric Company (PG&E) Topock Compressor Station Soil Investigation Project (Project) Site and surrounding area; describes the relevant federal, state, regional, and local laws and regulations; and addresses the potential hydrology and water quality impacts of the proposed Project.

4.6.1 Existing Setting

This section describes the physical hydrologic and water quality characteristics and setting with regard to the soil investigation activities to be conducted at the Project Site.

4.6.1.1 Climate

The climate in the site vicinity is typical of low desert areas along the Colorado River, with hot summers and mild winters. The nearest weather station, located approximately 6.3 miles upriver from the PG&E Topock Compressor Station (Station) in the Havasu National Wildlife Refuge (HNWR), is operated by the U.S. Department of Interior, Bureau of Land Management (BLM). The closest National Weather Service station is at Needles Airport, approximately 6 miles northwest of the Station.

The average daily maximum temperature ranges from 63.8°F in January to 108.6°F in July. The average daily maximum temperature exceeds 100°F during June, July, August, and September, and the temperature rarely drops below freezing. Based on the 30-year period of 1961 to 1990, average precipitation was 4.67 inches per year in Needles. Between 1950 and 1990, the maximum annual rainfall was 9.6 inches. In a typical year, rain primarily occurs during summer thunderstorms from July through early September or during winter from January to March. May and June are typically the driest months.

The predominant wind direction in the site vicinity is south-southwest, with an average speed of 8.8 miles per hour. The second most predominant wind direction is north-northwest, with an average speed of 10.7 miles per hour. Wind direction and speed are more variable in the vicinity and are largely controlled by the local topography. PG&E personnel at the Station report the winds are predominantly to the southeast.

4.6.1.2 Surface Water

The following subsections discuss surface water at the Project Site, including flow conditions and water quality.

Surface Water Features

The Project Site is located in the East Colorado River Basin Planning Area of the Colorado River Basin California Regional Water Quality Control Board (RWQCB; RWQCB 2006). The East Colorado River Basin Planning Area is 200 miles long with a maximum width of 40 miles. It encompasses the eastern portion of San Bernardino, Riverside, and Imperial Counties and is bounded on the north by Nevada, on the east by the Colorado River (which generally forms the Arizona–California state line), on the south by Mexico, and on the west by the drainage division of the California streams and washes. The area is characterized by desert valleys and low mountains that are generally less than 4,000 feet above sea level.

In the Project vicinity, as well as in upstream areas, a floodplain borders both sides of the Colorado River, although, because of upstream dams and flow regulation, the river no longer floods. Topography on the floodplain is subtle, with elevations typically less than 40 feet above the river elevation. The width of the floodplain adjacent to the Project Site averages 500 feet and narrows south of the site as the river enters the Topock Gorge, where the shoreline becomes consolidated bedrock. Near the Project Site, the floodplains on both sides of the river are covered with sand dunes, which have been attributed to historical dredging activities. The Havasu National Wildlife Refuge and the 4,000-acre Topock Marsh are located across the river northeast of the Project Site.

The primary surface water features in the Project vicinity are the Colorado River, its adjacent wetlands and marshes, and ephemeral drainages¹, specifically, the Bat Cave Wash, Debris Ravine, and the East Ravine. These features are shown on **Figure 4.6-1**, along with the general locations of the Areas of Concern (AOCs), Solid Waste Management Units (SWMUs), and Undesignated Areas (UAs) where investigation activities are proposed. Figures 3-3 through 3-6 show closer views that include the proposed sampling investigation locations relative to Bay Cave Wash (Figures 3-3 and 3-5), the Debris Ravine, which drains northward into Bat Cave Wash (Figure 3-5), and the East Ravine (Figure 3-4).

¹ Ephemeral drainages or washes only flow during and shortly after rain events. Intermittent streams flow for part of the year.



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Surface Water Flow Conditions

Colorado River

The flow of the Colorado River is dynamic, fluctuating seasonally and daily largely because of upstream flow regulations. The flow of the river in the Project vicinity is controlled primarily by water releases at Davis Dam on Lake Mohave, approximately 41 miles upstream. River levels in the area fluctuate by 2 to 3 feet per day and by approximately 5 feet seasonally, with the higher water levels occurring in late spring to early summer. Daily average flows vary from 4,000 to 25,000 cubic feet per second, according to the dam releases.

The seasonal and daily fluctuations of the river level result in both losing stream conditions (surface water moves to a groundwater aquifer) and gaining stream conditions (groundwater moves to surface water). In general, the Colorado River is considered a losing stream throughout the northern and central Mohave Valley groundwater basin. This results in surface water from the river mixing with groundwater along the sides of the river. In the southern portion of the basin, near the Project Site, the Colorado River is generally considered a gaining stream. However, the groundwater extraction wells (that are part of Interim Measure 3 [IM-3] extraction system) located along the National Trails Highway (Route 66) from the railroad tracks north to near where Bat Cave Wash enters the Colorado River maintain losing stream conditions to prevent contaminated groundwater from entering the river. <u>The water pumped by the IM-3 treatment system is returned to the aquifer through injection wells.</u> Water levels in Topock Marsh on the east side of the river are maintained slightly higher than the river at Topock by diverting river water at an upstream location near Needles and by controlling release from a downstream dike surrounding the marsh.

Ephemeral Drainages

The ephemeral drainages in the Project vicinity flow only briefly, following intense rainfall events, and all drain to the Colorado River. Figure 4.6-1 identifies the three main drainages in the Project vicinity.

Bat Cave Wash is a north-draining dry wash (ephemeral stream) with its upper reaches located immediately adjacent to the Station on the west. Bat Cave Wash drains northward to the Colorado River. This wash has been designated by the U.S. Army Corps of Engineers (USACE) as Waters of the U.S. (CH2M HILL 2005a). AOC 1 and SWMU-1 are is located in this wash and the AOCs and SWMUs along the west side of the Station drain toward this wash.

The East Ravine is a dry wash network located east of the Station that drains northeast to the Colorado River. This wash has been designated by the USACE as Waters of the U.S. and drains into an area designated as a Fringe and Adjacent Wetlands along the Colorado River (CH2M HILL 2005a). AOCs <u>92</u>, 10, 11, and 28 are located in and around this dry wash network.

The Debris Ravine is a northwest-draining dry wash located south of the Station that drains into Bat Cave Wash. This wash has not been designated by the USACE as Waters of the United States. AOC 4 is located in this wash area.

Surface Water Quality

Colorado River

The section of the Colorado River in the vicinity of the Project Site is not on the list of impaired water bodies required by Section 303(d) of the federal Clean Water Act and therefore does not have any established Total Maximum Daily Loads (TMDLs). The primary chemicals of potential concern (COPCs) for surface water related to the Station would be total chromium [Cr(T)] and hexavalent chromium [Cr(VI)]. Cr(VI) has only been confirmed in one sample out of over 700 samples collected from the river. As noted previously and discussed further in this document, the goal of the IM-3 extraction and treatment system prevents is to contain and reverse the flow of groundwater away from entering the Colorado River. In addition, there is a naturally occurring zone of carbon-rich sediments adjacent to and beneath the river which provides a geochemical barrier that helps to prevent hexavalent chromium from reaching the river.

Ephemeral Drainages

The primary potential source of surface water quality impact from Project activities is sediment or chemicals from contaminated soil that may be mobilized by stormwater runoff from SWMUs and AOCs. The California Department of Toxic Substances Control (DTSC) collected five stormwater samples from ephemeral drainages after a rain event on January 27, 2010, to evaluate the potential for contaminants in soil to affect groundwater and surface water (DTSC March 9, 2010, as cited in DTSC 2011, Table 4.7-2). Surface water sampling location (SW)-1 and SW-2 are located along the wetlands adjacent to the Colorado River in the East Ravine area. The other three samples were collected in AOCs 10c, 10d, and 11, also all located in the East Ravine. Cr(T) was detected in four of five samples at concentrations ranging from 0.58 to 12 micrograms per liter (ug/L). Molybdenum concentrations ranged from 1.0 to 5.6 ug/L. Water quality standards have not been assigned for molybdenum (Table 4.6-1 in FEIR, Vol. II; DTSC 2011). Selenium was detected in four of five samples at concentrations ranging from 1.7 to 3.4 ug/L, all below the 50 ug/L water quality standard cited in the Groundwater Remediation Project FEIR (DTSC 2011).

4.6.1.3 Groundwater

The soil sampling activities proposed in the *Soil RCRA Facility Investigation/Remedial Investigation (RFI/RI) Work Plan* (Soil RFI/RI Work Plan or Soil Work Plan) (CH2M HILL 2013; Appendix A to this DEIR) do not include collecting groundwater samples. The maximum depth of drilling is 80 feet below ground surface in some borings and it is not anticipated that drilling will encounter groundwater. As described in Chapter 3, "Project Description," while no studies are currently planned, a pilot study for evaluating in situ soil flushing as a remedial technology may be conducted in the future at a location in Bat Cave Wash. As a part of the pilot study, injection and recovery wells may be installed and groundwater samples may be collected for chemical analyses. The following information regarding groundwater provides an overview level of detail commensurate with the potential for impacts.

The Project Site lies at the southern end of the Needles Valley groundwater basin (DWR Basin 7-44; DWR 2003), which is bisected by the Colorado River. Groundwater in the Needles Valley basin occurs in the alluvial basin deposits (Wilson and Owen-Joyce 1994). The groundwater

system in the Project vicinity has been described as a "river aquifer" (Wilson and Owen-Joyce 1994; Guay et al. 2006). The river aquifer consists of permeable and partly saturated sediments and sedimentary rocks that are hydraulically connected to the Colorado River, allowing water to move between the river and the aquifer in response to withdrawal of water from the aquifer or differences in water-level elevations between the river and the aquifer (Wilson and Owen-Joyce 1994; Guay and Eastoe 2009). The boundaries of the river aquifer are the low-permeability bedrock that forms the bottom and sides of the basins that underlie the valley.

Groundwater occurs under both unconfined² and semiconfined³ conditions in the alluvial fan and fluvial sediments, which make up the Alluvial Aquifer under the Project Site. Groundwater in the Alluvial Aquifer occurs at depths ranging from as shallow as 5 feet below ground surface (bgs) on the floodplain adjacent to the river to 170 feet bgs in the upland alluvial terrace areas under the Station (CH2M HILL 2009c:2-6). **Figure 4.6-2** presents a regional hydrogeologic cross-section that illustrates the relationship between the Alluvial Aquifer, groundwater, and bedrock. Groundwater flow in the Project vicinity is mainly in the Alluvial Aquifer. The overall regional direction of groundwater flow is eastward toward the river.

The COPCs in groundwater at the Project Site are Cr(VI) and Cr(T). The general extent of contaminated groundwater in the Alluvial Aquifer is shown on Figure 4.6-1 and encompasses an area of approximately 175 acres that includes groundwater under Bat Cave Wash, the Station, and the floodplain (CH2M HILL 2009c:2-11). This groundwater plume has been defined as groundwater that exceeds a Cr(VI) concentration of 31.8 (rounded to 32) µg/L, which has been established as the alluvial background concentration for the Project (CH2M HILL 2009c:2-10). Cr(VI) concentrations range from less than 0.2 μ g/L to 15,700 μ g/L within the plume boundaries, with the highest concentrations observed in the area of the Monitoring Well (MW)-20 bench (along the National Trails Highway about 500 feet north of the Burlington Northern Santa Fe Railway) and the Well MW-24 bench (about 500 feet north of the Station) (CH2M HILL 2009b: Table 2-4). Total dissolved solids (TDS) (as specific conductance), arsenic, molybdenum, selenium, and nitrate have been found in groundwater samples from the Project Site at concentrations exceeding regional background concentrations or maximum contaminant levels (MCLs). The highest concentrations are 157 ug/L for arsenic, 301 ug/L for molybdenum, and 155 ug/L for selenium (CH2M HILL 2009a: Table 6-8). The groundwater and groundwater contamination are being addressed through a separate, comprehensive Groundwater Remediation Project. Impacts from the Groundwater Remediation Project have been assessed in the Final Environmental Impact Report Topock Compressor Station Groundwater Remediation Project (DTSC 2011).

An unconfined aquifer is underlain by an impermeable stratum, but the top of the aquifer consists of soil layers that are permeable enough to provide easy passage of water, at least in the vertical sense. Such an aquifer has a free water table surface.

³ A semiconfined aquifer is an aquifer underlain by an impermeable stratum and bounded at the top by soil layers of relatively low permeability.



4.6.2 Regulatory Background

As described in Section 2.3, the various on-site response and corrective actions required to investigate and clean up contamination are exempt from obtaining federal, state, and local permits pursuant to the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Section 121(e)(1). This does not, however, remove the requirement to meet the substantive provisions of applicable laws.

4.6.2.1 Federal

Federal Clean Water Act

In accordance with the CERCLA exemption, PG&E would not be required to apply for or obtain Clean Water Act (CWA) permits as long as the Project actions are implemented in compliance with the substantive elements of the guiding principles associated with Sections 401 and 404 of the CWA, described below.

The CWA (33 USC 1251-1376) is the major federal legislation governing water quality. The CWA established the basic structure for regulating discharges of pollutants into the waters of the U.S. and gave the U.S. Environmental Protection Agency the authority to implement pollution control programs such as setting wastewater standards for industry. The CWA sets water quality standards for all contaminants in surface waters. Sections 401 and 404 provide for water quality standards, criteria, and guidelines. The statute employs a variety of regulatory and nonregulatory tools to reduce direct pollutant discharges into waterways, finance municipal wastewater treatment facilities, and manage polluted runoff. The USACE has jurisdiction over all waters of the U.S. including, but not limited to, perennial and intermittent streams, lakes, and ponds, as well as wetlands in marshes, wet meadows, and side hill seeps.

Executive Order 11988

Under Executive Order 11988 – Floodplain Management, the Federal Emergency Management Agency (FEMA) is responsible for management of floodplain areas defined as the lowland and relatively flat areas adjoining inland and coastal waters subject to a one percent or greater chance of flooding in any given year (the 100-year floodplain). FEMA requires that local governments covered by federal flood insurance pass and enforce a floodplain management ordinance that specifies minimum requirements for any construction within the 100-year floodplain. The Order addresses floodplain issues related to public safety, conservation, and economics. It generally requires federal agencies constructing, permitting, or funding a project in a floodplain to:

- Avoid incompatible floodplain development
- Be consistent with the standards and criteria of the National Flood Insurance Program
- Restore and preserve natural and beneficial floodplain values

Executive Order 11990

Under Executive Order 11990 – Protection of Wetlands, federal agencies are required to follow avoidance, mitigation, and preservation procedures, with public input, before proposing new construction in wetlands. It generally requires:

- Avoidance of wetlands
- Minimization of activities in wetlands
- Coordination with the USACE and Section 404 of the CWA regarding wetlands mitigation

4.6.2.2 State of California

SWRCB Resolution No. 68-16 – State Nondegradation Policy

The State Water Resources Control Board (SWRCB) has broad authority over discharges to waters of the state. In 1968, the SWRCB adopted a nondegradation policy aimed at maintaining the high quality of waters in California through the issuance of Resolution No. 68-16 ("Statement of Policy with Respect to Maintaining High Quality Waters in California"), whereby actions that tend to degrade the quality of water are prohibited. Oversight of this policy is done through the RWQCBs. The nondegradation policy states that:

- Whenever the existing quality of water is better than the quality established in policies as of the date on which such policies become effective, such existing high quality will be maintained until it has been demonstrated to the state that any change will be consistent with maximum benefit to the people of the state, will not unreasonably affect present and anticipated beneficial use of such water, and will not result in water quality less than that prescribed in the policies.
- Any activity which produces or may produce a waste or increased volume or concentration of waste and which discharges or proposes to discharge to existing high quality waters must meet waste discharge requirements, which will result in the best practicable treatment or control of the discharge necessary to ensure that (a) a pollution or nuisance will not occur and (b) the highest water quality consistent with maximum benefit to the people of the state will be maintained.

SWRCB has interpreted Resolution No. 68-16 to incorporate the federal antidegradation policy, which is applicable if a discharge that began after November 28, 1975, will lower existing surface water quality.

Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act (Division 7 of the California Water Code) provides the basis for water quality regulation within California and defines water quality objectives as the limits or levels of water constituents that are established for reasonable protection of beneficial uses. The SWRCB administers water rights, water pollution control, and water quality functions throughout the state, while the Colorado River Basin RWQCB conducts planning, permitting, and enforcement activities. The Porter-Cologne Act requires the RWQCB to

establish a regional basin plan with water quality objectives, while acknowledging that water quality may be changed to some degree without unreasonably affecting beneficial uses. Beneficial uses, together with the corresponding water quality objectives, are defined as standards, per federal regulations. Therefore, the regional basin plans form the regulatory references for meeting state and federal requirements for water quality control. Changes in water quality are allowed if the change is consistent with the maximum beneficial use of the state, does not unreasonably affect the present or anticipated beneficial uses, and does not result in water quality less than that prescribed in the water quality control plans. The basin plan for this location is discussed below.

Water Quality Control Plan for the Colorado River Basin

The Colorado River Basin RWQCB, under the authority of the state Porter-Cologne Water Quality Control Act and pursuant to the CWA, is responsible for authorizing and regulating activities that may discharge wastes to surface water or groundwater resources. The preparation and adoption of water quality control plans (Basin Plans) are required by the California Water Code (Section 13240). According to Section 13050 of the California Water Code, Basin Plans consist of a designation or establishment for the waters within a specified area of beneficial uses to be protected, water quality objectives to protect those uses, and a program of implementation needed for achieving the objectives. Because beneficial uses, together with their corresponding water quality objectives, can be defined per federal regulations as water quality standards, the Basin Plans are regulatory references for meeting the state and federal requirements for water quality control.

The Basin Plan for the Colorado River Basin, originally adopted by the Colorado River Basin RWQCB in 1993 and last amended in June 2006, identifies the beneficial uses of water bodies and provides water quality objectives and standards for waters of the Colorado River Basin. The beneficial uses for each type of water body in the Basin are:

- <u>Surface Waters of the Colorado River</u> municipal and domestic water supply, agricultural supply, aquaculture, industrial service supply, groundwater recharge, contact and noncontact water recreation, warm and cold freshwater habitats, hydropower generation, and preservation and enhancement of rare, threatened, or endangered species
- <u>Washes (ephemeral streams)</u> potential⁴ municipal and domestic, groundwater recharge, contact and noncontact water recreation, warm freshwater habitats, and preservation and enhancement of rare, threatened, or endangered species
- <u>Groundwater in the East Colorado Basin, Piute Hydrologic Unit (713.00</u>) municipal and domestic water supply, industrial service supply, and agricultural supply

The Colorado River Basin Plan identifies specific narrative and numeric water quality objectives for a number of physical properties (e.g., temperature, turbidity, and suspended solids), biological constituents, and COPCs, including inorganic parameters, trace metals, and organic compounds.

⁴ Potential use designation will be determined on a case-by-case basis as necessary in accordance with the "Sources of Drinking Water Policy" in the Basin Plan.

Water quality objectives for toxic priority pollutants (i.e., select trace metals and synthetic organic compounds) are also identified in the Basin Plan.

Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65)

In 1986, California voters approved an initiative to address their growing concerns about exposure to toxic chemicals. That initiative became the Safe Drinking Water and Toxic Enforcement Act of 1986, better known by its original name of Proposition 65. Proposition 65 requires the state to publish a list of chemicals known to cause cancer or birth defects or other reproductive harm. This list, which must be updated at least once a year, has grown to include approximately 800 chemicals since it was first published in 1987.

Proposition 65 requires businesses to notify Californians about significant amounts of chemicals in the products they purchase, in their homes or workplaces, or that are released into the environment. By providing this information, Proposition 65 enables Californians to make informed decisions about protecting themselves from exposure to these chemicals. Proposition 65 also prohibits California businesses from knowingly discharging significant amounts of listed chemicals into sources of drinking water. The following section is relevant to this Project because the Colorado River is a source of drinking water.

Section 25249.5. Prohibition On Contaminating Drinking Water With Chemicals Known to Cause Cancer or Reproductive Toxicity. No person in the course of doing business shall knowingly discharge or release a chemical known to the state to cause cancer or reproductive toxicity into water or onto or into land where such chemical passes or probably will pass into any source of drinking water, notwithstanding any other provision or authorization of law except as provided in Section 25249.9.

NPDES Construction General Permit

In accordance with the CERCLA exemption (see Section 2.3), PG&E would not be required to submit a Notice of Intent or a Stormwater Pollution Prevention Plan (SWPPP) to the RWQCB for their review and approval to comply with the requirement of the state Construction General Permit (CGP). This does not, however, remove the requirement to meet the substantive provisions of applicable laws. Therefore, as part of the Project, PG&E will develop and implement an erosion control plan that is in conformance with the substantive requirements of the CGP. Because the erosion control plan will fulfill the requirements of the CGP, it will have substantive components similar to those that would be included in an SWPPP. The general CGP requirements are summarized below.

The RWQCB administers the National Pollutant Discharge Elimination System (NPDES) stormwater permitting program in the Colorado River Basin region. Construction activities disturbing one acre or more of land are subject to the permitting requirements of the NPDES Construction General Permit for Discharges of Storm Water Runoff Associated with Construction Activity (Construction General Permit [CGP]; Order 2009-0009-DWQ; NPDES No. CAS000002). Project activities such as clearing, grading, stockpiling, and excavation would be subject to the statewide general construction activity NPDES permit.

The CGP requires that the site be assigned a risk level of 1 (low), 2 (medium), or 3 (high) based on sediment and receiving waters risk. The sediment risk level is the relative amount of sediment that can be discharged given the project and location details. The receiving waters risk level reflects the risk sediment discharges pose to the receiving waters. A construction analysis provides a preliminary risk level assessment.

For non-exempt projects, the CGP requires the preparation and implementation of a SWPPP prior to construction commencement. At a minimum, the SWPPP includes the following:

- Description of construction materials, practices, and equipment storage maintenance
- List of pollutants likely to contact stormwater and site specific erosion and sedimentation control practices
- List of provisions to eliminate or reduce discharge of materials to stormwater
- BMPs for fuel and equipment storage
- Non-stormwater management measures such as installing specific discharge controls during activities such as paving operations and vehicle and equipment washing and fueling
- Equipment, materials, and workers will be available for rapid response to spills and/or emergencies. All corrective maintenance or BMPs will be performed as soon as possible, depending upon worker safety

An SWPPP provides specific construction-related BMPs to prevent soil erosion and loss of topsoil. BMPs implemented could include, but would not be limited to, physical barriers to prevent erosion and sedimentation, construction of sedimentation basins, limitations on work periods during storm events, use of swales, protection of stockpiled materials, and a variety of other measures that would substantially reduce or prevent erosion from occurring during construction. Post-construction requirements require that construction sites match pre-project hydrology to ensure that the physical and biological integrity of aquatic ecosystems are sustained in their existing condition, unless the site is located within an area subject to the post-construction standards of an active Phase I or II municipal separate storm sewer system (MS4) permit that has an approved stormwater management plan. This Project Site is not within a MS4 area. The post-construction standards (post-investigation standards for the purposes of the proposed Project) include structural and nonstructural control measures to replicate the pre-project water balance and pre-project drainage density, and reduce pollutants in storm water discharges.

California Water Code

Section 13801(c), California Well Standards, Bulletin 74-90 (Supplement to Bulletin 74-81) sets forth minimum standards for the construction of water supply, cathodic, and monitoring wells. These standards include the destruction of exploratory boreholes.

Law of the River (Colorado River Allocations)

The Colorado River is the most important waterway in the region. The river supplies water for use within the region and elsewhere. Apportionment of water available for diversion from the River is made in accordance with a number of documents collectively referred to as the Law of the River. These include interstate compacts, federal legislation, water delivery contracts, state legislation, a treaty with Mexico, U.S. Supreme Court decrees, and federal administrative actions. Presently, California is receiving waters unused by other states. The 2003 Quantification Settlement Agreements created California's "soft landing" by reducing California's Colorado River water usage from 5.2 million acre-feet per year (AFY) to 4.4 million AFY in a normal year over 15 years through the conservation and transfer of water from agricultural to urban uses in San Diego County Water Authority's, Metropolitan's, and Coachella Valley Water District's jurisdictions, through quantifying the agencies' priority water rights to the River and allocating water in times of shortage. This effort was called the "Interim Surplus Guidelines." PG&E's existing contracted entitlement is 422 acre-feet annually (DTSC 2011).

4.6.2.3 Local

County of San Bernardino Department of Public Health

The San Bernardino County Department of Public Health, Division of Environmental Health Services (EHS) is responsible for issuing permits for the installation of soil borings, vapor monitoring wells, and groundwater wells in San Bernardino County. EHS personnel are responsible for inspecting boring and well installations for conformance with state and local well standards. Soil borings deeper than 25 feet are required to be permitted under Program Element 4555 (San Bernardino County 2013).

4.6.3 Environmental Impacts

4.6.3.1 Impact Methodology

The potential impacts to hydrology and water quality were evaluated by assessing the proposed access, soil investigation, and restoration activities for the Project, as described in the Project Description (Chapter 3), the Soil Work Plan (CH2M HILL 2013; Appendix A to this DEIR), and the *Corrective Measures/Feasibility Study Work Plan* (CM/FS Work Plan) (CH2M HILL 2008). The Soil Work Plan describes and references Standard Operating Procedures (SOPs) and BMPs that have been developed during the previous investigations to reduce potential impacts to hydrology and water quality. The CM/FS Work Plan and this DEIR also describe the bench scale tests and pilot studies to be conducted to evaluate various treatment technologies.

The Soil Work Plan describes and references SOPs and BMPs that have been developed during the previous investigations. Among other things, the SOPs and BMPs will reduce potential impacts to hydrology and water quality during the soil investigation activities. The proposed Project will follow the SOPs in the *Topock Program Sampling, Analysis, and Field Procedures Manual, PG&E Topock Compressor Station, Needles, California* (CH2M HILL 2005b), which are included as Appendix G of the Work Plan. Section 2.2 of the Work Plan describes the BMPs that have been developed as part of the Project. These provisions are also described in the Project

Description, Section 3.5.7, and will be implemented as part of the proposed Project. These provisions apply to all Project activities including soil sampling, bench scale tests, pilot studies, geotechnical evaluations, and plant or other biota sampling. Accordingly, the impact analysis for hydrology and water quality takes into consideration the full implementation of the SOPs and BMPs. In addition, PG&E will meet the substantive provisions of the state CGP in accordance with the CERCLA exemption (see Section 2.3), and prepare and implement an erosion control plan as part of the Project. To ensure the implementation of the SOP, BMP, and erosion control plan provisions, DTSC will include them as Conditions of Approval for the Project if the Project is approved.

4.6.3.2 Thresholds of Significance

Based on the California Environmental Quality Act (CEQA) Guidelines, Appendix G, a project may be deemed to have a significant effect on the environment with respect to hydrology and water quality if it would:

- Violate any water quality standards or waste discharge requirements;
- Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted);
- Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner that would result in substantial erosion or siltation on- or off-site;
- Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner, which would result in flooding on- or off-site;
- Create or contribute runoff water, which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff;
- Otherwise substantially degrade water quality;
- Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map;
- Place within a 100-year flood hazard area structures which would impede or redirect flood flows;
- Expose people or structures to a significant risk of loss, injury, or death involving flooding, including flooding as a result of the failure of a levee or dam; or
- Result in inundation by seiche, tsunami, or mudflow.

Based on the location and characteristics of the proposed Project, the following criteria are not considered in the impact analyses for the reasons described below.

- The Project does not include the on-site treatment or discharge of waste water, except for decontamination water that may be treated at the IM-3 Treatment Facility in accordance with Waste Discharge Requirements. Therefore, the Project would not exceed Waste Discharge Requirements and this impact is not discussed further.
- The Project does not include the construction of housing, thus the proposed Project would not place housing within a 100-year flood hazard area. Therefore, the Project would not place housing within a 100-year flood hazard area and this impact is not discussed further.
- The proposed Project would not involve construction of any structures within a 100-year flood hazard area, and would therefore not impede or redirect flood flows. The Project includes the minor improvement of existing roads to enhance access but would use localized runoff management BMPs, if needed, to handle on-site flows, and would not result in changes to surface water flow patterns. Therefore, the Project would not impede or redirect flood flows and this impact is not discussed further.
- The proposed Project would not expose people or structures to a significant risk involving flooding as a result of the failure of a levee or dam. The closest upstream dams to the Project Site are the Davis Dam and Hoover Dam, located approximately 55 and 108 miles upstream of the Project Site, respectively. The Hazards Overlay Map of the County General Plan indicates that the Project Site is not in an area that would be subject to inundation from failure of either dam. Therefore, the Project would not result in inundation caused by dam failure and this impact is not discussed further.
- The proposed Project would not result in inundation by seiche, tsunami, or mudflow. Seiches are waves in a semi-enclosed or enclosed body of water such as a lake, reservoir, or harbor. There are no enclosed water bodies within the Project Site and the nearest active fault that could generate a seismic event is 93.5 miles away from the Project Site. Tsunamis are waves caused by an underwater earthquake, landslide, or volcanic eruption. The Project Site is located in an inland area that is not susceptible to tsunamis, which generally occur in the ocean and affect areas along the shoreline and for a small distance inland. Mudflows generally result from volcanic activity, catastrophic dam failure, or a large volume precipitation event on saturated soil. The Project is not located in an area of volcanic activity. As discussed above, the Project Site is not in an area that would be subject to inundation from failure of either dam. The minimal amount of rain received at the site is not favorable to the generation of a mudflow. Therefore, no impact would occur related to inundation caused by seiche, tsunami, or mudflow and this impact is not discussed further.

4.6.3.3 Impact Analysis

The proposed Project consists of the collection of soil and pore water samples at 292 locations using drilling rigs, hydrovac trucks, excavators, support trucks, and hand tools. Further, due to

unforeseen circumstances or data gaps, additional samples/sampling locations may be necessary. As part of this draft environmental impact report (DEIR), therefore, a contingency of up to 25 percent additional sampling locations (i.e., up to 73 additional locations) is included in the DEIR evaluation. In addition, bench scale tests, pilot studies, geotechnical evaluations, and plant or other biota sampling may be conducted to support the evaluation of possible treatment technologies. Bench scale tests would involve the collection of small volumes of contaminated soil (three to five 5-gallon buckets for off-site testing. The in situ soil flushing pilot study, if conducted, would involve grading a small depression to create an infiltration gallery that is 35 foot by 115 foot in size. Alternately, infiltration could be accomplished with injection wells. The in situ stabilization/fixation pilot study, if conducted, would involve the addition of a stabilization agent to soil known to be contaminated through the same delivery system as described for soil flushing (see Section 3.5.3.2 for a list of reagents that may be used; these agents bind to contaminated soil minimizing the potential for contaminants to be released to the environment). The soil would then be sampled to evaluate the effectiveness of the stabilization agent. Access to investigation sites would be predominantly on existing roadways. Some areas would require minor improvement of existing roadways, and/or the trimming, pruning, or clearing of some vegetation to provide access.

After sampling is complete, up to five boreholes would be converted to soil vapor probes. The remaining boreholes would be decommissioned by grouting the boreholes from the bottom up to the ground surface with cement grout. Hydrovac potholes would be sealed with bentonite chips and the surface restored to the previous condition (asphalt, concrete, or covered with soil from the Project Site). Potholes and trenches excavated by an excavator or hand tools would be backfilled with the excavated soil cuttings and the surface restored to the previous condition (asphalt, concrete, or soil). Decontamination of sampling equipment would use existing staging areas within the Station as described in greater detail below. To the extent feasible, staging areas will be located in previously disturbed and existing operational areas, thus eliminating the need for the construction of any new staging areas on undisturbed land. Any decontamination water would be collected on a decontamination pad lined with plastic sheeting and collected into covered portable storage tanks within secondary containment.

Water Quality

Grading and Site Preparation Activities

The proposed soil investigation activities would require the use of a sonic drilling rig, hydrovac truck, or excavator, depending on access and depth considerations, to collect soil and pore water samples for analysis. Activities may also include preparing a surface depression, infiltration gallery, or injection and recovery wells for the in situ pilot studies (35-foot by 115-foot area). Minor improvements to existing roads would be required to access some of the investigation locations. Investigation locations may also require minor grading and disturbance of soil to facilitate sampling equipment. These ground disturbance activities could disturb soil such that rain events could result in the discharge of sediments to drainages and eventually to the Colorado River degrading water quality. To reach the desired sample depth intervals, the sampling process would generate waste soil from drilling, hydrovacing, and excavation activities. Some of the sample intervals could contain soil with chemicals at elevated concentrations. If improperly

managed and disposed of, chemicals from the waste soil could be released to the environment or mobilized by stormwater runoff and enter drainages and the Colorado River at concentrations exceeding water quality standards. As discussed in Section 4.5, "Hazards and Hazardous Materials," action levels have been established for various chemicals that would prohibit their release into the environment. In addition, if improperly managed, sediments from the waste soil could be mobilized by stormwater runoff and could deliver sediment-laden runoff to drainages and the Colorado River degrading water quality. Discharge of excess chemical pollutants or sediment from Project activities could exceed sediment discharge objectives or chemical action levels or violate water quality standards prescribed for the Colorado River in the Colorado River Basin Regional Water Quality Control Basin Plan.

The improvement of existing roads and previously disturbed staging areas, and the preparation of investigation locations and/or the in situ pilot study would result in the collective disturbance of more than one acre of land. In addition, some of the investigation locations are within or adjacent to areas designated as Waters of the U.S. Any impacts within or adjacent to Waters of the U.S. would not require the acquisition of permits under Section 401 or 404 of the CWA as the Project activities fall under the CERCLA Section 121(e)(1) permit exemption (see Section 2.3). As described previously however, PG&E will develop and implement an erosion control plan as part of the Project (see Section 3.5.7). The erosion control plan would be in conformance with the substantive requirements of the CGP and would therefore be similar to an SWPPP.

The plan, moreover, would be prepared by a Qualified SWPPP Developer and would be under the direction of a Qualified SWPPP Practitioner. The provisions in the erosion control plan will be required as Conditions of Approval for the Project if the Project is approved.

As a part of the grading and site preparation elements of the Project, PG&E will implement and conduct the following actions:

- Complete of a CGP Risk Assessment to determine pollution prevention requirements pursuant to the three Risk Levels as established in the CGP and relevant for the proposed Project.
- Eliminate or reduce non-stormwater discharges to Waters of the United States.
- Prepare and implement an erosion control plan, which would include, but not be limited to the following BMPs developed by the California Stormwater Quality Association (CASQA 2011):
 - Scheduling (SS-1): Proper scheduling assists in identifying ways to minimize disturbed areas, which allows for a reduction in the active project area requiring protection and also minimizes the length of time disturbed soils are exposed to erosive processes. This would include limitations on construction work during storm events.
 - Preservation of Existing Vegetation (SS-2): Preserving existing vegetation to the maximum extent practicable facilitates protection of surfaces from erosion and can also help to control sediments. Sensitive areas should also be clearly identified and protected.

- Hydraulic Mulch (SS-3), Straw Mulch (SS-6), and Wood Mulching (SS-8): Using various mulches is a method for temporarily stabilizing soil and can be used on surfaces with little or no slope.
- Geotextiles, Plastic Covers, and Erosion Control Blankets/Mats (SS-7): These erosioncontrol methods can be used on flat or, usually, sloped surfaces, channels, and stockpiles.
- Stabilized Construction Entrance/Exit (TC-1): A graveled area or pad located at points where vehicles enter and leave a construction site can be built. This BMP provides a buffer area where vehicles can drop their mud and sediment to avoid transporting it onto public roads, to control erosion from surface runoff, and to help control dust.
- Silt Fence (SC-1): A temporary sediment barrier consisting of fabric is designed to retain sediment from small disturbed areas by reducing the velocity of sheet flows.
- Gravel Bag Berm (SC-6) and Sand/Gravel Bag Barrier (SC-8): A temporary sediment barrier consisting of gravel-filled fabric bags is designed to retain sediment from small disturbed areas by reducing the velocity of sheet flows.
- <u>Fiber Rolls/Sediment Wattles (SE-5): A temporary erosion control method that consists</u> of aspen wood excelsior, straw, flax, or other similar materials that are rolled and bound into tight tubular rolls and placed on the face of slopes at regular intervals depending on steepness of slopes to intercept runoff and reduce flow velocity.
- Straw Bale Barriers (SE-9): A temporary erosion control method that intercepts and slows down sheet flow runoff, causing temporary ponding. The temporary ponding provides quiescent conditions allowing sediment to settle. Straw bale barriers also interrupt the slope length and thereby reduce erosion by reducing the tendency of sheet flows to concentrate into rivulets, which erode rills, and ultimately gullies, into disturbed, sloped soil.
- Secondary concerns include potential pollutants from inappropriate material storage and handling procedures and non-stormwater discharges. These will be addressed through the following types of BMPs, which will be included in the erosion control plan:
 - Material Delivery and Storage (WM-1): Provide covered storage for materials, especially toxic or hazardous materials, to prevent exposure to stormwater. Store and transfer toxic or hazardous materials on impervious surfaces that will provide secondary containment for spills. Park vehicles and equipment used for material delivery and storage, as well as contractor vehicles, in designated areas.
 - Spill Prevention and Control (WM-4): Ensure that spills and releases of materials are cleaned up immediately and thoroughly. Ensure that appropriate spill-response equipment, preferably spill kits preloaded with absorbents in an overpack drum, is provided at convenient locations throughout the site. Spent absorbent material must be managed and disposed of in accordance with applicable regulations. In particular, absorbents used to clean spills of hazardous materials or waste must be managed as hazardous waste unless characterized as nonhazardous.

- Spill Prevention, Control, and Cleanup (SC-11): Store materials properly to prevent spills from entering the storm drain system or surface waters. Ensure that spill cleanup materials are located on-site and are easily accessible. Clean up leaks and spills immediately using proper absorbent materials. Absorbents used to clean up hazardous materials must be disposed of as hazardous waste. Educate employees about spill prevention and cleanup.
- Vehicle and Equipment Fueling (SC-20): Maintain clean fuel-dispensing areas using dry cleanup methods, such as sweeping or using rags and absorbents for leaks and spills. Cover the fueling area to prevent contact with stormwater. Train personnel in pollution prevention, focusing on containment of spills and leaks.
- Outdoor Loading/Unloading (SC-30): Load and unload chemicals during dry weather, if possible, and load and unload in designated areas. Check equipment regularly for leaks.
- Solid Waste Management (WM-5): Provide a sufficient number of conveniently located trash and scrap receptacles to promote proper disposal of solid wastes. Ensure that the receptacles are provided with lids or covers to prevent windblown litter.
- Hazardous Waste Management (WM-6): Provide a sufficient number of proper receptacles to promote proper disposal of hazardous wastes.
- Concrete Waste Management (WM-8): Dispose of excess concrete in specific concrete washout facilities.
- Sanitary/Septic Waste Management (WM-9): Locate sanitary and septic waste facilities away from drainage courses and traffic areas. Maintain the facilities regularly.
- Vehicle and Equipment Cleaning (NS-8): Clean vehicles and equipment that regularly enter and leave the construction site.
- Vehicle and Equipment Fueling (NS-9): Fuel vehicles and equipment off-site whenever possible. If off-site fueling is not practical, establish a designated on-site fueling area with proper containment and spill cleanup materials.
- Vehicle and Equipment Maintenance (NS-10): Use off-site maintenance facilities whenever possible. Any on-site maintenance areas must be protected from stormwater runoff and on-site flooding.

Adherence to the identified SOPs and BMPs would substantially reduce or prevent Project-related activities from causing existing waterborne pollutants and contaminated sediments from entering drainages, per Colorado River Basin RWQCB standards. The provisions would protect water quality during grading and sampling activities and ensure that the proposed Project would not result in water quality degradation or violation of a water quality standard during all investigation activities.

Some sample locations in AOC 10 along the shoreline of the Colorado River would be sampled for sediment and pore water. Boats would be used to access some of these locations (e.g., the East

Ravine Sediment and Pore Water [ERPW] sampling locations -2, -4, and -9) and, in these locations, only hand tools would be used to collect samples. Planks would be placed on vegetation and shoreline soil to facilitate access and further minimize ground disturbance. This access method would minimize ground disturbance and reduce the mobilization of sediment.

Grading and Project Site preparation would involve implementation of the SOPs and BMPs discussed above, as well as adherence to the substantive provisions of applicable local, state, and federal laws.

Management of Waste Soil from Investigation Activities

As part of the Project, the Soil Work Plan provides SOPs and BMPs to manage waste soil generated from drilling and excavating activities. Displaced soil will be handled in accordance to the *Management Protocol for Handling and Disposition of Displaced Site Material, Topock Remediation Project, Needles, CA* provided in Appendix J of the Soil Work Plan (CH2M HILL 2013; Appendix A to this DEIR). The Appendix presents specific displaced soil and hazardous waste management procedures that would be implemented for the Project. The waste soil will be stored in U.S. Department of Transportation-compliant drums or lined, steel roll-off soil bins that would be temporarily staged in previously used staging areas to the extent practicable. The number and size of drums and roll-off bins would vary depending on how many borings are installed, the drilling method used, and how quickly investigation activities are required to proceed. Standard practices, such as use of plastic sheeting over the ground surface, would be employed in the drilling and staging areas as necessary to keep the drilling materials and equipment clean and to minimize contact of the drilling materials and equipment with the ground surface.

Soil analytical results would be used to identify appropriate management of waste soil. All soil and other investigation-derived waste (IDW) would be handled, transported, and disposed of in accordance with applicable local, state, and federal laws. Displaced soil would be analyzed and characterized as either RCRA or non-RCRA hazardous waste, nonhazardous clean soil (unregulated) or nonhazardous soil for long-term storage (also unregulated). After sampling and characterization, the drums or bins with hazardous soil cuttings would be removed within 90 days of generation from the IDW staging area and transported for disposal in a permitted off-site hazardous waste disposal facility. Unregulated soil would be stockpiled at designated soil storage areas, in accordance with Appendix J, Attachment 1, of the Soil Work Plan, which describes the protocols, such as planning (including Native American Tribal input), short-term and long-term handling and storage procedures, contamination assessment, and determination of final disposition.

Decontamination of the sampling tools would be conducted on a temporary decontamination pad lined with plastic sheeting located on PG&E property at specific locations to be determined. Heavy equipment such as drill rigs and drill rods will be decontaminated at the concrete-lined decontamination pad located adjacent to the Station's access road. Water generated during decontamination activities would be stored temporarily in drums, bins, or portable storage tanks. These tanks would be located temporarily at the drilling sites and/or at the existing IDW staging areas developed during previous investigations. Samples of the decontamination water would be analyzed and the results would be used to identify the appropriate disposal of the decontamination water. After characterization, water generated from decontamination activities would likely be processed on-site at the existing IM-3 treatment facility and re-injected into the aquifer, or trucked off-site for disposal. Prior to treatment of water at IM-3 treatment facility, the water will be tested to determine whether it contains contaminants (i.e., organics) that the IM-3 is not designed to treat. If the water contains contaminants that the IM-3 will not treat, then it will be disposed of off-site at an appropriate facility.

IMPACTExceedance of Water Quality Standards. Implementation of the proposed Project couldHYDRO-1result in the exceedance of water quality standards or otherwise substantially degradewater quality as a result of releasing contaminants or sediment from waste soil into theenvironment. This impact would be less than significant. No mitigation would berequired.

Groundwater

Because the Project does not include the construction of impervious surfaces that would impede surface water infiltration into the subsurface, the Project will not impact the recharge of groundwater. The Project does include the decontamination of sampling equipment to prevent cross-contamination of samples for analyses and potential release of contaminants to the environment. The decontamination water would be trucked from the existing water tanks at the Station.

Water at the Station is supplied by wells located on the Arizona side of the Colorado River. Water use at the Station varies tremendously by season. <u>Although some compaction of dirt roads and staging areas may occur and that compaction may reduce the permeability within the footprint, the extent of the roads and staging areas compared to the adjacent open desert areas is small in comparison. Rain falling on the dirt roads and staging areas would run off into adjacent unaffected areas and infiltrate downward to the aquifer.</u>

The majority of the water is used by the cooling towers, and much higher demand occurs in the summer. The amount of water potentially used by drilling activities is minimal compared to the amount of water used by the Station. The decontamination of sampling equipment for all of the sample locations is estimated to use a combined total of about 2,000 gallons plus an additional 500 gallons for contingency sampling over the life of the Project. Many of the sample locations would use hand tools or excavation equipment that would require little water for decontamination. The sample locations accessed by sonic drilling would use relatively more. This volume of water use would be spread out over several months, depending on the rate or drilling, excavation, and sampling. In addition, between 700,000 to 1,000,000 total gallons for the in situ soil flushing pilot test, and an additional 200,000 gallons for the in situ stabilization/fixation pilot study for a total of up to 1,200,000 total gallons. This water would be sourced from the Station water supply via a temporary 1-inch-diameter rolled high-density polyethylene (HDPE) tubing that will run above ground.

As discussed in the Regulatory Background, PG&E's existing Lower Colorado River Water Supply Project contracted entitlement is 422 AFY. The Station typically uses about 70 to 100 AFY. The IM-3 groundwater treatment facility has a net consumptive use of about 10 to 20 AFY. The pilot studies, if conducted, would use between 2.2 AF and 3.1 AF total for the soil flushing pilot study and 0.6 AF total for the in-situ fixation/stabilization pilot study. The collective volume of water used for sampling equipment decontamination activities would be less than one acre foot per year, leaving the total volume of groundwater use (up to approximately 100 AFY) well below the Station's entitlement of 422 AFY.

IMPACT Substantially Deplete Groundwater Supplies or Interfere Substantially with

HYDRO-2 Groundwater Recharge. The proposed soil investigation activities would use water from the Station water supply system. The source of this water is from groundwater. The use of this water could deplete groundwater supplies; however the estimated volume of water use would be within the Station's allotment. This impact would be less than significant. No mitigation would be required.

Drainage, Runoff, and Erosion

Minor improvement of existing roads would be required to access some of the sampling and pilot study locations. The sampling and pilot study locations themselves may require minor grading and disturbance of soil to facilitate access for sampling equipment. The in situ soil flushing and/or soil fixation/stabilization pilot studies would require excavation of an area up to 35 feet by 155 feet in size, one potentially located in the bottom of Bat Cave Wash. These grading and ground disturbance activities could disturb soil and alter drainage patterns such that rain events could result in the discharge of polluted runoff to drainages and eventually to the Colorado River. These grading and ground disturbance activities could alter drainage patterns of localized areas such that rain events could exceed the capacity of existing or planned stormwater drainage systems. The alteration of drainage patterns could also increase the potential for on-site or off-site flooding.

PG&E will implement SOPs and BMPs, as described above, which will be required as Conditions of Approval for the Project if the Project is approved. Additional Project-specific BMPs would also be determined during development of the erosion control plan. Adherence to the substantive provisions of federal and state regulations for stormwater quality would also reduce the potential impacts from erosion, runoff, or drainage pattern alteration to ensure less than significant impacts from the Project.

IMPACTIncreased Erosion, Runoff, or Drainage Pattern Alterations. Access improvement andHYDRO-3site preparation associated with implementation of the proposed Project could disturb
surface soil, underlying soil, runoff water, or existing drainage patterns, which could
increase erosion, siltation, surface runoff, or flooding. This impact would be less than
significant. No mitigation would be required.
4.7 Noise

This section provides an overview of the existing noise environment at the Pacific Gas and Electric Company (PG&E) Topock Compressor Station Soil Investigation Project (Project) Site and surrounding area, the regulatory framework, an analysis of potential noise and vibration impacts that would result from implementation of the Project, and mitigation measures to address significant impacts.

4.7.1 Existing Setting

4.7.1.1 Acoustic Fundamentals

Noise is defined as unwanted sound. Sound, traveling in the form of waves from a source, exerts a sound pressure level (referred to as sound level) that is measured in decibels (dB), which is the standard unit of sound amplitude measurement. The dB scale is a logarithmic scale that describes the physical intensity of the pressure vibrations that make up any sound, with zero dB corresponding roughly to the threshold of human hearing and 120 to 140 dB corresponding to the threshold of pain. Pressure waves traveling through air exert a force registered by the human ear as sound.

Sound pressure fluctuations can be measured in units of hertz (Hz), which correspond to the frequency of a particular sound. Typically, sound does not consist of a single frequency, but rather a broad band of frequencies varying in levels of magnitude (sound power). When all the audible frequencies of a sound are measured, a sound spectrum is plotted consisting of a range of frequency spanning 20 to 20,000 Hz. The sound pressure level, therefore, constitutes the additive force exerted by a sound corresponding to the sound frequency/sound power level spectrum.

The typical human ear is not equally sensitive to all frequencies of the audible sound spectrum. As a consequence, when assessing potential noise impacts, sound is measured using an electronic filter that de-emphasizes the frequencies below 1,000 Hz and above 5,000 Hz in a manner corresponding to the human ear's decreased sensitivity to low and extremely high frequencies. This method of frequency weighting is referred to as A-weighting and is expressed in units of A-weighted decibels (dBA). A-weighting follows an international standard methodology of frequency de-emphasis and is typically applied to community noise measurements. Some representative noise sources and their corresponding A-weighted noise levels are shown in **Figure 4.7-1**.

4.7.1.2 Noise Exposure and Community Noise

An individual's noise exposure is a measure of noise over a period of time. A noise level is a measure of noise at a given instant in time. The noise levels presented in Figure 4.7-1 are representative of measured noise at a given instant in time; however, they rarely persist consistently over a long period of time. Rather, community noise varies continuously over a period of time with respect to the contributing sound sources of the community noise environment. Community noise is primarily the product of many distant noise sources, which constitute a relatively stable background noise exposure, with the individual contributors unidentifiable. The background noise level changes

NOISE LEVEL COMMON OUTDOOR ACTIVITIES (dBA) COMMON INDOOR ACTIVITIES

	110	Rock band
Jet flyover at 1,000 feet		
	100	
Gas lawnmower at 3 feet		
	90	
Diesel truck at 50 feet at 50 mph	0.0	Food blender at 3 feet
Noisy urban area, daytime	80	
Gas Jawnmower at 100 feet	70	Garbage disposal at 3 feet
Commercial area	10	Normal speech at 3 feet
Heavy traffic at 300 feet	60	
,		Large business office
Quiet urban daytime	50	Dishwasher in next room
Quiet urban nighttime	40	Theater, large conference room (background)
Quiet suburban nighttime		
	30	Library
Quiet rurai nighttime	20	Bedroom at hight, concert hall (background)
	20	Broadcast/recording studio
	10	
	0	

throughout a typical day, but does so gradually, corresponding with the addition and subtraction of distant noise sources such as traffic and changes in atmospheric conditions. What makes community noise constantly variable throughout a day, besides the slowly changing background noise, is the addition of short-duration single-event noise sources (e.g., aircraft flyovers, motor vehicles, sirens), which are readily identifiable to the individual.

These successive additions of sound to the community noise environment varies the community noise level from instant to instant requiring the measurement of noise exposure over a period of time to legitimately characterize a community noise environment and evaluate cumulative noise impacts. This time-varying characteristic of environmental noise is described using statistical noise descriptors. The most frequently used noise descriptors are summarized below.

- $\begin{array}{ll} L_{eq}: & \mbox{The } L_{eq}, \mbox{ or equivalent sound level, is used to describe noise over a specified period of time in terms of a single numerical value. The L_{eq} of a time-varying signal and that of a steady signal are the same if they deliver the same acoustic energy over a given time. The L_{eq} may also be referred to as the average sound level. \end{array}$
- L_{max} : The maximum, instantaneous noise level experienced during a given period of time.
- L_{min}: The minimum, instantaneous noise level experienced during a given period of time.
- L50: The noise level that is equaled or exceeded 50 percent of the specified time period. The L50 represents the median sound level.
- L90: The noise level that is equaled or exceeded 90 percent of the specified time period. The L90 is sometimes used to represent the background sound level.
- DNL: The average A-weighted noise exposure level during a 24-hour day, which accounts for the greater sensitivity of most people to nighttime noise by weighting noise levels at night ("penalizing" nighttime noises). Noise between 10:00 p.m. and 7:00 a.m. is weighted (penalized) by adding 10 dBA to take into account the greater annoyance of nighttime noises.
- L_{dn} : See DNL, the L_{dn} is the same as the DNL.
- CNEL: The Community Noise Equivalent Level (CNEL) is the average A-weighted noise level during a 24-hour day that adds a 5-dBA "penalty" for the evening hours between 7:00 p.m. and 10:00 p.m. and a 10-dBA penalty between the hours of 10:00 p.m. and 7:00 a.m.

As a general rule, in areas where the noise environment is dominated by traffic, the L_{eq} during the peak-hour is generally equivalent to the DNL at that location (Caltrans 2009).

4.7.1.3 Effects of Noise on People

The effects of noise on people can be placed into three categories:

• *Interference with activities such as speech, sleep, and learning* – The thresholds for speech interference indoors are about 45 dBA, if the noise is steady, and above 55 dBA, if the noise is fluctuating. Outdoors, the thresholds are about 15 dBA higher.

- *Subjective effects of annoyance, nuisance, and dissatisfaction* Based on attitude surveys used for measuring the annoyance felt in a community for noises intruding into homes or affecting outdoor activity areas, the main causes for annoyance are interference with speech, radio and television, house vibrations, and interference with sleep and rest. The DNL as a noise metric has been found to provide a valid correlation of noise level and the percentage of people annoyed. Three aspects of community noise are most important in determining subjective response: the level of sound, the frequency composition or spectrum of the sound, and the variation of sound level with time.
- *Physiological effects such as hearing loss or sudden startling* While physical damage to the ear from an intense noise impulse is rare, a degradation of auditory acuity can occur even within a community noise environment. Hearing loss occurs mainly due to chronic exposure to excessive noise, but may be due to a single event such as an explosion. Natural hearing loss associated with aging may also be accelerated from chronic exposure to loud noise.

Environmental noise typically produces effects in the first two categories. Workers at industrial plants often experience noise in the last category. There is no completely satisfactory way to measure the subjective effects of noise, or the corresponding reactions of annoyance and dissatisfaction. A wide variation in individual thresholds of annoyance exists, and different tolerances to noise tend to develop based on an individual's past experiences with noise. Thus, an important way of predicting a human reaction to a new noise environment is evaluating the way the new noise compares to the existing noise levels to which one has adapted: the so called "ambient noise" level. In general, the more a new noise exceeds the previously existing ambient noise level, the less acceptable the new noise would be judged by those hearing it. With regard to increases in A-weighted noise level, the following relationships occur:

- Except in carefully controlled laboratory experiments, a change of 1 dBA cannot be perceived;
- Outside of the laboratory, a 3 dBA change in noise levels is considered to be a barely perceivable difference;
- A change in level of at least 5 dBA is considered to be a readily perceivable difference; and
- A 10 dBA change in noise levels is subjectively heard as doubling of the perceived loudness.

These relationships occur in part because of the nonlinear, logarithmic nature of sound and the decibel system. As an example, a ruler is a linear scale: it has marks on it corresponding to equal quantities of distance. One way of expressing this is to say that the ratio of successive intervals is equal to one. A logarithmic scale, on the other hand, is different in that the ratio of successive intervals is not equal to one. Each interval on a logarithmic scale is some common factor larger than the previous interval. A typical ratio is 10, so that the marks on the scale read: 1, 10, 100, 1,000, 10,000, etc., which doubles the variable plotted on the x axis. The human ear perceives sound in a nonlinear fashion; hence the decibel scale was developed. Because the decibel scale is based on logarithms, <u>sound pressure (noise) levels</u> from two noise sources do not combine in a <u>simple linear</u> additive fashion, rather they combine logarithmically. For example, if two identical

noise sources produce noise levels of 50 dBA, the combined sound level would be 53 dBA, not 100 dBA.

4.7.1.4 Noise Attenuation

Sound level naturally decreases with distance from the source. This basic attenuation rate is referred to as the geometric spreading loss. The basic rate of geometric spreading loss depends on whether a given noise source can be characterized as a point source or a line source. Point sources of noise, including stationary mobile sources such as idling vehicles or on-site construction equipment, attenuate (lessen) at a rate of 6 dBA per doubling of distance from the source. Line sources (such as traffic noise from vehicles) attenuate at a rate of 3 dBA for each doubling of distance from the source. In many cases, additional noise attenuation occurs due to ground absorption, reflective wave canceling, and physical barriers and/or topography that block the line of sight between the source and receiver. These factors are collectively referred to as excess ground attenuation.

Trees and vegetation, buildings, and barriers reduce the noise level that would otherwise occur at a given receptor distance. However, for a vegetative strip to have a noticeable effect on noise levels, it must be dense and wide. For example, a stand of trees must be at least 100 feet wide and dense enough to completely obstruct a visual path to the source to attenuate noise by five dBA (Caltrans 2009). A row of structures can shield more distant receivers depending upon the size and spacing of the intervening structures and site geometry. Generally, for an average residential area where the first row of houses covers at least 40 percent of the total area, the reduction provided by the first row of houses is approximately 3 dBA and 1.5 dBA for each additional row (Caltrans 2009).

Atmospheric effects can also result in noise level fluctuations, either increasing or decreasing noise levels relative to typical propagation and attenuation (Caltrans 2009). For instance, receivers located downwind from a source can be exposed to increased noise levels relative to calm conditions, whereas receivers upwind from the source can have lowered noise levels. In addition to these effects produced by wind, sound levels can increase at large distances from the source (e.g., more than 500 feet) as a result of atmospheric temperature inversions (i.e., increasing temperature with elevation) or can decrease with distance from the source at a higher rate than the typical spreading loss with distance rate as a result of temperature lapse condition (i.e., decreasing temperature with elevation). Other factors such as air temperature, humidity, and turbulence can also have significant effects on sound propagation (Caltrans 2009).

4.7.1.5 Vibration

Vibration is an oscillatory motion through a solid medium in which the motion's amplitude can be described in terms of displacement, velocity, or acceleration. The effects of ground-borne vibration include movement of the floors in a building, rattling of windows, shaking of items on shelves or hanging on walls, and rumbling sounds. In extreme cases, vibration can cause damage to buildings. There are several different methods that are used to quantify vibration. The peak particle velocity (PPV) is defined as the maximum instantaneous peak of the vibration signal. The PPV is most frequently used to describe vibration impacts to buildings. The root mean square (RMS) amplitude is most frequently used to describe the effect of vibration on the human body. The RMS amplitude is the average of the squared amplitude of the signal. Decibel notation (VdB) is commonly used to measure RMS. The relationship of PPV to RMS velocity is expressed in terms of the "crest factor," defined as the ratio of the PPV amplitude to the RMS amplitude. Peak particle velocity is typically a factor of 1.7 to 6 times greater than RMS vibration velocity (FTA 2006). The VdB acts to compress the range of numbers required to describe vibration. Typically, ground-borne vibration generated by man-made activities attenuates rapidly with distance from the source of the vibration (FTA 2006). Sensitive receptors for vibration include structures (especially older masonry structures), people (especially residents, the elderly, and sick people), and vibration-sensitive equipment.

Notably, soil and subsurface conditions can have a substantial influence on ground-borne vibration, with stiffness and internal damping (which is affected by soil type, moisture content, temperature, and the frequency of the vibration source) of the soil and the depth to bedrock being some of the most important factors (FTA 2006). According to the FTA, vibration levels do not attenuate as rapidly in stiff clay soil or rock, and vibration levels can thereby be greater and travel further in those materials than in other soil types, such as loose sandy soil (FTA 2006).

4.7.1.6 Existing Noise Environment

The existing noise environment within the Project Site is influenced primarily by transportation noise emanating from vehicular traffic along Interstate 40 (I-40) and train operations on the Burlington Northern Santa Fe Railway (BNSF). The majority of vehicular traffic noise occurs along I-40 and to a lesser extent along Park Moabi Road and National Trails Road. Noise associated with the operation of the PG&E Topock Compressor Station (Station) is audible within the vicinity of the Station and the Interim Measure 3 (IM-3) Groundwater Extraction and Treatment Facility (IM-3 Facility); however, because of the existing topography (intervening mesas) noise-sensitive receptors in the Project Site vicinity do not have direct exposure to these noise sources. The intervening mesas do not block all Station noise but do result in some attenuation. Additional noise sources are occasional aircraft overflights and recreational activities (watercraft operations) at regional parks nearby.

Ambient noise surveys were conducted in and around the Project Site in December 2008 (for the groundwater EIR), August 2012, December 2012 to January 2013 (for the groundwater remedy design development), and December 2013 for the analysis conducted for the Soil Investigation Project. The purpose of the noise measurements was to establish baseline ambient noise levels for the existing setting. Three measurement sites were chosen to collect long-term (24-hour) noise level data at 1-hour intervals. Nine noise measurement sites were chosen to collect short-term (15 minutes) ambient noise levels. Figure 4.7-2 shows the locations of the short-term and long-term noise measurement sites used for this analysis. Local roadway traffic, rail operations, aircraft overflights, and wind gusts dominated the noise environment at each of the noise measurement sites. The results of the ambient noise survey are summarized in Table 4.7-1.



	TABLE 4.7-1 SUMMARY OF MEASURED AMBIENT NOISE SURVEY LEVELS										
Long-Term Noise Measurements (2008)											
						Averag	e Measured I	Hourly and M	ax Noise Leve	els, dBA	
					-		Daytin (7 a.m.–10	ne p.m.)	Night (10 p.m	time -7 a.m.)	
Site	Location		Da	nte		L _{dn}	Leq	Lmax	Leq	Lmax	
А	Adjacent to I-40		12/	/10/08-12/11/08	3	77.3	73.0	84.7	70.4	85.4	
В	Adjacent to BNSF tracks	8	12/	/10/08-12/11/08	3	74.3	65.7	86.2	68.2	88.3	
Long-Term Noise Measurement (2013)											
	Average Measured Hourly and Max Noise Levels, dBA										
							Daytime Nig. (7 a.m10 p.m.) (10 p.m.)		Night (10 p.m	zhttime m.—7 a.m.)	
Site	Location		Da	ite		Ldn	Leq	Lmax	Leq	Lmax	
С	Southeast Fence Line of	Station	12/	/16/13-12/17/13	3	72.2	66.2	82.5	65.0	81.7	
	C	omparison of .	Average (Le	q, dBA) Sou	und Levels	at the Short	t-Term Mon	itoring Sites			
		December 2008 ^a		August	2012		E	ecember 201	2-January 20	13	
			Day (7 a.m.–	time 10 p.m.)	Nigl (10 p.m	nttime n.–7 a.m.)	Daytime (7 a.m.–10 p.m.)		Nighttime (10 p.m.–7 a.m.)		
Site	Location	Leq (15 min)	Max Hourly Leq	Min Hourly Leq	Max Hourly Leq	Min Hourly Leq	Max Hourly Leq	Min Hourly Leq	Max Hourly Leq	Min Hourly Leq	
1	South of I-40	47	63	39	61	40	63	42	61	42	
2	North of I-40	41	70	40	62	37	75	39	73	39	
3	Moabi Regional Park	58	76	51	64	50	69	40	60	34	
		A	dditional Sh	nort-Term M	leasuremei	ıts (Deceml	ber 2013) ^b				
Site	Location			Leq (15 r	nin)	Noise Sourc	es				
4	South of I-40, ~550' Eas	t of Station		50		Station, tra	affic on I-40, go	ods movement ti	ain		
5	South of I-40, ~940' Eas	t of Station		57		• Station, tra	affic on I-40, hig	h winds			
6	6 ~385' North of BNSF Track, ~40' South of Locus B 61 • Station, traffic on I-40, backup beepers										

7 60' North of Locus B 51 • Traffic on I-40, high winds 8 South of I-40, Eastern Boundary of Locus A • Station, buffered traffic noise, high winds, several trains 64 9 Southeast Fence Line of Station 60 • Station equipment

DEFINITIONS: BNSF = Burlington Northern and Santa Fe Railway; dBA = A-weighted decibels; Ldn = day-night average noise level; Leq = the equivalent hourly average noise level; Lmax = maximum noise level; Lmin = minimum noise level; ~ = approximate; '= feet. NOTE: ESA conducted additional short-term and a long-term measurement in December 2013 to provide up-to-date ambient noise monitoring information... ^a A single 15-minute measurement was collected at these locations in December 2008.

^b Single 15-minute measurements were collected at these locations in December 2013.

Sources: DTSC 2011; CH2M HILL 2013.

4.7.1.7 Sensitive Land Uses

Noise-Sensitive Land Uses

Noise-sensitive land uses are generally those uses where noise exposure could result in healthrelated risks to individuals and places where quiet is an essential element of their intended purpose. Residential dwellings are of primary concern because of the potential for increased and prolonged exposure of individuals to both interior and exterior noise levels. In addition, land uses such as schools, places of worship, hotels, libraries, nursing homes, retirement residences, parks, historic sites, and recreation areas are also considered noise-sensitive land uses.

The Topock Traditional Cultural Property (TCP), which includes the Project Site, described in Section 4.4 of this draft environmental impact report (DEIR), is considered a noise-sensitive land use because of the special values this resource holds in the traditional and cultural belief systems of some Native American Tribes. Although specific Tribal activities that are undertaken on the land were not specified by some Native American Tribes aside from sacred ceremonial uses, changes in land use and modern intrusions within the Topock TCP, including those related to noise, could adversely affect the significant values ascribed to this area by some Native American Tribes.

In addition to Native American land uses, several homes located across the Colorado River (north and south of I-40) would also be considered noise-sensitive. The Moabi Regional Park (which includes the Pirates Cove Resort) is also a noise-sensitive land use. Moabi Regional Park allows for short-term residents in mobile homes for a period of up to 5 months in a given year.

Noise-sensitive receptors and noise-sensitive land uses in the vicinity of the Project Site are shown in Figure 4.7-2. Of note, the entire Project Site would be within the Topock TCP. In addition, specific distances of sensitive land uses nearest to the Project soil investigation sites include: the three Topock Maze locations, Locus A, Locus B, and Locus C, which are approximately 160 feet, 80 feet, and 80 feet, respectively, from the nearest soil investigation area. Specific distances of sensitive receptors nearest to the soil investigation area are the existing residences located 685 feet east (single home across the Colorado River and south of I-40), 1,090 feet east (several homes across the Colorado River and north of I-40), and 2,450 feet northwest (cluster of homes in the Moabi Regional Park) of the soil investigation area.

In regards to the vegetation trimming, pruning, and clearing activities in the mouth of Bat Cave Wash, which would require different heavy equipment than the sampling activities, the distances to the nearest noise-sensitive land uses are 2,200 feet (Loci A), 80 feet (Loci B and Loci C), and the distances to the nearest noise-sensitive receptors are 3,100 feet (several homes across the Colorado River and north of I-40), 3,400 feet (single home across the Colorado River and south of I-40), and 5,400 feet (homes in the Moabi Regional Park).

Vibration-Sensitive Land Uses

High levels of groundborne vibration can damage fragile buildings or interfere with equipment that is highly sensitive to groundborne vibration. While high levels of vibration can cause physical personal injury or damage to buildings, groundborne vibration generally does not affect human health. The homes located across the Colorado River (north and south of I-40) would be considered vibration-sensitive.

4.7.2 Regulatory Background

4.7.2.1 Federal

The U.S. Environmental Protection Agency (USEPA) Office of Noise Abatement and Control was originally established to coordinate federal noise control activities. After its inception, the USEPA's Office of Noise Abatement and Control issued the Federal Noise Control Act of 1972, establishing programs and guidelines to identify and address the effects of noise on public health and welfare and the environment. USEPA administrators determined in 1981 that subjective issues such as noise would be better addressed at lower levels of government. Consequently, in 1982, responsibilities for regulating noise control policies were transferred to state and local governments. However, noise control guidelines and regulations contained in the rulings by the USEPA in prior years remain upheld by designated federal agencies, allowing more individualized control for specific issues by designated federal, state, and local government agencies.

In regard to ground-borne vibration, building damage is not a factor for most projects, with the occasional exception of blasting and pile driving during construction. Annoyance from vibration often occurs when the vibration exceeds the threshold of perception by only a small margin. A vibration level that causes annoyance will be well below the damage threshold for normal buildings. The Federal Transit Administration's (FTA's) threshold of architectural damage for conventional sensitive structures is 0.2 inches per second PPV and human annoyance response ground-borne vibration threshold level of 80 VdB (FTA 2006).

4.7.2.2 State of California

The State of California has guidelines for evaluating the compatibility of various land uses as a function of community noise exposure, as shown in **Figure 4.7-3**. The State of California also establishes noise limits for vehicles licensed to operate on public roads. For heavy trucks, the state pass-by standard is consistent with the federal limit of 80 dB. The state pass-by standard for light trucks and passenger cars (less than 4.5 tons, gross vehicle rating) is also 80 dBA at 15 meters from the center line. These standards are implemented through controls on vehicle manufacturers and by legal sanction of vehicle operators by state and local law enforcement officials.

For the protection of fragile, historic, and residential structures from groundborne vibration, Caltrans recommends a more conservative threshold of 0.2 inches/second PPV for normal residential buildings and 0.08 inches/second PPV for old or historically significant structures (Caltrans 2004). These standards are more stringent than the federal standards presented above.

	COMMUNITY NOISE EXPOSURE - Ldn or CNEL (dBA)													
LAND USE CATEGORY		0	5	5	6	0	6	65	7	'0	7	'5	8	30
Residential – Low-Density Single Family, Duplex, Mobile Home														
Residential – Multi-Family										/////				
Transient Lodging – Motel/Hotel										/////				
Schools, Libraries, Churches, Hospitals, Nursing Homes														
Auditorium, Concert Hall, Amphitheaters														
Sports Arena, Outdoor Spectator Sports														
Playgrounds, Neighborhood Parks														
Golf Courses, Riding Stables, Water Recreation, Cemeteries														
Office Buildings, Business, Commercial and Professional												/////		
Industrial, Manufacturing, Utilities, Agriculture														

Figure 4.7-3 Land Use Compatibility for Community Noise Environment

Normally Acceptable	Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction, without any special noise insulation requirements.
Conditionally Acceptable	New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features are included in the design. Conventional construction, but with closed windows and fresh air supply systems or air conditioning will normally suffice.
Normally Unacceptable	New construction or development should be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirement must be made and needed noise insulation features included in the design.
Clearly Unacceptable	New construction or development generally should not be undertaken.

SOURCE: Office of Planning and Research (OPR) 2003.

4.7.2.3 Local

County of San Bernardino 2007 General Plan

The Noise Element in the *County of San Bernardino 2007 General Plan* establishes specific goals and policies to ensure an acceptable noise environment for each land use. This element establishes maximum acceptable interior and exterior noise level criteria for a variety of land uses. These County noise standards are contained in the San Bernardino County Development Code. Applicable goals and policies applied to the proposed Project include the following (San Bernardino County 2007):

GOAL N 1. The County will abate and avoid excessive noise exposures through noise mitigation measures incorporated into the design of new noise-generating and new noise-sensitive land uses, while protecting areas within the County where the present noise environment is within acceptable limits.

- **Policy N 1.1** Designate areas within San Bernardino County as "noise impacted" if exposed to existing or projected future exterior noise levels from mobile or stationary sources exceeding the standards listed in Chapter 83.01 of the Development Code.
- **Policy N 1.2** Ensure that new development of residential or other noise-sensitive land uses is not permitted in noise-impacted areas unless effective mitigation measures are incorporated into the project design to reduce noise levels to the standards of Noise-sensitive land uses include residential uses, schools, hospitals, nursing homes, places of worship and libraries.
- **Policy N 1.4** Enforce the state noise insulation standards (California Administrative Code, Title 24) and Chapter 35 of the California Building Code (CBC).
- **Policy N 1.5** Limit truck traffic in residential and commercial areas to designated truck routes; limit construction, delivery, and through-truck traffic to designated routes; and distribute maps of approved truck routes to County traffic officers.
- **Policy N 1.6** Enforce the hourly noise-level performance standards for stationary and other locally regulated sources, such as industrial, recreational, and construction activities as well as mechanical and electrical equipment.
- **GOAL N 2.** The County will strive to preserve and maintain the quiet environment of mountain, desert and other rural areas.
- **Policy N 2.1** The County will require appropriate and feasible on-site noise attenuating measures that may include noise walls, enclosure of noise generating equipment, site planning to locate noise sources away from sensitive receptors, and other comparable features.
- **Policy N 2.2** The County will continue to work aggressively with federal agencies, including the branches of the military, the U.S. Forest Service, BLM, and other agencies to identify and work cooperatively to reduce potential conflicts arising from noise generated on federal lands and facilities affecting nearby land uses in unincorporated County areas.

San Bernardino County Development Code

To protect people from severe noise levels, the San Bernardino County Development Code sets limits for interior and exterior noise levels generated throughout the community for stationary and mobile sources as well as vibration levels that affect noise-sensitive land uses. Specifically, Division 3, Countywide Development Standards, establishes the following noise and vibration standards (83.01.080 Noise and 83.01.090 Vibration, San Bernardino County Development Code):

83.01.080 Noise

- (b) Noise impacted areas. Areas within the County shall be designated as "noise-impacted" if exposed to existing or projected future exterior noise levels from mobile or stationary sources exceeding the standards listed in Subsection (d) (Noise standards for stationary noise sources) and Subsection (e) (Noise standards for adjacent mobile noise sources), below. New development of residential or other noise-sensitive land uses shall not be allowed in noise-impacted areas unless effective mitigation measures are incorporated into the project design to reduce noise levels to these standards. Noise-sensitive land uses shall include residential uses, schools, hospitals, nursing homes, religious institutions, libraries, and similar uses.
- (c) Noise standards for stationary noise sources.
 - Noise standards. Table 83-2 of the San Bernardino County Development Code Noise Standards for Stationary Noise Sources (Table 4.7-2 in this DEIR) describes the noise standard for emanations from a stationary noise source, as it affects adjacent properties:

TABLE 4.7-2 NOISE STANDARDS FOR STATIONARY NOISE SOURCES							
Affected Land Uses (Receiving Noise)7 a.m10 p.m. L_{eq}10 p.m7 a.m. L_{eq}							
Residential	55 dB(A)	45 dB(A)					
Professional Services	55 dB(A)	55 dB(A)					
Other Commercial	60 dB(A)	60 dB(A)					
Industrial	70 dB(A)	70 dB(A)					

Leq = equivalent energy level. The sound level corresponding to a steady-state sound level containing the same total energy as a time-varying signal over a given sample period, typically 1, 8, or 24 hours.

dB(A) = A-weighted sound pressure level. The sound pressure level, in decibels, as measured on a sound level meter using the A-weighting filter network. The A-weighting filter deemphasizes the very low and very high frequency components of the sound, placing greater emphasis on those frequencies within the sensitivity range of the human ear.

Source: San Bernardino County Development Code, 83.01.080 Noise

(2) Noise limits categories. No person shall operate or cause to be operated a source of sound at a location or allow the creation of noise on property owned, leased, occupied, or otherwise controlled by the person, which causes the noise level, when measured on another property, either incorporated or unincorporated, to exceed any one of the following:

- (A) The noise standard for the receiving land use as specified in Subsection B (Noiseimpacted areas), above, for a cumulative period of more than 30 minutes in any hour.
- (B) The noise standard plus 5 dB(A) for a cumulative period of more than 15 minutes in any hour.
- (C) The noise standard plus 10 dB(A) for a cumulative period of more than five minutes in any hour.
- (D) The noise standard plus 15 dB(A) for a cumulative period of more than one minute in any hour.
- (E) The noise standard plus 20 dB(A) for any period of time.
- (d) Noise standards for adjacent mobile noise sources. Noise from mobile sources may affect adjacent properties adversely. When it does, the noise shall be mitigated for any new development to a level that shall not exceed the standards described in the following Table 83-3 of the San Bernardino County Development Code Noise Standards for Adjacent Mobile Noise Sources (Table 4.7-3 in this DEIR).

TABLE 4.7-3 NOISE STANDARDS FOR ADJACENT MOBILE NOISE SOURCES					
		Ldn (or Cl	NEL) dB(A)		
Land Use Categories	Uses	Interior ¹	Exterior ²		
Residential	Single and multifamily, duplex, mobile homes	45	60 ³		
Commercial	Hotel, motel, transient housing Commercial retail, bank, restaurant Office building, research and development, professional offices Amphitheater, concert hall, auditorium, movie theater	45 50 45 45	60 ³ N/A 65 N/A		
Institutional/Public	Hospital, nursing home, school classroom, religious institution, library	45	65		
Open Space	Park	N/A	65		
Ldn = day-night noise level measured during the night (CNEL = community noise de approximately 5 decibels to ¹ The indoor environment sl ² The outdoor environment sl balconies, park picnic areas ³ An exterior noise level of	. The average equivalent A-weighted sound level during a 24-hour day obtained by adding 1 from 10 pm to 7 am). In this way Ldn takes into account the lower tolerance of people for no equivalent level. The average equivalent A-weighted sound level (dB[A]) during a 24-hour d sound levels in the evening from 7 p.m. to 10 a.m. and 10 decibels to sound levels in the initial exclude bathrooms, kitchens, toilets, closets and corridors. shall be limited to hospital/office building patios, hotel and motel recreation areas, mobile his, private yard of single-family dwellings, school playgrounds up to 65 dB(A) (or CNEL) shall be allowed provided exterior noise levels have been substate the hear the redistribution areas and the decimation of the decima	0 decibels to the hour oise during nighttime p lay, obtained after add ght before 7 a.m. and a ome parks, multifamily ntially mitigated throu.	ly noise levels periods. lition of after 10 p.m. y private patios or gh a reasonable		

relation house reversing to be up to be up (or CHEL) share to anower protect exterior house revers have been substantiary intrigated unough a featibility application of the best available noise reduction technology, and interior noise exposure does not exceed 45 dB(A) (or CNEL) with windows and doors closed. Requiring that windows and doors remain closed to achieve an acceptable interior noise level shall necessitate the use of air conditioning or mechanical ventilation.

SOURCE: San Bernardino County Development Code, 83.01.080 Noise

(e) Increases in allowable noise levels. If the measured ambient level exceeds any of the first four noise limit categories in Subsection (d)(2), above, the allowable noise exposure standard shall be increased to reflect the ambient noise level. If the ambient noise level exceeds the fifth noise limit category in Subsection (d)(2), above, the maximum allowable noise level under this category shall be increased to reflect the maximum ambient noise level.

- (f) Reductions in allowable noise levels. If the alleged offense consists entirely of impact noise or simple tone noise, each of the noise levels in Table 83-2 - Noise Standards for Stationary Noise Sources (Table 4.7-2) shall be reduced by 5 dB(A).
- (g) Exempt noise. The following sources of noise shall be exempt from the regulations of this section:
 - (1) Motor vehicles not under the control of the commercial or industrial use.
 - (2) Emergency equipment, vehicles, and devices.
 - (3) Temporary construction, maintenance, repair, or demolition activities between 7:00 a.m. and 7:00 p.m., except Sundays and Federal holidays.

83.01.090 Vibration

- (a) Vibration standard. No ground vibration shall be allowed that can be felt without the aid of instruments at or beyond the lot line, nor shall any vibration be allowed which produces a particle velocity greater than or equal to two-tenths (0.2) inches per second measured at or beyond the lot line.
- (b) Vibration measurement. Vibration velocity shall be measured with a seismograph or other instrument capable of measuring and recording displacement and frequency, particle velocity, or acceleration. Readings shall be made at points of maximum vibration along any lot line next to a parcel within a residential, commercial and industrial land use zoning district.
- (c) Exempt vibrations. The following sources of vibration shall be exempt from the regulations of this Section.
 - (1) Motor vehicles not under the control of the subject use.
 - (2) Temporary construction, maintenance, repair, or demolition activities between 7:00 a.m. and 7:00 p.m., except Sundays and Federal holidays.

4.7.3 Environmental Impacts

4.7.3.1 Methodology

Project-specific information contained in Chapter 3, "Project Description," and data collected during on-site noise monitoring were used to identify the locations of sensitive receptors and existing sources of noise and vibration in the vicinity of the Project Site. Sensitive receptors and major noise sources near the proposed Project Site were identified based on existing documentation (e.g., equipment noise levels and attenuation rates) and site reconnaissance data. The proposed Project consists of soil investigation activities, bench scale tests, pilot studies, geotechnical evaluations, and plant or other biota sampling, all of which would be short-term, and, as such, would not include long-term operational activities and sources of noise or vibration.

To assess potential short-term Project-related noise impacts, sensitive receptors and their relative exposure (considering intervening topography and distance) to Project-generated noise levels

were identified. Project-generated noise levels were predicted using the FTA's Noise and Vibration Impact Assessment methodology (FTA 2006).

Vibration levels generated from Project-related activities were also evaluated for potential impacts at sensitive receptors. Typical activities evaluated for potential building damage due to vibration include demolition, pile driving, and drilling or excavation in close proximity to structures. The Project's ground-borne vibration levels were also evaluated for human perception and annoyance. Vibration propagates according to the following expression, based on point sources with normal propagation conditions:

 $PPV_{equip} = PPV_{ref} x (25/D)^{1.5}$

Where PPV (equip) is the peak particle velocity in inches/second of the equipment adjusted for distance, PPV (ref) is the reference vibration level in inches/second at 25 feet, and D is the distance from the equipment to the receiver. As discussed previously, PPV is defined as the maximum instantaneous positive or negative peak of the vibration and is often used in monitoring vibration because it is related to the stresses experienced by structures.

To determine the Project's potential vibration impacts associated with human annoyance, the RMS vibration level (L_v) in VdB generated by the various construction equipment used at the Project Site was estimated based on the following equation:

$$L_v(D) = L_v(25 \text{ ft}) - 30\log(D/25)$$

where D is the distance from the equipment to the receiver.

The predicted Project-related noise and vibration levels were compared with applicable standards for determination of significance.

4.7.3.2 Thresholds of Significance

Based on the California Environmental Quality Act Guidelines, Appendix G, the proposed project would result in a significant impact on the environment if it would:

- Expose persons to or generate noise levels in excess of standards established in any applicable plan or noise ordinance, or applicable standards of other agencies;
- Result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project;
- Result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above existing levels without the project; or
- Expose persons to or generation of excessive ground-borne vibration or ground-borne noise levels.
- Expose people residing or working in the project area to excessive noise levels if the project is located within an area covered by an airport land use plan, or where such plan has not been adopted, within 2 miles of a public airport or public use airport.

• Expose people residing or working in the project area to excessive noise levels if the project is located in the vicinity of a private airstrip.

Generally, for the proposed Project, the significance determination of noise-related impacts is based on a comparison between predicted noise levels and noise criteria defined by San Bernardino County. The significance determination of vibration-related impacts is based on the FTA criteria for generation of ground-borne vibration or any related ground-borne noise levels. Impacts are considered significant if existing or proposed sensitive receptors would be exposed to noise levels in excess of the San Bernardino County General Plan and Development Code as described in Section 4.7.2, "Regulatory Background." For a discussion of land use compatibility with respect to places of worship and the Topock TCP, please refer to Section 4.4, "Cultural Resources."

The proposed Project consists of short-term soil investigation activities, bench scale tests, pilot studies, geotechnical evaluations, and plant or other biota sampling, and, as such, would not include sources of long-term noise. In regard to the noise environment, after these investigations are complete, the area would return to pre-investigation conditions. The proposed Project would not result in a substantial permanent increase in ambient noise levels in the Project vicinity above levels existing without the Project. Therefore, the Project activities would not result in a Project-related permanent increase in ambient noise in the Project Site and this impact is not discussed further.

The Project Site is not located within 2 miles of a public or private airstrip. Needles Airport is located 6 miles from the Project Site's most western boundary. The proposed Project is not located within the vicinity of a private airstrip or within an Airport Land Use Plan area or in an area within 2 miles of a public airport or public use airport; therefore, the Project would not expose people residing or working in the area to excessive noise levels. The Project would not result in aircraft noise exposure on the proposed Project and this impact is not discussed further.

4.7.3.3 Impact Analysis

Noise-Sensitive Land Uses

As described in Chapter 3, "Project Description," soil investigation activities would involve the use of a drill rig, hydrovac truck, and back hoe. Additional equipment would be needed to trim, prune, and clear vegetation near the mouth of Bat Cave Wash, including a loader, an excavator, a wood chipper, and chainsaws. A drill rig would also be used during a portion of the Bat Cave Wash or Station pilot studies and during geotechnical studies. Material haul trips and worker vehicles during soil investigation activities, bench scale tests, pilot studies, geotechnical evaluations, and plant or other biota sampling would raise ambient noise levels along access routes. The proposed Project's workforce is expected to reach 13 workers per day at its peak and several haul trucks during concurrent investigation activities, which would be a minimal addition to the roadway network. Short-term field sampling and vegetation trimming, pruning, and clearing activities could potentially expose persons in the vicinity of the activity, such as Tribal members at the Topock TCP, residents, or recreationalists to noise levels in excess of the applicable noise standards and/or result in a noticeable increase in ambient noise levels. The

magnitude of Project-related noise that would be generated depends upon the activity or the equipment in operation at a given time and at a given distance from noise-sensitive receptors in the vicinity. **Table 4.7-4** shows typical noise levels produced by types of construction equipment that would be used for Project investigation activities.

TABLE 4.7-4 TYPICAL NOISE LEVELS FROM CONSTRUCTION EQUIPMENT OPERATIONS					
Construction Equipment	Noise Exposure Level, L _{max} dBA @ 50 Feet ¹				
Drill Rig Truck	84				
Backhoe	80				
Vac-Truck	85				
Loader	80				
Excavator	85				
Chainsaw	85				
Wood Chipper	75				
1. All noise levels are from the FHWA RCNM software, except for the wood chipper. The wood chipper noise level is derived from the Noise Navigator Sound Level Database, which lists a chipper at 99 dBA at 1 meters.					
SOURCES: Federal Highway Administration 20	08; Berger et al. 2013.				

Noise from construction activity generally attenuates (decreases) at a rate of 6 to 7.5 dBA per doubling of distance. Using the Federal Highway Administration (FWHA) Roadway Construction Noise Model (RCNM) and conservatively assuming an attenuation of 6 dBA per doubling of distance and that a drill rig truck, backhoe, and vacuum truck would operate at the same site location concurrently (a conservative assumption since equipment use at a site would be staggered rather than used concurrently), the <u>nearest potential</u> soil investigation sampling activities to Topock Maze Loci could lead to noise levels of 78 dBA L_{eq} at Topock Maze Loci B or C, 72 dBA L_{eq} at Locus A. The nearest sensitive residence to the active soil sampling area is a home located approximately 685 feet away, which would be exposed to lower noise levels of approximately 60 dBA due to distance.

In regards to the vegetation trimming, pruning, and clearing activities around the mouth of Bat Cave Wash, assuming an attenuation of 6 dBA per doubling of distance and that an excavator, loader, wood chipper, and chainsaw operate at the same site location concurrently, the vegetation trimming, pruning, and clearing could lead to noise levels of 77 dBA L_{eq} at Topock Maze Loci B or C, 48 dBA L_{eq} at Locus A. The nearest sensitive residence to the active soil sampling area are homes located approximately 3,100 feet away, which would be exposed to lower noise levels of approximately 45 dBA due to distance.

These noise levels, especially at the Topock Maze locations, would be substantially greater than ambient noise levels. As described in Table 4.7-1, the range in ambient noise levels at Locus A, B, and C are 39 dBA to 64 dBA, 51 dBA to 61 dBA, and 37 to 75 dBA, respectively. Thus, implementation of the proposed Project could result in future noise that could expose the Topock TCP

(considered as a place of worship for Native Americans in terms of the San Bernardino County's standards) to levels that exceed the County's standards or would conflict with Native American values associated with this resource. As noted in Section 4.4, "Cultural Resources" of this DEIR, the Topock TCP is considered highly sensitive, and changes in the noise environment would adversely affect some Native American Tribes. Vegetation trimming, pruning, and clearing and soil investigation activities would result in noise levels that conflict with the use of this area.

Project-related noise levels would exceed applicable County standards for a place of worship and could consequently result in a temporary substantial increase in ambient noise levels, especially when investigation activities would occur during the nighttime hours. Ambient noise levels at existing noise-sensitive land uses may experience increased noise levels due to soil investigation activities for short-term periods.

IMPACT
NOI-1Potential to expose persons and noise-sensitive land uses to a substantial temporary
or periodic increase in ambient noise levels and/or exceed standards established by
San Bernardino County. Ambient noise levels at existing noise-sensitive land uses may
experience increased noise levels due to soil investigation activities for short term periods.
The proposed Project would exceed applicable County standards for a place of worship
and could result in a temporary substantial increase in ambient noise levels. This impact
would be significant.

Mitigation Measure NOI-1: Potential Impacts to Noise Levels and Noise Standards.

- a. Investigation activities <u>that generate noise</u> shall be limited to the daytime hours between 7:00
 A.M. to 7:00 P.M., and prohibited on Sundays and federal holidays.
- Investigation equipment shall be properly maintained per manufacturer specifications and fitted with the best available noise suppression devices (e.g., mufflers, silencers, wraps). Pneumatic powered socket wrenches shall be <u>low noise (85 dBA or less measured at 75 feet)</u> when operating, shrouded or shielded, and all intake and exhaust ports on power equipment, <u>such as engine driven air compressors</u>, shall be muffled or shielded <u>using best available technology</u>.
- c. Investigation equipment shall not idle for extended periods of time (more than 15 minutes) when not being utilized during investigation activities.
- d. A disturbance coordinator shall be designated by PG&E, which will post contact information in a conspicuous location near investigation areas so that it is clearly visible to nearby noisesensitive receptors as labeled in Figure 4.7-2. In addition, mailing of the same information will be sent to nearby noise-sensitive receptors as labeled in Figure 4.7-2 and Interested Native American Tribes (Chemehuevi Indian Tribe, Cocopah Indian Tribe, Colorado River Indian Tribes, Fort Mojave Indian Tribe, the Fort-Yuma Quechan Indian Tribe, and the Hualapai Indian Tribe). The coordinator will manage complaints resulting from the investigation noise. Reoccurring disturbances will be evaluated by a qualified acoustical consultant retained by PG&E to ensure compliance with applicable standards. The disturbance coordinator will contact nearby noise-sensitive receptors as labeled in

Figure 4.7-2 and Interested Tribes, advising them of the investigation schedule. The disturbance coordinator will also consider the timing of soil investigation activities in relation to Tribal ceremonial events that are sensitive to noise, which will be accommodated by PG&E to the <u>maximum</u> extent practicable. The disturbance coordinator will also verify and document that all activities at the Project Site are in compliance with all items presented in Mitigation Measure NOI-1.

Timing:	During all Project activities.
Responsibility:	PG&E shall be responsible for the implementation of these
	measures. DTSC shall be responsible for ensuring compliance.
Significance after Mitigation:	The impact would be significant and unavoidable, even after
	implementation of the measure detailed above. The unique
	values associated with the Topock TCP cannot be reconciled
	with additional Project-related noise. Implementation of the
	above Mitigation Measure NOI-1 would ensure that noise
	generated during temporary Project investigation activities
	would be minimized and that activities would be limited to the
	less noise sensitive daytime hours. However, existing noise-
	sensitive land uses would still experience increased noise levels
	due to Project activities for short term periods. The proposed
	Project would exceed applicable County standards for a place of
	worship and would consequently result in a temporary
	substantial increase in ambient noise levels.

Vibration

As shown in **Table 4.7-5**, the vibration levels associated with the equipment that could produce the greatest vibration generation (caisson drilling) is used in this analysis to provide a conservative representation of the potential vibration levels that could be generated by the operation of the drill rig at the Project Site. Other equipment usage during soil investigation activities, bench scale tests, pilot studies, geotechnical evaluations, and plant or other biota sampling would result in less vibration than what is analyzed below.

TABLE 4.7-5 VIBRATION VELOCITIES FOR CONSTRUCTION EQUIPMENT							
PPV at 25 ft PPV at the Nearest RMS at 25 ft RMS at the Equipment/Activity (inches/second) ^a Residence ^a (Vdb) ^c Residence ^a							
Caisson Drilling	0.089	0.0006	87	44			
Loaded Trucks	0.076	0.03	86	77			
NOTE: ESA applied the FTA reference vibration levels to estimate specific vibrations at the nearest residence.							

^a Buildings can be exposed to ground-borne vibration levels of 0.2 PPV without experiencing structural damage.

^b The nearest receptor for the drill rig were assumed to be 685 feet (single home across the Colorado River and south of I-40). The loaded trucks were set at 50 feet, since traversed roadways could be that distance from residences (at the Moabi Regional Park mobile homes or Pirates Cove Resort for instance).

^c The human annoyance response level is 80 RMS VdB.

SOURCE: Federal Transit Administration 2006.

As presented in Table 4.7-5, the use of heavy equipment for Project activities can generate vibration levels up to 0.089 PPV or 87 VdB at a distance of 25 feet. Notably, there will be a work area exclusion zone (EZ) to protect individuals in the vicinity of an active work site. Exact dimensions of the EZ will depend on the area and method of sampling or other activity and will vary at each location. EZs may be as large as 150 feet by 50 feet when drilling with a larger rig, or as small as 10 feet by 10 feet for hand sampling. Any person just outside a 50-foot EZ from a drill rig would be exposed to 78 VdB. Assuming a drill rig would be used a minimum of 685 feet from the nearest structural or residential receptor to a work area (single home across the Colorado River and south of I-40), maximum vibration levels from the drill rig would be up to about 44 VdB and 0.0006 PPV. Assuming loaded trucks would pass by 50 feet or more from the nearest structural or residential receptor (such as mobile homes in the Moabi Regional Park or the Pirates Cove Resort), maximum vibration levels from the trucks would generate ground-borne vibration and noise levels that would not exceed the FTA criteria of 0.2 PPV for structural damage and 80 VdB for human annoyance.

IMPACT Potential to expose persons to or generate excessive ground-borne vibration or any

related ground-borne noise levels. The proposed Project would utilize equipment that would not exceed Federal Transit Administration criteria for generation of ground-borne vibration. The proposed Project would not generate excessive ground-borne vibration and therefore any related ground-borne noise levels. This impact would be **less than significant**. No mitigation would be required.

NOI-2

CHAPTER 5 Other CEQA Sections

This chapter presents the evaluation of other types of environmental impacts required by the California Environmental Quality Act (CEQA) that are not covered within the other chapters of this draft environmental impact report (DEIR) for the proposed Pacific Gas and Electric Company (PG&E) Topock Compressor Station Soil Investigation Project (Project). The other CEQA considerations include environmental effects for which no mitigation is available to reduce the level of significance to less than significant, the irreversible and irretrievable commitment of nonrenewable resources as a result of the Project, resource areas with no potential for significant impacts, and growth-inducing impacts of the Project.

5.1 Unavoidable Significant Impacts

As required by CEQA Guidelines Section 15126.2(b), an environmental impact report (EIR) must describe any significant impacts that cannot be avoided, including those impacts that can be mitigated but not reduced to a less than significant level. Where there are impacts that cannot be alleviated without imposing an alternative design, their implications and the reasons the project is being proposed, notwithstanding their effect, should be described. Chapter 4, "Environmental Analysis," of this DEIR describes the potential environmental impacts of the proposed Project and recommends mitigation measures to reduce impacts, where feasible. As discussed in this DEIR, implementation of the proposed Project would result in potential impacts that would be mitigated below a level of significance with implementation of mitigation measures for aesthetics, air quality, biological resources, hazards and hazardous materials, and hydrology and water quality. Significant and unavoidable impacts would result to cultural resources and noise.

5.1.1 Cultural Resources

Topock Traditional Cultural Property

The California Department of Toxic Substances Control (DTSC) has determined that implementation of the proposed Project would result in a substantial adverse impact on the National Register of Historic Places-eligible Topock Traditional Cultural Property (TCP). According to input from Interested Tribes, those physical characteristics that convey the TCP's historical significance (contributing elements) include the Topock Maze, land, water, plants, animals, prehistoric archaeological resources, and the viewshed (see Section 4.4.1.5). All of these contributing elements to the Topock TCP, with the exception of the Topock Maze, <u>known</u> <u>prehistoric archaeological resources, and water, and animals</u> could be affected by the Project. Implementation of the proposed Project, in addition to the other ongoing activities within the Topock TCP, could cause a substantial adverse change in the significance of the TCP historical resource as a result of the physical destruction and alteration to the characteristics of the property that convey its historical significance and qualify it for inclusion in the California Register of Historical Resources as defined in CEQA Guidelines Section 15064.5. The substantial adverse change to the contributing elements to the Topock TCP would result from ground-disturbing activity that would directly and adversely affect the soil, landforms, and <u>unknown</u> prehistoric archaeological resources; pruning or alteration of the natural growth of native and traditional plant species; <u>plant and biota sampling</u>; and the presence of equipment, workers, and vehicles, which would introduce activities that are inconsistent with the natural setting associated with the Topock TCP. These activities would also materially affect the cultural values ascribed to the TCP by some Native American Tribes. This impact would be **significant**. (**Impact CR-1**)

In order to reduce these impacts, **Mitigation Measures CR-1a, CR-1b, CR-1c, CR-1d,** and **CR-1e** shall be implemented (see Section 4.4).

Implementation of Mitigation Measures CR-1a through CR-1e would reduce but not completely avoid the potential for significant impacts to the historical resources identified in <u>as</u> the Topock TCP. The Project would result in the destruction or alteration of contributing elements which convey the historical significance of the Topock TCP. As a result, the impacts to the historical resource identified as the Topock TCP would remain **significant and unavoidable**.

The Project is being proposed notwithstanding these effects because the soil investigation activities are necessary to gather sufficient information to reliably characterize the nature and extent of soil and sediment contamination within the Project Site, enabling completion of the Final RFI/RI Report Volume 3 (Soil) and risk assessment as required by the 1996 Consent Agreement as soon as practicable and consistent with applicable state laws and regulations.

Historical Resources (other than the Topock TCP) and Unique Archaeological Resources

In addition to the Topock TCP, a total of 20 known historical resources are located within the Project Site, including 15 significant archaeological resources and five historic-period built resources. The proposed Project as designed would avoid <u>significant</u> impacts to known historical resources. However, because the Project involves ground-disturbing activities, there is the potential for such activities to disturb unknown potentially significant resources qualifying as historical resources under CEQA. Ground-disturbing activities associated with the Project would have the potential to cause substantial adverse changes to unknown historical resources. Any damage to or destruction of such resources during the discovery process could result in significant impacts. Because prehistoric archaeological resources are considered contributing elements to the Topock TCP any inadvertent discoveries would be **significant** given their relationship as contributing elements to the Topock TCP. (**Impact CR-2**)

In order to reduce these impacts, **Mitigation Measures CR-2a**, **CR-2b**, **CR-2c**, and **CR-2d** shall be implemented (see Section 4.4).

Mitigation Measures CR-2a through CR-2d would ensure avoidance of <u>significant</u> impacts to known historical resources and would reduce impacts in the event of inadvertent discovery of unknown historic-period archaeological resources, potentially qualifying as historical resources or unique archaeological resources under CEQA, to a less than significant level. However, even with the implementation of Mitigation Measures CR-2a through CR-2d, impacts to historical resources and unique archaeological resources resulting from the inadvertent discovery of unknown prehistoric archaeological resources would be significant and unavoidable given their relationship as contributing elements to the Topock TCP. Therefore, impacts to known and unknown historical resources would remain **significant and unavoidable**.

The Project is being proposed notwithstanding these effects because the soil investigation activities are necessary to gather sufficient information to reliably characterize the nature and extent of soil and sediment contamination within the Project Site, enabling completion of the Final RFI/RI Report Volume 3 (Soil) and risk assessment as required by the 1996 Consent Agreement as soon as practicable and consistent with applicable state laws and regulations.

Human Remains

Implementation of the proposed Project could disturb human remains, including those interred outside of formal cemeteries. The lack of any identified human remains in the Project Site does not preclude the possibility that unknown human remains may be present given the length of human occupation of the area. Ground-disturbing activities could unearth unknown human remains, which would be **significant**. (**Impact CR-4**)

In order to reduce this impact, Mitigation Measure CR-4 shall be implemented (see Section 4.4).

Mitigation Measure CR-4 would reduce potential impacts to human remains, however, not to a level below significance. As a result, any destruction or alteration of human remains to Native American Tribes in the extraordinary context of the Topock TCP would be significant. Therefore, impacts to human remains would remain **significant and unavoidable**.

The Project is being proposed notwithstanding these effects because the soil investigation activities are necessary to gather sufficient information to reliably characterize the nature and extent of soil and sediment contamination within the Project Site, enabling completion of the Final RFI/RI Report Volume 3 (Soil) and risk assessment as required by the 1996 Consent Agreement as soon as practicable and consistent with applicable state laws and regulations.

Cumulative Impacts

The proposed Project's impacts to cultural resources, when considered in combination with other past, present, and future projects at a regional scale, could contribute to a cumulatively significant impact to historical resources (including the TCP), archaeological resources, and human remains. The Project Site and surrounding vicinity contain a number of important sites of cultural and/or archaeological importance that are integral to the cultural traditions of Native American Tribes located throughout the region.

Projects that have already been implemented or may occur in the foreseeable future at or near the Project Site that could impact cultural resources are described in Chapter 6, "Cumulative Impacts." The projects in the cumulative scenario have the potential to involve ground-disturbing activities that would directly impact significant cultural resources and paleontological resources. These projects may also result in visual, auditory, and other environmental impacts that may adversely affect the Topock TCP. For these reasons, the combined impacts on cultural resources in the geographic scope would be considered cumulatively significant. When considered in combination with the impacts of other projects in the cumulative scenario, the Project's incremental contribution to impacts on cultural resources including historical resources (i.e., the Topock TCP), unique archaeological resources, and human remains would be **cumulatively considerable**. (**Impact CUM-1**)

In order to reduce these impacts **Mitigation Measures CR-1**, **CR-2**, and **CR-4** shall be implemented (see Section 4.4).

Although implementation of Mitigation Measures CR-1, CR-2, and CR-4 would reduce the significance of the impacts to the degree feasible, the only method to fully mitigate these impacts would be complete avoidance of any future project activity; therefore, no feasible mitigation exists that would reduce the Project's contribution to less than considerable. The Project's contribution to this significant cumulative cultural impact would be cumulatively considerable (**significant and unavoidable**).

The Project is being proposed notwithstanding these effects because the soil investigation activities are necessary to gather sufficient information to reliably characterize the nature and extent of soil and sediment contamination within the Project Site, enabling completion of the Final RFI/RI Report Volume 3 (Soil) and risk assessment as required by the 1996 Consent Agreement as soon as practicable and consistent with applicable state laws and regulations.

5.1.2 Noise

DTSC has determined that implementation of the proposed Project would exceed San Bernardino County noise standards for a place of worship and could consequently result in a temporary substantial increase in ambient noise levels. Ambient noise levels at existing noise-sensitive land uses may experience increased noise levels due to soil investigation activities for short-term periods. As a result, this impact would be **significant**. (**Impact NOI-1**)

In order to reduce this impact Mitigation Measure NOI-1 shall be implemented (see Section 4.7).

Implementation of Mitigation Measure NOI-1 would ensure that noise generated during temporary soil investigation activities would be minimized and that activities would be limited to the less noise-sensitive daytime hours. However, existing noise-sensitive land uses would still experience increased noise levels due to Project activities for short term periods. The proposed Project would exceed applicable County standards for a place of worship and would consequently result in a temporary substantial increase in ambient noise levels. The unique values associated with the Topock TCP cannot be reconciled with additional Project-related noise. Even after mitigation, this impact would remain **significant and unavoidable**.

The Project is being proposed notwithstanding these effects because the soil investigation activities are necessary to gather sufficient information to reliably characterize the nature and extent of soil and sediment contamination within the Project Site, enabling completion of the Final RFI/RI Report Volume 3 (Soil) and risk assessment as required by the 1996 Consent Agreement as soon as practicable and consistent with applicable state laws and regulations.

5.2 Significant Irreversible Environmental Changes that Would Be Caused by the Proposed Project

Section 21100(b)(2)(b) of the Public Resources Code and Section 15126.2(c) of the CEQA Guidelines require that an EIR analyze the extent to which the proposed project's primary and secondary effects would affect the environment and commit nonrenewable resources to uses that future generations would not be able to reverse. "Significant irreversible environmental changes" include the use of nonrenewable natural resources during the initial and continued phases of the project, should this use result in the unavailability of these resources in the future. Primary impacts and, particularly, secondary impacts generally commit future generations to similar uses. Also, irreversible damage can result from environmental accidents associated with projects. Irretrievable commitments of these resources are required to be evaluated in an EIR to ensure that such consumption is justified (CEQA Guidelines §15126.2(c)).

Per Section 15126.2(c) of the CEQA Guidelines, a project would result in an irreversible and irretrievable commitment of resources if it:

- Involved a large commitment of nonrenewable resources;
- Created primary and secondary impacts that would generally commit future generations to similar uses;
- Involved uses in which irreversible damage would result from any potential environmental accidents associated with the project; or
- Proposed consumption of resources that were not justified (e.g., the project involves the wasteful use of energy).

Soil sampling activities are anticipated to last up to 12 months (9 months of active field investigation) with a potential extension of up to 3 months for 25 percent contingency samples. Subsequent activities to support the Soil CMS/FS would be undertaken after the completion of the soil sampling activities in 2016 and are anticipated to last from 13 to 27 months, depending on need for each activity and ability for each activity to be implemented concurrently. The consumption and use of nonrenewable resources, as contemplated in CEQA Guidelines Section 15126.2, subdivision (c), is considered temporary for the purposes of this discussion because of the nature of the Soil Investigation Project, which is justified to ensure protection of the amount of

energy and equipment to be used is limited to that needed for the investigation, so there is no irreversible commitment of <u>nonrenewable</u> resources or related significant impact.

Soil investigation activities associated with the proposed Project could potentially disturb cultural resources within the Project Site. Site clearing and grading, drilling, boring activities, and pilot studies have the potential to uncover archaeological and paleontological resources. Despite application of mitigation measures to reduce potential impacts to less than significant levels, including the priority to avoid cultural resources and preservation of resources in place, activities involving data recovery or capping of cultural resources discovered during soil investigation activities could result in irreversible losses. Data recovery requires removal of artifacts from their original context. Capping involves covering an archaeological site with fill such that Project activities could take place unimpeded over the area. Because Both methods would disturb the <u>overall Topock</u> archaeological <u>area</u> site to differing degrees, DTSC recognizes that there would be some and would constitute an irreversible and irretrievable impacts to cultural resources commitment of resources.

5.3 Environmental Effects Found Not to Be Significant

As required by Section 15128 of the CEQA Guidelines, an EIR shall contain a brief discussion stating the reasons why various possible significant effects of a project were determined not to be significant and are therefore not discussed in detail in the EIR. In accordance with the CEQA Guidelines, this section discusses the environmental issue areas where impacts were found to not be significant. These discussions address the CEQA Guidelines Appendix G Checklist questions for each of the environmental topic areas.

The proposed Project includes soil sampling and sample analysis as described in the Soil Work Plan (CH2M HILL 2013; Appendix A to this DEIR); potential bench scale tests, pilot studies, and geotechnical evaluations as described in the CM/FS Work Plan to support the Soil CMS/FS; and potential plant or other biota sampling activities to support an ecological risk assessment. Bench scale tests, pilot studies, geotechnical evaluations, and plant or other biota sampling may be implemented after soil sampling and soil sample analysis is completed to evaluate potential soil remedy options if remedial action is determined necessary.

5.3.1 Agricultural Resources

The proposed Project Site is characterized by arid conditions and high temperatures. While there are agricultural uses north of the Project Site and in Needles along the Colorado River, the landscape at the Project Site consists of considerably eroded small to moderately sized terraces with very steep slopes. These conditions are not conducive to agriculture uses. The National Resource Conservation Service has not mapped soils in the Project Site; therefore, no soils in the area have been designated as agricultural soils (NRCS 2013). The California Department of Conservation's Farmland Mapping and Monitoring Program does not cover the Project Site or surrounding sites; therefore, none of the land in the Project Site has been designated as Prime

Farmland, Unique Farmland, or Farmland of Statewide Importance (California Department of Conservation 2011).

Similarly, the Project Site and surrounding sites are not included in mapping for Williamson Act contracts. As such, no lands under a Williamson Act contract are on or near the Project Site (California Department of Conservation 2013). A review of aerial photographs from 1936 through 2007 show no historic or current agricultural uses either on or near the Project Site (CH2M HILL 2007:3-95 through 3-113; Google Earth 2013). Because no agricultural resources have been identified within the vicinity of the Project, no direct or indirect impacts on agricultural resources would occur from implementation of the proposed Project.

The proposed Project would not be located on land zoned by the County of San Bernardino as forest land or timberland. As discussed, the Project Site has not been designated Farmland, nor does the Project conflict with an existing Williamson Act contract. As a result, no land within the Project Site would be converted to non-forest or nonagricultural use and no impact would occur.

5.3.2 Energy Resources

The proposed Project Site is currently served by the Needles Public Utility Authority (City of Needles) to meet electrical needs associated with the PG&E Topock Compressor Station (Station). Petroleum supplies used for fueling the Project's truck and worker vehicles are purchased by the individual users at fueling stations in nearby communities and in more distant locations including, but not limited to Los Angeles, California; Lake Havasu City, Arizona; Phoenix, Arizona; and Las Vegas, Nevada.

Energy use associated with the proposed Project would include the consumption of petroleum fuel for vehicles and equipment and the use of electricity to power equipment and temporary facilities. The proposed Project would require a total of approximately 52,640 gallons of diesel fuel over the lifetime of the Project. Soil sampling activities would consume 13,914 gallons of diesel fuel; the in situ soil flushing pilot study would consume 36,996 gallons of diesel fuel; and the in situ stabilization/chemical fixation pilot study would consume 1,730 gallons of diesel fuel. The bench scale tests, geotechnical evaluations, and plant or other biota sampling would require a nominal amount of diesel fuel for worker vehicle trips and equipment. The soil sampling activities are estimated to begin in early 2015 and be completed within 12 months of initiation. Pilot studies would be undertaken after the completion of the soil sampling activities, estimated to be in late 2016, and are anticipated to last from 13 to 25 months. In 2013, approximately 141.6 million gallons of diesel fuel were consumed in San Bernardino County.¹ The Project's projected annual diesel fuel consumption would be a fraction of the total consumption, representing approximately 0.037 percent of the San Bernardino County annual total.

The soil sampling activities, bench scale tests, geotechnical evaluations, and plant or other biota sampling would not consume electricity since the equipment and vehicles utilized would be powered exclusively by diesel fuel. The in situ soil flushing pilot study would consume a total of

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¹ Annual diesel fuel annual consumption calculation based on 2013 census data (U.S. Department of Commerce 2014) and the Taxable Diesel Gallons 10 Year Report Net of Refunds report (BOE 2014).

approximately 23,713 kilowatt-hours (kWh) of electricity, and the in situ stabilization/chemical fixation pilot study would consume a total of approximately 3,579 kWh of electricity for a total of approximately 27,292 kWh. This energy use would primarily as a result of the activation of the tests themselves, which have a duration of 120 days and 30 days for the in situ soil flushing and the in situ stabilization/chemical fixation studies respectively. Implementation of the proposed Project would intermittently increase energy demands on the Needles Public Utility Authority. The demands to the electrical grid would not be constant as with residential, commercial or industrial uses; in addition Project-related energy use would be temporary in duration. Additional power generation facilities would not be required to serve the proposed Project and the demand would not exceed the annual power supply for the Needles Public Utility Authority which equals approximately 61.7 million kWh (Needles Public Utility Authority 2011). For the reasons stated, the energy demand of the proposed Project would result in a less than significant impact on local and regional energy supplies and capacity requirements. Further, the electricity used to implement the proposed Project would have no impact on peak or base period demand for energy given the temporary duration of the proposed activities that would consume electricity.

During implementation of the proposed Project, PG&E would recycle all recyclable materials at appropriate facilities and would therefore be in compliance with 42 USC §4331(b)(6). The Project would comply with applicable petroleum fuel economy standards. Additionally, the use of electricity during Project implementation is limited to that needed for the investigation activities and would not be unnecessary, wasteful, or inefficient. The Project would comply with all applicable energy standards. No impact would occur.

In terms of transportation energy use, the Project would consume fuel as described above for transportation of materials and worker vehicle trips. The number of workers needed for the Project is limited (up to 13 workers plus agency oversight personnel, an archeological monitor, and invited Native American Tribal monitors) and most workers would drive to the Project Site from nearby communities, including Needles, Laughlin, and Lake Havasu City. The peak for workers on site would occur over the five-month field investigation phase of the Project. Further, equipment will be delivered to the Project Site one time (not daily), reducing the number of necessary trips. The Project will not constitute inefficient, wasteful, or unnecessary transportation energy use. Impacts would be less than significant.

5.3.3 Geology and Soils

The proposed Project is not located within or near an Alquist-Priolo Earthquake Fault Zone or on a seismic zone hazard map, or near any associated faults. The nearest active fault as mapped by the California Department of Conservation is located 93.5 miles from the Project Site. The soil types and climate in the Project Site do not provide the conditions susceptible to liquefaction (DTSC 2011). Therefore, the Project is not expected to be at risk of potential adverse impacts from seismic events. The drilling, excavation, and access road improvement activities associated with the soil sampling would require minimal water for dust control and would therefore not generate enough water to cause erosion or loss of topsoil. The pilot studies would not generate surface water that could cause erosion or loss of topsoil. The decontamination of equipment

would occur inside the Station in areas where all decontamination water would be contained and routed to existing Station surface-water runoff-control infrastructure. No unstable geologic units or expansive (subject to shrink-swell) soils have been identified that would affect the short-term sampling activities of the Project. The Project does not include construction of septic tanks or alternate waste-water disposal systems.

Based on the above-cited information, there would be no impact related to geology and soils. Potential impacts resulting from the removal of soil related to the cultural and spiritual beliefs of Native American Tribes is discussed in Section 4.4, "Cultural Resources."

5.3.4 Greenhouse Gas Emissions

In considering whether the proposed Project would generate greenhouse gas (GHG) emissions, either directly or indirectly, the principal GHGs are compared to established thresholds. Carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), sulfur hexafluoride (SF₆), perfluorocarbons (PFCs), and hydrofluorocarbons (HFCs) are the primary emissions of concern. Because these different GHGs have different warming potential (the amount of heat trapped by a certain mass of a GHG), and CO₂ is the most commonly referenced gas for climate change, GHG emissions often are quantified and reported as CO₂ equivalents (CO₂e). For the worse-case year (2015), the Project would result in 1,137 metric tons per year or 9,735 pounds per day CO₂e.

The Mojave Desert Air Quality Management District has established GHG thresholds for CO₂e for individual projects of 100,000 tons per year or 548,000 pounds per day. The Project is expected to last up to 27 months and could therefore generate up to 2,653 metric tons of CO₂e total for the full duration of Project activities, which is substantially below MDAQMD's significance threshold. In addition, the Project also is in compliance with San Bernardino County's GHG Emissions Reduction Plan (GHG Plan; County of San Bernardino 2011). The GHG Plan presents a comprehensive set of actions to reduce San Bernardino County's internal and external GHG emissions to 15 percent below current levels by 2020, consistent with the <u>Assembly Bill 32</u> (AB 32, <u>California Global Warming Solutions Act of 2006</u>) Scoping Plan adopted by the California Air Resources Board (CARB). San Bernardino County has adopted a review standard of 3,000 metric tons per year of CO₂e to identify projects that require the use of the GHG Plan's project screening tables or a project-specific technical analysis to quantify and mitigate project-level GHG emissions. The proposed Project would generate up to 1,137 metric tons per year, which is below San Bernardino County's review standard of 3,000.

Since San Bernardino County adopted its GHG Plan, CARB has adopted the First Update to the Climate Change Scoping Plan (the Scoping Plan Update; CARB 2014). According to the Scoping Plan Update, "California is on track to meet the near-term 2020 greenhouse gas limit and is well positioned to maintain and continue reductions beyond 2020 as required by AB 32." Based on recent scientific data, CARB recalculated the 1990 GHG emissions level to be 431 million metric tons CO₂e and accordingly adjusted upwards in the Scoping Plan Update the prior Scoping Plan's 2020 GHG emissions limit of 427 million metric tons CO₂e. Accordingly, San Bernardino County's review standard of 3,000 metric tons per year is conservative, since it was based on compliance with the original Scoping Plan's GHG emissions target.

Based on the above-cited information, the Project would not generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment. Furthermore, the proposed Project would not result in long-term activities and GHG emissions. In summary, since the proposed Project would result in minimal GHG emissions over a short-term duration, the Project would not result in generating GHG emissions that would have a significant impact on the environment or conflict with an applicable plan, policy or regulation adopted for the purpose of reducing GHG emissions. The proposed Project would result in less than significant GHG emissions.

5.3.5 Land Use and Planning

The proposed Project would conduct soil investigation activities inside the Station fence line, as well as outside the Station fence line in areas that may have been affected by the release of chemicals of potential concern (see Figure 3-2). The lands adjoining the PG&E parcel are owned and/or managed by a number of government agencies and private entities. These include lands owned by the Fort Mojave Indian Tribe (FMIT); the Havasu National Wildlife Refuge, which is managed by the U.S. Fish and Wildlife Service (USFWS); lands managed by the U. S. Department of the Interior (DOI) (including the BLM and Bureau of Reclamation [BOR]); California Department of Transportation (Caltrans)—leased land; the Burlington Northern Santa Fe Railway; and other privately owned lands (see Figure 3-7).

Other sections of this document consider whether the proposed Project would conflict with environmental plans, policies, or regulations adopted for the purpose of avoiding or mitigating an environmental effect. For example, Section 4.7 of the DEIR considers whether the project conflicts with noise policies and regulations, including the San Bernardino Development Code. As well, Section 4.3 of the DEIR specifically considers whether the Project would conflict with any biological resource policies or plans. It is the intent of this additional analysis to supplement those analyses to ensure that no land use and planning policy document has been overlooked in the assessment of the proposed Project.

Areas in the Project vicinity are largely undeveloped. The closest residential communities that exist in the vicinity of the proposed Project include the Moabi Regional Park located in the northwestern portion of the Project Site in San Bernardino County, California. The Pirate Cove Resort within Moabi Regional Park allows for short-term residents in mobile homes for a period of up to 5 months in a given year. Several individual residences are located directly across the Colorado River in Arizona. Additionally, the residential community of Topock is located 4 miles north of the Project Site in Mohave County, Arizona. Project activities would not occur within these residential communities. As shown in Figure 3-2, the access/haul routes associated with the proposed Project are located on the Park Moabi Entrance Road and National Trails Highway (Historic Route 66), which are also public access roads to the Moabi Regional Park and mobile home park. Traffic impacts involved with the access/haul route activities (discussed in Section 5.3.10) are temporary and would not divide an established community. No other Project operations would occur adjacent to or within the Moabi mobile home park. As a result, impacts related to physical division of an established community would not occur.

Soil investigation activities would occur on land managed and owned by the agencies and entities described above and shown in Figure 3-7. The Lake Havasu Field Office Resource Management *Plan* (BLM 2007) is the BLM land use regulatory document that provides comprehensive management of approximately 1.3 million acres of the BLM-administered public land located within the Lake Havasu Field Office planning area, which includes the Project Site. The approved plan includes a land use decision that states that no new development of any kind will be allowed in the floodplain of desert washes except for the purposes of public health and safety or resource protection (Policy RR-42) (BLM 2007:99). No new permanent buildings or features would be constructed as part of the proposed Project; infiltration galleries associated with pilot studies would be removed and backfilled with native material and all injection and recovery wells would be removed and holes abandoned in accordance with DTSC guidelines (DWR Bulletin 74-90, California Well Standards) and ASTM Standard 5299-99, Standard Guide for Decommissioning of Ground Water Wells, Vadose Zone Monitoring Devices, Boreholes and Other Devices for Environmental Activities. These temporary structures are necessary in order to characterize potentially harmful soil to public health. Therefore, implementation of the proposed Project would not conflict with the policies of BLM's Lake Havasu Field Office Resource Management Plan.

The USFWS *Lower Colorado River National Wildlife Refuges Comprehensive Management Plan* includes a goal to ensure that only compatible and appropriate activities occur on the lower Colorado River national wildlife refuges, and to regulate activities, uses, and practices on and off the refuges that are potentially harmful to refuge resources (USFWS 1994:148). Under the proposed Project, soil investigation activities would occur within the USFWS National Wildlife Refuge; however, Project activities are consistent with USFWS's intent of the National Wildlife Refuge, which is to conserve a diversity of wildlife and their habitats for the benefit of current and future generations. Therefore, the Project would not conflict with the resource management goals of the USFWS, which is the applicable habitat conservation plan for the Project Site.

Activities associated with the proposed Project would be located in areas designated for either open space, resource conservation, and/or institutional under the County General Plan (San Bernardino County 2007). The objective of the open space land use designation is to maintain open space. Project activities would be short-term in nature and would not result in any permanent above-ground features that would conflict with the open space designation. The purpose of the resource conservation land use designation is to preserve open space, watershed, and wildlife habitat areas. Because the Project involves investigation of soil contamination for future remediation efforts, and would therefore function to preserve open space, watershed, and wildlife habitat areas in the future, the Project would be consistent with the resource conservation land use designation. The objective of the institutional land use designation is to provide areas for development of future public facilities to meet public needs. The proposed Project would be consistent with this designation because the Project would investigate soil contamination to protect the health and safety of the public. The proposed Project would not conflict with the overall intent of the County General Plan land use designations.

5.3.6 Mineral Resources

The California Surface and Mining Act of 1975 requires the classification of land into Mineral Resource Zones (MRZs) according to the land's known or inferred potential to contain mineral resources (California State Mining and Geology Board 2000). The Project Site has been classified as MRZ-4 (California Department of Conservation 1985). MRZ-4 is defined as areas where geologic information does not rule out either the presence or absence of mineral resources. MRZ-4 is commonly applied to areas of unknown mineral potential that occur within a broader favorable terrain known to host economic mineral deposits.

The following are the three general categories of geologic mineral resources that may be present in the Project Site:

- 1. Construction Mineral Materials: Sand, gravel, and crushed rock. The federal land management agencies, including the BLM, USFWS, and BOR, refer to these as "saleable mineral resources."
- 2. Metallic and Rare Minerals: Gold, silver, platinum, iron, copper, lead, zinc, gemstones, and semiprecious materials. The federal land management agencies refer to these as "locatable mineral resources."
- 3. Leasable Mineral Resources: Oil, coal, sodium, potassium, and geothermal resources. The federal land management agencies refer to these as "leasable mineral resources."

It is possible that any of the three resource categories listed above may be present in the Project Site classified as MRZ-4. The classification of MRZ-4 does not rule out either the presence or absence of mineral resources and the classification is also commonly applied to areas that occur within a broader favorable terrain known to host economic mineral deposits. Metallic, rare, and leasable minerals may also be present, but their existence in the Project Site is unknown at this time. The Project Site's geologic units/stratigraphy and the physical characteristics and setting of the Project Site, as detailed above, indicate that construction mineral materials, including sand and gravel, are present in the Project Site.

Although there is the potential for some mineral resources to exist in and around the Project Site, the proposed Project would not significantly reduce the availability of known mineral resources. There are no mining claims on or immediately adjacent to the Project Site. In addition, the majority of federal lands in the Project Site are closed to mineral entry (i.e., mining claims) under the General Mining Act of 1872, as amended. The soil investigation activities would be temporary and short-term in nature, and would therefore not be present for extended periods of time. Thus, no impact would occur related to loss of availability of a known mineral resource, either of regional or local importance.

5.3.7 Population and Housing

The proposed Project does not involve displacement of existing housing or people. The soil sampling mobilization would occur for 1 month and active field investigations would occur for approximately 5 months. Soil sampling field investigation activities would require a maximum of

13 employees plus agency oversight personnel, an archaeological monitor, and Tribal monitors. The bench scale tests would require two employees for 3 months, the pilot studies would each require up to three employees for 10 months, the geotechnical evaluations would require up to three employees for 2 months, and the plant or other biota sampling would require two workers for up to 2 months. Due to the small number of temporary employees, no new housing would be required as a result of the proposed Project. No impact would occur to population and housing. For these same reasons, and due to the investigative, short-term nature of the Project, no growth inducing impacts would occur.

5.3.8 Public Services

The proposed Project would not require the provision of new or additional public services. The soil sampling mobilization would occur for 1 month and active field investigations would occur for approximately 5 months. Soil sampling field investigation activities would require a maximum of 13 employees plus agency oversight personnel, an archaeological monitor, and Tribal monitors. The bench scale tests would require two employees for 3 months, the pilot studies would each require up to three employees for 10 months, the geotechnical evaluations would require two workers for up to 2 months. There would be no increases in demand for police, fire, or other emergency services associated with the proposed Project. The proposed Project would not result in substantial adverse impacts to any local schools, parks, hospitals, or other public facilities because the proposed Project involves soil investigation activities and is not a community development project that would generate the need for additional public services and result in impacts to public facilities. Therefore, no impact would occur related to fire protection, police protection, schools, parks, or other public facilities.

5.3.9 Recreation

The proposed Project would not generate additional residents to the area and would not increase the use of existing neighborhood and regional parks or other recreational facilities. The soil sampling mobilization would occur for 1 month and active field investigations would occur for approximately 5 months. Soil sampling field investigation activities would require a maximum of 13 employees plus agency oversight personnel, an archaeological monitor, and Tribal monitors. The bench scale tests would require two employees for 3 months, the pilot studies would each require up to three employees for 10 months, the geotechnical evaluations would require up to three employees for 2 months, and the plant or other biota sampling would require two workers for up to 2 months. The Project does not propose construction of any new recreational facilities. The proposed Project would not introduce facilities that would preclude existing recreational uses that occur on the Colorado River or the National Wildlife Refuge, which includes boating, wildlife observation and photography, education and interpretation, hunting, and fishing. Therefore, no impact would occur related to recreation.

5.3.10 Transportation and Traffic

This discussion addresses whether the proposed Project would degrade a roadway segment or intersection currently operating at an acceptable Level of Service (LOS) C or better to LOS D, E, or F or add traffic to a roadway segment or intersection operating at an unacceptable level; conflict with an applicable plan, ordinance, or policy establishing measures of effectiveness for the performance of the circulation system; result in a change in air traffic patterns that result in substantial safety risk; substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses; result in inadequate emergency access; or conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities. This section is supported by traffic data compiled in the Traffic Impact Study prepared by LIN Consulting, which is included as **Appendix E** to this DEIR.

Soil sampling field investigation activities would occur over approximately 5 months and would require a maximum of 1,540 trips. This includes worker trips, equipment hauling, and vehicle deliveries. Water used for drilling activities would be trucked from the existing water tanks at the Station as needed. If implemented, the 25 percent soil sampling contingency would require an additional 385 trips over a 2- to 3-month period. The following activities would be conducted after all soil sampling has taken place: Bench scale tests would require approximately 40 worker trips for 1 month; geotechnical evaluations would require approximately 128 worker and equipment trips for 2 months; and plant or other biota sampling would require approximately 60 worker trips for 6 weeks. Pilot studies would not be conducted concurrently to allow for the same equipment and workers to be used to implement each study; however, the pilot studies could be completed concurrently with the geotechnical evaluations and plant or other biota sampling. The pilot studies at the bottom of Bat Cave Wash would require approximately 482 trips over 8 months, and the pilot study in the Station would require approximately 354 trips over 8 months. To analyze a conservative scenario in this situation, the 25 percent contingency and the soil sampling activities are assumed to occur concurrently.

It is assumed each of the workers for all project components would drive one vehicle to and from the Project Site each day, and would arrive during the morning peak period (7 A.M. to 9 A.M.) and depart during the evening peak period (4:00 P.M. to 6:00 P.M.). Most workers would drive to the Project Site from nearby communities, including Needles, Laughlin, and Lake Havasu City.

The study area for the proposed Project includes the following roadways: Park Moabi Road, I-40, and the National Trails Highway. The access/haul routes associated with the proposed Project are located on the Park Moabi Entrance Road and National Trails Highway, which are also public access roads to the Moabi Regional Park and the mobile home park. Existing roadway segment volumes were compared to roadway segment capacities identified in the San Bernardino County General Plan based upon the LOS C volume threshold of 7,000 Average Daily Traffic (ADT). **Table 5-1** presents the results of the existing ADT count on Park Moabi Road north and south of Interstate 40 (I-40).

TABLE 5-1 EXISTING YEAR ROADWAY SEGMENT VOLUME						
Direction	North of Needles (I-40) Freeway (ADT)	South of Needles (I-40) Freeway (ADT)				
Northbound on Park Moabi Road	318	8				
Southbound on Park Moabi Road	334	8				
Total ADT	652	16				
LOS C Capacity	7,000	7,000				
NOTES: Based on the threshold in the <i>County of San Bernardino 2007 General Plan</i> ; Existing conditions were taken on June 18, 2013, when a 24-hour tube count was performed on the roadway segments. SOURCE: LIN Consulting 2014 (Appendix E).						

As shown in Table 5-1, the Park Moabi Road segments north and south of I-40 are well below San Bernardino County's threshold of 7,000 ADT. Therefore, roadway segments in the Project vicinity do not operate at a level worse than LOS C and impacts from soil investigation activities would be less than significant.

LOS for a Two-Way-Stop-Control intersection is determined by the Average Control Delay and is defined for each minor movement. Roadway Daily Volume Thresholds in the Desert Region of LOS C intersections have an intersection Average Control Delay of 15–25 seconds/vehicle. Subsequently, intersections with LOS B and LOS A operate at 10–15 seconds/vehicle and 0–10 seconds/vehicle, respectively. The LOS for the study area intersections under 2014 conditions with and without traffic activity from the proposed Project are shown in **Table 5-2**.

TABLE 5-2 CHANGE IN LOS AND AVERAGE CONTROL DELAY – YEAR 2014							
	Year 2014 W LOS/ Avg C	ithout Project ontrol Delay	Year 2014 With Project LOS/Avg Control Delay				
Intersection	Weekday A.M. Peak Hour	Weekday P.M. Peak Hour	Weekday A.M. Peak Hour	Weekday P.M. Peak Hour			
Park Moabi Road and I-40 westbound on-/off-ramps	LOS A/8.4	LOS A/8.7	LOS A/8.6	LOS A/9.0			
Park Moabi Road and I-40 eastbound on-/off-ramps	LOS A/8.6	LOS A/9.1	LOS A/8.6	LOS A/9.4			
NOTES: LOS = level of service For side-street stop-controlled intersections de	NOTES: LOS = level of service						

SOURCE: LIN Consulting 2014 (Appendix E).

As shown in Table 5-2, the two Park Moabi Road/I-40 intersections under existing conditions (in Year 2014) are operating within the 0–10 seconds/vehicle range (LOS A) during the A.M. and P.M. peak hours, and below the County threshold of 15–25 seconds (LOS C). Table 5-2
demonstrates that even with additional traffic as a result of the proposed Project, Average Control Delay levels continue to operate within the LOS A range.

The additional traffic generated as a result of the proposed Project would be short-term, consistent with the length of Project activities, and intersections and roadway segments would continue to operate below County thresholds during soil investigation activities. As a result, the Project would not add traffic to a roadway segment or intersection that would degrade the operation to an unacceptable level, or conflict with any applicable plan establishing measures of effectiveness of performance of the circulation system. Impacts would be less than significant.

The nearest public airport to the proposed Project is the Needles Airport, located 6 miles from the Project Site's most western boundary. The tallest piece of construction equipment mobilized to the Project Site would be approximately 36 1/2 feet high and would not pose any hazard to nearby airports because of the minimal height and temporary nature. The proposed Project does not involve construction of any facilities that would pose a safety risk to nearby airports or alter traffic control patterns. No impact to airport hazards would occur.

The proposed Project does not involve elements that would create new hazards or hazardous roadways. While the proposed Project would add slight traffic during the short-term Project activities, the increase in traffic is not anticipated to pose a hazard or safety concern such that it would result in a significant environmental impact. Impacts related to an increase in hazards due to a Project element are less than significant.

Adequate emergency access would be maintained throughout the lifetime of the Project. Existing access/haul routes would be used and no additional emergency access would be required as a result of proposed Project activities. No impact to emergency access would occur.

The Project Site is located in a rural, largely undeveloped area that does not have an existing public transit system or bicycle and pedestrian facilities. The Project would implement soil investigation activities, which are not related to the provision of, or changes to, alternative transportation. As a result, Project activities would not conflict with any adopted policies, plans, or programs supporting alternative transportation.

5.3.11 Utilities and Service Systems

As discussed above, the Project would not result in irreversible environmental changes related to inefficient use of energy or natural resources or cause environmental accidents. This subsection analyses the potential impacts to utilities and service systems from implementation of the proposed Project, all of which are less than significant or have no impact.

5.3.11.1 Soil Waste

The proposed Project would generate investigation-derived waste (IDW), including incidental nonhazardous waste and hazardous waste during the soil investigation activities. IDW materials that would be generated include drill cuttings, sampling equipment wash water (decontamination water), personal protective equipment, and incidental trash. The estimated amount of solid waste

that may be generated ranges from less than 5 cubic yards up to 20 cubic yards. <u>The soil sampling</u> would produce between 7 to 10 cubic yards, the Bench Scale Tests would produce between 9 to 15 5-gallon buckets, the In Situ Soil Flushing and In Situ Stabilization/ Chemical Fixation would each produce 4 cubic yards, the Geotechnical Evaluations would produce 1 to 2 cubic yards, and the Plant and Biota Samples would not produce any IDW. All Project-related activities would produce no more than 20 cubic yards. Nonhazardous incidental wastes from drilling activities, such as trash (e.g., gloves, disposable clothing, food waste) would typically be either hauled off the drill site at the end of the day or placed in dumpsters or roll-off bins that would be hauled off-site periodically by truck to an appropriately permitted municipal solid waste or recycling facility located within approximately 200 miles of the Project Site.

The Soil Work Plan provides standard operating procedures and Best Management Practices to manage waste soil generated from drilling and excavating activities for the soil sampling activities. The waste soil will be stored in U. S. Department of Transportation–compliant drums or lined, steel roll-off soil bins that would be temporarily staged in previously used staging areas to the extent practicable. The number and size of drums and roll-off bins would vary depending on the number of borings installed and the drilling methods used. Standard practices, such as use of plastic sheeting over the ground surface, would be employed in the drilling and staging areas as necessary to keep the drilling materials and equipment clean and to minimize contact of the drilling materials and equipment with the ground surface.

Soil analytical results will be used to identify appropriate management of waste soil. The only anticipated soil disposal would occur for soil sampling activities, the potential 25 percent contingency sampling, and the geotechnical evaluation. All soil and other IDW will be handled, transported, and disposed of in accordance with applicable local, state, and federal laws. Displaced soil as a result of soil sampling activities, 25 percent contingency, and geotechnical evaluations would be analyzed and characterized as either as RCRA or non-RCRA hazardous waste, nonhazardous clean soil (unregulated), or nonhazardous soil for long-term storage (also unregulated). After sampling and characterization, the drums or bins with hazardous soil cuttings would be removed within 90 days of generation from the IDW staging area using heavy trucks and transported for disposal in a permitted off-site hazardous waste disposal facility. These facilities include: Kettleman Hills Landfill in Kings County, California, or Clean Harbors Buttonwillow Landfill in Buttonwillow, California. Table 5-3 shows the capacity of these landfills, along with the Mojave Valley Landfill in Arizona, which does not accept hazardous waste. Unregulated soil would be stockpiled at designated soil storage areas in accordance with Appendix J, Attachment 1, of the Soil Work Plan, which describes the protocols, including planning (including Tribal input), short-term and long-term handling and storage procedures, contamination assessment, and determination of final disposition.

Soil from the bench scale tests will be hauled off-site for testing and would not be reused on-site or disposed of in a landfill. <u>The Project would produce less than one cubic yard of soil from the bench scale tests that would be hauled to a landfill. This would not be a notable or significant amount of waste for the type of landfill that accepts such soil. The temporary infiltration galleries and wells installed as a result of the pilot studies would be backfilled with native material upon</u>

completion of tests. No soil disposal would be required. For plant or other biota sampling, tissue samples would be collected from locations where soil sampling has already been completed or planned and no new waste soil is anticipated.

TABLE 5-3 LANDFILLS IN THE VICINITY, PERMITTED CAPACITY, AND ANTICIPATED FACILITY LIFESPAN

l				
Landfill	Remaining Capacity	Maximum Daily Capacity	Distance from Topock (approx.)	Anticipated Cease of Operations
Kettleman Hills	6,000,000 Cubic Yards	8,000 tons/day	375 miles	unknown
Clean Harbors Buttonwillow	9,000,000 Cubic Yards	10,482 tons/day	323 miles	2040
Mohave Valley Landfill	unknown ²	400 tons/day	20 miles	unknown
NOTE: Data are presented by as a co SOURCE: CalRecycle 2013a and 20	mbination of mass (tons/day) and v 13b; Clean Harbors Buttonwillow 2	olume (cubic yards). 2013; Pers. Communication M	Mohave Valley Landfill 2013	

As shown in Table 5-3, the maximum projected waste stream of up to 20 cubic yards would not exceed the available capacity of relevant landfills. The Project would be served by a landfill with sufficient permitted capacity to accommodate the Project's solid waste disposal needs, and the impact would be less than significant.

5.3.11.2 Water and Wastewater

Soil Sampling Activities and Geotechnical Evaluation

Approximately 2,000 gallons of water would be used during soil sampling and geotechnical evaluation drilling and decontamination activities. Up to 500 additional gallons of water would be used for contingency sampling if required. Decontamination of sampling tools would be conducted on a temporary decontamination pad lined with plastic sheeting located on PG&E property at specific locations to be determined. Heavy equipment such as drill rigs and drill rods will be decontaminated at the concrete-lined decontamination pad located adjacent to the Station access road.

As discussed, water used during drilling activities (e.g., drilling fluid to assist drill rod advancement, decontamination of equipment, dust suppression) would be trucked from the existing water tanks at the Station. PG&E's existing Lower Colorado River Water Supply Project contracted entitlement is 422 acre-feet per year (AFY). Water at the Station is supplied by wells located on the Arizona side of the Colorado River, and these wells would also supply water needed for drilling activities. Up to 2,500 gallons of water (0.006 AFY) would be used for drilling activities, which is a fraction of the 70 to 100 AFY of water used at the Station. No new or enlarged entitlements would be needed as a result of the proposed Project. All extracted water

² Personal communication with a representative at the Mohave Valley landfill indicated that in the last 20 years, the landfill had utilized 17 acres out of 160 acres.

would come from the Colorado River Basin and would be returned after treatment to the Colorado River Basin via reinjection wells within the Colorado River accounting surface. Drinking water for use by personnel conducting investigation activities would be trucked from off-site. The Project would have sufficient water supplies available to serve the Project from existing entitlements and resources. The impact to water supply would be less than significant.

Water generated during soil sampling and geotechnical evaluation decontamination activities would be stored temporarily in drums, bins, or portable storage tanks. It is expected that up to 2,000 gallons of wastewater would be generated from soil sampling (plus 500 additional gallons of wastewater for contingency sampling if required). These tanks would be located temporarily at the drilling sites and/or at existing IDW staging areas developed during previous investigations. Samples of the decontamination water would be analyzed and the result would be used to identify the appropriate disposal of the decontamination water. After characterization, water generated from decontamination activities would likely be processed on-site at the existing Interim Measure 3 (IM-3) treatment facility and re-injected into the aquifer, or trucked off-site for disposal if IM-3 treatment facility is off-line or decommissioned in accordance with the groundwater remedy implementation procedures. Prior to treatment of water at IM-3 treatment facility, the water will be tested to determine whether it contains contaminants (i.e., organics) that the IM-3 is not designed to treat. If the water contains contaminants that the IM-3 will not treat, then it will be disposed of off-site at an appropriate facility.

Based on disposal activities conducted to date at the Station, the off-site facility likely would be in the Phoenix or Los Angeles areas. Because this effluent is disposed of by the wastewater contractor and handled consistent with applicable requirements and regulations, it is assumed that it would not exceed applicable water treatment standards and does not exceed existing treatment capacity. Discharges associated with the proposed Project have been permitted by the Colorado River Basin Regional Water Quality Control Board under Waste Discharge Requirements. Because soil sampling and geotechnical evaluation activities would produce up to 2,500 gallons of water³, the soil sampling and geotechnical evaluations would not generate effluent that would exceed applicable standards or capacity, nor would the proposed Project require the construction of new treatment facilities. Impacts would be less than significant.

Because the Project Site is not located in an incorporated city, no municipal laws or regulations related to utilities and service systems are applicable to the proposed Project. No impact would occur.

Pilot Studies

In Situ Soil Flushing

The in situ soil flushing pilot study would involve the application of water or additives containing water to soil to enhance contaminant solubility. The amount of water required for the flushing would range between 700,000 to 1,000,000 total gallons of water (approximately 8,000 gallons

³ On average, this would be approximately 6.87 gallons for each of 292 sample locations. However, many of the sample locations will be accessed using hand tools which require much less water, whereas the samples acquired using the sonic drill rig may require more.

per day). This water would be sourced from the Station water supply via a temporary 1-inch diameter rolled HDPE tubing that would run above ground from the Station down into Bat Cave Wash.

PG&E's existing Lower Colorado River Water Supply Project contracted entitlement is 422 AFY. Water at the Station is supplied by wells located on the Arizona side of the Colorado River, and these wells would also supply water needed for in situ soil flushing. Up to 1,000,000 gallons of water (approximately 3 AFY) generated from soil flushing is a fraction of the 70 to 100 AFY of water used at the Station. No new or enlarged entitlements would be needed as a result of the proposed Project. All extracted water would come from the Colorado River Basin and the majority would be returned after treatment to the Colorado River Basin via reinjection wells within the Colorado River accounting surface. Drinking water for use by personnel conducting soil flushing activities would be trucked from off-site. The Project would have sufficient water supplies available to serve the Project from existing entitlements and resources. The impact to water supply would be less than significant.

Recovered flush water would be pumped and piped to a temporary holding tank, located on the Station. Recovered flush solution would be temporarily stored within a 20,000 gallon tank located on the Station. This tank will be pumped to a 7,000 gallon tanker truck for transfer on a daily basis. It is assumed flush water would be transported to:

- The IM-3 water treatment plant for treatment;
- To an offsite treatment facility in Los Angeles (if the water is hazardous) or Phoenix (if the water is nonhazardous); or
- If the recovered water is hazardous, it may also be treated onsite with a portable water treatment system to non-hazardous levels and subsequently trucked to Phoenix.

Because this effluent is disposed of by the wastewater contractor and handled consistent with applicable requirements and regulations, it is assumed that it would not exceed applicable water treatment standards and does not exceed existing treatment capacity. Discharges associated with the proposed Project have been permitted by the Colorado River Basin Regional Water Quality Control Board under Waste Discharge Requirements. Impacts would be less than significant.

Because the Project Site is not located in an incorporated city, no municipal laws or regulations related to utilities and service systems are applicable to the proposed Project. No impact would occur.

In Situ Stabilization/Chemical Fixation

The in situ stabilization/chemical fixation pilot study would involve the application of water or additives containing water to soil to enhance contaminant solubility. Water would be sourced from the Station water supply via a temporary 1-inch diameter rolled HDPE tubing, however for the in-situ fixation/stabilization pilot study, the water needs are much less, totaling approximately 200,000 gallons (approximately 0.61 AFY), and there is no need to recover and treat flushing solutions. Impacts to water supply or wastewater capacity would be less than significant.

Because the Project Site is not located in an incorporated city, no municipal laws or regulations related to utilities and service systems are applicable to the proposed Project. No impact would occur.

5.4 Growth Inducement

As required by CEQA, this EIR must discuss ways in which the project could foster economic or population growth or the construction of additional housing, either directly or indirectly, in the surrounding area (CEQA Guidelines, Section 15126.2[d]). Induced growth is any growth that exceeds planned growth and results from new development that would not have taken place in the absence of a project. A project can be determined to have a growth-inducing impact if it directly or indirectly causes economic or population expansion through the removal of obstacles to growth or encourages or facilitates other activities that could significantly affect the environment; actions that are sometimes referred to as "growth accommodating."

The proposed Project is located in eastern San Bernardino County, California. The U.S. Census Bureau indicates that the population of San Bernardino County grew from 1,709,434 persons in 2000 to 2,035,210 persons in 2010 (U.S. Census Bureau 2010). This represents an increase of 325,776 persons, or a 19 percent increase. Based on projections for San Bernardino County, population growth for the County is expected to continue at a rapid pace, increasing from 2010 to 2040 by approximately 47 percent (California Department of Finance 2013). The city of Needles, located in California, is the closest urban community to the Project Site. Population data specific to Needles shows the community grew from 4,830 persons in 2000 to 4,844 persons in 2010 (U.S. Census Bureau 2010). This represents an increase of 14 persons, or approximately a 0.3 percent increase.

The proposed Project would involve soil investigation activities that are temporary and short-term in nature. Soil sampling field investigation activities would require a maximum of 13 employees plus agency oversight personnel, an archaeological monitor, and Tribal monitors. The bench scale tests would require two employees for three months, the pilot studies would each require up to three employees for ten months, the geotechnical evaluations would require up to three employees for two months, and the plant or other biota sampling would require two workers for up to two months. The proposed Project would not result in the creation of new residences on or adjacent to the Project Site. The anticipated employment, both direct and indirect, generated by the proposed project is evaluated in Section 5.3.7, "Population and Housing."

No new residents are anticipated as a result of the soil investigation activities associated with the proposed Project, so no increase in growth would occur as a result of the soil investigation activities.

The Project Site is currently served by existing roadways, utilities, and public services, and no additional off-site infrastructure is anticipated. Implementation of the proposed Project would not result in primary or secondary environmental effects related to additional growth. No impact would occur.

CHAPTER 6 Cumulative Analysis

6.1 Introduction to Cumulative Analysis

This chapter presents an analysis of the cumulative effects of the proposed Pacific Gas and Electric Company (PG&E) Topock Compressor Station Soil Investigation Project (Project) in combination with other past, present, and reasonably foreseeable future projects within the Project Site and surrounding area that could cause related environmental impacts similar to those anticipated to occur under the proposed Project and discussed in this draft environmental impact report (DEIR). The focus of this cumulative impacts analysis is on the proposed soil investigation activities and the geographic context appropriate for each resource area.

California Environmental Quality Act (CEQA) Guidelines Section 15130 requires that an environmental impact report (EIR) shall discuss cumulative impacts of a project when the project's incremental effect is "cumulatively considerable." "Cumulative impacts" are defined as "two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts." (CEQA Guidelines, Section 15355; see also Pub. Resources Code, Section 21083, subd. (b).) Stated another way, "a cumulative impact consists of an impact which is created as a result of the combination of the project evaluated in the EIR together with other projects causing related impacts." (CEQA Guidelines, Section 15130, subd. (a)(1) (emphasis added).) The definition of cumulatively considerable is provided in Section 15065(a)(3):

"Cumulatively considerable" means that the incremental effects of an individual project are significant when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.

According to Section 15130(b) of the CEQA Guidelines:

[t]he discussion of cumulative impacts shall reflect the severity of the impacts and their likelihood of occurrence, but the discussion need not provide as great detail as is provided for the effects attributable to the project alone. The discussion should be guided by standards of practicality and reasonableness, and should focus on the cumulative impact to which the identified other projects contribute rather than the attributes of other projects which do not contribute to the cumulative impact.

For purposes of this DEIR, the proposed Project would cause a cumulatively considerable and therefore significant cumulative impact if:

- The cumulative effects of other past, current, and probable future projects without the Project are not significant and the Project's incremental impact is substantial enough, when added to the cumulative effects, to result in a significant impact; or
- The cumulative effects of other past, current, and probable future projects without the Project are already significant and the Project would result in a cumulatively considerable contribution to the already significant effect. The standards used herein to determine whether the contribution is cumulatively considerable include the existing baseline environmental conditions, and whether the project would cause a substantial increase in impacts, or otherwise exceed an established threshold of significance.

6.2 Geographic Scope

The geographic area affected by the proposed Project and its potential to contribute to cumulative impacts varies based on the environmental resource under consideration. Generally, the geographic area associated with the environmental effects of the Project as described in Chapter 4 define the boundaries of the area used for compiling the list of past, present and reasonably foreseeable future related projects considered in the cumulative impact analysis. The air quality analysis, however, includes consideration of regional air emissions (e.g., reactive organic gases [ROG]/nitrogen oxides [NO_x] and particulate matter [PM]) and therefore includes the entire air basin. Conversely, in the case of noise impacts, given the localized impact Area of Concern (AOC), a smaller more localized area surrounding the immediate Project Site is appropriate for consideration. **Table 6-1** presents the geographic areas included within this analysis for purposes of determining whether the Project's contribution to a particular impact would be cumulatively considerable and therefore significant. An explanation of the geographic scope selected for each resource is also briefly included below under the impact analysis.

TABLE 6-1 GEOGRAPHIC SCOPE OF CUMULATIVE IMPACTS ANALYSIS			
Resource Issue	Geographic Scope		
Aesthetics	The foreground zone that extends 0.25 miles to 0.5 miles from the Project Site and the middleground zone that extends from the foreground up to 3 to 5 miles		
Agricultural Resources	Eastern San Bernardino County, California (Desert Regions)		
Air Quality	Mojave Desert Air Basin; Global (greenhouse gases)		
Biological Resources	Project Site and surrounding lands along with drainages that are connected to the Project Site, including the Colorado River		
Cultural Resources	Lower Colorado River Valley		
Energy Resources	Eastern San Bernardino County, California		
Geology and Soils	Project Site and areas immediately adjacent		
Hazardous Materials	Mojave Desert Air Basin, watershed, groundwater basin, with focus on and in the vicinity of the Project Site		
Hydrology and Water Quality	East Colorado River Basin (focus on downstream areas); Needles Valley groundwater basin		
Land Use and Planning	San Bernardino County, California		

GEOGRAPHIC SCOPE OF CUMULATIVE IMPACTS ANALYSIS		
Resource Issue	Geographic Scope	
Mineral Resources	Eastern San Bernardino County, California (Desert Regions)	
Noise	Project Site and areas immediately adjacent	
Population and Housing	Region (San Bernardino County, California, which includes the city of Needles, California, and neighboring Mohave County, Arizona)	
Public Services	San Bernardino County, California	
Recreation	Region (San Bernardino County, California, which includes the city of Needles, California, and neighboring Mohave County, Arizona, which includes the city of Lake Havasu City, Arizona.)	
Transportation and Traffic	Park Moabi Road, I-40, and the National Trails Highway	
Utilities and Service Systems	Eastern San Bernardino County, California	

Temporal Scope 6.3

This cumulative impact analysis considers other projects that have been recently completed, are currently under construction, or are reasonably foreseeable (e.g., for which an application has been submitted). Both short-term and long-term cumulative impacts of the proposed Project, in conjunction with other cumulative projects in the area, are evaluated in this chapter of the DEIR.

The schedule and timing of the proposed Project and other cumulative projects, however, is relevant to the consideration of cumulative impacts, since the soil investigation activities associated with the proposed Project are short-term. The cumulative impact analysis, therefore, pays particular attention to any cumulative projects with implementation schedules that could overlap with the proposed soil investigation schedule for this Project. The majority of the related projects included in this cumulative impact analysis and discussed in Section 6.4 are projects overseen by PG&E at the Topock Compressor Station (Station).

Soil Sampling and Sample Analysis 6.3.1

Implementation of the proposed Project is anticipated to begin in 2015, pending approval of the Soil RCRA Facility Investigation/Remedial Investigation (RFI/RI) Work Plan (Soil RFI/RI Work Plan or Soil Work Plan) (CH2M HILL 2013; Appendix A to this DEIR) and completion of the CEOA process. The soil sampling activities are estimated to be completed within 12 months of initiation. The permitting and site planning is expected to take 2 months, field mobilization is expected to take 1 month, and field implementation is expected to take 9 months. The field implementation phase would occur over three stages that would include field investigation, data compilation, and stakeholder coordination. The field implementation would occur for approximately 9 months between February 2015 and October 2015, and would occur at the Station and surrounding area. All other Project-related activities would be conducted off-site.

6.3.2 Bench Scale Tests, Pilot Studies, Geotechnical Evaluations, and Plant or Other Biota Samples

These Project activities are anticipated to begin in late 2016, after the completion of the soil sampling and sample analysis. Bench scale tests would precede the pilot studies. Each pilot study would be implemented independently in order to make use of the same equipment and work force. The geotechnical evaluation and plant or other biota sampling would be conducted independent of bench scale tests and pilot studies, although these activities could occur concurrently with the bench scale tests and pilot studies.

6.4 Method of Analysis

CEQA Guidelines Section 15130 provides that the following approaches can be used to adequately address cumulative impacts:

- Regional Growth Projections Method A summary of projections contained in an adopted general plan or related planning document, or in a prior environmental document which has been adopted or certified, which described or evaluated regional or area wide conditions contributing to the cumulative impact. Any such planning document shall be referenced and made available to the public at a location specified by the Lead Agency; or
- List Method A list of past, present, and probable future projects producing related or cumulative impacts, including, if necessary, those projects outside the control of the agency.

For the purpose of this DEIR, both approaches are used. This is due to the localized nature and specific nature of the proposed Project, and also because the Project Site is located in an area that has and will continue to experience some regional growth. This allows for a thorough, project-based cumulative analysis within the relevant geographic areas and timing of the proposed Project activities.

Consistent with CEQA, a two-step approach was used to analyze cumulative impacts. The first step was to determine whether the combined effects from the proposed project and other projects would be cumulatively significant. This was done by adding the proposed project's incremental impact to the anticipated impacts of other probable future projects and/or reasonably foreseeable development. Where the combined effect of the projects and/or projected development was determined to result in a significant cumulative effect, the second step was to evaluate whether the proposed project's incremental contribution to the combined significant cumulative impact would be cumulatively considerable as required by CEQA Guidelines Section 15130, subdivision (a).

It should be noted that CEQA Guidelines Section 15064, subdivision (h)(4) states that "[t]he mere existence of significant cumulative impacts caused by other projects alone shall not constitute substantial evidence that the proposed project's incremental effects are cumulatively considerable." Therefore, it is not necessarily true that, even where cumulative impacts are significant, any level of incremental contribution must be deemed cumulatively considerable by the lead agency. If the proposed project's individual impact is less than significant, however, its

contribution to a significant cumulative impact could also be deemed cumulatively considerable depending on the nature of the impact and the existing environmental setting. If, for example, a proposed project is located in an air basin determined to be in extreme or severe nonattainment for a particular criteria pollutant, a project's relatively small contribution of the same pollutant could be found to be cumulatively considerable. Thus, depending on the circumstances, an impact that is less than significant when considered individually may still be cumulatively considerable in light of the impact caused by all projects considered in the analysis.

6.4.1 Regional Growth Projections

The proposed Project is located within a region (San Bernardino County, California, and neighboring Mohave County, Arizona) that has experienced recent growth, and is also projected to experience population increases in the future. **Table 6-2** shows growth trends in the two counties as well as the city of Needles, California, and Lake Havasu City, Arizona.

Regional and localized growth has the potential to result in numerous environmental impacts such as traffic congestion, air quality degradation, biological habitat loss, water quality degradation, and other environmental changes. This cumulative analysis considers the regional growth trends shown in Table 6-2 and the more specific individual projects that are discussed in this chapter.

TABLE 6-2 REGIONAL GROWTH PROJECTIONS					
	Year				Percent
Jurisdiction	2010	2020 2030		2040	Change (2000–2040)
California					
San Bernardino County, California ¹	2,038,523	2,273,017	2,626,945	2,988,648	47
Unincorporated San Bernardino County, California ²	289,400 (2008)*	301,600	372,600 (2035)*	N/A	29 (2010–2030)
City of Needles, California ²	5,658 (2008)*	6,000	8,000 (2035)*	N/A	41 (2010–2030)
Arizona					
Mohave County, Arizona ³	200,186	240,998	285,574	322,808	61
Lake Havasu City, Arizona ³	52,527	58,223	63,669	66,968	28
* NOTE: SCAG dataset is presented for 2008	(instead of 2010) and f	for 2035 (instead of 2	2030).		

SOURCES:

California Department of Finance 2013

² SCAG 2012

³ Arizona Department of Administration 2013

6.4.2 List of Related Projects in the Vicinity

A summary of the projects identified at or within the general vicinity of the Project Site is provided in **Table 6-3** and shown in **Figure 6-1**. This is not intended to be an all-inclusive list of projects in the region, but rather a list of projects in the vicinity of the Project Site that may have some related environmental impact to the proposed Project and are: (1) recently completed, (2) currently under construction or implementation or beginning construction or implementation, (3) proposed and under environmental review, or (4) reasonably foreseeable.

The proposed Project is located near the Colorado River; thus, projects associated with federal agencies with interests along the river were considered as part of this analysis and included on the project list. While the Project Site is located in an unincorporated area of the County of San Bernardino, it is in the general vicinity of the city of Needles, California; Mohave County, Arizona; and Lake Havasu City, Arizona. For this reason, projects in each of the aforementioned jurisdictions are included in Table 6-3 as well. This analysis is based on information obtained from the U.S. Bureau of Reclamation (BOR); U.S. Bureau of Land Management (BLM); U.S. Fish and Wildlife Service (USFWS); the County of San Bernardino and the city of Needles, California; the County of Mohave and Lake Havasu City, Arizona; and PG&E.

The existing infrastructure within the Project Site, including roads, bridges, railroads, and utilities are not included in the Table 6-3. , since t These past projects in the vicinity of the proposed Project are part of the baseline/existing conditions that are considered throughout Chapter 4 of this DEIR. Likewise, the marinas in California and Arizona and nearby industrial facilities, such as the six natural gas transmission lines in the vicinity of the Project Site, are part of the baseline/existing conditions of this DEIR. Additionally, PG&E has conducted ongoing maintenance, investigation, and decommissioning projects for the past 10 years on-site, including tests and studies to evaluate technologies to reduce groundwater contamination. Some PG&E past projects have been included in Table 6.3 and described in Section 6.4.2.1 to the extent such information is relevant to the understanding of past activities which have occurred on-site, although the effects of those activities have become part of the existing environment (or "baseline") from which the potential effects of the proposed Project have been identified. These projects are considered part of the existing/baseline conditions in this DEIR and are not included in Table 6-3. In addition, after the completion of the soil sampling that is proposed within this DEIR, which is expected to be completed by October 2015, areas identified as having soil contamination with chemicals of potential concern (COPCs) at concentrations above action levels, surface stains, and hazardous debris within the Station boundary and in the surrounding area may undergo remediation. Soil remediation, if warranted, could take many forms in varying locations, including, but not limited to: excavation and off-site disposal; excavation and on-site treatment; soil flushing; solidification/stabilization; in situ chemical reduction; capping; and/or institutional controls. DTSC has concluded that it is too speculative to include soil remediation in the list of reasonably foreseeable projects. The soil remedy, if needed, is anticipated to occur from mid-2016 into early-2017 at the Station and surrounding areas. Any soil remedy, if determined warranted, would not temporally overlap with the Soil Investigation Project. Further, given the temporary nature of the impacts associated with the Soil Investigation Project, impacts from any

<u>future soil remediation effort would not result in related environmental impacts.</u> The soil characterization and investigation proposed as part of this DEIR will by nature be completed by the time the soil remedy is identified and implemented and therefore no temporal overlap between the soil investigation Project and the soil remediation would occur. As such, the potential effects of any future soil remediation are not included in this cumulative analysis. <u>Any future soil remedy</u> would be evaluated in accordance with CEQA, including a cumulative impact analysis.

					Approximate	
Exhibit 6-1 Map Key	Project Name	Description of Project	Size (Acreage) or Extent	Jurisdiction/ Land Owner	from Proposed Project (miles)	Implementation Status
PG&E						
1A	Site Improvement Projects	Minor annual site improvements based on available budget	Within the Station footprint and surrounding PG&E facilities	PG&E	On-site	2013-2014; Ongoin
1B	Interim Measure 3 Emergency Groundwater Extraction and Management	Provides extraction rate of 130 gallons per minute at TW-2 extraction well during month of highest groundwater discharge rates	Immediate vicinity of the Station	PG&E	On-site	Construction 2005 Ongoing
1C	Groundwater Remediation Project	Remediation of groundwater	Immediate vicinity of the Station	PG&E	On-site	2015–2017
ID	East Ravine Groundwater Investigation Phase 2	Drilling and groundwater investigation to characterize the groundwater flow pathway and groundwater conditions of bedrock formations in the East Ravine and MW-23 area	Immediate vicinity of the Station	PG&E	On-site	2012
1E	Groundwater Monitoring	Monitoring programs, including site-wide surface water monitoring, IM-3 performance monitoring	Immediate vicinity of the Station and on the AZ side of the river, near Topock, AZ	PG&E	On-site	Ongoing (quarterly
1F	Repair of MW-38S and MW-38D and Old Well/Pipe Reconnaissance	Rehabilitation of the MW-38 well cluster and evaluation of the possible existence of an old well/pipe in the bottom of Bat Cave Wash	Immediate vicinity of the Station	PG&E	On-site	Ongoing
<u>1G</u>	Part A Phase 1 Soil Investigation	Investigation of soil contamination	Immediate vicinity of the Station	PG&E	<u>On-site</u>	Completed
<u>1H</u>	Time Critical at AOC <u>4</u>	Investigation and remediation of contaminated soils	Immediate vicinity of the compressor station	<u>PG&E/DOI</u>	<u>On-site</u>	Completed 2010
U.S. Bureau of Recla	mation					
2A	Lower Colorado River Multi-Species Conservation Program	Program to conserve and work toward recovery of endangered species and protect and maintain habitat along the Colorado River	Extends along Colorado River from Lake Meade to Southerly International Border with Mexico	Multiple federal agencies	Less than 1 mile	2012–2015

TABLE 6-3 LIST OF PROJECTS LOCATED AT OR WITHIN THE VICINITY OF THE PROPOSED PROJECT

Exhibit 6-1	Denie of Norma	Description of	Size (Acreage)	Jurisdiction/	Approximate Distance from Proposed	Implementation
2B	Quarry Operations	Stockpiled materials are used by BOR for maintenance and construction of banklines, river control structures, levees, canals, and reservoirs along the Lower Colorado River	Parcel located directly north of the Moabi Regional Park footprint	BOR	Approximately 1 mile	Ongoing
3. U.S. Bureau of Land Ma	nagement					
3A	Cathodic Protection System	Installation of cathodic protection system for a gas pipeline by Southern California Gas	Approximately 235 feet	BLM	Approximately 2,000 feet	2012
4. U.S. Fish and Wildlife Se	ervice					
4A	Lower Colorado River National Wildlife Refuges Comprehensive Management Plan	Management plan for refuges along Lower Colorado River, including Havasu National Wildlife Refuge (HNWR)	HNWR: 30 river miles (300 miles of shoreline) between Needles, CA, and Lake Havasu City	USFWS	Less than 1 mile	2012-2014
4B	Topock Marsh Water Infrastructure Improvement Project on the Havasu National Wildlife Refuge	Replacement and rehabilitation of the HNWR main water delivery system for the Topock Marsh unit	Approximately 63 acres	USFWS	Less than 1 mile	Phase I – 2011; Phase II – undetermined
5. Arizona Department of T	Fransportation					
5A	State Route 95 Realignment Project	Realignment of State Route 95	42-mile corridor	Arizona Department of Transportation and Federal Highway Administration	Approximately 2 miles	Environmental review - 2014
6. San Bernardino County						
6A	Moabi Regional Park Improvements	Construction utility hookups, sewer treatment plant facility, pavement, lane widening, and drainage improvements	To be determined	San Bernardino County	1 mile	Sewer treatment plant – 2012; other improvements – undetermined
6B	Pirate Cove Resort	667 additional RV and/or cabin sites; OHV area	To be determined	San Bernardino County	Less than 1.5 miles from the Station	OHV Area – 2013; RV/cabins – undetermined
6C	Verizon Wireless Communication Facility	Installation of an antenna on an existing 157 foot pole and construction of an equipment shelter	To be determined	San Bernardino County	10 miles	Permit Submitted – 2013
6D	Needles Highway Improvement Project	Improvement and/or rehabilitation along 16- mile corridor of the Needles Highway, from "N" Street in City of Needles to California/Nevada state line	16-mile corridor	San Bernardino County, Caltrans, Federal Highway Administration	12 miles	Segment N - 2016; Subsequent Phases – undetermined
7. City of Needles, CA						
7A	I-40 Connection Project	Street improvement project	To be determined	City of Needles	10 miles	2015

TABLE 6-3 LIST OF PROJECTS LOCATED AT OR WITHIN THE VICINITY OF THE PROPOSED PROJECT

Exhibit 6-1 Map Key	Project Name	Description of Project	Size (Acreage) or Extent	Jurisdiction/ Land Owner	Approximate Distance from Proposed Project (miles)	Implementation Status
8. Mohave County, AZ						
8A	Topock Marina Improvements	Restaurant (Phase I); Hotel (Phase II)	Approximately 5.6 acres	Mohave County	Less than 1 mile	Phase I – 2013; Phase II – undetermined
8B	Sterling Project	Solar power generation site	Approximately 10,000 acres	Mohave County	Approximately 5 miles	Zoning approved – 2012
9. Lake Havasu City, AZ						
9A	Airport Business Park	Light industrial business park development	Approximately 80 acres	Lake Havasu City	Approximately 14 miles	2014
10.Southwest Gas Pipeline						
10A	Distribution System Upgrades	Upgrade to existing distribution system that runs along the Colorado River up to Laughlin.	Improvements limited to Park Moabi area	<u>San Bernardino</u> <u>County</u>	<u>1 mile</u>	<u>Construction</u> <u>complete in</u> <u>December 2011</u>
SOURCES: ADOT 2014; B6 Shabazz 2014; Snelgrove 20	OR 2014; City of Needles 14; Taylor 2014; Wolff 2	Planning Department 2014 014.	l; County of San Bernar	rdino 2014; Darling 201	14; Meier 2014; Miller 201	4; Schmeling 2014;



The following further describes each of the cumulative projects (listed above in Table 6-2) that were considered in this DEIR as part of the cumulative impacts analysis. PG&E activities at the Station are described first, followed by a description of activities by other parties.

6.4.2.1 PG&E Topock Compressor Station Projects

Site Improvement Projects (1A)

PG&E staff regularly develops an annual "wish list" of site improvement projects involving onsite features such as roads, drainage systems, and equipment improvements. These projects are implemented based on the availability of funding and the priority assigned to the projects. The projects are limited to the existing footprint of the PG&E facilities and do not involve new facilities or the expansion of plant operations or capabilities. The following projects were completed in 2013:

- Removed A-Side Gas Scrubbers and installation of a new Filter Separator;
- Replaced and relocated the A-Side Valve Nest blow-off lines;
- Began replacement of control panels for one compressor engine (inside the compressor building); and
- Began replacement of the battery building.

In 2014, PG&E plans to implement the following:

- The hazardous waste storage area will be moved from the upper level to the lower level. This will require movement of the current on-site office and construction trailers to a new location;
- Complete the replacement of the control panels for one compressor engine, and begin the same project for two additional units;
- Complete the replacement of the battery building;
- Upgrade the 24-volt system;
- Replacement of a few sections of the jacket water pipe; and
- Upgrade the gas detectors.

Ongoing Operation of Interim Measure 3 Emergency Groundwater Extraction and Management (1B)

PG&E implemented operation of a groundwater remediation facility to address hydraulic control of contaminated groundwater and prevent contaminated groundwater from entering the Colorado River. The treatment facility, known as Interim Measure 3 (IM-3), was designed to treat 135 gallons per minute (gpm) with a maximum capacity of 150 gpm. Three Board Orders (Board Order No. R7-2004-0080, Board Order No. R7-2004-0103, and Board Order No. R7-2004-0100) were approved by the regional water quality control board addressing the remediation facility.

PG&E is currently operating the IM-3 treatment plant at the Station. IM-3 consists of groundwater extraction for hydraulic control of the groundwater plume boundaries in the Colorado River floodplain treatment, of extracted groundwater and reinjection of treated water. Operation of the current groundwater treatment and injection system began in July 2005. The groundwater pumping, transport, and disposal activities are considered an Interim Measure (IM) pursuant to Section IV.A of the Corrective Action Consent Agreement (CACA) entered into by PG&E, and the California Department of Toxic Substances Control (DTSC).

Currently, the IM-3 facilities include a groundwater extraction system (four extraction wells: TW-2D, TW-3D, TW-2S, and PE-1), conveyance piping, a groundwater treatment plant, and an injection well field for the discharge of the treated groundwater. Of the four extraction wells, two are currently in operation (TW-3D and PE-1). The groundwater treatment system is a continuous, multistep process that involves reduction of hexavalent chromium to the less soluble trivalent form, trivalent chromium, precipitation and removal of precipitate solids by clarification and microfiltration, and lowering the naturally occurring total dissolved solids (TDS) using reverse osmosis. Treated groundwater is returned to the aquifer through an injection system consisting of two injection wells, IW-2 and IW-3. The existing groundwater extraction, treatment, and injection systems, collectively, are referred to as IM-3.

Groundwater Remediation Project at the Station (1C)

In January 2011, DTSC adopted a Final Remedy for the groundwater plume based on PG&E's study of the site and certified final environmental impact report (FEIR). The U.S. Department of the Interior (DOI), as a co-regulatory agency overseeing the site, also adopted a Groundwater Record of Decision, in December 2010, and presented the same selected remedy for the groundwater cleanup. The proposed Remedial Design/Remedial Action Consent Decree (Consent Decree) between PG&E and the DOI regarding implementation of the groundwater remedial action at the PG&E Topock site has been lodged with the federal district court by the U.S. Department of Justice. The notice of availability was published on January 18, 2013, in the Federal Register. The public comment period lasted 30 days ending on February 19, 2013. DTSC prepared the Topock Compressor Station Groundwater Remediation Project Environmental Impact Report Addendum No. 1 for Alternative Freshwater Source Evaluation Activities (DTSC 2013) in August 2013, which evaluated additional freshwater sources for consideration in the Groundwater Remediation Project. The limited field work component of this effort was conducted in October 2013 through April of 2014. Other activities related to the Groundwater Remediation Project will not be constructed until agency approval of the final design, as described below.

The Draft Basis of Design Report/ Preliminary (30%) Design was submitted in November 2011 and presents the preliminary design, design criteria, drawings, and list of specifications as well as additional information required for the final groundwater remedy at the Station. The Basis of Design Report/Intermediate (60%) Design that was submitted in April 2013 is a continuation and expansion of the preliminary (30%) submittal, and contains the intermediate design details, drawings, specifications, and appendices for implementation of the remedy. The Basis of Design Report/Final (90%) Design is expected to be submitted in <u>full, in September 2014</u>. Spring 2015,

followed by a 30-day stakeholder comment and review period. See the letter from DTSC/DOI to Yvonne Meeks, PG&E, Re: Incomplete Elements Identified in Pre-Final (90%) Basis of Design Report (Oct. 21, 2014). Under the most optimistic of timeframes, DTSC anticipates final approval of the Groundwater Remediation Project will not occur until Fall 2015. After obtaining the necessary approvals (rights-of-way, easement, access agreements, etc.) remedy implementation is expected to begin in May 2015 with pre-construction and field preparation are expected to begin in late 2015and surveys, and well installation is proposed to begin August 2015; PG&E will target completion for all systems in October 2017. Construction activities are expected to last through Summer or Fall of 2018. IM-3 would be shut off and ultimately decommissioned as part of the Groundwater Remediation Project.

It is not anticipated that construction of the Groundwater Remediation Project would overlap with the proposed Project's soil investigation activities. While project schedules may shift, there is potential for activities from the Groundwater Remediation Project and the proposed Project to overlap. The proposed Project has a 12-month schedule for the soil sampling activities, estimated to begin in Spring 2015, with additional activities supporting a future Soil CMS/FS (pilot studies, bench scale tests, geotechnical evaluations, and plant and biota sampling), if needed, expected to occur from late 2016 for 13 to 27 months. If overlap occurs, the initial field preparation and surveys for the groundwater remediation may overlap with the permitting and site planning phase of the proposed soil investigation sampling activities. The additional activities supporting a future Soil CMS/FS, if needed, would overlap with the construction of the Groundwater Remediation Project, both occurring from 2016 through 2018.

East Ravine Groundwater Investigation Phase 2 (1D)

After completion of the East Ravine Groundwater Investigation Phase 1, DTSC directed that additional well installation and groundwater investigation were needed to further characterize the groundwater flow pathway and groundwater conditions of bedrock formations in the East Ravine and MW-23 area to inform the remedial system design. As directed by DTSC, additional soil and groundwater characterization activities were conducted as part of the East Ravine Groundwater Investigation Phase 2 to collect supplemental information regarding groundwater occurrence, groundwater quality, and potential contaminant sources.

During the Phase 2 activities, an addition of 20 groundwater monitoring wells were installed within the unconsolidated alluvium and consolidated bedrock using 16 boreholes at 11 investigation sites. Soil samples were collected at six investigation sites in the area of the compressor and at one site in the East Ravine. Hydraulic testing, including flow characterization within three bedrock boreholes and a constant-rate extraction test at one of these locations, was conducted to refine the understanding of groundwater occurrence and flow within the saturated bedrock. Phase 2 field investigation activities were completed in July 2012, and all new monitoring wells have been incorporated into the Topock site-wide groundwater monitoring program and are being sampled quarterly. Results from the East Ravine and Station groundwater investigation have also been incorporated into the design of the groundwater remedy.

Groundwater Monitoring (1E)

PG&E conducts continual monitoring at the Station and surrounding areas, which was initiated as part of a Resource Conservation and Recovery Act (RCRA) and Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) facility investigation/remedial investigation groundwater investigation. The three monitoring programs include a Site-wide Groundwater Monitoring Program (<u>GMP</u>), Site-wide Surface Water Monitoring Program (<u>RMP</u>), and IM-3 Performance Monitoring Program (<u>PMP</u>). Monitoring wells that are part of the Groundwater monitoring Program are sampled at frequencies ranging from monthly (monthly sampling is done only from November through February) to quarterly, semi-annually, annually, and bi-annually. Site-wide Surface Water Monitoring Program samples are collected on a quarterly basis, with an additional winter low river level event.

The complete GMP includes 146 groundwater monitoring wells, which consist of:

- One hundred twenty-nine monitoring wells in California (including two bedrock wells formerly equipped with packers and newly installed East Ravine/Topock Compressor Station Wells, two dry wells and five wells currently sampled under the Pilot Test Program).
- Eight monitoring wells in Arizona
- <u>Two water supply wells</u>
- <u>Two active IM-3 extraction wells</u>
- Five test wells

The RMP consists of:

- Ten river channel surface water monitoring locations
- Four shoreline surface water monitoring locations
- <u>Two other surface water monitoring locations</u>

Part A Phase I Soil Investigation (1G)

The Part A soil investigation addresses 15 Solid Waste Management Unit (SWMU), Areas of Concern (AOCs), and other Undesignated Areas (UAs) outside the Station fence line. Additional sampling was performed in 10 of the 15 areas, and only un-intrusive investigation in 1 of the 10 areas. Field activities for the Soil Part A Phase 1 soil investigation were implemented between August and November 2008. The Part A Phase 1 soil investigation encompassed the following 10 investigation areas outside of the Station fence line:

- <u>SWMU 1 Former Percolation Bed</u>
- <u>AOC 1 Area Around Former Percolation Bed</u>
- <u>AOC 4 Debris Ravine</u>
- AOC 9 Southeast Fence Line
- AOC 10 East Ravine

- <u>AOC 11 Topographic Low Areas</u>
- AOC 12 Fill Areas
- <u>AOC 14 Railroad Debris Area</u>
- <u>UA 1 Pipeline Disposal Area</u>
- <u>UA 2 Former 300B Pipeline Liquids Tank Area</u>

In total, 659 soil samples, 7 white powder material samples, and 4 debris/wood samples were collected (sample counts do not include duplicate samples collected for quality control purposes). Two samples were also collected from one location in an area of Bat Cave Wash where soil is transitioning into sediment near the mouth of Bat Cave Wash. DTSC also directed the collection of three soil samples of white powder at locations in AOC 10.

Time Critical Removal Action at AOC 4 (1H)

The Time Critical Removal Action (TCRA) at AOC 4 was performed from December 2009 through December 2010 in compliance with the TCRA Work Plan. The TCRA removed approximately 11,799 tons of waste from the AOC 4 Debris Ravine. The allowable disturbance from this activity occurred on steep slopes of AOC 4, with a small portion of the activity occurring in the ephemeral channel at the floor of the AOC 4 ravine. The three primary methods employed to remove fill and debris material from AOC 4 were manual collection, vacuum excavation, and mechanical excavation.

The TCRA was performed as an interim remedial action measure directed by the U.S. Department of the Interior to stabilize and mitigate the threat of release of contaminated material into the environment. This TCRA was conducted under the authority of CERCLA Section 104 and was, therefore, exempt from obtaining any federal, state, or local permits or complying with other administrative requirements, pursuant to CERCLA Section 121(e).

Repair of Monitoring Wells MW-38S and MW-38D and Old Well/Pipe Reconnaissance (1F)

The MW-38 cluster (MW-38S and MW-38D) is part of the existing monitoring network for the groundwater plume at the Station. The cluster was installed in April 2004 as part of the Soil RCRA Facility Investigation/Remedial Investigation effort. Monitoring wells MW-38S and MW-38D were damaged in storm events the week of January 18, 2010. An implementation plan was prepared in February 2011 for rehabilitation of the MW-38 well cluster. The MW-38S surface completion was completely destroyed during the storms, and the well casing was inundated with stormwater and sediments such that the well casing was blocked. The MW-38D surface completion was damaged such that the aboveground well casing was bent; however, the well was not inundated with stormwater or sediments.

PG&E attempted to salvage the damaged monitoring wells MW-38S and MW-38D from April 1, 2013, through May 29, 2013. The blockage was removed from MW-38S and the surface completion was rebuilt. However, monitoring well MW-38D was not salvageable, so the well

casing was overdrilled and a monitoring well was reinstalled within the same borehole. Both monitoring wells were redeveloped and will be sampled during the groundwater monitoring events, which happen every quarter as discussed in the description of project 1F.

6.4.2.2 U.S. Bureau of Reclamation

Lower Colorado River Multi-Species Conservation Program (2A)

The Lower Colorado River Multi-Species Conservation Program (LCR MSCP) is a long-term multiagency effort to conserve and work toward the recovery of endangered species, and protect and maintain wildlife habitat on the Lower Colorado River. This 50-year plan was completed in 2005 and is currently being implemented to create more than 8,100 acres of riparian, marsh, and backwater habitat for 4 listed species and 16 other species native to the Lower Colorado River. The program extends along the Lower Colorado River from Lake Mead to the U.S.-Mexico Southerly International Border and includes the full pool elevations of Lakes Mead, Mohave, and Havasu and the historic floodplain of the river. This program includes various current and planned activities within the reach of the Colorado River (Reach 3) that is located just east of the Station. The Beal Lake Conservation Area is an LCR MSCP project on the Arizona side of the Colorado River northwest of the Project Site within Reach 3. As of 2012, all phases of the conservation project have been completed. Currently, monitoring activities are in place to manage the conservation objectives, including water quality and plankton monitoring, and periodic remote sensing to track the small population of Razorback Sucker, which will continue into 2014. Future monitoring objectives post-2014 will be dictated by management recommendations (BOR 2013). The Insectivore Prey Base Abundance and Diversity on Conservation Areas project includes surveys to determine the presence of insect and arachnid species within the Topock Marsh and Beal Lake Conservation Area. The surveys began in 2013 and are expected to be completed in 2014 (BOR 2013). In 2015 the BOR intends to construct a backwater project on a parcel north of the Park Moabi footprint as part of the LCR MSCP. This project would involve land-based excavation, which would break the levee and run a channel into the Park Moabi footprint, creating habitat along the channel (Rudolph 2014).

Quarry Operations (2B)

The BOR currently utilizes quarry sites along the Lower Colorado River, including one directly north of the Park Moabi footprint, as stockpiles for riprap and other bankline materials (Rudolph 2014). The stockpiled materials are used by BOR for maintenance and construction of banklines, river control structures, levees, canals, and reservoirs along the Lower Colorado River. These quarry sites are considered ongoing BOR operations as of 2014 (Rudolph 2014).

6.4.2.3 U.S. Bureau of Land Management

Cathodic Protection System (3A)

The Southern California Gas Company installed a cathodic protection system along approximately 235 feet of gas pipeline, to control corrosion of the pipeline in 2012 (Wolff 2014). This protection system comprises a 500-foot well that would connect to the gas pipeline. A buried underground anode wire was connected to a small rectifier to relay the electrical current from an existing power pole to the gas pipeline.

6.4.2.4 U.S. Fish and Wildlife Service

Lower Colorado River National Wildlife Refuges Comprehensive Management Plan (4A)

The USFWS, in cooperation with BOR, prepared a comprehensive management plan (CMP) for the four National Wildlife Refuges that are located along the Lower Colorado River. This includes the Havasu National Wildlife Refuge (HNWR), which is located along the Colorado River and is adjacent to the Station. This planning effort integrated three perspectives to result in a holistic management approach for the Lower Colorado River refuges over the 20-year planning period from 1994 to 2014. The plan includes a:

- Broad perspective for the Area of Ecological Concerns;
- Narrower perspective for refuge-related policy issues that affect the four refuges; and
- Focused perspective for management-related activities and strategies that affect defined management units and subunits.

There is no current funding in place to update the CMP; however, components of the plan will likely be used in future management decisions (Miller 2014).

Topock Marsh Water Infrastructure Improvement Project on the Havasu National Wildlife Refuge (4B)

The USFWS plans to replace and rehabilitate approximately 63 acres of the HNWR's main delivery system for the Topock Marsh Unit of the Refuge. The project is located within the historic floodplain of the Colorado River, with a small portion on BLM land. BOR is acting as a cooperating agency under the National Environmental Policy Act (NEPA) for this project. This project would improve the HNWR's capacity to control delivery of water to the Topock Marsh Unit, with environmental benefit to at least 4,000 acres of refuge land. Phase I of the project was completed in the fall of 2011 and includes gravity flow infrastructure consisting of the following components: a fire break canal, fire break canal water diversion structure, fire break canal terminus water control structure, farm ditch water diversion structure, and Topock inlet canal (internal water control structure). Phase II is currently undergoing engineering studies as part of the design phase and will involve non-gravity flow infrastructure (Miller 2014).

6.4.2.5 Arizona Department of Transportation

State Route 95 Realignment Project (5A)

The Arizona Department of Transportation and the Federal Highway Administration are currently evaluating two potential north-south corridors for the future realignment of State Route 95 (SR 95). The realignment project is necessary to better facilitate regional traffic flow through northwestern Arizona. The SR 95 Realignment would begin approximately two miles south of Interstate 40 (I-40) near Topock and extend north to SR 68 near Bullhead City, approximately 42 miles (ADOT 2014). The exact alignment would be evaluated in a Tier 1 EIS expected to begin in 2014. The project is in the environmental review phase and a schedule for implementation has not yet been released.

6.4.2.6 San Bernardino County

Moabi Regional Park Improvements (6A)

San Bernardino County is implementing improvements to the Moabi Regional Park north of the Station. Improvements include full utility hookups at the recreational vehicle campsites, improvements to the existing sewer treatment facility at Moabi Regional Park and replacing existing structures in and around the main entrance including pavement, lane widening, and drainage. The improvements to the sewer treatment facility were completed in 2012; however, the work to the main entrance of the park and utility hookups has been delayed and a schedule for those components is not known at this time (Snelgrove 2014).

Pirate Cove Resort (6B)

Pirate Cove Resort is a vacation resort that features 14 waterfront cabins, a 300-slip marina, commercial and restaurant development (bar and grill), recreational vehicle (RV) hookups, and recreational vehicle sites. The Pirate Cove Resort also has camping sites and offers water activities, including boating, jet and water skiing, kayaking, canoeing, and swimming on the Colorado River. The Pirate Cove Resort is located within the boundary of Moabi Regional Park at 100 Park Moabi Road, in Needles, California, and was opened to the public in May 2009. The Pirate Cove Peninsula Master Plan identifies 667 additional RV and/or cabin sites to be constructed over six phases (County of San Bernardino 2012)¹. No construction has begun on the facilities proposed as part of the Pirate Cove Master Plan because of leasing issues (Snelgrove 2014). In 2013, the Off-Highway Vehicle (OHV) area was partially opened to the public. When fully opened, the OHV area will not constitute the full 146.5 acres identified in the Pirate Cove Peninsula Master Plan (Snelgrove 2014).

Verizon Wireless Communication Facility (6C)

In 2013, Verizon Wireless submitted a site plan permit to San Bernardino County to collocate an antenna on an existing AT&T monopole in Needles, California, along the west side of Highway 95. This would involve installation of an antenna on an existing 157-foot pole originally installed by AT&T, and construction of an equipment shelter (Shabazz 2014).

Needles Highway Improvement Project (6D)

The Needles Highway Improvement Project involves the improvement and/or rehabilitation of a 16-mile corridor of the Needles Highway, from Needles north to the California/Nevada state line. The project would accommodate existing and reasonable forecast travel demand as safely as possible. Phase N of the project is anticipated to be implemented in 2016, with subsequent phases implemented thereafter (Meier 2014).

¹ According to the San Bernardino County Moabi Regional Park Initial Study Checklist, even though 667 additional RV and/or cabin sites are proposed, "the total number of RVs and similar recreational vehicles are anticipated to be comparable to the number of RVs and similar recreational vehicles that are accommodated under the existing conditions (i.e. the proposed new RVs spaces do not necessarily increase the capacity for RVs and similar recreational vehicles that are currently using the park)... the Project will in effect increase number of RVs and similar recreational vehicles that can be accommodated on the Project site by only 4 units (663 vs. 667)" (County of San Bernardino 2012).

6.4.2.7 City of Needles

I-40 Connection Project (7A)

The I-40 Connection project is a street improvement project that has the goal of better aligning existing streets in the City of Needles with connections to I-40. Site plans are currently in discussion and right-of-way acquisitions are being secured. The project is expected to be implemented in 2015 (City of Needles 2014).

6.4.2.8 Mohave County

Topock Marina Improvements (8A)

Topock Marina is a 20-acre facility located along the Colorado River approximately one-half mile north of I-40. The marina owners submitted a site plan to Mohave County, in August 2010, to develop a 102-room, four-story hotel and a three-story restaurant with retail uses on approximately 5.6 acres of the site. The project was approved on January 11, 2013. The retail and restaurant buildings, and swimming as pool part of Phase I, were constructed in 2013 (Darling 2014). Phase II includes plans for the hotel; however, no site plans for subsequent phases have been submitted to the county for approval, and construction has not yet been implemented (Taylor 2014).

Sterling Project (8B)

The Sterling Project was initially a proposed master-planned community located north of I-40 approximately three miles from the California/Arizona state line. The Sterling Project was replaced by a proposed concentrated solar development on the same property. Conditional zoning approvals were issued in 2012 for this solar development; however, the project has not yet been implemented (Taylor 2014).

6.4.2.9 Lake Havasu City

Airport Business Park (9A)

The Airport Business Park project is an approximately 80-acre light industrial business park development. Phase I was completed in 2013, which consists of approximately 19 acres of retail space. Phase II of the project would include a motor sports facility. A site plan was approved for Phase II in 2013, and with lease agreements underway, the motor sports facility is anticipated to be constructed in 2014 (Schmeling 2014).

6.4.2.10 Southwest Gas

Southwest Gas Pipeline (10A)

Southwest Gas operates a gas pipeline that runs along the Colorado River in the vicinity of the Project Site, terminating in Laughlin, Nevada. Southwest Gas completed upgrades to a portion of the pipeline segment in Park Moabi, approximately 1 mile from the Station.

6.5 Analysis of Cumulative Impacts

As previously described in Section 6.2, the cumulative scenario under each environmental discipline differs depending upon the potential area of effect. For example, the cumulative conditions for regional air quality account for impacts within the entire Mojave Desert Air Basin (MDAB) because air quality impacts occur on a regional scale, while the cumulative impacts for noise would be limited to a more local scale for activities in the vicinity of the Project Site. The cumulative setting and analysis for each discipline are discussed in the following pages.

Consistent with CEQA, a stepped approach was used to analyze cumulative impacts. The first step was to determine whether the combined effects of the probable projects within the geographic scope of an environmental issue area would result in a cumulatively significant impact. Then, the Project's incremental impact was added to the anticipated effects of these probable projects. The final step was to evaluate whether the proposed Project's incremental contribution to the combined effect would be cumulatively considerable, as required by CEQA Guidelines Section 15130, Subdivision (a).

6.5.1 Aesthetics

The geographic scope for potential cumulative impacts to aesthetics includes the foreground, which is defined as the zone within 0.25 miles to 0.5 miles from the Project Site, and the middleground, which is a zone that extends from the foreground up to 3 to 5 miles. <u>Consideration is given to background views</u>, however the effects of the proposed soil sampling activities and any associated changes in visual contrast would generally be visible at foreground viewing distances and not beyond 3 to 5 miles from the Project Site. In desert areas, such as the vicinity of the proposed Project, landscape detail is typically most noticeable and objects generally appear most prominent when seen in the foreground. At middleground viewing distances, the texture of landscape features such as of rock outcropping surfaces and vegetation as well as built elements may be noticeable but are increasingly unrecognizable. At background viewing distances, which would extend from about 3 to 5 miles from the Project Site to infinity, visible detail is limited to landscape patterns or visual contrasts. <u>Consideration is given to background views, however the effects of the proposed soil sampling activities and any associated changes in visual contrast would generally be visible at foreground viewing distances and not beyond 3 to 5 miles from the Project Site.</u>

As described in Section 4.1.1.2, the Project Site occupies approximately 128.5 acres in and around the PG&E Station located west of the Colorado River. The predominant land use in the area consists of undeveloped public land interspersed with concentrated areas of developed infrastructure. In addition to the Station facility, a major gas utility and transportation corridor that includes natural gas transmission pipelines, the Burlington Northern Santa Fe Railway (BNSF) line, and I-40 bisects the Project Site. Additional developed land uses within or near the Project Site include the National Trails Highway, the former Route 66, and various unnamed access roads. A former gravel quarry lies approximately 1,500 feet southwest of the Station. Approximately 3,000 feet west of the Station are evaporation ponds associated with the facility,

and an interim remedial measures groundwater treatment plant and numerous groundwater well clusters are located nearby.

Open space near the Station is characterized primarily by sparsely vegetated eroded alluvial deposits and steep, rocky slopes. The dark-colored rocks of the Chemehuevi Mountains, rising to over 2,700 feet a short distance to the south, form the primary backdrop to the Project Site when viewed from the heavily traveled highway corridor, particularly on its eastern approach to the river. The area is bisected by several steep-sided ephemeral streams, including Bat Cave Wash and several unnamed arroyos that flow north to the confluence of the Colorado River.

When combined, projects in the cumulative scenario listed above (Table 6.3) have the potential to affect key views and sensitive aesthetic resources in the geographic scope. In particular, this includes projects at the Station (1A through 1FH) and the projects along the Colorado River in San Bernardino and Mohave Counties, which include the Moabi Regional Park Improvements (6A), the Pirate Cove Resort (6B), and the Topock Marina Improvements (8A), and the Southwest Gas Pipeline (10A). Elements of these projects (such as infrastructure, vehicles, equipment, and personnel) would be visible to affected viewers in the geographic scope. Depending on the project element and viewing location, mitigating landscape elements, and other factors, such as the presence of vegetation, screening could minimize the actual visibility. The projects anticipated at the Moabi Regional Park and the Pirate Cove Resort are fairly minimal in the context of existing development. As well, these projects would be expansions or additions to existing development that has a similar visual quality and appearance. These recreational developments are of a nature that is consistent in the region and are not anticipated to result in visual effects that would be significant, either in combination with other projects or individually. The Southwest Gas Pipeline project was a replacement of existing infrastructure and would have no noticeable visual effect. While the hotel and restaurant proposed as part of the Topock Marina Improvements would be more significant substantial in nature and of more visual contrast compared to the surroundings, its visual effects would not be compounded by the other projects in the cumulative scenario given the relative separation of the projects from each other.

In addition, the effects of the projects at the Station would not likely be visually discernable given the extent of infrastructure and the minimal contribution the projects would have to the existing industrial nature of the Station. Each of these projects is also relatively distant from the other such that the projects would not be within the same viewshed for any individual viewer. There is the potential that additional soil investigation activities necessary to support a future Soil CMS/FS, should they be necessary, may occur during the construction phase of the Groundwater Remediation Project. Bench scale tests would have minimal visual impact (limited soil collection) over 1 month and would largely be performed off-site, thereby having minimal visual change and no significant cumulative impact. Pilot studies could result in installation of wells, piping, and infiltration galleries within Bat Cave Wash and within the Station. Visual impacts for those activities within the Station fence line would be minimal, as they would be obscured by existing industrial appearance of the facilities. Visual changes from potential pilot studies in Bat Cave Wash would be somewhat noticeable; however, they would introduce incremental change comparable in height and character to the existing built elements in the landscape and would not substantially degrade the existing visual character of the Project Site. These visual changes, in combination with the potentially overlapping construction activities associated with the Groundwater Remediation Project, would not result in a significant cumulative visual impact, as they would be temporary in nature, consistent with the existing infrastructure in the area, and generally low profile with minimal visual change. Geotechncial evaluations could occur at up to eight locations in the Project Site, but would be low profile with no long-term infrastructure that would change the visual character or contribute to an overall significant cumulative change in the visual environment. Plant and biota sampling would have minimal visual impact, the additional activities described above would occur during daylight hours, and minimal, if any, lighting would be necessary during these activities. For these reasons, the combined visual effects from the projects listed in Table 6-3 within the geographic scope of the visual analysis would not be considered cumulatively significant.

When added to the cumulative scenario described above, the effects of the proposed Project would contribute incrementally to the cumulative impacts on aesthetic resources. As documented in the set of Figure 4.1-6A through 4.1-15B visual simulations, and summarized in Table 4.1-2, the proposed Project would represent a temporary incremental change that would not substantially alter the composition or character of existing landscape views. It would not involve installation of permanent infrastructure, nor would it result in any long-term <u>or</u> permanent effects on public views. Therefore, when considered in addition to the anticipated impacts of other projects in the cumulative scenario, the Project's incremental contribution to aesthetic impacts would not be cumulatively considerable (less than significant).

6.5.2 Agricultural Resources

The geographic scope for agricultural resources is Eastern San Bernardino County (i.e., the Desert Regions) where agricultural activities would be similar. The Project would have no impact with respect to Farmland, Williamson Act contracts, land zoned for agricultural use, forest land, or timberland. Therefore, it could not contribute to cumulative effects related to these resources (no impact).

6.5.3 Air Quality

Cumulative air quality impacts must be considered from different perspectives of scale and type of activity depending on the air pollutant being considered. The following discussion describes impacts associated with short-term Project-related activities and greenhouse gas (GHG) emissions.

6.5.3.1 Short-Term Project-Related Impacts

The geographic scope for potential cumulative impacts to air quality from short-term Projectrelated impacts is the MDAB, which is the air shed the Project Site is located in. The MDAB comprises the eastern portion of Kern County, the northeastern portion of Los Angeles County, all of San Bernardino County, and the eastern portion of Riverside County. The MDAB is in nonattainment status for ozone and PM10. This is a result of the cumulative development in the basin, as well as transport of pollutants from other basins. The Mojave Desert Air Quality Management District (MDAQMD) has established daily significance thresholds for criteria pollutants and ozone precursors for projects within San Bernardino County. In addition, San Bernardino County is currently designated as a nonattainment area for ozone and Particulate Matter 10 (PM10) due to the cumulative projects in the county. Projects in the cumulative scenario, in particular, projects at the Station (1A through 1FH) and the projects along the Colorado River in San Bernardino and Mohave counties, which include the Moabi Regional Park Improvements (6A), the Pirate Cove Resort (6B), and the Topock Marina Improvements (8A), and the Southwest Gas Pipeline (10A), could contribute to air quality impacts in the geographic scope through the generation of criteria pollutants from activities such as vegetation clearing; earth-moving activities; dust entrainment from travel by equipment, trucks, and employee vehicles. For these reasons, the combined air quality effects within the geographic scope would be considered cumulatively significant.

When added to the cumulative scenario described above, the effects of the proposed Project would contribute incrementally to the cumulative impacts on air quality. As described in Section 4.2, "Air Quality," the proposed Project would not exceed the MDAOMD daily or annual thresholds of significance for criteria pollutants (volatile organic compounds [VOCs] or ROG; NO_x; PM10; PM2.5; CO; and SO_x). The MDAQMD thresholds are established to determine what level of emissions would potentially violate an air quality standard or contribute substantially to an existing or projected air quality violation. The proposed Project would not violate any air quality standards or contribute substantially to an existing or projected air quality violation, nor would it result in a cumulatively considerable net increase of any nonattainment pollutant. The Project would not result in long-term adverse air quality impacts because of the short duration of the proposed Project. The proposed Project would not emit carbon monoxide in quantities that would pose health effects. Further, the duration of proposed soil investigation activities would constitute a small percentage of the total 70-year sensitive receptor exposure period for toxic air contaminants. Therefore, when considered in addition to the anticipated impacts of other projects in the cumulative scenario, the Project's incremental contribution to air quality impacts would not be cumulatively considerable (less than significant).

6.5.3.2 Greenhouse Gas Emissions

GHG emissions are inherently a cumulative concern, in that the significance of GHG emissions is determined based on whether such emissions would have a cumulatively considerable impact on global climate change; therefore, the geographic scope of cumulative impacts related to GHG emissions and climate change is global. The proposed Project would contribute GHG emissions primarily through exhaust from equipment, trucks, and employee vehicles which would result in an incremental contribution to global climate change, and which, when combined with the cumulative contributions of all other sources of GHGs, contributes to climate change. As discussed in Section 5.3.4, for the worse-case year (2015), the Project would result in 1,137 metric tons per year or 9,735 pounds per day of CO_2e .

As described in Section 5.3.4, MDAQMD has established GHG thresholds for CO₂e of 100,000 tons per year or 548,000 pounds per day for individual actions. The Project is expected to last up to 27 months and could therefore generate up to 2,653 metric tons of CO₂e total for the full duration of Project activities, which is substantially below MDAQMD's significance threshold. In addition, the Project also is in compliance with San Bernardino County's GHG Emissions Reduction Plan's review standard of 3,000 metric tons per year of CO₂e (County of San Bernardino 2011).

Because the Project would not result in a long-term generation source for emissions of GHGs, it would not result in GHG emissions that would conflict with California's ability to achieve 1990 levels of GHG emissions by 2020 as required by AB 32 and would be consistent with all other applicable plans, policies, and regulations. It also would not result in a substantial increase in GHG emissions or exceed a threshold of significance adopted by the Air District. Therefore, the Project's incremental contribution to GHG emissions would not be a cumulatively considerable; thus, it would not present a significant cumulative impact (less than significant).

6.5.4 Biological Resources

The geographic scope for biological resources consists of the Project Site and surrounding lands, along with drainages that are connected to the Project Site, including the Colorado River (Figure 4.3-3). The limits of the geographic scope were determined based on the presence of contiguous habitat types supporting, or capable of supporting, the sensitive biological resources potentially affected by the Project. This setting generally consists of a mix of disturbed and relatively pristine natural landscape that supports a variety of biological communities consisting predominantly of upland desert scrub interspersed with desert washes.

The projects considered in this cumulative analysis have varying effects on biological resources in the geographic scope, ranging from direct adverse impacts on sensitive species and habitat, to beneficial impacts resulting from implementation of conservation measures and land management practices. The PG&E projects at the Station and surrounding areas (1A through 1F<u>H</u>), Quarry Operations (2B), the cathodic protection system (3A), Moabi Regional Park Improvements (6A), Pirate Cove Resort (6B), and Topock Marina Improvements (8A), <u>and the Southwest Gas</u> <u>Pipeline (10A)</u> would have a contribution to adverse biological impacts within geographic scope. Impacting activities would include, but are not limited to, soil and groundwater remediation activities at the Station (1A through 1F<u>H</u>); maintenance and construction of quarry components along the Lower Colorado River, including banklines, river control structures, levees, canals, and reservoirs (2B); installation of a cathodic protection system for a Southern California Gas pipeline (3A); construction of utility hookups, development of a sewer treatment plant facility, lane widening, and drainage improvements at the Moabi Regional Park (6A); 667 additional RV and/or cabin sites and an OHV area at the Pirate Cove Resort (6B); and development of a hotel and restaurant at the Topock Marina (8A)<u>; and replacement of the Southwest Gas Pipeline (10A)</u>.

Because these activities are anticipated to <u>or have occurred</u> within or near naturalized areas or undisturbed habitats, potential impacts to biological resources would include removal and/or disturbance to water, riparian, or sensitive habitats protected by federal or state regulations; removal and/or damage to special-status plants, including indigenous plants of biological and cultural significance; injuring, killing, harassing, or otherwise harming special-status wildlife, including desert tortoise; ring-tailed cat; native fish; Yuma clapper rail, southwestern willow flycatcher, and other nesting birds and raptors; Nelson's bighorn sheep; special-status bat species; and disruption of <u>native wildlife nursery sites</u> wildlife movement corridors. However, it should be noted that within the geographic scope, the aforementioned projects contribute only a limited amount of development and activity compared with the overall amount of undisturbed and available open space (Figure 4.3-3).

Additionally, other projects, such as the LCR MSCP (2A), the CMP at HNWR (4A), and Topock Marsh Water Infrastructure Improvement Project (4B), have contributory beneficial effects to biological resources. The LCR MSCP is a program implemented and overseen by multiple federal agencies to conserve and work toward recovery of endangered species and protect and maintain habitat along the Colorado River. The CMP at HNWR is a management plan overseen by USFWS for wildlife refuges along Lower Colorado River, including the HNWR. The Topock Marsh Water Infrastructure Improvement Project includes the replacement and rehabilitation of the HNWR main water delivery system for the Topock Marsh unit. These projects provide stipulations for habitat restoration, creation of new habitat, augmentation of existing wildlife populations, protection and monitoring of existing habitat for special-status species, and protection of special-status species and their habitats within the geographic scope, among others. Because of the limited amount of development and activity proposed within the geographic scope and the implementation of the aforementioned beneficial projects, the combined effects to biological resources from the projects listed in Table 6-3 would not be considered cumulatively significant.

The effects of the proposed Project, in combination with other cumulative projects in the geographic scope, would contribute incrementally to impacts on biological resources. As described in Section 4.3, "Biological Resources," the proposed Project would have potentially significant impacts, including disturbance or removal of riparian habitats protected by federal or state regulations; crushing, removing, or damaging indigenous plants of biological and cultural significance; and injuring, killing, harassing, or otherwise harming special-status wildlife, including desert tortoise, ring-tailed cat, and nesting birds and raptors, Nelson's bighorn sheep, special-status bat species, and disruption of native wildlife nursery sites wildlife movement corridors. These activities include the proposed soil samples, bench scale testing, and pilot study locations within desert washes, such as Bat Cave Wash (AOC 1), and the riparian habitats around the pore water sampling sites within or near East Ravine (AOC 10). Mitigation measures have been identified for the proposed Project to avoid and/or minimize impacts to biological resources (Mitigation Measures BR-1, BR-4, BR-5, and BR-6, BR-7, BR-8, and BR-11). There is the potential that additional soil investigation activities necessary to support a future Soil CMS/FS, should they be necessary, occur during the construction phase of the Groundwater Remediation Project. Developing and following avoidance and minimization measures for the identified impacts to biological resources to ensure, at a minimum, no-net-loss of habitat value or function would reduce impacts to a less than significant level. Similarly, the 2011 Groundwater FEIR establishes a full suite of mitigation measures that would reduce project impacts to less than

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significant and include a no-net-loss of habitat value or function. Impacts associated with the proposed Project would be temporary in nature, and would be completed prior to the operation of the Groundwater Remediation. Therefore, when considered in addition to the anticipated impacts of other projects in the cumulative scenario, the Project's incremental contribution to impacts to biological resources would not be cumulatively considerable (less than significant).

6.5.5 Cultural Resources

The proposed Project's impacts to cultural resources, when considered in combination with other past, present, and future projects at a regional scale, could contribute to a cumulatively significant impact to historical resources (including the Topock Traditional Cultural Property [TCP]), archaeological resources, and human remains. Cumulative projects have the potential to involve ground-disturbing activities that would directly impact significant cultural resources, or that may result in indirect impacts such as vandalism or damage from an increased human presence in the area. These projects may also result in visual, auditory, and other environmental changes that may adversely affect the Topock TCP.

The geographic scope for cumulative impacts to cultural and paleontological resources consists of the Lower Colorado River Valley. This geographic scope of analysis is appropriate because the historical, and archaeological , and paleontological resources within this area are expected to be similar linked or connected to the six Interested Tribes, all of whom have a vested interest those that occur on in the Project Site. For paleontological resources, the geographic scope of analysis is appropriate because the formations within this area are expected to be similar. The Topock TCP, although its full geographic boundary is currently undefined, likely comprises a large part of the geographic cumulative scoping area, and, as such, there are undoubtedly many archaeological resources, landforms, water sources, and similar features that contribute to the TCP. For paleontological resources, similar geology within this vicinity would likely yield fossils of similar sensitivity and quantity. The temporal scope for cumulative impacts to cultural resources encompasses both short-term and long-term cumulative impacts of the proposed Project, in conjunction with other cumulative projects in the area.

The Project Site and surrounding vicinity contains a significant archaeological and historical record that, in many cases, has not been well documented or recorded. The Lower Colorado River Valley contains a number of important sites of cultural and/or archaeological importance that are integral to the cultural traditions of Native American Tribes located throughout the region. These resources include, but are not limited to, archaeological sites, geoglyphs, rock art, trails, and dance paths/circles. Thus, there is a potential for ongoing and future development projects in the Project vicinity to disturb areas that may contain cultural resources.

Many of the cultural resources within the geographic scope, in particular the Topock TCP and other resources of traditional or cultural significance to Interested Tribes, have already been subjected to impacts as a result of past projects, including the introduction of transportation, energy, and recreational facilities, as well as through construction of the PG&E projects at the Station and within surrounding areas (1A through 1FH) and other ground-disturbing activities undertaken in developing the Final Groundwater Remediationy Project. Projects undertaken

before environmental laws such as CEQA were in place may not have considered, or mitigated, significant impacts to cultural resources, and may have resulted in damage to important cultural resources such as geoglyphs, trails, and other resources that retain significant cultural value to Interested Tribes. Projects that have already been implemented or may occur in the foreseeable future at or near the Project Site could impact cultural resources. These projects include the CMP at HNWR (4A), State Route 95 Realignment Project (5A), Moabi Regional Park Improvements (6A), Pirate Cove Resort (6B), Topock Marina Improvements (8A), and the Sterling Project (8B), and the Southwest Gas Pipeline (10A). These projects have the potential to involve ground-disturbing activities that would directly impact significant cultural resources and paleontological resources. These projects may also bring additional people (e.g., work crews, residents, tourists) into the area that may result in increased rates of vandalism or OHV use that may directly or indirectly impact resources. These projects may also result in visual, auditory, and other environmental impacts that may adversely affect the Topock TCP. For these reasons, the combined impacts on cultural resources in the geographic scope would be considered cumulatively significant.

When considered in combination with the impacts of other projects in the cumulative scenario, the Project's incremental contribution to impacts on cultural resources including historical resources (i.e., the Topock TCP), unique archaeological resources, and human remains would be cumulatively considerable. Although **Mitigation Measures CR-1**, **CR-2**, and **CR-4**, which are described in detail in Section 4.4, "Cultural Resources," would reduce the significance of the impacts to the degree feasible, the only method to fully mitigate these impacts would be complete avoidance of any future project activity; therefore, no feasible mitigation exists that would reduce the Project's contribution to less than considerable. The Project's contribution to this significant cumulative cultural impact would be cumulatively considerable (significant and unavoidable).

IMPACTCumulatively Considerable Impacts to Cultural Resources. Implementation of
the proposed Project, in combination with other projects in the geographic scope,
could cause a substantial adverse change in the significance of the historical
resource identified as the Topock Traditional Cultural Property (TCP); cause a
substantial adverse change in the significance of unknown historical resources; and
disturb human remains, including those interred outside of formal cemeteries. This
impact would be cumulatively significant and the proposed Project's contribution
to this impact would be cumulatively considerable.

Timing:	During Project activities.
Responsibility:	PG&E would be responsible for the implementation of these measures. DTSC would be responsible for ensuring compliance.
Significance after Mitigation:	The impact would be significant and unavoidable after implementation of Mitigation Measures CR-1, CR-2, and CR-4. The Project in combination with other projects in the area, would contribute considerably to a cumulatively significant impact to the integrity of those physical characteristics that convey the

significance of the Topock TCP and to historical resources unique and important to the region.

6.5.6 Energy Resources

The geographic scope of the cumulative impact analysis for energy resources is Eastern San Bernardino County, California where electricity and most of the petroleum fuels for the Project Site are supplied from.

As discussed in Section 5.3.2, the Project Site is currently served by the Needles Public Utility Authority (City of Needles) electrical distribution system. <u>Although the Project Site is served by</u> the City of Needles, the majority of the electricity at the Station is self-generated, with only a few <u>meters in the Station serviced by the Needles Public Utility Authority</u>. Petroleum supplies for Project equipment and worker vehicles would be purchased by the individual users at fueling stations in nearby communities and in more distant locations including, but not limited to, Los Angeles, CA; Lake Havasu City, AZ; Phoenix, AZ; and Las Vegas, NV. Projects listed in Table 6-3 for the cumulative scenario, namely the PG&E projects (1A through 1F<u>H</u>), would obtain electricity and petroleum fuels from the same sources. The current supply of electricity (61.7 million kWh annually in 2011) and petroleum fuel meets current demand. None of the projects in the cumulative scenario are anticipated to result in growth inducing impacts that would impact energy consumption. For these reasons, the combined effects to energy resources in the geographic scope would not be considered cumulatively significant.

The effects of the proposed Project, in combination with other cumulative projects in the geographic scope, would contribute incrementally to impacts on energy resources. PG&E operations at the Station have a baseline energy consumption of approximately 1.8 million kWh of electricity per year, the majority of which is consumed by the Interim Measure 3 (IM-3) facility. This represents approximately 3 percent of the Needles Public Utility Authority's annual power supply (61.7 million kWh; Needles Public Utility Authority Board 2011). The energy consumption of approximately 27,292 kWh as a result of the proposed Project would represent 0.044 percent of the annual power supply for the Needles Public Utility Authority. The Project's energy consumption would not exceed baseline conditions at the Station or have a substantial impact on the Needles Public Utility Authority's annual power supply. Further, the proposed Project would use approximately 52,640 gallons of diesel fuel during Project activities, which would amount to a fraction of San Bernardino County's consumption (approximately 0.037 percent of the 2013 County annual total of 141.6 million gallons of diesel fuel). Therefore, when considered in addition to other projects in the cumulative scenario, the Project's incremental contribution to impacts on energy resources would not be cumulatively considerable (less than significant).

6.5.7 Geology and Soils

The geographic scope of the cumulative impact analysis for geology and soils includes the Project Site and areas immediately adjacent. As described in Section 5.3.3, the Project is not located in proximity to a known earthquake fault; the Project would not cause substantial soil erosion or the

loss of topsoil; the Project Site is not located in a geologic unit or soil that is unstable; the Project Site is not located on expansive soil; and the Project does not include construction of septic tanks or alternate waste-water disposal systems. Therefore, the Project would not contribute to or combine with the impacts of other projects in the cumulative scenario to cause significant cumulative impacts related to these criteria (no impact).

6.5.8 Hazards and Hazardous Materials

For hazards and hazardous materials, there would be no routine transport, use, or disposal of hazardous materials; no Project-related activities within 0.25 miles of an existing or proposed school; and no Project-related activities within 2 miles of a private airstrip. In addition, there would be no impact on adopted emergency response or evacuation plans. Therefore, the Project would have no contribution to a cumulative effect related to these criteria.

Depending on the pathway of exposure, the geographic scope for cumulative effects relating to hazards and hazardous materials would be the air basin, watershed boundary, groundwater basin, or extent of affected soil. Cumulative projects in the geographic scope that may cause impacts related to hazards or hazardous materials include the PG&E projects listed in Table 6-3 (1A through 1F<u>H</u>), the LCR MSCP (2A), Quarry Operations (2B), CMP at HNWR (4A), the cathodic protection system (3A), Moabi Regional Park Improvements (6A), Pirate Cove Resort (6B), and the Topock Marina (8A), and the Southwest Gas Pipeline (10A). These projects could result in the release of hazardous materials from the use of equipment (fuels, oils and grease, solvents) or the release of contaminated groundwater associated with the ongoing groundwater remediation activities. Those projects that are expected to occur within a similar time frame as the proposed Project would result in an increased potential for the release of hazardous materials.

The PG&E projects are restricted to the area local to the Station, and would not be expected to be compounded by other projects in the area due to the physical separation. Note that the goal of the PG&E groundwater treatment projects (1B and 1C) is to prevent the migration of contaminated groundwater to the Colorado River, thus geographically separating the potential impacts from the potential impacts of other projects in the geographic scope. In addition, the investigation and construction activities are temporary and localized. Only the groundwater remediation projects would be long-term and, once constructed, would reduce the impacts to water quality in the area by treating the COPCs released from the Station. The LCR MSCP (2A) and Quarry Operations (2B) would require the use of vehicles for transport of workers, materials, and equipment but would not include construction activities. The cathodic protection system (3A) would require the use of a drill rig and support truck for the boring to install the cathode protection wiring. The CMP at HNWR (4A) is a management plan that would only require trucks to transport workers and equipment; no construction activities are proposed. The Moabi Regional Park Improvements (6A) would include the construction of roads and utility hookups associated with a previously completed sewer treatment plant improvements. Although not yet scheduled, the work would include asphalt pavement, fuels, lubricants and oils, and paint, and the paving equipment and support trucks for equipment, materials, and workers. The Pirate Cove Resort (6B) would add RV and cabin sites and would include grading and paving equipment using fuels, lubricant cleaners, and paint. The Topock Marina Improvements (8A) would involve construction of a hotel and

restaurant. Although no plans have been submitted, the future construction would require construction equipment and support trucks, workers, and materials, including fuels and lubricants, paints, and cleaners.

In all cases, the cumulative projects would be required to meet applicable local, state, and federal laws intended to limit the extent and severity of impacts related to hazardous materials. With proper adherence to these regulations and proper construction site management using Best Management Practices (BMPs), there is no anticipation that concurrent construction of the cumulative projects listed in Table 6-3 would result in cumulative hazardous materials impacts. For these reasons, the combined hazardous materials effects from the projects listed in Table 6-3 within the geographic scope would not be considered cumulatively significant.

The effects of the proposed Project, in combination with other cumulative projects in the geographic scope, would contribute incrementally to the potential for the generation of hazardous materials. As described in Section 4.5.3.3, site preparation, sample collection, and excavation activities associated with the Project could result in the release of hazardous materials from the use of equipment (fuels, oils and grease, solvents) or from the release of chemicals from the sampled media at hazardous levels. Potentially, impacts involving localized exposure to hazardous materials during Project activities could result in localized hazardous material spills or incidents. Because the Station is a listed hazardous waste site, site preparation, sample collection, and excavation activities associated with the proposed soil investigation could create a significant hazard to the public or the environment by the potential release of contaminants known to be present in soil and groundwater at and beneath the Station. As described in Section 4.5.3.3, the Project would include the implementation of Standard Operating Procedures (SOPs) and BMPs, as well as adherence to the substantive provisions of the state Construction General Permit to avoid and/or minimize the potential for impacts related to hazardous materials. These provisions would become Conditions of Approval for the Project if the Project is approved. Therefore, when considered in addition to the anticipated impacts of other projects in the cumulative scenario, the Project's incremental contribution hazardous materials would not be cumulatively considerable (less than significant).

In terms of an increased risk of wildland fire, the California Department of Forestry and Fire Protection fire hazard severity zone map identifies the Project Site and its surroundings in the lowest level of its fire hazard severity zones, which is the lowest possible risk category. Cumulative projects in the geographic scope (see Table 6-3) that involve the use of mechanized equipment with internal combustion engines could cause a wildfire and expose people or structures to wildfire risk. However, the substantive provisions of federal and state regulations and the relative low level of fire hazard severity in the area of these project would ensure that the combined effects of these projects is less than significant. The Project would also adhere to provisions of federal and state regulations that address potential wildland fire impacts, even with the low level of fire risk. Thus, the Project's incremental contribution to wildland fire impacts would not be cumulatively considerable (less than significant).
6.5.9 Hydrology and Water Quality

As discussed in Section 4.6.3.2, there would be no Project-specific impacts related to the on-site treatment or discharge of waste water; the construction of housing within a 100-year flood hazard area; the construction of any structures within a 100-year flood hazard area; the exposure of people or structures to a significant risk involving flooding as a result of the failure of a levee or dam; and the risk of inundation by seiche, tsunami, or mudflow. Therefore, the Project would have no contribution to a cumulative effect related to these criteria.

The geographic scope for potential cumulative impacts to hydrology and water quality is the East Colorado River Basin (focused on downstream areas) for surface water resources and the Needles Valley groundwater basin for groundwater resources. The area around the Station is drained by a network of ephemeral washes that eventually flow into the Colorado River to the east of the Project Site. The maximum depth of drilling associated with the Project is 80 feet below ground surface and is therefore not anticipated that drilling will encounter groundwater or cause any related impacts. The top of the groundwater table may be encountered by several borings in Bat Cave Wash and the deeper borings planned for AOC-11. Although borings may encounter groundwater, the Project will not contribute to cumulative impacts to hydrology and water quality because the Project will not introduce contaminants into the water table and all boreholes will be decommissioned following applicable regulations that protect water quality as described in Impact 4.6-1 (beginning on page 4.6-18). The section of the Colorado River in the vicinity of the Project Site is not on the list of impaired water bodies required by Section 303(d) of the federal Clean Water Act and therefore does not have any established Total Maximum Daily Loads (TMDLs). The PG&E projects (1A through 1F), the Quarry Operations (2B), the cathodic protection system (3A), Moabi Regional Park Improvements (6A), Pirate Cove Resort (6B) could result in impacts to hydrology and water quality through ground disturbing activities, infrastructure development, discharge activities, and leaks or spills from equipment and vehicles (fuels, oils and grease, solvents).

The PG&E projects are restricted to the area local to the Station, and would not be expected to be compounded by other projects in the area due to the physical separation. Note that the goal of the groundwater treatment projects (1B and 1C) is to prevent the migration of contaminated groundwater to the Colorado River, thus geographically separating the potential impacts from those of other projects in the geographic scope. In addition, the investigation and construction activities are temporary and localized. Only the groundwater remediation projects would be long-term and, once constructed, would reduce the impacts to water quality in the area by treating the COPCs released from the Station. The Quarry Operations (2B) include the maintenance and construction of improvements to river control structures, which in the long-term will improve water quality of the river. The cathodic protection system (3A), the future hotel and restaurant part of the Pirate Cove Resort (6B), and the paving and utility hookups for the Moabi Regional Park Improvements (6A) would all consist of ground-disturbing activities with limited footprints. All of the cumulative projects would require the short-term use of equipment (e.g., drilling rigs, support trucks) and some chemicals (e.g., fuels, oils, lubricants, paint, cleaners). However, all of the cumulative projects would be required to meet applicable local, state, and federal laws

intended to avoid and minimize impacts to hydrology and water quality. With proper adherence to these regulations and proper construction site management using BMPs, there is no anticipation that concurrent construction of the cumulative projects listed in Table 6-3 would result in cumulative impacts.

Water at the Station is supplied by groundwater wells located on the Arizona side of the Colorado River. PG&E's existing Lower Colorado River Water Supply Project (LCRWSP) contracted entitlement is 422 AFY. Water use at the Station varies tremendously by season. The majority of the water is used by the cooling towers, and much higher demand occurs in the summer. The PG&E projects in the cumulative scenario (1A through 1F<u>H</u>) typically use up to 100 AFY. The Station's average use is about 70 to 100 AFY. As compared to the contracted entitlement of 422 AFY, the combined effects to groundwater supplies from the projects in the geographic scope would not result in cumulative effects. For these reasons, the combined hydrology and water quality effects from the projects listed in Table 6-3 within the geographic scope would not be considered cumulatively significant.

The effects of the proposed Project, in combination with other cumulative projects in the geographic scope, would contribute incrementally to impacts on hydrology and water quality. As discussed in Section 4.6.3.3, Project-related activities such as site preparation, sample collection, and excavation activities could result in the release of contaminants or sediment from waste soil into the environment. Project related activities could also disturb surface soil, underlying soil, or existing drainage patterns, which could increase erosion, siltation, surface runoff, or flooding. As described in Section 4.6.3.3, the Project would implement SOPs and BMPs, as well as adhere to the substantive provisions of the state Construction General Permit to avoid and/or minimize the potential for impacts related to hydrology and water quality. These provisions would become conditions of approval for the Project if the Project is approved. Further, no new or enlarged water entitlements would be needed as a result of the proposed Project. Up to 2,500 gallons of water (0.006 acre-feet per year [AFY]) would be used for soil sampling and contingency sampling and up to an additional 1,200,000 gallons of water (approximately 3.61 AFY) would be used for pilot studies, which, when combined with the up to 100 AFY of water used at the Station, would not exceed contracted entitlements. Therefore, when considered in addition to the anticipated impacts of other projects in the cumulative scenario, the Project's incremental contribution to hydrology and water quality would not be cumulatively considerable (less than significant).

6.5.10 Land Use and Planning

The geographic scope for land use and planning is San Bernardino County <u>and eastern parts of</u> <u>Mojave County, Arizona, to encompass any potential large-scale planning efforts with multiple</u> <u>federal and state agency oversight</u>. The Project would have no impact with respect to the physical division of an established community, or any conflict with applicable land use plans or policies or with adopted habitat conservation plans or natural community conservation plans. Therefore, it could not cause or contribute to cumulative effects related to these land use and planning issues (no impact).

6.5.11 Mineral Resources

The geographic scope for cumulative impacts analysis to mineral resources is eastern San Bernardino County (Desert Regions) where the geologic mineral resources and users of the resources are similar.

The Project Site is classified as a Mineral Resource Zone (MRZ)-4, which is defined as an area where geologic information does not rule out either the presence or absence of mineral resources. Sand and gravel, known as "saleable mineral resources" within the MRZ-4 designation are known to exist at the Project Site and surrounding areas. Metallic, rare, and leasable minerals may also be present, but their existence in the Project Site is unknown at this time. No other mineral resource extraction activities occur within the areas adjacent to the Project Site. The BOR currently utilizes quarry sites along the Lower Colorado River, including one directly north of the Park Moabi footprint, as stockpiles for riprap and other bankline materials (2B). The stockpiled materials are used by BOR for maintenance and construction of banklines, river control structures, levees, canals, and reservoirs along the Lower Colorado River. No other saleable mineral resources are mined or anticipated to be mined within the geographic scope. The Quarry Operations (2B) would not impact mineral resources in the area. For these reasons, the combined effects to mineral resources within the geographic scope would not be considered cumulatively significant.

The effects of the proposed Project, in combination with other cumulative projects in the geographic scope, would not contribute incrementally to mineral resource issues. The potential for mineral resources to exist in and around the Project Site is limited and, as described in Section 5.3.6, the proposed Project would not significantly reduce the availability of known mineral resources. There are no mining claims on or immediately adjacent to the Project Site and none permitted on the federal lands located within the Project vicinity. The Project would have very minor to no impact with respect to the loss of availability of a locally important mineral resource recovery site. Therefore, this impact is not cumulatively significant and the proposed Project could not cause or contribute to cumulative effects related to mineral resources (less than significant).

6.5.12 Noise

The geographic scope for cumulative noise impacts are evaluated on the Project Site and areas immediately adjacent, due to the attenuating effects of noise. Noise is generated from an activity that is in turn experienced by receptors close to the noise source. Noise from the Station activities comprises a component of the overall noise environment in combination with other noise sources in the area, such as traffic noise from I-40 and train operations on the Burlington Northern and Santa Fe railway line.

The projects listed in Table 6-3 that have the potential to generate construction and/or operational noise in the geographic scope include the PG&E projects (1A through 1F<u>H</u>), Quarry Operations (2B), Topock Marsh Water Infrastructure Improvement Project (4B), Moabi Regional Park Improvements (6A), Pirate Cove Resort (6B), and the Topock Marina Improvements (8A), and

the Southwest Gas Pipeline (10A). In particular, work at the Station, including the potential overlap of construction of the Groundwater Remediation Project (1C), could result in increased cumulative noise for activities that occur simultaneously and within 500 feet of the Project Site. For these reasons, the combined noise effects from the projects listed in Table 6-3 within the geographic scope of the noise analysis would be cumulatively significant on sensitive receptors.

The effects of the proposed Project, in combination with other cumulative projects in the geographic scope, would contribute incrementally to noise impacts. As described in Section 4.7, "Noise," the proposed Project would generate noise that could expose the Topock TCP (considered as a place of worship for Native Americans in terms of the County's noise standards) to levels that exceed the County's standards or would conflict with the existing relatively quiet average ambient noise environment even after implementation of **Mitigation Measure NOI-1**. Although significant and unavoidable, noise generated from the proposed Project would not be compounded when taken in context with other noise-generating projects in the geographic and temporal scope. This is primarily because of the relative distances and timing (i.e., the majority of other projects would not occur concurrently) of the other cumulative projects and that it would be highly unlikely for noise emanating from more than one construction or noise-generating project to be heard from an individual receptor. Therefore, when considered in addition to the anticipated impacts of other projects in the cumulative scenario, the Project's incremental contribution to noise impacts would not be cumulatively considerable (less than significant).

6.5.13 Population and Housing

The geographic scope for cumulative impacts to population and housing is the larger region in which the Project is located where Project employees are expected to originate from: San Bernardino County, California, which includes the city of Needles, California, and neighboring Mohave County, Arizona which includes the city of Lake Havasu City, Arizona.

The population in San Bernardino County is anticipated to grow 47 percent by 2040. The City of Needles is anticipated to grow 41 percent by 2030. In Arizona, Mohave County is anticipated to grow 61 percent by 2040 while Lake Havasu City is anticipated to grow 28 percent within the same timeframe. Regional growth projections indicate that the area surrounding the proposed Project will experience significant growth within the next 20-30 years.

The majority of the projects included in the cumulative scenario are infrastructure projects involving a limited permanent employee base. No current projects are planned in the vicinity of the proposed Project that would support population increase. The Moabi Regional Park Improvements (6A) involve infrastructure improvements that would enhance the overall population's experience within the regional park; however no full-time residential structures would be built. The Pirate Cove Resort (6B) would involve 667 RV sites and/or cabin sites. These additions would not support year-round residential units and would not generate the need for new housing. The Topock Marina Improvements (8A) would involve construction of a restaurant and hotel. The Southwest Gas Pipeline project (10A), which is completed, involved replacement of existing pipeline infrastructure in the Project vicinity. Similarly, the project would support temporary recreational users and not provide year-round residential units, thereby not inducing

substantial population growth. For these reasons, the combined effects to population and housing within the geographic scope would not be considered cumulatively significant.

The effects of the proposed Project, in combination with other cumulative projects in the geographic scope, would not contribute incrementally to population- or housing-related issues. The proposed Project does not involve displacement of existing housing or people. Soil sampling activities are anticipated to last up to 12 months (9 month active field investigation) with a potential extension of up to three months for 25 percent contingency samples. Subsequent activities to support the Soil CMS/FS, resulting in a minimal number of employees, could potentially occur during construction of the Groundwater Remediation Project (1C)-would be undertaken after the completion of the soil sampling activities in 2016 and are anticipated to last from 13 to 27 months, depending on need for each activity and ability for each activity to be implemented concurrently. The Project would require a minimal number of temporary employees (up to 26) over the lifetime of the Project. Some of these workers would only be at the Project Site for activities lasting 2-3 months. The limited duration of the Project and the low number of temporary employees would not result in population growth, the displacement of housing or people, or the need for new housing. Therefore, this impact is not cumulatively significant and the proposed Project could not cause or contribute to cumulative effects related to population and housing issues (less than significant).

6.5.14 Public Services

The geographic scope for cumulative impacts to public services is the larger region in which the Project is located and services are provided, which is San Bernardino County, California.

Public services in the vicinity of the Project Site and surrounding areas are provided by local agencies. Fire protection is provided by the San Bernardino County Fire Department on a contract basis to the City of Needles which operates as the City of Needles Fire Department. The Needles Fire Department serves the Project Site. Police protection is provided by the San Bernardino County Sheriff's Department. The Needles Unified School District serves approximately 6,000 square miles in eastern San Bernardino County. Moabi Regional Park, the Colorado River, and the National Wildlife Refuge provide recreational opportunities near the Project Site. The majority of the projects included in this cumulative scenario are infrastructure projects involving a limited permanent employee base. None of the projects are commercial or residential projects that would require increased public services to the area. For these reasons, the combined effects to public services within the geographic scope would not be considered cumulatively significant.

The effects of the proposed Project, in combination with other cumulative projects in the geographic scope, would not contribute incrementally to impacts to public services. As described in Section 5.3.8 the proposed Project would not result in significant impacts to public services. Soil sampling activities are anticipated to last up to 12 months (9 month active field investigation) with a potential extension of up to three months for 25 percent contingency samples. Subsequent activities to support the Soil CMS/FS <u>could occur during construction of the Groundwater</u> <u>Remediation Project (1C); however this would result in very few employees to the area would be undertaken after the completion of the soil sampling activities in 2016 and are anticipated to last</u>

from 13 to 27 months, depending on need for each activity and ability for each activity to be implemented concurrently. The Project would require a minimal number of temporary employees (up to 26) over the lifetime of the Project. Some of these workers would only be at the Project Site for activities lasting 2-3 months. The proposed Project does not include residential development and would not bring any new, full-time employees to the Project <u>Site area</u> that would require the expansion of public facilities. Because the Project would not create impacts with respect to new or physically altered fire protection, police protection, school, parks, or other public service facilities, it would not contribute to or combine with the impacts of other projects in the cumulative scenario to cause significant cumulative impacts related to these services. Therefore, this impact is not cumulatively significant and the proposed Project could not cause or contribute to cumulative effects related to public services (less than significant).

6.5.15 Recreation

The geographic scope for cumulative impacts to recreation is the larger region in which the Project is located where Project where employees are expected to originate from: San Bernardino County, California, which includes the city of Needles, California, and neighboring Mohave County, Arizona which includes the city of Lake Havasu City, Arizona.

The recreational opportunities in the vicinity of the Project Site include the Moabi Regional Park, The Pirates Cove Resort along the Colorado River, the Colorado River itself, and the National Wildlife Refuge. The majority of the projects included in this cumulative scenario are infrastructure projects involving a limited permanent employee base. No current projects are planned in the vicinity of the proposed Project that would increase population in such a way as to induce substantial deterioration of existing recreational facilities. The Moabi Regional Park Improvements (6A) involve infrastructure improvements that would enhance the overall population's use of the regional park; no degradation of the existing park would occur. The Pirate Cove Resort (6B) would involve 667 additional RV sites and/or cabin sites. These additions would provide for planned increase of recreational facilities offered; however the increase would not result in substantial physical deterioration of the site. The Topock Marina Improvements (8A) involves construction of a restaurant and hotel. Similarly, the project would not substantially increase the use of neighborhood and regional parks to the point of substantial degradation. For these reasons, the combined effects to recreation from the projects listed in Table 6-3 within the geographic scope would not be considered cumulatively significant.

The effects of the proposed Project, in combination with other cumulative projects in the geographic scope, would not contribute incrementally to impacts to recreation. As described in Section 5.3.9, the proposed Project would not generate additional residents to the area and would not increase the use of existing neighborhood and regional parks or other recreational facilities. The Project does not propose construction of any new recreational facilities. The proposed Project would not introduce facilities that would preclude existing recreational uses that occur on the Colorado River or the National Wildlife Refuge, which includes boating, wildlife observation and photography, education and interpretation, hunting, and fishing. Therefore, this impact is not cumulatively significant and the proposed Project could not cause or contribute to cumulative effects related to recreation (less than significant).

6.5.16 Transportation and Traffic

The geographic scope for cumulative impacts to transportation and traffic is Park Moabi Road, I-40, and the National Trails Highway. Because the Project does not pose a safety risk to nearby airports or alter traffic control patterns; does not involve elements that would create new hazards or hazardous roadways; does not create impacts with respect to new or physically altered police protection, school, medical, or other public service facilities; does not impact emergency access; and does not conflict with any adopted policies, plans, or programs supporting alternative transportation, it would not contribute to or combine with the impacts of other projects in the cumulative scenario to cause significant cumulative impacts related to these criteria.

Traffic conditions in the geographic scope are operating within an acceptable range. As discussed in Section 5.3.10, the Park Moabi Road segments north and south of I-40 are well below San Bernardino County's threshold of 7,000 ADT. The two Park Moabi Road/I-40 intersections under existing conditions (in Year 2014) are operating within the 0–10 seconds/vehicle range (Level of Service [LOS A]) during the A.M. and P.M. peak hours, and below the County threshold of 15 to 25 seconds (LOS C). The projects in this cumulative scenario are a mixture of infrastructure projects and recreational projects. The infrastructure projects, including the PG&E projects at the Station (1A through 1F), involve a substantial amount of truck trips to and from the Project Site. The majority of those projects are ongoing and contribute to the traffic baseline; however, the Groundwater Remediation Project (1C) anticipated to be constructed between <u>late</u> 2015 and 2017<u>8</u> will require daily truck trips throughout project duration as listed in Table 6-4 below.

TABLE 6-4 ESTIMATE OF DAILY TRIPS FOR GROUNDWATER REMEDIATION PROJECT (1C)				
Project Phase	Daily Trip Generation			
Construction	76			
O&M with 50% Construction	78			
O&M with 50% Decommissioning	116			
Decommissioning with Removal of Remedy	266			
Notes: This information is based on information from PG&E regarding results are based on the assumption that site workers make two daily tri	construction, operations and maintenance, and decommissioning. The ips occurring in the peak hour. Trips are presented as passenger-car-			

equivalent trips. Source: DTSC 2011.

The Pirate Cove Resort (6B) would involve 667 RV sites and/or cabin sites. Currently, up to 663 RV sites can be utilized on peak weekends. Construction would involve worker and truck trips; however operation of the recreational site would increase the vehicles that can be accommodated by the site by only 4 vehicles, and no additional operational impacts are anticipated (County of San Bernardino 2012). The Topock Marina Improvements (8A) involves construction of a restaurant and hotel. Construction and operational traffic are anticipated to increase as a result of this project. The Sterling Project (8B) would involve construction of solar generating facilities that would increase traffic in Mohave County, AZ. The Airport Business Park (9A) would

construct a light industrial business development park which would include construction and operational traffic increases in Lake Havasu City. It is assumed that workers for all projects in the cumulative scenario would drive one vehicle to and from work each day, and would arrive during the morning peak period (7 A.M. to 9 A.M.) and depart during the evening peak period (4:00 P.M. to 6:00 P.M.). Most workers would drive to the Project Site from nearby communities, including Needles, Laughlin, and Lake Havasu City. In addition, three transportation projects, the State Route 95 Realignment Project (5A), the Needles Public Improvement Project (6D), and the I-40 Connection Project (7A) would contribute to the cumulative traffic baseline during construction. Once operational, the State Route 95 Realignment Project would alleviate traffic in northwestern Arizona, and the I-40 Connection Project would alleviate traffic from the projects listed in Table 6-3 within the geographic scope would not be considered cumulatively significant.

The effects of the proposed Project, in combination with other cumulative projects in the geographic scope, would contribute incrementally to transportation and traffic impacts. Soil sampling field investigation activities would occur over approximately five months and would require a maximum of 1,540 trips. Bench scale tests would require approximately 40 worker trips for one month; geotechnical evaluations would require approximately 128 worker and equipment trips for two months; and plant or other biota sampling would require approximately 60 worker trips for 6 weeks. The pilot studies at the bottom of Bat Cave Wash would require approximately 482 trips over 8 months, and the pilot study in the Station would require approximately 354 trips over 8 months. The additional traffic generated as a result of the proposed Project would be shortterm, consistent with the length of Project activities, and intersections and roadway segments would continue to operate below County thresholds during Project activities. As a result, the Project would not add traffic to a roadway segment or intersection that would degrade the operation to an unacceptable level, or conflict with any applicable plan establishing measures of effectiveness of performance of the circulation system. Therefore, when considered in addition to the anticipated impacts of other projects in the cumulative scenario, the Project's incremental contribution to transportation and traffic impacts would not be cumulatively considerable (less than significant).

6.5.17 Utilities and Service Systems

The geographic scope for cumulative impacts to utilities and service systems are the local and regional utility service provider service areas in eastern San Bernardino County, California. The Project is not located in an incorporated city; no municipal laws or regulations related to utilities and service systems are applicable to the proposed Project. Therefore, it would not cause or contribute to significant cumulative impacts in these criteria.

The Project Site and vicinity are located within unincorporated San Bernardino County. Solid waste in the Project vicinity is managed by Allied Waste, a refuse handler in Bullhead City, Arizona. The nearest hazardous waste disposal sites are the Kettleman Hills Landfill in Kings County, California, and the Clean Harbors Buttonwillow Landfill in Buttonwillow, California. Water supply in the Project vicinity is provided by a combination of private and municipal groundwater wells. Public utilities serving the Needles area are managed by the Needles Public

Utility Authority, which oversees electricity and groundwater supply and the Needles Wastewater Department which oversees wastewater and sewer services. There is no municipal sewer system in the vicinity of the Project Site; the Moabi Regional Park's wastewater treatment facility, which is the largest facility near the Project Site in California, consists of a raw sewage lagoon treatment system. Wastewater at the Project Site is processed on-site at the existing IM-3 treatment facility, or trucked off-site when necessary. Electricity in unincorporated San Bernardino County is supplied by Southern California Edison.

The PG&E projects at the Station (1A through 1FH) would utilize any of the three landfills described above. Water would be supplied via existing entitlements specific to the Project Site, and wastewater would be treated using the IM-3 facility on-site. Electricity would be provided by the Needles Public Utility Authority (City of Needles) electrical distribution system <u>or selfgenerated by the Station</u>. The Moabi Regional Park Improvements (6A) and the Pirate Cove Resort (6B) would utilize the same solid waste disposal services and electricity provider. As stated above, the Moabi Regional Park includes its own wastewater treatment facility and water wells. The cumulative projects listed above would generally be served by individual water and wastewater treatment facilities that would not be affected by other cumulative projects; however solid waste disposal and electricity generation. For these reasons, the combined effects to utilities and service systems from the projects listed in Table 6-3 within the geographic scope would not be considered cumulatively significant.

The effects of the proposed Project, in combination with other cumulative projects in the geographic scope, would contribute incrementally to impacts to utilities and service systems. No new or enlarged entitlements would be needed as a result of the proposed Project, due to the existing allotment attributed to the Project Site. Up to 2,500 gallons of water (0.006 AFY) would be used for soil sampling and contingency sampling and up to an additional 1,200,000 gallons of water (approximately 3.61 AFY) would be used for pilot studies which when combined with up to 100 AFY of water used at the Station would not exceed contracted entitlements.

Nonhazardous incidental wastes from drilling activities, such as trash (e.g., gloves, disposable clothing, food waste) would typically be either hauled off the drill site at the end of the day or placed in dumpsters or roll-off bins that would be hauled off-site periodically by truck to an appropriately permitted municipal solid waste or recycling facility located within approximately 200 miles of the Project Site. The maximum projected waste stream for the Project is 20 cubic yards which would not exceed the available capacity of the Mohave Valley Landfill. Hazardous waste would be disposed of at either Kettleman Hills or Clean Harbors Buttonwillow landfill, both of which have 6,000,000 cubic yards and 9,000,000 remaining capacity (see Table 5-3). Solid waste generated from the proposed Project would not exceed the permitted capacity of relevant landfills.

It is expected that up to 2,500 gallons of wastewater would be generated from soil sampling and contingency sampling and up to an additional 1,200,000 gallons of wastewater would be generated from pilot studies. Wastewater generated from decontamination activities would likely

be processed on-site at the IM-3 treatment facility and re-injected into the aquifer, or trucked offsite for disposal if IM-3 treatment facility is off-line or decommissioned in accordance with the groundwater remedy implementation procedures. Based on disposal activities conducted to date at the Station, the off-site facility likely would be in the Phoenix or Los Angeles areas. Because this effluent is disposed of by the wastewater contractor and handled consistent with applicable requirements and regulations, it is assumed that it would not exceed applicable water treatment standards and does not exceed existing treatment capacity. Discharges associated with the proposed Project have been permitted by the Colorado River Basin Regional Water Quality Control Board under Waste Discharge Requirements. The Project would not generate effluent that would exceed applicable standards or capacity, nor would the proposed Project require the construction of new treatment facilities.

Therefore, when considered in addition to the anticipated impacts of other projects in the cumulative scenario, the Project's incremental contribution to impacts to utilities and public services would not be cumulatively considerable (less than significant).

CHAPTER 7 Alternatives to the Proposed Project

7.1 Introduction

The Soil RCRA Facility Investigation/Remedial Investigation (RFI/RI) Work Plan (Soil RFI/RI Work Plan or Soil Work Plan) (CH2M HILL 2013; Appendix A to this DEIR) sets out a comprehensive strategy for additional investigation of soil contamination proposed for the Pacific Gas and Electric Company (PG&E) Topock Compressor Station Soil Investigation Project (Project), and the additional actions needed to inform the future *Soil Corrective Measures Study/Feasibility Study* (Soil CMS/FS) process and eventual remedial action plan. The Project reflects the outcome of a multiyear collaboration among effort that involved the Department of Toxic Substances Control (DTSC), the U.S. Department of the Interior (DOI) and member Bureaus, PG&E, Native American Tribal representatives, and stakeholders to determine how best to move forward with the Project in the least impactful yet most feasible manner. The Project and analysis within this document reflect the independent judgment of DTSC and are not necessarily representative of a consensus between the various entities identified above.

The proposed Project has been described and analyzed in the previous chapters of this draft environmental impact report (DEIR) with an emphasis on potentially significant environmental impacts and recommended mitigation measures to reduce those impacts. This chapter's purpose is to describe and analyze a range of reasonable alternatives that could feasibly attain most of the objectives of the soil investigation Project while avoiding or substantially lessening one or more of the significant effects of the Project (California Environmental Quality Act [CEQA] Guidelines, Section 15126.6[a]).

7.2 Requirements for Alternatives Analysis

CEQA does not prescribe fixed rules governing the type of alternatives to a project that should be analyzed in an environmental impact report (EIR), and the nature of alternatives varies depending on the context of the project being analyzed. As expressed by the California Supreme Court: "CEQA establishes no categorical legal imperative as to the scope of alternatives to be analyzed in an EIR. Each case must be evaluated on its facts, which in turn must be reviewed in light of the statutory purpose" (*Citizens of Goleta Valley v. Board of Supervisors* (1990) 52 Cal.3d 553, 564).

Section 15126.6(a) of the CEQA Guidelines provides that:

[a]n EIR shall describe a range of reasonable alternatives to the project, or to the location of the project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project, and evaluate the comparative merits of the alternatives. An EIR need not consider every conceivable alternative to a project. Rather it must consider a reasonable range of potentially feasible alternatives that will foster informed decision making and public participation. An EIR is not required to consider alternatives which are infeasible. The lead agency is responsible for selecting a range of project alternatives for examination and must publicly disclose its reasoning for selecting those alternatives. There is no ironclad rule governing the nature or scope of the alternatives to be discussed other than the rule of reason.

Under these principles, an EIR needs to describe and evaluate only those alternatives necessary to permit a reasonable choice and "to foster meaningful public participation and informed decision making" (CEQA Guidelines Section 15126.6[f]). Consideration of alternatives focuses on those that can either eliminate significant adverse environmental impacts or substantially reduce them; alternatives considered in this context may include those that are more costly and those that could impede to some degree the attainment of the project objectives (CEQA Guidelines Section 15126.6[b]). CEQA does not require the alternatives to be evaluated at the same level of detail as the proposed project. Rather, the discussion of alternatives must include sufficient information about each alternative to allow "meaningful evaluation, analysis, and comparison with the proposed project" (CEQA Guidelines Section 15126.6[d]).

The range of alternatives required in an EIR is therefore governed by a "rule of reason" that requires an EIR to set forth only those alternatives necessary to permit a reasoned choice (CEQA Guidelines Section 15126.6 [f]). An EIR need not consider every conceivable alternative to a project. Alternatives may be eliminated from detailed consideration in the EIR if they fail to meet most of the basic project objectives, are not feasible, or do not avoid or substantially lessen any significant environmental effects (CEQA Guidelines Section 15126.6[c]). Moreover, under CEQA, a lead agency may structure its alternatives analysis around a reasonable definition of a fundamental underlying purpose, and need not study alternatives that cannot achieve that basic goal (*In re Bay-Delta Programmatic Environmental Impact Report Coordinated Proceedings* [2008] 43 Cal.4th 1143, 1165).

CEQA also requires that alternatives be feasible. Feasible is defined in CEQA as "capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, social, and technological factors" (PRC Section 21061.1). The CEQA Guidelines elaborate that factors that may be taken into account when addressing the feasibility of alternatives include site suitability, economic viability, availability of infrastructure, other plans or regulatory limitations, and jurisdictional boundaries and whether the proponent can reasonably acquire, control, or otherwise have access to the alternative site (CEQA Guidelines Section 15126.6[f]). Finally, alternatives should also avoid or substantially lessen one or more significant environmental impacts that would occur under the proposed project.

In addition to the requirements described above, CEQA requires evaluation of the "No Project Alternative," which analyzes the environmental effects that would occur if the project were not to proceed (CEQA Guidelines Section 15126.6[e]). The purpose of describing and analyzing the No Project Alternative is to allow the DTSC to compare the impacts of approving the proposed

project with the impacts of not approving the proposed project. Moreover, the EIR is required to identify the environmentally superior alternative. "If the environmentally superior alternative is the No Project Alternative, the EIR shall also identify an environmentally superior alternative among the other alternatives" (CEQA Guidelines Section 15126.6[e]).

7.3 Selection of Alternatives

In developing alternatives that meet the requirements of CEQA, the starting point is the proposed project's objectives.

As described in Chapter 3, the primary and fundamental objective of the soil investigation activities is to gather sufficient soil samples to be able to reliably characterize the nature and extent of soil and sediment contamination within the Project Site. If approved, soil and sediment would be analyzed for chemicals of potential concern (COPCs) previously identified in the Project Site (inside and outside the Station fence line) that resulted from historical Station practices, as informed by prior soil sampling, thereby enabling completion of the Final RFI/RI Report Volume 3 (Soil) and risk assessment as required by the 1996 Corrective Action Consent Agreement as soon as practicable and consistent with applicable state laws and regulations. Additional Project objectives include:

- Finalizing the evaluation of soil properties and contaminant distribution to support preparation of the future Soil CMS/FS, including gathering a sufficient level of information to identify a range of remedial alternatives;
- Assessing whether soil contaminant concentrations pose a threat to groundwater; and
- Assessing whether soil and sediment contamination have the potential to migrate off-site and, if so, gathering sufficient information to assess measures that may be required to prevent and minimize such migration to ensure protection of health, safety, and the environment.

The soil investigation activities do not predetermine remedial design options or alternatives. Rather, the data collected from implementation of the Project would be combined with the existing data sets to address the Data Quality Objectives (DQOs) outlined in the Soil Work Plan and inform DTSC if additional action or remediation is necessary for the identified investigation areas. The investigation of soil would also inform and enable, if necessary, the evaluation and selection of corrective measures in a future Soil CMS/FS.

7.4 Background

The soil investigation locations and the extent of soil testing have been determined through data collection and analyses that have been occurring over the past 30 years. Investigative and remedial activities in and around the Station began in the 1980s, when a Resource Conservation Recovery Act (RCRA) Facility Assessment (RFA) provided the initial research of the Station history and operations as well as the identified Solid Waste Management Units (SWMUs) and Areas of Concern (AOCs) that would require soil investigations (Kearney 1987). Subsequent investigations increased the number of SWMUs and AOCs to their current numbers and added

Undesignated Areas (UAs), the perimeter area, and the storm drain system. Once identified, an evaluation of each area (SWMU, AOC, UA, or other) was conducted to identify the specific chemicals in soil attributed to Station activities and to delineate the extent of those detected chemicals. In many areas, data gaps have been identified, indicating insufficient data to adequately evaluate the nature and extent of contamination. The proposed Project would continue and complete filling these existing data gaps.

A draft Soil Work Plan was first published in May 2011 (CH2M HILL 2011). The work proposed in the May 2011 document was further refined after comments were received from interested and responsible agencies and other stakeholders, including Native American Tribal representatives. PG&E and DTSC worked together to minimize, to the extent possible, the effects of the proposed soil investigation activities on sensitive resources, particularly within the Topock Traditional Cultural Property (TCP). As explained in Section 4.4, "Cultural Resources," the Topock area and adjacent lands along the Colorado River are the ancestral home of a number of Native American Tribes. Land (including landforms, soil, and clay), water, plants, animals, archaeological manifestations, and the viewshed associated with the Topock TCP, and beyond, are considered by some Native American Tribes to constitute a landscape of significant cultural importance. The area is "embodied with sacred esoteric cultural and traditional values" (HDCR 2010).

Prior to the publication of the draft Soil Work Plan and as part of the soil data gap evaluation process, DTSC held multiple coordination meetings and site walks with Native American representatives and stakeholders in an effort to coordinate on what would be included in the planned soil investigation activities. These efforts (dates and specifics) are documented in the January 2013 Soil Work Plan (CH2M HILL 2013), Appendix A Part A Data Gaps Investigation Program, Section 1.0 Introduction. Prior to and since the publication of the initial draft Soil Work Plan (CH2M HILL 2011), DTSC and PG&E worked with agency and Tribal stakeholders to minimize the footprint and impact of the proposed soil investigation activities. Examples of how PG&E, under the direction of DTSC, was able to refine the design of the investigation and limit the amount of ground disturbance or other intrusion include:

- Approximately 50 sample locations were removed by DTSC/ DOI from the sampling program as a result of the input provided by the Interested Tribes, as detailed further in the Soil Work Plan, Section 1.0 Introduction of Appendix A Part A Data Gaps Investigation Program (CH2M HILL 2013);
- The number of sample locations were minimized by eliminating potentially redundant sample locations, combining and optimizing data from different investigation areas (multi-purpose sample locations), and making assumptions about potential physical barriers that may confine contaminant extent;
- The lesser intrusive X-ray fluorescence (XRF) method was used to reduce and optimize soil sample locations;
- Soil repatriation procedures were developed to assist in the proper handling and potential reuse of displaced soil resulting from the investigation activities.

• A phased approach employing XRF and surface geophysics was used prior to making decisions on drilling and trenching.

The details for these examples are provided in Appendix I of the Soil Work Plan (CH2M HILL 2013).

To assist with focusing the analysis of alternatives, **Table 7-1** summarizes the soil investigation Project's significant impacts (either potentially significant impacts that have been reduced to a level of less than significance with mitigation implementation, or impacts that remain significant and unavoidable even with implementation of mitigation), which have been identified in Sections 4.1 through 4.7 of this DEIR. Table 7-1 also includes impacts resulting from the proposed Project that are cumulatively considerable, which have been identified in Chapter 6.

TABLE 7-1 SUMMARY OF SIGNIFICANT EFFECTS OF THE PROPOSED PROJECT							
Impacts	Significant and Unavoidable	Less than Significant with Mitigation					
Direct and Indirect Impact	Direct and Indirect Impacts						
Biological Resources							
Impact BR-1: Implementation of the proposed Project could result in disturbance and/or removal of riparian vegetation, wetlands and other waters of the United States under U.S. Army Corps of Engineers and California Department of Fish and Wildlife jurisdiction along the Colorado River; specifically within Bat Cave Wash and East Ravine.		Х					
Impact BR-4: While the proposed Project could result in the temporary loss of foraging habitat for these species, the loss of foraging habitat would not substantially affect any special-status birds due to the abundance of foraging habitat in the vicinity of the Project Site. Implementation of the proposed Project could affect the active nests of special-status birds. In addition, visual or noise disturbance of active nests could result in nest abandonment and loss of sensitive bird species.		Х					
Impact BR-5: Implementation of the proposed Project could affect desert tortoises, either directly or through habitat modifications.		Х					
Impact BR-6: Implementation of the proposed Project could affect ring-tailed cat, either directly or through habitat modifications.		Х					
Impact BR-7: Implementation of the proposed Project may result in human disturbance that can alter habitat use and activity patterns of Nelson's bighorn sheep which are known to occur at the Project Site.		X					
Impact BR-8: Effects to special-status bat species (which includes the pallid bat, the Townsend's big-eared bat, and any other special-status bat species that may be found at the site) would be considered significant if project activities would result in the loss or abandonment of a maternity roost or nursery site, which could result in significant effects to the overall population of the species. The Project could result in disturbance to maternity roosts on the Project Site given the presence of potential maternity roosting habitat. Implementation of the proposed Project could also result in the disturbance of day roosts and other harassment, injury or mortality of individual Townsend's big-eared bats. A single male Townsend's big-eared bat was observed on the Project Site during the spring 2015 focused bat surveys and this species is considered present. Additionally, due to the presence of suitable habitat on-site, this species has the potential to use the Project Site for foraging and roosting. Due to their heightened sensitivity as a Candidate species under CESA (as of April 2013), any harassment, injury or mortality of individual Townsend's big- eared bats would be considered significant.		X					

TABLE 7-1 SUMMARY OF SIGNIFICANT EFFECTS OF THE PROPOSED PROJECT						
Impacts	Significant and Unavoidable	Less than Significant with Mitigation				
Impact BR-911: Implementation of the proposed Project would not substantially interfere with the movement of any native resident or migratory fish or wildlife species, or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites. However, the Project could impede the use of bat maternity roosts, which are considered a type of native wildlife nursery site. Modifying, destroying or impeding the use of active maternity roosts of special-status bat species could result in substantial interference to the species reproduction and distribution.		X				
Cultural Resources						
Impact CR-1: Implementation of the proposed Project could cause a substantial adverse change in the significance of the historical resource identified as the Topock TCP as a result of the physical destruction and alteration to the characteristics of the property that convey its historical significance and qualify it for inclusion in the CRHR as defined in CEQA Guidelines Section 15064.5. The substantial adverse change to the TCP and its contributing elements would result from ground-disturbing activity that would directly and adversely affect the soil, landforms, and <u>unknown</u> prehistoric archaeological resources; pruning or alteration of the natural growth of native and traditional plant species; <u>plant and biota sampling</u> ; and the presence of equipment, workers, and vehicles, which would introduce activities that are inconsistent with the natural setting associated with the Topock TCP. These activities would also materially affect the cultural values ascribed to the TCP by Tribes.	Х					
Impact CR-2: <u>Impacts to Kknown historical resources would be less than</u> <u>significant avoided through Project design</u> . Known historical resources would be avoided through Project design. No known unique archaeological resources have been identified within the Project Site. Implementation of the proposed Project could, however, cause a substantial adverse change in the significance of unknown historical resources (other than the TCP) and unknown unique archaeological resources pursuant to CEQA Guidelines Section 15064.5 resulting from ground-disturbing activity.	Х					
IMPACT CR-3: Implementation of the proposed Project could directly or indirectly destroy a unique paleontological resource or site or unique geologic feature as a result of ground disturbing activity.		х				
IMPACT CR-4: Implementation of the proposed Project could, through the process of ground-disturbing activities, disturb human remains, including those interred outside of formal cemeteries.	Х					
Noise						
Impact NOI-1: Ambient noise levels at existing noise-sensitive land uses may experience increased noise levels due to soil investigation activities for short term periods. The proposed Project would exceed applicable County standards for a place of worship and could result in a temporary substantial increase in ambient noise levels.	Х					
Cumulative Impacts						
Cultural Resources						
Impact CUM-1: Implementation of the proposed Project, in combination with other projects in the geographic scope, could cause a substantial adverse change in the significance of the historical resource identified as the Topock Traditional Cultural Property (TCP); cause a substantial adverse change in the significance of unknown historical resources; and disturb human remains, including those interred outside of formal cemeteries.	Х					

7.5 Alternatives Considered and Rejected

After completing a review of the proposed Project, as presented in Chapter 4 of this DEIR, along with all of the potentially significant adverse environmental impacts, DTSC identified a reasonable range of alternatives as defined by CEQA. A total of four alternatives, in addition to the No Project Alternative, were initially considered for evaluation. Of these, it was determined that two of the Project alternatives would: (1) meet most of the Project's objectives, (2) be considered potentially feasible, and (3) would avoid or substantially reduce one or more potentially significant impacts of the proposed Project. The alternatives considered but rejected from further consideration are described below. As required by CEQA, the No Project Alternative is described and analyzed in Section 7.6.3.

7.5.1 Tribal Land Use Alternative

On May 3, 2013, the Fort Mojave Indian Tribe (FMIT) submitted a letter that presented a proposed Tribal Land Use Alternative for evaluation in this Soil Investigation Project DEIR. This submittal included an April 11, 2013, Memorandum from Michael J. Sullivan, Consultant to the FMIT (Sullivan 2013). Prior to the submittal of this letter, the Tribal Land Use Alternative was extensively discussed between the FMIT, DTSC, DOI, and PG&E. The discussions occurred at various meetings during the preparation of the Soil Work Plan and also as part of the risk assessment work plan addendum. In addition, numerous letters were exchanged between the FMIT, DTSC, and DOI regarding consideration of the Tribal Land Use Alternative (DTSC 2013a).

The Tribal Land Use Alternative would limit future land uses within the Project Site to Tribal-use activities and, as explained below, apply Tribal cleanup standards. As described in the April 11, 2013, Sullivan memorandum, the allowed Tribal-use activities included in the Tribal Land Use Alternative would be limited to the following:

- *Tribal Group Activities*. Several times during the year Tribal members would potentially meet at the site for group prayer and reflection. The duration would be short and formal group activities would be expected to last approximately 1 hour.
- *Tribal Educational Activities*. As part of Tribal education programs, students and young people, school or other youth classes, or adults may come to the area to learn about its importance and spiritual significance. These visits would last up to 2 hours and could occur several times during a student's education (elementary school through high school).
- *Tribal Member Individual Visits*. As part of the practice of their religion and cultural, to pay homage to the area and honor their ancestors, individual Tribal members would potentially go to the area for quiet time and reflection.

Under the proposed Tribal Land Use Alternative, the above activities would be the extent of activities that would be anticipated, or allowed, within the Project Site. The harvest or use of plants, digging into the land for removal of any soil or rocks, and the capture or use of animal or animal products are not included in the Tribal Land Use Alternative, consistent with the April 11,

2013, memorandum (Sullivan 2013). No development, recreation, or other permanent or temporary land uses or activities would occur within the Project Site or the surrounding properties.

Under this alternative, future residential use, recreational use, or other uses that would involve people visiting, living, or working at the site, other than the Tribal activities listed above, would not occur. The memorandum (Sullivan 2013) does not address how land use restrictions would be implemented or enforced.

The FMIT proposed the Tribal Land Use Alternative as an alternative that would reduce the amount of sampling and the associated ground-disturbing activities associated with the soil investigation, including drilling or excavation of soil borings (FMIT 2013). This is because the Tribal Land Use Alternative would provide higher screening levels to trigger the need for remediation activities for certain chemicals.

For example, the current screening level determined by DTSC for hexavalent chromium is 0.83 milligrams per kilogram (mg/kg), whereas the Tribal Land Use cleanup level is proposed to be over a thousand times higher at 1,396 mg/kg. The current screening level for benzo(a)pyrene is 38 micrograms per kilogram (ug/kg), whereas the Tribal Land Use cleanup level is proposed to be over three thousand times higher at 138,375 ug/kg. The overall purpose of the Tribal Land Use Alternative is to reduce the disturbance to lands that have Tribal value. If higher screening levels for certain chemicals were accepted by DTSC, the number of samples that would need to be collected during the soil investigation, as well as the areas to be remediated under future cleanup activities, could be reduced. The April 11, 2013, memorandum provides a detailed proposal of particular cleanup standards for chemicals of concern and estimates that soil investigation activities could be reduced by as much as approximately 90% under this alternative (Sullivan 2013).

This alternative was rejected for the following reasons.

Project Objectives. As noted above, the primary and fundamental objective of the soil investigation Project is to gather sufficient soil samples to be able to reliably characterize the nature and extent of soil and sediment contamination within the Project Site, and to inform the Soil CMS/FS and final remedy. Soil and sediments will be analyzed for COPCs previously identified in the Project Site (inside and outside the Station fence line) that resulted from historical Station practices, thereby enabling completion of the Final RFI/RI Report Volume 3 (Soil) and risk assessment as soon as practicable and consistent with applicable state and federal law.

To achieve the Project objectives, DTSC needs to compile the data gathered through this Project, and evaluate what, if any, cleanup should occur. It is DTSC's policy to always include a eCharacterization of the Site to levels of residential/unrestricted land use as is the point of departure for evaluation of risk and potential alternatives at the Site as described in DTSC Management Memo #EO-02-002MM (DTSC 2002). The process for the characterization is based on state and federal laws which require that the investigation and cleanup of hazardous substance sites protect human health and the environment, that this protection be maintained over time, and

that selected remedies minimize untreated waste and residual risks (DTSC 2002). The California Health and Safety Code, Sections 25356, 25200.10, and 25187, gives DTSC the authority to require response actions or corrective measures for hazardous substances and hazardous waste releases. One basis for DTSC's goal of remediation derives from the National Oil and Hazardous Substances Pollution Contingency Plan's (40 CFR 300) program goal [300.430(a)(1)(i)] and remedy alternatives evaluation criteria [300.430(e)(7) and 300.430(e)(9)(iii)] (DTSC 2002).

In conjunction with the DTSC Project objectives, DOI must also follow the NCP National Contingency Plan and the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), which leads to a conservative approach reflecting an alternative that includes residential cleanup standards. In 2007, DOI finalized the land use assumptions for conducting CERCLA Baseline Human Health Risk Assessment and Development of Remedial Alternatives for the Topock Site (DOI 2007). As described in the 2007 document, and reiterated in several subsequent documents by DOI and DTSC, the National Oil and Hazardous Substance Pollution Contingency Plan and CERCLA guidance emphasize the importance of factoring reasonable but conservative future land use assumptions into both the baseline risk assessment and the development of remedial alternatives. Based on this framework and the analysis contained within these documents, the DOI has stipulated that, for the purposes of the ongoing soil investigation and the baseline risk assessment, the future land use assumptions for the USFWS-managed wildlife refuge be recreational and Tribal uses. Subsequent correspondence to the Tribal Leaders also clarified and summarized this directive (DOI 2011). In a letter to Mr. Dr. Sullivan, consultant to the FMIT, on March 26, 2014 (DOI 2014), DOI restates the importance of factoring reasonable but conservative future land use assumptions into both the baseline risk assessment and the development of remedial alternatives.

The Tribal Land Use Alternative approach is based on the assumption that people visiting the site would be exposed to contamination less frequently and for shorter durations than under recreational, residential, or commercial uses. Although not directly addressed by the Tribal Land Use Alternative memorandum (Sullivan 2013), to enforce the limited nature and reduced activities proposed by the Tribal Land Use Alternative, land use restrictions would need to be put in place to prevent people from being exposed. Considering land use restrictions at the investigation stage of a remediation planning effort would be premature.

If DTSC were to pursue a reduced intensity soil investigation alternative that was consistent with the Tribal Land Use Alternative, it would not provide the information necessary to fully evaluate the Soil CMS/FS and potential final remedial activities that may be required to meet residential/ unrestricted land use standards which could hypothetically occur in the future at the Project Site. Having incomplete data, as would occur under the proposed Tribal Land Use Alternative, would affect the accuracy and effectiveness of future remediation planning efforts including, but not limited to, reducing the accuracy of the soil risk assessment, jeopardizing the effectiveness of remedial design and alternatives (should they be warranted), and appropriately reviewing the alternatives. This would also result in PG&E's failure to fully characterize the nature and extent of soil and sediment contamination within the Project Site. Understanding the nature and extent of contamination is the primary objective of the Project. Without this full characterization, the Final RFI/RI Report Volume 3 (Soil) and risk assessment would not be able to fully anticipate the risks for all potential future users of the land, which would impede the ability for agencies to determine the best risk management for the use of the land, including evaluation of specific technologies in the Soil CMS/FS and potential cleanup of the site. Furthermore, DTSC would not be able to determine if the soil contamination at the Project Site poses a threat to groundwater or whether off-site migration of contamination is occurring. For these reasons, the Tribal Land Use Alternative would not meet the objectives of the proposed Project.

Feasibility. DTSC must give priority for compliance with applicable pollution control laws, standards, and implementation plans. DTSC's requirement to first consider residential/ unrestricted land use for the Project Site is based on state and federal laws that require that remediation protect human health and the environment, and that this protection be maintained over time. Selected remedies (cleanup actions) must minimize untreated waste and residual risks. As such, DTSC's evaluation of cleanup options includes unrestricted use as part of the analysis of options for all remediation projects (DTSC 2002).

At this juncture, DTSC is gathering information that will lead to the investigation of cleanup options. It is DTSC's policy to require adequate data collection, including health and environmental risks assessments, and remedial or corrective action components into remedial action alternatives that will protect human health and the environment (DTSC 2002). In order to have complete data to evaluate possible cleanup scenarios, DTSC must conduct sufficient investigation and data collection to know the extent and nature of contamination.

With respect to the FMIT's request to use the Tribal Land Use Alternative screening levels for the soil investigation rather than the varying use of residential, background, and human-or-ecological based levels, using this approach would go directly against DTSC policy of evaluating remedies that protect human health and the environment (DTSC 2002), which includes ecological receptors and groundwater resources. Site-specific background and human health- and ecological-comparison values are used to assist in characterizing the nature and extent of contamination for the purpose of evaluating the risk to human and ecological receptors, as well as the risk to the underlying beneficial use of groundwater. Using only Tribal Land Use screening levels would be too limited for this Project since it would not take into account potential risk to ecological receptors or the risk to groundwater.

For these reasons, this alternative was determined to not be feasible as it would not be consistent with DTSC's policy to consider residential/unrestricted land use for the Project Site during the investigation stage of the remedial process, which is based on state and federal laws.

7.5.2 Alternative Incorporating Cleanup Actions

In response to the notice of preparation (NOP) for the Project DEIR (Appendix B), a commenter presented an alternative that would go beyond the proposed investigative and data collection activities, and would also incorporate cleanup actions into the proposed Project. Under this alternative, toxins and chemicals of concern would be removed when found, thereby expediting

the cleanup process. It was presented that this alternative would speed up the cleanup process, thereby reducing the overall cleanup schedule and minimizing the cumulative impacts of what are currently contemplated as two separate projects.

This alternative was rejected for the following reasons.

Project Objectives. Although this alternative would meet most of the Project objectives of characterizing the nature and extent of soil and sediment contamination within the Project Site, it would not include a full screening and evaluation of remedial action technologies for the Project Site. Furthermore, a presumptive remedial technology may or may not be appropriate for all areas of contamination depending on the location, type, and intensity of contamination yet to be discovered. The objective of this project is to analyze soil and sediment for COPCs previously identified at the Project Site (inside and outside the Station fence line) that resulted from historical Station practices, thereby enabling completion of the Final RFI/RI Report Volume 3 (Soil) and risk assessment as soon as practicable and consistent with applicable state law. The proposed alternative would expand the soil investigation Project to include cleanup actions but bypass a necessary step to evaluate the appropriate cleanup options. Under the proposed alternative, the objectives of the Project would be met, but the Project would be expanded to serve the additional purpose of cleanup, which is beyond the current scope of the Project.

Feasibility. To appropriately identify a final soil remedy, the extent and nature of what was released at the site and the extent of the problem from the release(s) need to be determined first. The proposed Project includes the actions necessary to identify the extent and nature of soil and sediment contamination at the site. Although it may seem more expedient if the contamination is removed as it is identified during the investigation, DTSC has committed to minimizing the intrusion and removing as little of the soil as possible while protecting the people and the environment that may come into contact with the material. Using the currently proposed process where cleanup occurs only after full investigation and data analysis, DTSC may find that there are technologies that can be used to remove the contaminants without actually removing the soil from the site (e.g., through on-site treatment). However, DTSC can only make that determination after it has gathered enough information to fully understand the nature and extent of the contamination at the Project Site. If remediation were to take place concurrently with the investigation, or in-lieu of the investigation, the overall environmental effects would likely be more severe as the most conservative cleanup actions would need to be selected in order to ensure public health and safety.

This suggested alternative would also likely require significantly more disruption to the soil and lands of Tribal significance that comprise the Project Site. Significant soil removal and export would be necessary to provide the most conservative (residential/unrestricted land use) cleanup standards rather than gather a sufficient level of information for the state and federal lead agencies to select the most appropriate final remedy based on the information gathered.

For these reasons, this alternative was determined to not be feasible as it would expand the primary goal of the Project (to successfully gather enough information to fully inform the future

Soil CMS/FS and final remedy) and it would also likely require more disruption of the soil and lands of Tribal significance.

7.6 Alternatives to the Proposed Project

The following sections provide a comparative analysis of three alternatives to the proposed Project: (1) Reduction of Project Footprint Alternative (Avoid Mouth of Bat Cave Wash), (2) Reduction of Project Noise Alternative, and (3) No Project Alternative.

7.6.1 Reduction of Project Footprint Alternative (Avoid Mouth of Bat Cave Wash)

Under the Reduction of Project Footprint Alternative, all Project activities at the mouth of Bat Cave Wash would be avoided. As part of the proposed Project, the following parameters are planned to be measured in the heavily vegetated area at the mouth of Bat Cave Wash near the Colorado River: Cr(VI), Title 22 metals, pH, dioxins/furans, pesticides, polychlorinated biphenyls (PCBs), and polycyclic aromatic hydrocarbons (PAHs). Proposed Project activities in the mouth of Bat Cave Wash include 23 sampling locations in a grid pattern spaced generally about 100 feet apart (i.e., AOC 1, mouth of Bat Cave Wash, as shown in Figure 3-3). Also, additional boreholes could be added in this area under the contingency allocation of up to 25 percent additional sampling locations (which are included in this DEIR evaluation). Rotosonic drilling would be the primary technique used in this location; in addition, a limited number of samples may be collected by hoe or excavator and hand tools, with an estimated disturbance diameter of less than 50 feet in any one direction from the sample location, and some trimming of the tamarisk for access.

The tamarisk thickets at the mouth of Bat Cave Wash provide one of the primary riparian habitat areas within the Project Site (the other area is located at the confluence of East Ravine and the Colorado River, just south of I-40). This area provides foraging and/or nesting habitat for a variety of special-status bird species, including crissal thrasher, Sonoran yellow warbler, Arizona Bell's vireo, California black rail, Yuma clapper rail, western least bittern, and yellow-breasted chat. Soil investigation activities in the mouth of Bat Cave Wash would result in temporary and short-term disturbances, including temporary loss of foraging and nesting habitat as a result of vegetation trimming, pruning, or clearing; drilling; road improvements; and use of staging areas.

Of particular note, Yuma clapper rail (Federally Endangered) are known to inhabit portions of the Topock Marsh (approximately 3.5 miles north of the Project Site) and the Topock Gorge (approximately 4 miles southeast of the Project Site), and annual surveys conducted by USFWS biologists have indicated that both the Topock Marsh and the Topock Gorge support relatively steady populations. Yuma clapper rail have not been documented on the California side of the River; however, suitable habitat for the species occurs within the emergent freshwater marsh scattered along the western shore of the Colorado River in Arizona and adjacent to the Project Site at the mouth of Bat Cave Wash. Thus, it is expected that Yuma clapper rail may occupy the habitat at the mouth of Bat Cave Wash in subsequent breeding seasons. Soil sampling activities and access road improvements could occur within 300 feet of marsh habitat near the mouth of Bat Cave Wash. Because of the distance to suitable Yuma clapper rail habitat, the proposed Project could cause direct and indirect effects, such as temporary habitat loss, disturbance of active nests (usually built at edge of water), and increasing predation and nest failure.

7.6.1.1 Ability to Meet Most of the Project Objectives

As noted above, the primary and fundamental objective of the soil investigation Project is to gather sufficient information to be able to reliably characterize the nature and extent of soil and sediment contamination within the Project Site. Soil and sediment will be analyzed for COPCs previously identified in the Project Site (inside and outside the Station fence line) that resulted from historical Station practices, thereby enabling completion of the Final RFI/RI Report Volume 3 (Soil) and risk assessment as soon as practicable and consistent with applicable state law. Seven soil borehole and surface sediment samples have been previously collected just within or at the margins of the heavily vegetated area at the mouth of Bat Cave Wash. The following sample results exceeded the indicated background or action levels:

- Total Chromium: Detected at 71 mg/kg in one surface soil sample, which is above the background level of 39.8 mg/kg and the Consensus-Based Threshold Effect concentration of 43.4 mg/kg
- Cr(VI): Detected in two surface soil samples at 2.63 and 1.3 mg/kg, which are above Background Level of 0.83 mg/kg
- Arsenic: Detected in one surface soil sample at 13 mg/kg, which is above the Background Level of 11 mg/kg
- Copper: Detected in one surface soil sample at 22 mg/kg, which is above the Ecological Comparison Value of 20.6 mg/kg
- Lead: Detected in three surface or shallow soil samples at 23, 18, and 9.4 mg/kg, which are above the Background Level of 8.39 mg/kg
- Molybdenum: Detected in one shallow soil sample at 1.5 mg/kg, which is above the Background Level of 1.37 mg/kg
- Zinc: Detected in two surface soil samples at 81 and 61 mg/kg, which are above the Background Level of 58 mg/kg

The existing analytical results indicate that surface soil and sediment in and adjacent to the heavily vegetated area is known to have chemical concentrations above background and action levels. No samples have been collected from within the inner portions of the area. If DTSC were to eliminate sampling in this area, the information necessary to fully evaluate the nature and extent of contamination known to be present in this area would not be collected and the fundamental objectives of the Project would not be met. Having incomplete data would affect the accuracy and effectiveness of future remediation planning efforts, including but not limited to reducing the accuracy of the soil risk assessment and jeopardizing the effective design of remedial alternatives in this area. Characterization of the nature and extent of soil and sediment contamination at the mouth of Bat Cave Wash is fundamental to understanding whether

migrate off-site. The alternative of avoidance of soil and sediment sampling at the mouth of Bat Cave Wash would not meet all of the Project objectives.

In addition, without the proposed sampling at the mouth of Bat Cave Wash, the accuracy and effectiveness of future remediation efforts would be affected. Without such data, DTSC can only make assumptions about the risk of soil contaminant concentrations at the mouth of Bat Cave Wash. Moreover, if remediation is deemed necessary at this location, DTSC would be required to verify the assumptions made during the risk assessment as part of the site remediation phase of the effort. The Reduction of Project Footprint Alternative could therefore delay the remediation process if additional sampling is deemed necessary to verify the assumptions of the risk assessment at the mouth of Bat Cave Wash.

7.6.1.2 Comparison of Environmental Impacts

Aesthetics

The Reduction of Project Footprint Alternative would result in reduced visual effects in comparison to the Project by removing investigation activities in the densely vegetated area of Bat Cave Wash, which would also avoid the trimming, pruning, or clearing of vegetation that would be necessary to accomplish this sampling. However, aesthetic effects associated with the Project were determined to be less than significant, so this alternative would not serve the purpose of avoiding or substantially lessening a significant adverse environmental effect of the Project.

Air Quality

The Reduction of Project Footprint Alternative would result in reduced annual air pollutant emissions in comparison to the proposed Project by removing 23 drilling sample activities. The maximum daily emissions would likely be similar to the Project. However, daily and annual air pollutant emissions associated with the Project were determined to be less than significant, so this alternative would not serve the purpose of avoiding or substantially lessening a significant adverse environmental effect of the Project.

Biological Resources

The Reduction of Project Footprint Alternative would result in reduced overall Project-related impacts to biological resources when compared to the proposed Project, including reduced impacts to riparian vegetation, jurisdictional resources, and nesting birds, and foraging habitat for bats.

Under the proposed Project design for soil sampling, approximately 7.6 acres of Salt Cedar habitat exist within the Project Site; approximately 50 percent (3.8 acres) of which are near the mouth of Bat Cave Wash. Up to 3 acres of salt cedar habitat are anticipated to be temporarily impacted under the current Project design; 50 percent (up to 1.5 acres) of which will be impacted within Bat Cave Wash through trimming, pruning, or clearing of vegetation for access and sampling/drilling. Under the Reduction of Project Footprint Alternative, the Project footprint would be reduced to omit this area in Bat Cave Wash, thereby reducing the impacts to riparian habitat (i.e., salt cedar habitat) by approximately 50 percent. Because this area also falls under the jurisdiction of U.S. Army Corps of Engineers, California Department of Fish and Wildlife, and

Regional Water Quality Control Board, implementation of the Reduction of Project Footprint Alternative would also result in an overall reduction (up to 50 percent or more) of impacts to jurisdictional resources.

Bat Cave Wash provides one of two primary foraging and/or nesting areas for both common and special-status bird species within the Project Site (the second area is located at the confluence of East Ravine and the Colorado River, just south of I-40) (GANDA 2009, 2012). While ample foraging and nesting habitat for avian species occurs throughout all habitats within the Project Site, both Bat Cave Wash and East Ravine support a specialized habitat for those species adapted to live in and move through riparian vegetation. Under the current Project design, the soil investigation activities at the mouth of Bat Cave Wash would result in temporary and short-term disturbances, including temporary loss of foraging and nesting habitat as a result of vegetation trimming, pruning, or clearing; drilling; road improvements; and use of staging areas. As described in the Soil Work Plan, sampling at East Ravine is anticipated to be relatively noninvasive and of low impact; therefore, it can be concluded that nearly 100 percent of the potential impacts to nesting riparian birds would occur within Bat Cave Wash. Under the Reduction of Project Footprint Alternative, the Project footprint would be reduced to omit this area in Bat Cave Wash, thereby reducing the impacts to nesting riparian birds by nearly 100 percent.

Suitable foraging habitat for bats is located within desert microphyll woodland communities that exist within Bat Cave Wash. Project-related disturbances in the bottom of Bat Cave Wash (vegetation trimming, pruning, removing) could result in the temporary loss of foraging habitat for bats. However, Project-related disturbance that results in the temporary loss of foraging habitat is not considered a significant impact to special-status bat species because the action will not result in injury or mortality to bats. Additionally, due to the amount of available foraging habitat in offsite areas surrounding the Project Site there are adequate alternative foraging opportunities for bat species known to occur in the area. Under the Reduction of Project Footprint Alternative, the Project footprint would be reduced to omit this area in Bat Cave Wash, thereby reducing the impacts to foraging habitat for bats.

Under the Reduction of Project Footprint Alternative, impacts to the aforementioned biological resources would be avoided within Bat Cave Wash, significantly reducing the overall impact of the Project. Impacts may still occur to nesting birds, <u>foraging habitat for bats</u>, jurisdictional resources, and riparian vegetation in other parts of the Project Site; however, these impacts could be reduced to less than significant levels through implementing fairly standard avoidance mitigation measures, consistent with those presented in this DEIR.

Cultural Resources

CEQA impacts and significance determinations for cultural resources would be the same as previously described for the proposed Project. This alternative would somewhat reduce the extent of impacts within the Topock TCP by reducing the Project footprint. However, the Reduction of Project Footprint Alternative would nevertheless result in a significant and unavoidable impact within the Topock TCP. Significant impacts to soil and vegetation, which are contributors to the TCP, would still occur, as described for the proposed Project in Section 4.4, "Cultural

Resources." The temporary presence of equipment, workers, and vehicles during soil sample collection would introduce activities that are inconsistent with the natural setting associated with the Topock TCP and are considered significant disturbances that would materially affect the cultural values ascribed to the TCP by several Interested Tribes.

Implementation of the Reduction of Project Footprint Alternative would not avoid or substantially lessen the impact to known historical resources relative to the proposed Project. As with the proposed Project, 16 known historical resources would be avoided through Project design and an additional 3 historical resources (CA-SBR-2910H, -6693H, and the Topock Station) would not be significantly impacted.

Potential impacts to unknown historical and unique archaeological resources from the Reduction of Project Footprint Alternative would be slightly reduced relative to the Project because the Project footprint would be reduced; however, because there remains a potential to impact unknown historical or unique archaeological resources, this incremental difference would not change the conclusion that the impacts of the Reduction of Project Footprint Alternative to unknown historical and unique archaeological resources would be significant and unavoidable.

Potential impacts to paleontological resources from the Reduction of Project Footprint Alternative would be slightly reduced relative to the Project because the Project footprint would be reduced; however, this incremental difference would not be substantial and impact avoidance mitigation measures would still be required, as recommended in this DEIR.

Potential impacts to human remains from the Reduction of Project Footprint Alternative would be slightly reduced relative to the Project because the Project footprint would be reduced; however, because there remains a potential to impact as yet unknown human remains, this incremental difference would not change the conclusion that the impacts of the Reduction of Project Footprint Alternative to human remains would be significant and unavoidable.

Hazards and Hazardous Materials

The Reduction of Project Footprint Alternative would eliminate the assessment of soil contamination and soil migration in the heavily vegetated area at the mouth of Bat Cave Wash. If the Reduction of Project Footprint were implemented, potentially harmful soil containing COPCs in this area could continue to pose a threat to the protection of health, safety, and the environment; thus, this alternative could result in a potentially significant impact to the environment from hazards and hazardous materials that would not be realized under the proposed Project. Alternatively, DTSC could pursue cleanup of soil in this area based on the limited data they currently have. That future remediation project may, therefore, be more extreme than necessary if it were based on conservative assumptions about the extent of the contamination.

Hydrology and Water Quality

The proposed Project would not exceed water quality standards or increase drainage or erosion potential because the Project Description and Soil Work Plan includes Standard Operating Procedures (SOPs) and Best Management Practices (BMPs) to prevent these types of impacts from occurring. In addition, the Project would require the adherence to the substantive provisions of applicable local, state, and federal laws. The Reduction in Project Footprint Alternative would include similar SOPs and BMPs as the proposed Project. Therefore, the Reduction in Project Footprint Alternative would result in impacts to hydrology and water quality similar to the proposed Project.

Noise

The Reduction of Project Footprint Alternative would result in reduced duration of noise exposure in comparison to the proposed Project by removing 23 sample locations at the mouth of Bat Cave Wash. Although this approach would result in some reduction in the duration of substantial noise, it would not reduce the significant unavoidable noise impact to less than significant because noise levels from other investigative site locations would continue to result in a substantial increase over existing baseline average ambient noise levels.

7.6.2 Reduction of Project Noise Alternative

The noise analysis for the proposed Project assumed the concurrent operation of three pieces of equipment at each site (i.e., hydrovac truck, rotosonic drill rig, backhoe) during the field implementation phase of the Project (which is expected to occur over a 5-month duration). While this is a conservative analysis because there will likely be times where fewer pieces of equipment will be used, it is also possible that there will be some times where all three pieces of equipment are being used concurrently at a particular site. Under the Reduction of Project Noise Alternative, a Project restriction would be put in place such that only one piece of equipment would be allowed to be in operation at any given time. Putting this restriction in place would likely result in an extension of the Project schedule by one month and an extension in the associated noise impacts. However, the potential for upper noise levels at any given point in time may be reduced.

7.6.2.1 Ability to Meet Most of the Project Objectives

As previously noted, the primary and fundamental objective of the soil investigation Project is to gather sufficient information to be able to reliably characterize the nature and extent of soil and sediment contamination within the Project Site. Soil and sediment will be analyzed for COPCs previously identified for in the Project Site (inside and outside the Station fence line) that resulted from historical Station practices, thereby enabling completion of the Final RFI/RI Report Volume 3 (Soil) and risk assessment as soon as practicable and consistent with applicable state law. This primary Project objective could potentially be attained with the Reduction of Project Noise Alternative.

7.6.2.2 Comparison of Environmental Impacts

Aesthetics

Under the Reduction of Project Noise Alternative, the same types of equipment and activities would occur within the Project Site. However, the timing, location, and duration of those activities might change slightly as only one piece of noise-generating equipment could be in operation at any given time. However, this would not substantially affect the visual character of the Project activities. It could, though, result in a visual effect that is longer in duration when compared to the proposed Project. Thus, the Reduction of Noise Alternative would result in slightly worse impacts to aesthetics in comparison to the proposed Project as a result of the longer investigation duration. These impacts would still be considered less than significant.

Air Quality

The Reduction of Project Noise Alternative would result in reduced daily air pollutant emissions in comparison to the proposed Project, although the duration of the field implementation phase would be extended and thus would likely result in similar annual emissions to the Project. However, daily and annual air pollutant emissions associated with the proposed Project were already determined to be less than significant, so this alternative would not serve the purpose of avoiding or substantially lessening a significant adverse environmental effect of the Project in regard to air quality.

Biological Resources

The Reduction of Project Noise Alternative may result in an overall reduction in the magnitude of noise impacts on nesting birds compared to the proposed Project; however, because the noise generated from one drilling rig would be louder than the natural ambient noise levels at the Project Site, disturbance to nesting birds could still occur. The USFWS uses a noise level of 60 A-weighted decibels (dBA) as an unofficial but widely accepted noise threshold for nest disturbance. If located in close proximity, one piece of equipment operating could result in noise levels greater than 60 dBA to nests. Further, the duration of the field implementation phase would be extended under this alternative, thus extending the duration of potential impacts to nesting birds. The Reduction of Noise Alternative would result in similar impacts to biological resources in comparison to the Project.

Cultural Resources

CEQA impacts and determinations of their significance for cultural resources for the Reduction of Project Noise Alternative would be the same as described for the proposed Project. Reduction of Project noise through restrictions on the number of pieces of equipment operating simultaneously would not reduce the level of significant disturbance to the natural setting associated with the Topock TCP. Project activities, regardless of the number of pieces of equipment working at one time, are inconsistent with the TCP's natural setting. In addition, the Reduction of Project Noise Alternative could result in a prolonged duration of the Project, which would increase the duration of significant impacts within the Topock TCP.

CEQA impacts and determinations of their significance for known and unknown historical and unique archaeological resources, paleontological resources, and human remains would be the same as described for the proposed action.

Hazards and Hazardous Materials

The Reduction of Project Noise Alternative would not change the number of boreholes drilled or the number of samples collected. Although the duration of sampling time would be drawn out, there would be no change in the number of samples collected or the overall volume of waste generated. Therefore, the Reduction of Project Noise Alternative would result in similar impacts to hazards and hazardous materials as the proposed Project.

Hydrology and Water Quality

The Reduction of Project Noise Alternative would not change the total number of boreholes drilled or the number of samples collected. Although the duration of sampling time would be drawn out, there would be no change in the total number of samples collected or the overall area of disturbance and erosion potential. Therefore, the Reduction of Project Noise Alternative would result in similar impacts to hydrology and water quality as the proposed Project.

Noise

The Reduction of Project Noise Alternative would result in lessened intensity of noise exposure at nearby sensitive receptors during the field implementation phase of the Project by limiting operation to just one piece of equipment at any time. Thus, the additive noise from multiple pieces of equipment operating concurrently would be eliminated. **Table 7-2** shows the resultant noise levels from the operation of one Vac-Truck (the loudest of potential equipment) under the Reduction of Project Noise Alternative in comparison to the potential noise of three pieces of equipment operating under the proposed Project. These noise levels are based on the Federal Highway Administration (FHWA) Roadway Construction Noise Model and incorporate the relative distance to each sensitive receptor.

As shown in Table 7-2, use of only one Vac-Truck would reduce overall noise by about 1 dBA versus the proposed Project. This noise reduction would be minimal since the Vac-Truck is the primary contributor to the combined noise. If either the drill rig truck or backhoe were only used, however, the resultant noise levels would be about 8 to 11 dBA, less than the overall combined noise of the Project. Even though noise under this alternative would be less than the maximum potential noise from the Project, the duration of the noise exposure would be longer due to the longer time required to conduct the investigation. Although this approach would result in some reduction in noise, it would not reduce the significant unavoidable impact to a less than significant level.

TABLE 7-2 REDUCTION OF PROJECT NOISE ALTERNATIVE COMPARISON						
		Reduction of Project Noise Alternative				
Sensitive Land Use	Project Noise Levels	Vac-Truck	Drill Rig Truck	Backhoe		
Topock Maze Locus A	72	71	62	64		
Topock Maze Locus B	78	77	68	70		
Topock Maze Locus C	78	77	68	70		
Residence (685 ft away)	60	59	49	51		
Residence (1,090 ft away)	56	55	45	47		
Residence (2,450 ft away)	49	48	38	40		
SOURCE: FHWA 2006.						

7.6.3 No Project Alternative

Pursuant to Section 15126.6(e)(2) of the CEQA Guidelines, the No Project Alternative shall:

...discuss the existing conditions at the time the notice of preparation is published, or if no notice of preparation is published, at the time the environmental analysis is commenced, as well as what would be reasonably expected to occur in the foreseeable future if the project were not approved, based on current plans and consistent with available infrastructure and community services.

The existing condition at the time the NOP for the proposed Project was published included ongoing operation of the Station and related PG&E facilities at the Project Site. Reasonably foreseeable future activities are associated with the ongoing operation of the Station as well as groundwater remediation at the Project Site, which will be implemented independently of the proposed Project. A final environmental impact report (FEIR) for the Topock Compressor Station Groundwater Remediation Project was approved on January 31, 2011, and includes implementation of the preferred Alternative E—In Situ Treatment with Freshwater Flushing. DTSC also approved the Topock Compressor Station Groundwater Remediation Project Environmental Impact Report Addendum No. 1 for Alternative Freshwater Source Evaluation Activities (DTSC 2013b), which when implemented, will involve additional freshwater sources for consideration in the groundwater remediation project. The preferred groundwater remedy will involve installation of approximately 110 injection and extraction wells, reductant holding tanks and storage facilities, approximately 60 monitoring wells, pipelines and other utilities, and roadways, for in situ treatment of contaminated groundwater. At the time of the NOP, PG&E also installed and tested wells at the East Ravine and Station locations. These activities were conducted to support the groundwater remedy design. In addition, PG&E has been operating and maintaining the Interim Measure (IM)-3 extraction and treatment system at the Project Site since July 2005.

For the No Project Alternative, soil investigation activities identified under the proposed Project would not be implemented. Soil data needed to support the decisions identified in the DQOs for investigation areas located outside the Station fence line and investigation areas located within the Station fence line would not be collected. Under the No Project Alternative, the risk assessment and Soil CMS/FS would not be conducted; therefore, no remedy for soil investigation would be identified. <u>Potentially Ccontaminated soil wcould continue to exist at undocumented and unexplored capacities and may continue to pose a potential risk to human health and the environment if the No Project Alternative were implemented.</u>

7.6.3.1 Ability to Meet Most of the Project Objectives

The No Project Alternative would not meet any of the Project objectives. Under the No Project Alternative, soil contamination and soil contamination migration would not be assessed and would continue into the future. The presence of potentially contaminated soil would continue to exist unmitigated. Pursuant to the RCRA, PG&E must investigate all possible hazardous material releases from past waste management activities and mitigate the contamination if necessary; the No Project Alternative would impede the requirement of the law. Therefore, the No Project Alternative would not meet the primary and fundamental project objective.

7.6.3.2 Comparison of Environmental Impacts

Aesthetics

The No Project Alternative would not impact scenic vistas or the visual character of the Project Site. However, because the visual effects of the proposed Project would be minimal and temporal, the aesthetics impacts of the proposed Project were determined to be less than significant. Under the No Project Alternative, the Project Site would not be affected by soil investigation activities that may alter the religious and cultural experience of Native American Tribes on-site. In addition, increases in light and glare would not occur under the No Project Alternative. Thus, the No Project Alternative would result in less aesthetic effects when compared to the proposed Project; however, these differences would not be substantial and would not avoid or substantially lessen the aesthetic impact of the Project. Furthermore, no impacts to aesthetics would result from leaving contaminated soil in place at the Project Site.

Air Quality

The No Project Alternative would not increase air quality impacts from existing conditions. The proposed Project could cause potential air quality impacts, but due to the short term nature of the proposed Project, mitigation measures would not be required to reduce impacts to a less than significant level. Thus, although the No Project Alternative would result in fewer air quality impacts when compared to the proposed Project, these differences would not be substantial and would not avoid or substantially lessen a significant air quality impact of the Project. If the No Project Alternative were implemented, however, potentially harmful soil may become airborne and increase the risk to human health and the environment as a result of weather conditions or other human related disturbances which could (legally or illegally) occur in the Project Site.

Biological Resources

The No Project Alternative would not alter the existing site condition. No soil investigation activities would be conducted, including establishment of physical access to sampling locations, establishment of staging areas, and drilling or excavating soil borings. Therefore, the No Project Alternative would result in fewer biological resource impacts than the proposed Project. Notably, moreover, if the No Project Alternative were implemented, potentially harmful soil at the Project Site would continue to pose a risk to biological resources, including plant and animal species that depend on uncontaminated desert habitat for survival.

Cultural Resources

The No Project Alternative would not involve activities that could impact significant Historical (including archaeological) Resources as defined by CEQA Title 14, Chapter 3, Article 5, Section 15064.5. The proposed Project would result in significant and unavoidable adverse change to historical resources, including the Topock TCP. With the No Project Alternative, contaminated soil would remain in place and would not be characterized, evaluated, or remediated. The No Project Alternative would not alter existing conditions and would therefore not cause impacts to cultural resources. Because the No Project Alternative would cause no adverse change to historical resources, human remains, or paleontological resources, it would not cause or

contribute to any cumulative effect on cultural resources. Therefore, the No Project Alternative would avoid the substantial adverse effects that would occur under the Project.

Hazards and Hazardous Materials

The No Project Alternative would not involve the assessment of soil contamination and soil migration on the Project Site. There would be no disruption of soil and no related potential for disruption or exposure of hazardous materials. If the No Project Alternative were implemented, however, potentially harmful soil that remains on the Project Site would remain unmitigated, which could pose a threat to the protection of health, safety, and the environment as the contaminant may spread as a result of weather conditions or other human-related disturbances which could (legally or illegally) occur in the Project Site.

Hydrology and Water Quality

The No Project Alternative would not involve the assessment of soil contamination and soil migration and related ground-disturbing activities on the Project Site. There would be no disruption of soil or water use and therefore no resulting impacts to hydrology or water quality. If the No Project Alternative were implemented, however, potentially harmful contaminants in soil may be transported to groundwater or surface water and increase the risk to water quality in particular as a result of weather conditions or other human-related disturbances which could (legally or illegally) occur in the Project Site.

Noise

The No Project Alternative would not involve activities that would generate noise. The proposed Project would result in significant and unavoidable impacts to ambient noise levels after the implementation of mitigation. As a result, the No Project Alternative would not alter the existing condition and would have fewer noise impacts than the proposed Project. No impacts to noise would result from leaving contaminated soil in place at the Project Site.

7.7 Environmentally Superior Alternative

CEQA requires that an EIR identify the environmentally superior alternative of a project other than the No Project Alternative (*CEQA Guidelines* Section 15126.6(e)(2). As discussed in Section 7.6.1, the Reduction of Project Footprint Alterative would result in minor reductions in environmental effects when compared to the proposed Project and the Reduction of Project Noise Alternative, and is therefore considered the Environmentally Superior Alternative. The Reduction of Project Footprint Alternative would avoid significant impacts to biological resources within the mouth of Bat Cave Wash, thereby reducing the overall biological impacts of the Project. While the Reduction of Project Noise Alternative would reduce noise-related impacts to biological resources within the mouth of Bat Cave Wash, it would not avoid them as with the Reduction of Project Footprint Alternative. In addition, under the Reduction of Project Footprint Alternative potential impacts to cultural resources would be slightly reduced relative to the proposed Project and Reduction of Project Noise Alternative because the Project footprint would be reduced. However, because there remains a potential to impact historical or unique archaeological

resources under the Reduction of Project Footprint Alternative, this incremental difference would not avoid the significant and unavoidable impacts identified for the proposed Project.

It is important to note that the Reduction of Project Footprint Alternative would not achieve the fundamental Project objectives. The primary and fundamental objective of the soil investigation Project is to gather sufficient information to be able to reliably characterize the nature and extent of soil and sediment contamination within the Project Site. Characterization of the nature and extent of soil and sediment contamination at the mouth of Bat Cave Wash is fundamental to understanding whether contaminant concentrations in that area pose a threat to groundwater and have the potential to migrate off-site. Without that characterization, the Reduction of Project Footprint Alternative would not meet the objectives of the Project. Furthermore, failure to consistently evaluate the nature and extent of contamination at the mouth of Bat Cave Wash would not adequately characterize the existing risks to human health or the environment, which may lead to significant degradation or irreversible adverse impacts.

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CHAPTER 10 Glossary

Acre-Foot: An acre-foot is defined as the volume of water that would cover 1 acre to a depth of 1 foot. It is equivalent to about 325,851 gallons.

Aquifer: A water-bearing layer of rock or sediment that is capable of yielding useable amounts of water.

Area of Concern (AOC): Areas in and around a project site that either have shown high levels of contamination or may have been contaminated from past operations, making them focus areas of the site investigation.

Bench Scale Test: Test performed to evaluate the potential for soil washing, soil stabilization/fixation, or solidification to be effective and economical remediation techniques that yield quantitative performance data and rough design and cost information.

Berms: A curb, ledge, wall, or mound made of various materials, used to prevent the spread of contaminants.

Best Management Practice (BMP): A term to describe a type of water pollution control.

Bureau of Land Management (BLM): An agency within the Department of the Interior that administers and manages the subsurface mineral estate underlying federal, state, and private lands.

California Department of Toxic Substances Control (DTSC): A department within the California Environmental Protection Agency in charge of regulating hazardous waste from generation to final disposal and overseeing the investigation and cleanup of hazardous waste sites.

California Environmental Quality Act (CEQA): Enacted in 1970 to provide long-term environmental protection, this law requires that governmental decision makers and public agencies study the environmental effects of proposed activities and that significant adverse effects be avoided or reduced where feasible.

Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA): A law enacted by the U.S. Congress on December 11, 1980, as amended on October 17, 1986, to provide broad federal authority to respond directly to releases or threatened releases of hazardous substances that may endanger public health or the environment.

Chemicals of Potential Concern (COPC): Chemical elements or compounds (e.g., chromium) that may or may not be present at a project area.

Chromium: The additive of concentrations from all forms of chromium, mainly comprising hexavalent and trivalent forms. The California drinking water standard for total chromium is 50 micrograms per liter (or parts per billion), while the Federal standard is 100 micrograms per liter.

Compressor Station: A compressor station is a facility which helps the transportation process of natural gas from one location to another

Corrective Action Process: A process designed to evaluate the nature and extent of a release of a hazardous substance and implement appropriate measures to protect public health and the environment.

Corrective Measure Study/Feasibility Study (CMS/FS): A study conducted by the facility owner/operator to identify and evaluate alternative cleanup options to address contamination at a project site.

Cumulative Impacts: Total effect on a natural resource, ecosystem, or human community due to past, present, and future activities or actions of federal, non-federal, public, and private entities.

Data Quality Objectives: Systematic planning approach used to prepare plans for environmental data collection activities.

Department of the Interior (DOI): The United States department charged with conservation and development of natural resources. The U.S. Department of the Interior uses sound science to manage and sustain America's lands, water, wildlife, and energy resources, honors our nation's responsibilities to tribal nations, and advocates for America's island communities.

Electromagnetic Induction: The production of an electromotive force across a conductor when it is exposed to a varying magnetic field.

Environmental Impact Report (EIR): A report designed to examine the potential environmental impacts of proposed activities as required by the California Environmental Quality Act.

Extraction Wells: Wells that are used primarily to remove contaminated groundwater from the ground. Water level measurements and water samples can also be collected from extraction wells.

Final Remedy: The final cleanup action proposed for dealing with contaminants at a site.

Geotechnical Evaluation: Study involving geotechnical borings to collect information to evaluate strength characteristics of subsurface soil and slope stability.

Groundwater: Water beneath the earth's surface that flows through soil and rock openings.

Groundwater Plume: A body of contaminated groundwater. The movement of a groundwater plume can be influenced by such factors as local groundwater flow patterns, the character of the aquifer in which the groundwater is contained, and the density of contaminants.

Growth Inducement: The effects of a proposed project could have on economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment.

Hexavalent Chromium: One of several chemical forms of the element chromium. Chromium is a metal naturally found in rocks, soil and the tissue of plants and animals. Hexavalent chromium is used in industrial products and processes and is a known carcinogen when inhaled (i.e., through breathing) and ingested in unsafe concentrations.

Hollow Stem Auger: Drilling rig used extensively for soil sampling and ground water monitoring in industrial and commercial installations.

Hydrovacs: A non-destructive method of excavation that uses pressurized water and a powerful vacuum to quickly and safely expose buried pipes and cables.

Independent Utility: A project is considered to have independent utility if it would be constructed absent the construction of other projects in the project area.

Infiltration Galleries: An infiltration gallery is a structure including perforated conduits in gravel to expedite transfer of water to or from a soil aquifer.

In Situ Treatment: Technology that treats contaminants in place within the soil or in groundwater. It typically involves injection of a material such as air, gases, chemical or biological reagents, or solid material (e.g., molasses or lactose) to chemically alter the contaminant or to encourage bacteria in the soil to aid in the treatment.

Interim Measures: Cleanup actions taken to protect public health and the environment while long-term solutions are being developed.

Interested Tribes: The five Native American Tribes that actively participate in the Topock project are the Chemehuevi Indian Tribe, Cocopah Indian Tribe, Colorado River Indian Tribes, Fort Mojave Indian Tribe, and the Hualapai Indian Tribe.

Investigation Derived Waste: Waste that is generated in the process of investigating or examining an actual or potentially contaminated site. It includes solid and hazardous waste, media (including groundwater, surface water, soils, and sediments) and debris that contain listed hazardous wastes or exhibit a characteristic of a hazardous waste. It includes media and debris that is not hazardous but is contaminated with hazardous constituents.

Lead Agency: A public agency with the principal responsibility for ordering and overseeing site investigation and cleanup.

Mitigation Measures: Actions designed to minimize significant impacts from project-related activities.

Mitigation Monitoring & Reporting Program (MMRP): A MRMP is a document or a matrix identifying mitigation actions to be taken and the outcomes of mitigation measure implementation when significant environmental impacts have been identified.

Molybdenum: A metallic element widely distributed in the Earth's crust and is used in industrial products and processes.

Monitoring Wells: Specially constructed wells used exclusively for testing water quality.

Nitrate: Nitrates and nitrites are nitrogen-oxygen chemical compounds that combine with various organic and inorganic compounds. Once taken into the body, nitrates are converted into nitrites.

Notice of Determination (NOD): A formal notice filed with the California State Clearinghouse after the final EIR has been certified and a project approved.

Notice of Preparation (NOP): A CEQA document to be sent by the lead agency to notify the public, responsible agencies, trustee agencies, and involved federal agencies that the EIR is being prepared.

Parts per Billion (ppb): A unit of measure used to describe levels or concentrations of contamination. (a measure of concentration equaling 0.0000001%). Most drinking water standards are expressed in ppb concentrations.

Percolation: The downward flow or filtering of water or other liquids through subsurface rock or soil layers, usually continuing to groundwater.

Percolation Bed: An unlined bed with built-up sides constructed of soil that collects discharged wastewater and allows it to soak into the ground and/or evaporate.

Pilot Study: A mini version of a full-scale study used to assess the feasibility of a particular cleanup technology in a specific location.

Plume: A body of contaminated groundwater. The movement of a plume in groundwater can be influenced by such factors as local groundwater flow patterns, the character of the aquifer in which the groundwater is contained, and the density of contaminants.

Pore Water: Water located within pore spaces between the grains of sediment beneath the bottom of the river.

Precipitate: A substance separated from a solution or suspension by chemical or physical change usually as an insoluble amorphous or crystalline solid.

Regional Water Quality Control Board (RWQCB): A California agency that maintains water quality standards for a specific geographic jurisdiction and enforces state water quality laws.

Remediation: Cleanup or other methods used to remove or contain a toxic spill or hazardous materials from a site.

Resource Conservation and Recovery Act (RCRA): A federal law that establishes a regulatory system to track and provide safe procedures for management of hazardous wastes from the time of generation to final disposal.

Resource Conservation Recovery Act (RCRA) Facility Investigation/Remedial Investigation (**RFI/RI**): An investigation that occurs in the corrective action process following a Facility Assessment under RCRA and/or a Site Inspection under Comprehensive Environmental Response, Compensation, and Liability Act. It is an in-depth study designed to gather data needed to determine the nature and extent of contamination at a site.

Reverse Osmosis: A treatment process used in water and wastewater systems by adding pressure to force water through a semi-permeable membrane. Reverse osmosis removes most drinking water contaminants, including salts.

Risk Assessment: Qualitative and quantitative evaluation of the risk posed to human health and/or the environment by the actual or potential presence and/or use of specific pollutants.

Scoping: A process to gain input from agencies and the public regarding the content of the EIR.

Scoping Meeting: Meeting to gain input from the public, the local community, government agencies, and tribal government agencies regarding selection of the final remedy.

Sediments: The soil, sand, and minerals at the bottom of surface waters, such as streams, lakes, and rivers. The term may also refer to solids that settle out of any liquid.

Selenium: A nonmetallic element abundant in the Earth's crust that is used in industrial products and processes.

Soil Corrective Measures Study/Feasibility Study (Soil CMS/FS): A study that occurs in the corrective action process following a soil investigation study. It is an in-depth study designed to gather data needed to determine the nature and extent of soil contamination at site.

Solid Waste Management Unit (SWMU): Any discernable unit at which solid wastes have been placed at any time, irrespective of whether the unit was intended for the management of solid or hazardous waste. Such units include any area at a facility at which solid wastes have been routinely and systematically released (Title 40 of the Code of Federal Regulations, Section 265.501).

Statement of Basis: A document that describes the basis for DTSC's proposed remedy and cleanup standards.

Subsurface Containment Barrier: Barriers used to contain or control the flow of contaminated groundwater or subsurface liquids. They are constructed by digging a trench around a contaminated area and filling the trench with a material that tends not to allow water to pass through it.

Surface Water: All water naturally open to the atmosphere such as rivers, lakes, reservoirs, ponds, streams, impoundments, seas, and estuaries.

Surfactent: A substance that tends to reduce the surface tension of a liquid in which it is dissolved.

Total Chromium: The additive of concentrations from all forms of chromium, mainly comprising hexavalent and trivalent forms. The California drinking water standard for total chromium is 50 micrograms per liter (or parts per billion), while the federal standard is 100 micrograms per liter.

Trivalent Chromium: A form of chromium and a metal naturally found in rocks, soil, and the tissue of plants and animals. Trivalent chromium is considered an essential nutrient and is relatively harmless. It does not dissolve in groundwater and tends to bind to soil; thus it does not travel readily in the environment.

Work Plan: A document that presents key elements of the approach for a proposed action. These may include health and safety, waste management, data collection, construction activities and methods, the schedule, approvals, a reporting plan and reporting schedule.

X-ray Fluorescence (XRF): A consequence of changes that take place within an atom. XRF is a proven technique for elemental analysis in samples consisting of liquids, solids, or loose powders.

CHAPTER 11 Mitigation Monitoring and Reporting Program

The California Department of Toxic Substances Control (DTSC) prepared an environmental impact report (EIR) in accordance with the requirements of the California Environmental Quality Act (CEQA) (Public Resources Code, Section 21000 et seq.) and the CEQA Guidelines (California Code of Regulations, Title 14, Section 15000 et seq.). The EIR evaluates the potential significant environmental impacts associated with the Pacific Gas and Electric (PG&E) Topock Compressor Station Soil Investigation Project (Project). The Project involves soil investigation activities at the PG&E Topock Compressor Station (Station).

The EIR identifies significant adverse environmental impacts associated with implementation of the Project. For most significant impacts, the EIR identifies mitigation measures capable of avoiding or reducing the impacts to less-than-significant levels.

CEQA requires a public agency to adopt a reporting or monitoring program at the time of approval to ensure that all adopted mitigation measures are properly implemented (Public Resources Code, Section 21081.6; CEQA Guidelines, Section 15097).

This mitigation monitoring and reporting program (MMRP) is to be used by DTSC to ensure that, if the Project is approved, the mitigation measures identified in the EIR will be implemented and that implementation is timely and documented. The MMRP is presented in tabular format (Table 11-1). The table columns contain the following information:

Mitigation Number: Lists the mitigation measures by number, as designated in the EIR, and by issue area.

Mitigation Measure: Provides the text of the mitigation measures (by issue area), as provided in the EIR, each of which has been adopted and incorporated into the Project.

Timing/Schedule: Lists the trigger and/or time frame in which the mitigation is expected to take place.

Implementation Responsibility: Identifies the entity responsible for implementation of the mitigation measure.

Completion of Implementation: DTSC is ultimately responsible for ensuring these mitigation measures are implemented. The "Action" column is to be used by the DTSC to describe the action(s) taken to complete implementation. The "Date Completed" column is to be used to indicate when implementation of the mitigation measure has been completed. The DTSC, at their

discretion, may delegate implementation responsibility or portions thereof to qualified consultants or contractors. However, DTSC still maintains overall responsibility for implementation of mitigation adopted or incorporated into the project.

 TABLE 11-1

 MITIGATION MONITORING AND REPORTING PROGRAM FOR THE TOPOCK COMPRESSOR STATION SOIL INVESTIGATION PROJECT

					Completion of Implementation	
Mitigation Number	Mi	tigation Measure	Timing/ Schedule	Implementation Responsibility	Action	Date Completed
BR-1	No	net-loss of Wetland, Riparian or other Sensitive Habitat Function or Value.	During Project PG&E shall be	PG&E shall be		
	The Project shall be implemented to avoid effects to the habitat values and functions of identified jurisdictional areas (i.e., floodplain and riparian areas, wetlands, and waters of the United States and habitats designated by CDFW as sensitive, including ephemeral washes and western honey mesquite bosque). Before undertaking ground-disturbing activities within East Ravine and Bat Cave Wash, a qualified biologist shall coordinate with PG&E to ensure that the footprints of investigation activities, including drill pads, staging areas, and access routes, are designed to avoid disturbance to sensitive habitats. Where complete avoidance to sensitive habitat is not feasible DTSC shall be notified and Project activities shall be implemented to ensure no-net-loss of habitat value or function under the direction of a qualified biologist. The following avoidance measures shall be implemented when working in Bat Cave Wash and East Ravine:		planning and implementation/ prior to ground- disturbing activities within East Ravine and Bat Cave Wash	responsible for implementation of these measures. DTSC shall be responsible for ensuring compliance with input from responsible and trustee agencies.		
	a.	No plants or vegetation shall be completely removed – only pruning, trimming, clearing, or similar approaches which allow the natural regrowth of the plant will be allowed;				
	b.	Vegetation pruning, trimming, or clearing shall only occur to access investigation sites and clear around the sample areas where absolutely necessary;				
	C.	The only vegetation to be cut off at the base (cleared rather than pruned or trimmed) will be salt cedar at the mouth of Bat Cave Wash. The roots of the salt cedar at the mouth of Bat Cave Wash will be left in place where possible to allow for natural, rapid regrowth of vegetation;				
	d.	No more than 20 percent of the crown on all native trees, such as palo verde, shall be trimmed, and no main branches shall be trimmed. This is consistent with what is recommended by the International Society of Arboriculture (ISA 2011);				
	e.	Complete removal of vegetation in any work area shall be prohibited; and				
	f.	Project equipment and materials from work areas shall be completely removed and, if the area is not paved, it shall be raked/brushed to remove tire tracks.				
	"No net loss" shall be achieved through any combination of the following, in descending order of desirability: (1) avoidance; (2) where avoidance is not possible, minimization of impacts on the resource ($a - f$ above); or (3) 1:1 like kind habitat compensation, including use of a mitigation banking program that provides the opportunity to mitigate impacts to rare, threatened, and endangered species and /or the habitat which supports these species in wetland and riparian areas. A biological monitor shall be present for all vegetation trimming, pruning, and clearing to ensure the above measures are implemented and that vegetation is protected to the extent feasible.					

TABLE 11-1
MITIGATION MONITORING AND REPORTING PROGRAM FOR THE TOPOCK COMPRESSOR STATION SOIL INVESTIGATION PROJECT

				Completion of	
Mitigation			Implementation	Implei	Date
Number	Mitigation Measure	Timing/ Schedule	Responsibility	Action	Completed
BR-4	Disturbance of Special-Status Birds.	Before and during	PG&E shall be		
	The following measures shall be implemented to avoid impacts to active nests and nesting birds and to ensure compliance with the Migratory Bird Treaty Act and California Fish and Game Code:	more than 72 hours before construction	implementation of these measures. DTSC shall be responsible for ensuring compliance.		
	a. Vegetation trimming, pruning, or clearing and other activities shall be timed to avoid the nesting season for special-status bird species that may be present (March 15 through September 30) except as provided for in item b, below.	season			
	b. If vegetation removal or other Project activities are necessary in vegetated areas between March 15 and September 30, DTSC shall be notified and focused surveys for active nests of special-status birds (including Arizona Bell's vireo, California black rail, Yuma clapper rails and other species identified in Table 4.3-3) shall be conducted no more than 72 hours before such activities begin. A qualified biologist shall conduct pre-investigation surveys to identify active nests that could be affected. The appropriate area to be surveyed and the timing of the survey may vary depending on the activity and species that could be affected and shall be determined by the qualified biologist. For the Yuma clapper rail, the pre-investigation areas, in accordance with measures set forth in the Bird Avoidance and Minimization Plan (BIAMP) which was finalized on April 30, 2014 (CH2M HILL 2014).				
	c. The qualified biologist shall implement all of the avoidance and minimization measures that are outlined in the BIAMP (CH2M HILL 2014).				
	d. The qualified biologist shall consult the BIAMP (CH2M HILL 2014) for required nesting bird avoidance buffers and requirements for the on-site biological monitor. Buffers vary depending on the species of bird, so the BIAMP (CH2M HILL 2014) should be consulted once a nest is identified.				
BR-5	Disturbance of Desert Tortoise and Loss of Habitat.	Before and during	PG&E shall be		
	Consistent with the PBA and the USFWS letter concurring with the PBA, the following measures shall be implemented:	Project activities/ prior to ground- disturbing activities	responsible for the implementation of these measures. DTSC shall be responsible for ensuring compliance.		
	a. Before any ground-disturbing Project activities begin, a qualified desert tortoise biologist (i.e., an experienced tortoise expert whom USFWS would be confident in the evaluation and survey for the presence of the desert tortoise under the PBA) shall identify potential desert tortoise habitat in areas that could be affected by the Project activities. The qualified desert tortoise biologist shall conduct a pre-investigation desert tortoise clearance survey prior to the start of investigative activities. The qualified desert tortoise biologist shall also conduct monitoring on a periodic basis (1–2 days for a 2-week period) or as a result of a change in investigation boundaries or limits.				

 TABLE 11-1

 MITIGATION MONITORING AND REPORTING PROGRAM FOR THE TOPOCK COMPRESSOR STATION SOIL INVESTIGATION PROJECT

				Completion of	
Mitigation			Implementation	Impler	Data
Number	Mitigation Measure	Timing/ Schedule	Responsibility	Action	Completed
	 PG&E shall designate a field contact representative who will be responsible for proper execution of the mitigation measures. The field contact representative shall be trained by the qualified desert tortoise biologist and have authority to halt activities that are in violation of the mitigation measures/or pose a danger to listed species. The field contact representative will have a copy of the mitigation measures when work is being conducted on the Project Site. The field contact representative may be a project manager, PG&E representative, or qualified biologist. 	2			
	c. Prior to Project activities and immediately prior to the initiation of ground disturbance, a qualified desert tortoise biologist shall conduct worker awareness training for all PG&E employees and the contractors involved with the proposed Project.				
	d. The field contact representative will be on-site during all Project activities. The qualified desert tortoise biologist will examine work areas for desert tortoises and their sign (i.e., burrows, scat, tracks, remains, and pallets), ensuring 100 percent coverage of the area, and clear each area of activity prior to work initiation. Any desert tortoise burrows and pallets outside of, but near, the project footprint shall be flagged at that time so that they may be avoided during work activities. At conclusion of work activities, all flagging shall be removed. Should any live tortoises be found during the clearance survey, or if a tortoise moves into the work area, all work shall stop immediately and the animal shall be left to move out of the work area on its own accord. Tortoises shall not be handled. Encounters with live desert tortoises shall be reported to BLM Lake Havasu biologists. Information to be reported will include for each individual: the location (narrative, vegetation type, and maps) and date of observation; general conditions and health; any apparent injuries and state of healing; and diagnostic markings.				
	e. All workers shall be required to check under their equipment or vehicle before it is moved. If a desert tortoise is encountered under vehicles or equipment, the vehicle shall not be moved until the animal has voluntarily moved to another location or to a safe distance from the parked vehicle.				
BR-6	Disturbance of Ring-Tailed Cat and Loss of Habitat.	Before and during	PG&E shall be		
	The following measures shall be implemented:	Project activities	s responsible for the implementation of these measures. DTSC shall be responsible for ensuring compliance.		
	a. Pre-investigation surveys for ring-tailed cats will be conducted by a qualified biologist prior to the start of investigation activities. No activities that will result in disturbance to nests or ring-tailed cats will proceed prior to completion of the surveys. If no active nests are found, no further action is needed. If a ring-tailed cat nest is present, additional measures will be implemented as outlined below. The CDFW and DTSC will also be notified of any active nests within the proposed disturbance zones.				

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TABLE 11-1 MITIGATION MONITORING AND REPORTING PROGRAM FOR THE TOPOCK COMPRESSOR STATION SOIL INVESTIGATION PROJECT

				Completion of Implementation	
Mitigation Number	Mitigation Measure	Timing/ Schedule	Implementation Responsibility	Action	Date Completed
	b. If an active ring-tailed cat nest is found, the Project shall be redesigned to avoid the loss of the site occupied by the nest if feasible. If the Project cannot be redesigned to avoid the nest, the CDFW and DTSC will be contacted. If approved by the CDFW and DTSC, demolition of the nest site will commence outside of the breeding season (February 1 to August 30) when the nest is vacated. If a non-breeding nest is found in a site scheduled to be removed, prior to disturbance, the CDFW and DTSC will be notified to review and approve the proposed procedures to ensure that no take occurs as a result of the action. Sites with inactive nests that need to be removed will first be disturbed at dusk, just prior to removal that same evening, to allow adult ring-tailed cats to escape during the darker hours.				
BR-7	Disturbance of Nelson's Bighorn Sheep. If a bighorn sheep is observed at the Project Site during soil investigation activities, work shall be halted in the vicinity of the sheep (within 250 feet of the sheep). Project activities can recommence after the animal moves away on its own.	During Project activities	PG&E would be responsible for the implementation of these measures. DTSC would be responsible for ensuring compliance.		
BR-8	Disturbance or Loss of Special-status Bat Species.	Before and during	PG&E shall be responsible for the implementation of these measures. DTSC shall be		
	The following measures shall be implemented to avoid impacts to active maternity roosts of special-status bat species during the maternity roosting season (mid-March through August) and direct harassment, injury or mortality to Townsend's big-eared bats, consistent with the California Fish and Game Code.	Project activities			
	a. Implementation of soil investigation activities within avoidance areas for potential bat maternity roosting habitat shown in Figure 4.3-5 shall not occur during the maternity season (mid-March through August) with the exception of those activities described in b. However, if soil investigation activities critical to meeting the Project objectives are determined necessary in avoidance areas for potential bat maternity roosting habitat (Figure 4.3-5) during the maternity season, a qualified biologist shall conduct a pre-investigation survey to identify potential active roosts. The pre-investigation survey shall occur the night before soil investigation activities to observe if any bats are exiting crevices and cavities within 100 feet of the proposed work area. The pre-investigation survey will be conducted at sunset for 90 minutes by a qualified biologist with the use of a thermal imaging camera to observe and record any exiting bats. If no bats are observed, work may proceed in the proposed work areas located more than 100 feet any survey will be required in new work areas located more than 100 feet away from the previously surveyed work area. If active roosts are observed (i.e., bats exiting from semi-consolidated sediment or rock),		ensuring compliance .		

 TABLE 11-1

 MITIGATION MONITORING AND REPORTING PROGRAM FOR THE TOPOCK COMPRESSOR STATION SOIL INVESTIGATION PROJECT

					Completion of Implementation	
Mitigation Number	Mi	tigation Measure	Timing/ Schedule	Implementation Responsibility	Action	Date Completed
		no soil investigation activities may take place in the proposed work area the following day and not until it can be verified with thermal imaging that bats have left the area or the maternity roosting season is over.	-			
	b.	Some soil investigation activities will be allowed to occur without a pre- investigation survey in limited work areas located within the larger avoidance areas depicted on Figure 4.3-5 during the bat maternity season (mid-March through August). These activities are limited to: pedestrian foot traffic; non-construction transportation vehicles; use of hand tools; and low noise groundwater sampling by submerged pump powered either by electric line, battery or small generator that emits 59 decibel or less at 33 meters and is located a minimum of 20 meters away from potential maternity roosting habitat. Additional discrete ongoing activities may also continue to occur in the bottom of the wash areas depicted, including pedestrian and passenger car access for cultural surveys, educational tours and groundwater Remediation Project.				
	C.	If Project related work will continue into the 2016 bat maternity season, additional focused bat surveys for Townsend's big-eared bats will be required, since changes in the presence or absence of Townsend's big- eared bats could occur. A focused bat survey shall be required no more than 30 days prior to the start of Project field implementation during the 2016 bat maternity season to specifically determine if any Townsend's big- eared bats are present on or immediately adjacent to work areas. If Townsend's big-eared bats are detected, Mitigation Measure BR-8d shall be required.				
	d.	If Townsend's big-eared bat, a Candidate species under CESA, is observed or detected on the Project Site during the surveys described in Mitigation Measures BR-8a or BR-8c, the Project shall be modified if necessary, with input from a qualified biologist, to avoid all potential harassment, impact or injury to this species. If the Project cannot be modified to avoid impacts to the Townsend's big-eared bat, removal or modification of roosts could occur if approved by CDFW and when the roost is vacant. Prior to disturbance of the roost, the CDFW will be notified to review and approve the proposed procedures (such as the use of exclusion devises or other roost modification) to ensure that no injury or impact occurs as a result of the action.				

TABLE 11-1
MITIGATION MONITORING AND REPORTING PROGRAM FOR THE TOPOCK COMPRESSOR STATION SOIL INVESTIGATION PROJECT

	Mitigation Measure		Implementation Responsibility	Completion of Implementation	
Mitigation Number		Timing/ Schedule		Action	Date Completed
BR-11	Substantial Interference with Fish or Wildlife Movement Corridors or Native Wildlife Nursery Sites. Mitigation Measure BR-8 shall be implemented to address potential impacts to special-status bat maternity roosts.	Before and during Project activities	PG&E shall be responsible for the implementation of these measures. DTSC shall be responsible for ensuring compliance.		
CR-1	Historical Resource Identified as the Topock TCP.	Before, during and	PG&E shall be		
	CR-1a: Tribal Coordination	after Project activities	responsible for the implementation of		
	<i>CR-1a-1: Tribal Document Review and Comment.</i> Interested Tribes shall continue to be afforded the opportunity to review and comment on all cultural resources-related documentation prepared as a result of this Project. Tribal comments shall be considered to the extent feasible by DTSC, in coordination with Interested Tribes, PG&E, and representative landowners (BLM, BOR, FMIT, PG&E, and USFWS). Cultural resources documents shall include, but not be limited to, pre-investigation verification survey memoranda; daily archaeological monitoring logs; monitoring report to be prepared at the close of ground-disturbing activities; annual monitoring reports; DPR forms; and any documentation arising as a result of the inadvertent discovery of potential historical Resources and Unique Archaeological Resources). Interested Tribes shall also be afforded the opportunity to review and comment on technical documents including, but not limited to, soil investigation-related plans and reports.		these measures. DTSC shall be responsible for ensuring compliance.		
	<i>CR-1a-2: Tribal Access.</i> Interested Tribes shall be provided access to the Project Site to the extent PG&E has the authority to facilitate such access and be consistent with existing laws, regulations, and agreements as they pertain to property within the Project Site. On federal property, access shall be governed by the provisions of Appendix B (<i>Tribal Access Plan</i>) of the CHPMP. On nonfederal property, access shall be accommodated by PG&E to the extent feasible; the access plan may place restrictions on access into certain areas, such as the Station and the existing evaporation ponds, subject to DTSC review with regard to health and safety concerns and to ensure noninterference with approved investigation activities. PG&E shall retain copies of all access-related communications to be provided to DTSC on a quarterly basis, as required by CR-1a-3.				
	<i>CR-1a-3: Tribal Communication.</i> Consistent with past practices and the communication processes previously entered into by PG&E with Interested Tribes, PG&E shall continue to communicate with Interested Tribes prior to the start of and during investigation activities for the Project. PG&E shall document,				

 TABLE 11-1

 MITIGATION MONITORING AND REPORTING PROGRAM FOR THE TOPOCK COMPRESSOR STATION SOIL INVESTIGATION PROJECT

				Comj Imple	pletion of mentation
Mitigation Number	Mitigation Measure	Timing/ Schedule	Implementation Responsibility	Action	Date Completed
	and accommodate where feasible, the Tribes' preferences for method of communication and for transmitting large documents, and shall seek to avoid scheduling conflicts between scientific survey (i.e., pre-investigation historical resources verification survey, annual historical resources monitoring, and biological resources survey) and Topock-related meeting activities to the greatest extent possible. Outreach efforts between the Interested Tribes and PG&E shall be communicated by PG&E to DTSC quarterly during investigation activities for review and input.				
	Communication protocols as they relate to Tribal involvement in the worker cultural resources sensitivity training shall be governed by CR-1b.				
	Communication protocols as they relate to Tribal monitoring of scientific survey and Project-related ground-disturbing activities shall be governed by CR-1d.				
	Communication protocols as they relate to Tribal monitoring of annual historical resource monitoring shall be governed by CR-2c.				
	Communication protocols as they relate to inadvertent discoveries of potential historical resources as defined by CEQA will be governed by CR-2d. Human remains will be governed by CR-4.				
	CR-1b: Worker Education Program				
	A worker cultural resources sensitivity program shall be implemented in addition to any requirements under the PA and CHPMP, but may be integrated in a manner that avoids duplication of requirements under the PA and CHPMP. Specifically, an initial sensitivity training session shall be provided by PG&E to all Project employees, contractors, subcontractors, and other professionals prior to their involvement in any ground-disturbing activities, with subsequent training sessions to be held as new personnel become involved in the Project. PG&E shall invite Interested Tribes to participate in and present Tribal perspectives during the training sessions. The sensitivity program shall address: the cultural (Native American, archaeological, and paleontological) sensitivity of the Project Site and a tutorial providing information on how to identify these types of resources; appropriate behavior; worker access routes and restrictions; work area cleanliness; procedures to be followed in the event of an inadvertent discovery; safety procedures when working with monitors; and consequences in the event of noncompliance. PG&E shall notify DTSC and the Interested Tribes no less than 2 weeks prior to the initial training session. Subsequent training sessions may be of a less formal nature; however, they must be comprehensive in the subject matter covered. Tribes will be provided the opportunity to participate in informal training sessions if available. PG&E will keep records of training materials together with attendance rosters, and provide them to DTSC quarterly.				
TABLE 11-1 MITIGATION MONITORING AND REPORTING PROGRAM FOR THE TOPOCK COMPRESSOR STATION SOIL INVESTIGATION PROJECT

				Completion of Implementation	
Mitigation Number	Mitigation Measure	Timing/ Schedule	Implementation Responsibility	Action	Date Completed
	CR-1c: Pre-Investigation Historical Resources Field Verification	•	• •		•
	<i>CR-1c-1: Personnel Qualifications Standards.</i> Cultural resources consulting staff shall meet, or be under the direct supervision of individuals meeting, the minimum professional qualifications standards (PQS) set forth by the Secretary of the Interior (codified in 36 CFR Part 61; 48 FR 44739). DTSC shall have approval authority over PG&E's cultural resources consultant.				
	<i>CR-1c-2: Pre-Investigation Historical Resources Field Verification.</i> A pre- investigation historical resources field verification for soil sampling locations shall be conducted by PG&E after approval of the work plan but not less than four weeks prior to the commencement of ground-disturbing activities in these locations. Additional field verifications may be completed as Project work progresses, provided the field portions of the verifications are conducted not less than four weeks prior to the start of ground disturbance in that area. Also, field verifications for contingency and pilot studies shall occur after approval work plan(s) but not less than four weeks prior to the start of ground disturbance. The field verification shall include all sampling locations, including any future pilot study areas, new access areas, and equipment and materials staging areas, plus a 50-foot buffer surrounding sampling areas where topography allows. Sampling activities may occur within the buffer area without additional field verification. Interested Tribes shall be afforded the opportunity to participate and shall be provided 2 weeks (14 calendar days) notice prior to the start of the field verification. The objective of the field verification will be to verify that additional resources qualifying as historical resources under CEQA are not present within the investigation least on Tribal significance within the field verification area, including but not limited to trails, rock features, desert pavement areas, and cleared circles that might be considered contributors to the TCP. <i>Pre-</i> <i>Investigation Historical Resources Field Verification Memoranda</i> following the California Office of Historic Preservation's (OHP's) <i>Archaeological Resource</i> <i>Management Reports (ARMR)</i> guidelines, shall be prepared by PG&E that documents the methods of the field verification, narticipants involved in the field verification, and asked to provide any observations to PG&E within 2 weeks of the field portion of the verification. Memoranda shall				
	In the event that resources qualifying as historical resources under CEQA are found in the investigation areas, including physical features of traditional cultural				

 TABLE 11-1

 MITIGATION MONITORING AND REPORTING PROGRAM FOR THE TOPOCK COMPRESSOR STATION SOIL INVESTIGATION PROJECT

				Completion of	
				Implei	mentation
Number	Mitigation Measure	Timing/ Schedule	Responsibility	Action	Date Completed
	value to Interested Tribes as contributors to the TCP or archaeological resources, are identified during the field verification, treatment of such resources shall be governed by procedures outlined in CR-1e and CR-2, respectively. If avoidance of the identified resources is determined by DTSC, in coordination with respective landowners, Interested Tribes, and PG&E to be infeasible because it would impede the fundamental Project objective to obtain sufficient information to allow for a complete soil characterization of the area, protective actions (such as elevated ramps, protective coverings or other types of temporary capping) shall be taken to reduce or minimize impacts to the resource to the maximum extent feasible. Any protective measures would be implemented in coordination with DTSC. Work areas would be restored to pre-investigation conditions consistent with CR-1e-6.				
	CR-1d: Cultural Resources Monitoring Program				
	The Cultural Resources Monitoring Program shall be consistent with Appendix C (<i>Topock Remediation Project Programmatic Agreement Tribal and Archaeological Monitoring Protocols</i>) of the PA and Section 6.6.4, " <i>Construction Monitoring</i> ," of the CHPMP. PG&E shall include DTSC as a party requiring notification and coordination along with the parties already listed in the Appendix C Monitoring Protocols.				
	Archaeological monitoring shall be conducted during all Project-related ground- disturbing activities for the purpose of identifying and avoiding impacts to archaeological resources that could potentially qualify as historical resources under CEQA. Archaeological monitors shall work under the direct supervision of an archaeologist meeting the PQS as described in CR-1c-1 and shall complete daily monitoring logs. Upon completion of investigation activities, a Soil Investigation Monitoring Report shall be prepared following ARMR guidelines. The monitoring report shall document dates of monitoring and monitoring participants, activities observed, soil types observed, and any archaeological resources encountered. PG&E shall provide Interested Tribes an opportunity to contribute their observations to the monitoring report. To be included in the monitoring report, the Tribal section must be provided to PG&E within 8 weeks after completion of monitoring activities. DPR 523 forms, following the OHP's <i>Instructions for Recording Historical Resources</i> , shall be prepared and filed with the SBAIC for all newly identified and updated resources and shall be appended to the monitoring report. The report shall be provided to DTSC and the Tribes for review and comment within 16 weeks of Project completion.				
	Interested I ribes shall be invited to monitor during scientific survey (as defined in CR- 1a-3) and all ground-disturbing activities associated with the Project. PG&E shall provide Tribal monitors with reasonable compensation consistent with historic rates, for all monitoring work performed. Interested Tribes shall be afforded a minimum of 1 week's notice prior to the commencement of project- related ground-disturbing activities. During Project activities, Interested Tribes				

TABLE 11-1 MITIGATION MONITORING AND REPORTING PROGRAM FOR THE TOPOCK COMPRESSOR STATION SOIL INVESTIGATION PROJECT

				Completion of Implementation	
Mitigation			Implementation		Date
Number	Mitigation Measure shall be provided with weekly work forecasts to facilitate scheduling of monitors. Because Project implementation activities are often unpredictable, there may be changes in work activities. Interested Tribes shall be notified by PG&E of any scheduling changes as soon as possible. PG&E will utilize daily field meetings, telephone, and email as methods of communicating work schedules. Tribal Monitors shall be alerted at the end of each work day whether work activities will be taking place the following day. CR-1e: Protective Measures for the Topock TCP	Timing/ Schedule	Responsibility	Action	Completed
	<i>CR-1e-1: Avoidance and Preservation in Place.</i> PG&E shall carry out, and require all subcontractors to carry out, all Project activities in ways that minimize significant impacts to resources associated with the Topock TCP consistent with Stipulation I (B) of the PA and Section 7.1 of the CHPMP, and to the maximum extent feasible as it relates to the Project objectives of soil characterization as determined by DTSC, in coordination with PG&E, Interested Tribes, and respective landowners.				
	<i>CR-1e-2: Restrict Personnel Access Beyond Delineated Work Areas.</i> Work areas (including sampling locations, new access areas, and materials and equipment staging areas) shall be fenced, or otherwise delineated, in coordination with Tribal monitors to prevent incursion of personnel outside of designated work areas.				
	<i>CR-1e-3: Prioritized use of Previously Disturbed Areas.</i> To minimize impacts to intact landforms and natural features important to Tribes as part of the Topock TCP, priority shall be given to siting project elements that have not formerly been subject to Tribal review and input as part of the Soil Work Plan (including the potential 25 percent contingency samples, bench scale tests, pilot studies, and geotechnical evaluations) within previously disturbed areas (areas disturbed within the last 50 years) over undisturbed or pristine areas to the maximum extent feasible as determined by DTSC, in coordination with Interested Tribes, PG&E, and respective landowners. Interested Tribes shall be afforded the opportunity to express, and DTSC shall consider, whether there are specific instances where disturbed areas may be more culturally sensitive than non-disturbed areas.				
	<i>CR-1e-4:</i> Avoidance of Indigenous Plants of Biological and Cultural Significance. Prior to Project initiation, a qualified biologist capable of identifying both native and non-native plants within the region (to species) shall flag (or otherwise mark) indigenous plant specimens that shall be protected and avoided. The qualified biologist shall educate all on-site Project personnel about the indigenous plants prior to their involvement in Project activities at the Project Site. During Project activities, a biological monitor shall be present at all times to ensure the indigenous plant species of biological and traditional cultural significance as identified in Appendix D-3 of this DEIR are protected and avoided during Project implementation to the extent practicable. Flagging of indigenous plant species				

 TABLE 11-1

 MITIGATION MONITORING AND REPORTING PROGRAM FOR THE TOPOCK COMPRESSOR STATION SOIL INVESTIGATION PROJECT

				Completion of	
Mitigation			Implementation		Date
Number	Mitigation Measure and worker education (consistent with CR-1b) shall occur prior to Project initiation. Protection of identified species shall occur through biological monitoring during investigative activities and Project implementation. <i>CR</i> -1e-5: <i>Minimize Noise Disturbances</i> . Impacts to the natural auditory setting	Timing/ Schedule	Responsibility	Action	Completed
	associated with the TCP shall be minimized to the extent feasible as governed by NOI-1.				
	<i>CR-1e-6: Work Area Restoration.</i> As discussed in the "Project Description," Section 3.5.6, following completion of work in each work area, all Project equipment and materials shall be removed from the work areas. If the area is not paved, the area will be raked/brushed to remove tire tracks and restored to substantially the same condition(s) as prior to the soil investigation sampling, to minimize impacts to the natural environment associated with the Topock TCP.				
	<i>CR-1e-7: Displaced Soil Procedures.</i> Treatment, handling, and disposition of Resource Conservation and Recovery Act (RCRA) and non-RCRA hazardous materials, nonhazardous materials, and clean materials shall comply with <i>Management Protocol for Handling and Disposition of Displaced Site Material, Topock Remediation Project, Needles, CA</i> of the Soil RCRA Facility Investigation/Remedial Investigation Work Plan. Soil export, including clays, and soil import will be limited where feasible as determined by DTSC, consistent with the <i>Protocol.</i>				
	<i>CR-1e-8: Technical Review Committee.</i> The Technical Review Committee (TRC), constituting a multidisciplinary panel of independent scientific and engineering experts to advise the Interested Tribes, shall continue through soil remedy selection and construction phase of the Groundwater Remedy (whichever comes later), at which time the necessity and dollar value of the TRC shall be assessed by PG&E and, with the approval of DTSC, shall either be extended, reduced, or terminated. This TRC is the same committee established by CUL-1a-4 of the January 2011, Certified Groundwater Remedy EIR.				
	<i>CR-1e-9: Open Grant Funding.</i> Open grant funding, constituting two part-time cultural resource specialist/project manager positions, shall continue through soil remedy selection and construction phase of the Groundwater Remedy (whichever comes later), at which time the necessity and dollar value of the open grant program shall be assessed by PG&E and, with the approval of DTSC, shall either be extended or terminated. This Open Grant Funding is the same as established by CUL-1a-11 of the January 2011, Certified Groundwater Remedy EIR.				

TABLE 11-1
MITIGATION MONITORING AND REPORTING PROGRAM FOR THE TOPOCK COMPRESSOR STATION SOIL INVESTIGATION PROJECT

				Completion of Implementation	
Mitigation	Mitigation Measure	Timing/Schedule	Implementation Responsibility	Action	Date
CR-2	Historical Resources (Other than the Topock Traditional Cultural Property [TCP]) and Unique Archaeological Resources. <i>CR-2a: Avoidance and Preservation in Place.</i> PG&E shall carry out, and require all subcontractors to carry out, all investigation activities in ways that avoid significant impacts to historical resources consistent with General Principle I(B) of the PA and Section 7.3 of the CHPMP to the maximum extent feasible as it relates to the Project objectives of soil characterization as determined by DTSC, in coordination with Tribes, PG&E, and respective landowners.	Before, during, and after Project activities, as detailed in the individual Mitigation Measures CR-2a through CR-2d	PG&E shall be responsible for the implementation of these measures. DTSC shall be responsible for ensuring compliance.	Action	Completed
	<i>CR-2b: Additional Protective Measures</i> . Mitigation Measures CR-1a through CR-1d, CR-1e-2, and CR-1e-3 shall be implemented to further reduce impacts to historical resources (other than the Topock TCP) and unique archaeological resources.				
	<i>CR-2c:</i> Annual Historical Resources Monitoring Program. PG&E shall add the known 20 historical resources (including 15 archaeological resources and 5 historic-period built resources located within the Project Site [see Table 4.4-3]), plus any additional historical resources that may be identified during Project implementation, to the established annual monitoring program as prescribed by Section 6.6.5, "Periodic Site Monitoring," of the CHPMP. Monitoring shall continue on an annual basis (or less frequently as determined by DTSC) until completion of the soil investigation. PG&E shall afford Tribes the opportunity to participate in Tribal monitoring during the annual monitoring program and provide, at a minimum, 2 weeks' written notice to Tribes prior to the commencement of annual monitoring.				
	The annual monitoring program shall include: confirmation of resource boundaries with submeter GPS; any relocation of previously identified features; confirmation of locations, quantities, and types of artifacts present; and photography to document whether any change in resource condition has occurred. Field observations shall be documented in a Site Condition Assessment Form and a database spreadsheet (such as Microsoft Access of Excel) in accordance with Section 6.6.5, "Periodic Site Monitoring" of the CHPMP. DPR 523 form updates, following OHP <i>Instructions for Recording</i> <i>Historical Resources</i> , will be prepared and filed with the SBAIC for all resources where changes in setting or condition are observed. The Site Condition Assessment Forms, database spreadsheet, and DPR 523 form updates shall be provided to DTSC upon completion of each annual monitoring event. PG&E shall notify DTSC upon scheduling and completion of each annual monitoring event. Each annual monitoring event shall be documented in an <i>Annual Monitoring</i> <i>Report</i> following <i>ARMR</i> guidelines and shall be submitted to DTSC by December 1 of each year. Review and comment of the report by Tribes shall be governed by CR-1a-1. <i>CR-2d: Inadvertent Discovery of Potential Historical Resources and Unique</i>				

 TABLE 11-1

 MITIGATION MONITORING AND REPORTING PROGRAM FOR THE TOPOCK COMPRESSOR STATION SOIL INVESTIGATION PROJECT

				Completion of	
Mitigation			Implementation	Impier	Date
Number	Mitigation Measure	Timing/ Schedule	Responsibility	Action	Completed
Number	historical resources or unique archaeological resources per CEQA Guidelines Section 15064.5 are inadvertently discovered during ground-disturbing activities, work in the vicinity of the discovery shall immediately cease within a 50-meter radius and temporary protective measures shall be implemented. The radius of the protected area may be modified if determined appropriate by DTSC, BLM, PG&E, and the Tribal Monitor with final approval by DTSC on non-federal and private land and final approval by BLM on federal land. PG&E shall notify DTSC within 24 hours of the discovery of any potential historical or unique archaeological resources. Avoidance and preservation in place shall be the preferred manner of mitigating impacts to such resources to maintain the important relationship between artifacts and their archaeological context in order to preserve each resource's scientific value, as well as to preserve the cultural values ascribed to resources by the Tribes. The feasibility of avoidance, as it relates to the Project objectives, shall be determined by DTSC, in coordination with PG&E, Tribes, and respective landowners. Preservation alternatives for consideration shall include: avoidance, data recovery of the materials associated with the resource, and capping. Tribes generally prefer avoidance over data recovery or capping. Treatment of discoveries shall be managed under Stipulation IX, "Discoveries" of the PA and Section 8, "Discoveries" and Appendix C, "Discovery Plan" of the CHPMP. PG&E shall notify DTSC and coordinate with the parties already listed in the Appendix C Discovery Plan protocols. Avoided resources may be determined discretionarily eligible by DTSC pursuant to CEQA Section 15064.5(a)(3) as individual resources eligible for listing in the NRHP and the CRHR and as contributors to the Topock TCP. In the event, data recovery is the only feasible mitigation available, resources subject to data recovery shall be evaluated for individual listing in the NRHP and CRHR and as contributors to the Topock TCP,	Timing/ Schedule	Kesponsibility	Action	Completed
	of the PA. Curation of recovered materials from non-federal lands shall be coordinated by and between DTSC, Tribes, and the respective landowner.				
CR-3	Paleontological Resources	During Project	PG&E shall be		
	CR-3a: Worker Education Program	activities	implementation of		
	PG&E shall fully enforce participation in the Worker Education Program as governed by CR-1b to ensure personnel awareness of cultural and paleontological sensitivities associated with the Project Site.		these measures. DTSC shall be responsible for		
	CR-3b: Inadvertent Discovery of Paleontological Resources		ensuring compliance.		
	In the event of inadvertent discovery of paleontological resources, all work shall be halted within a 50-meter radius and temporary protective measures shall be implemented until the discovery can be evaluated by a qualified paleontologist (defined as a paleontologist meeting the requirements of the Society of				

TABLE 11-1 MITIGATION MONITORING AND REPORTING PROGRAM FOR THE TOPOCK COMPRESSOR STATION SOIL INVESTIGATION PROJECT

				Completion of Implementation	
Mitigation Number	Mitigation Measure	Timing/ Schedule	Implementation Responsibility	Action	Date Completed
	Vertebrate Paleontology [SVP, 2010]). The radius of the protected area may be modified if determined appropriate by DTSC, BLM, PG&E, and the qualified paleontologist with final approval by DTSC on non-federal and private land and final approval by BLM on federal land. Appropriate treatment of the discovery shall be determined by DTSC, in coordination with the qualified paleontologist, PG&E, and respective landowners. Based on the nature of the discovery, the qualified paleontologist shall also reassess the need to initiate paleontological monitoring and make recommendations of such to DTSC, PG&E, and the respective landowner. PG&E shall provide DTSC notification of any paleontological discoveries within 24 hours.				
CR-4	Human Remains In the event of inadvertent discovery of human remains, all work shall be halted within a 50-meter radius and temporary protective measures shall be implemented. The radius of the protected area may be modified if determined appropriate by DTSC, BLM, PG&E, and the Tribal Monitor with final approval by DTSC on non-federal and private land and final approval by BLM on federal land. Avoidance and preservation in place shall be emphasized as the preferred manner of mitigation for human remains and disturbances shall be avoided to the maximum extent feasible as it relates to the Project objectives of soil characterization, as determined by DTSC, in coordination with Tribes, PG&E, and respective landowners. PG&E shall notify DTSC of any inadvertent discovery of human remains within 24 hours of the discovery.	During Project activities	PG&E shall be responsible for the implementation of these measures. DTSC shall be responsible for ensuring compliance.		
	On non-federal land, PG&E shall contact the San Bernardino County Coroner to evaluate the remains and follow the procedures and protocols set forth in Section 15064.4 (e)(1) of the California Environmental Quality Act. If the Coroner determines the remains are Native American in origin, the Coroner shall contact the NAHC. As provided in PRC Section 5097.98, the NAHC shall identify the person or persons believed to be most likely descended from the deceased Native American. The MLD shall be afforded the opportunity to provide recommendations concerning the future disposition of the remains and any associated grave goods as provided in PRC 5097.98. Per PRC Section 5097.98, the landowner shall ensure that the immediate vicinity, according to generally accepted cultural or archaeological standards or practices, where the Native American human remains are located, is not damaged or disturbed by further development activity until the landowner has discussed and conferred with the MLD regarding their recommendations, taking into account the possibility of multiple human remains.				
	On federal land, the BLM Havasu City Field Office shall be notified and human remain and associated funerary objects shall be treated pursuant to the Native American Graves Protection and Repatriation Act and in accordance with Sections IX and XIII of the PA and Section 8.2 and Appendix D of the CHPMP.				

TABLE 11-1
MITIGATION MONITORING AND REPORTING PROGRAM FOR THE TOPOCK COMPRESSOR STATION SOIL INVESTIGATION PROJECT

				Comj Imple	npletion of ementation	
Mitigation Number	Mitigation Measure	Timing/ Schedule	Implementation Responsibility	Action	Date Completed	
NOI-1	Potential Impacts to Noise Levels and Noise Standards	During Project	PG&E shall be			
	 Investigation activities that generate noise shall be limited to the hours between 7:00 A.M. to 7:00 P.M., and prohibited on Sundays and federal holidays. 	activities	responsible for the implementation of these measures.			
	b. Investigation equipment shall be properly maintained per manufacturer specifications and fitted with the best available noise suppression devices (e.g., mufflers, silencers, wraps). Pneumatic powered socket wrenches shall be low noise (85 dBA or less measured at 75 feet) when operating, shrouded or shielded, and all intake and exhaust ports on power equipment, such as engine driven air compressors, shall be muffled or shielded using best available technology.		responsible for ensuring compliance.			
	 Investigation equipment shall not idle for extended periods of time (more than 15 minutes) when not being utilized during investigation activities. 					
	d. A disturbance coordinator shall be designated by PG&E, which will post contact information in a conspicuous location near investigation areas so that it is clearly visible to nearby noise-sensitive receptors as labeled in Figure 4.7-2. In addition, mailing of the same information will be sent to nearby noise-sensitive receptors as labeled in Figure 4.7-2 and Interested Native American Tribes (Chemehuevi Indian Tribe, Cocopah Indian Tribe, Colorado River Indian Tribes, Fort Mojave Indian Tribe). The coordinator will manage complaints resulting from the investigation noise. Reoccurring disturbances will be evaluated by a qualified acoustical consultant retained by PG&E to ensure compliance with applicable standards. The disturbance coordinator will contact nearby noise-sensitive receptors as labeled in Figure 4.7-2 and Interested Tribes, advising them of the investigation schedule. The disturbance coordinator will also consider the timing of soil investigation activities in relation to Tribal ceremonial events that are sensitive to noise, which will be accommodated by PG&E to the maximum extent practicable. The disturbance coordinator will also verify and document that all activities at the Project Site are in compliance with all items presented in Mitigation Measure NOI-1.					

SOURCES:

CH2M HILL. 2014. Bird Impact Avoidance and Minimization Plan Topock Groundwater Remediation Project. Prepared for Pacific Gas and Electric Company. April 2014;

International Society of Arboriculture (ISA 2011). 2011. Pruning Mature Trees. Champaign, IL;

Society for Vertebrate Paleontology (SVP). 2010. Standard Procedures for the Assessment and Mitigation of Adverse Impacts to Paleontological Resources. Available: <u>http://vertpaleo.org/PDFS/8f/8fe02e8f-11a9-43b7-9953-cdcfaf4d69e3.pdf</u>. Accessed February 20, 2014.

CHAPTER 12 Errata to the Final EIR

12.1 Background

In a letter dated August 18, 2015, the Department of the Interior (DOI) communicated to the California Department of Toxic Substances Control (DTSC) their preference for an alternative access route to Bat Cave Wash during implementation of the Soil Investigation Project (Project). Some Native American Tribal members have expressed concern regarding the proposed and studied access/haul route within the bottom of Bat Cave Wash across from the IM-3 Treatment Plant that would be used to access soil sampling locations to the north in the mouth of Bat Cave Wash (AOC-1). In the Tribal Cultural Values Assessment (TCVA), members of the Native American Tribes identified a proposed exclusion area in this location due to the discovery of elements of cultural patrimony. As the landowner in this location, DOI has stated a preference for an alternative access route via the observation area located off of National Trails Highway immediately north of the proposed work in Bat Cave Wash (see Figure 12-1) which would avoid impacts to this sensitive area. This errata has been prepared to clarify and consider this preferred access route within the Final EIR and, as explained below, the revision does not involve any new significant impacts or "significant new information" that would require recirculation of the Draft EIR or the Partially Recirculated Draft EIR pursuant to CEQA Guidelines section 15088.5. Rather, use of the preferred access route would avoid or lessen impacts to the area identified within the TCVA by diverting Project related trips to the alternative route. DTSC is agreeable to use of the preferred access route.

12.2 Project Description Modifications

The preferred access route shown on Figure 12-1 would use an existing dirt road that is within the established Project Site analyzed in the Soil Investigation EIR (with the exception of a 17-foot section between the observation area and AOC-1). The access route would enter the existing observation area from National Trails Highway and extends down the side of the slope into Bat Cave Wash on the existing dirt road. No grading or other ground-disturbing activities such as drainage improvements would be required to improve the road. Approximately 20 cubic yards of fill material would be required to smooth out the existing road. A minor addition to the haul routes within Bat Cave Wash is also proposed to facilitate the new preferred access route (see Figure 12-1). The preferred access route and additional haul route would be restored consistent with the direction in the EIR for all disturbed areas. In accordance, all Project materials would be removed from the area and the area would be raked/brushed to remove tire tracks and restored to substantially the same condition as prior to the soil investigation sampling (Revised Draft EIR page 3-37).

No other changes in the soil investigation project description are contemplated under this errata. The type of investigation activity that will take place in Bat Cave Wash will remain unchanged. The type and

amount of equipment and vehicles to be employed in Bat Cave Wash and number of trips would also remain unchanged (Revised Draft EIR pages 3-16 and 3-37).

12.3 Analysis of Preferred Access Route

The addition of this preferred access route would not impact the proposed soil investigation activities in Bat Cave Wash or the impact conclusions reached in the EIR. DTSC has therefore determined that the preferred access route would result in no new significant adverse impacts or substantial increase in severity of significant impacts to the following resource areas: aesthetics, air quality, hazards and hazardous materials, hydrology and water quality, and noise. A discussion of any potential effects on biological resources and cultural resources based on the location of the preferred access route is included below.

12.3.1 Biological Resources

The preferred access route shown on Figure 12-1 would use an existing dirt road that is within the established Project Site analyzed in the Soil Investigation EIR (with the exception of a 17-foot section between the observation area and AOC-1). No grading or other ground-disturbing activities such as drainage improvements would be required to improve the road. No additional impacts to vegetation and habitat or wildlife would occur from the placement of fill or use of this existing dirt road. All mitigation measures for biological resources identified in the Revised Draft EIR will be adhered to for all soil investigation activities in Bat Cave Wash including access. These mitigation measures include: BR-1, BR-4, BR-5, BR-6, BR-7, BR-8 and BR-11.

12.3.2 Cultural Resources

The preferred access route passes through a significant archaeological resource (CA-SBR-11862H), which is a historic-period archaeological site consisting of the remnants of the El Rancho Colorado Roadhouse and Gas Station associated with Route 66. This resource was identified and analyzed in the Project EIR as a location for construction and vehicle staging (Revised Draft EIR page 4.4-32 and 4.4-80). The preferred access route however is located in Locus 2, a non-contributing portion of the site and has been previously used as a road.

As depicted on Figure 12-1, the preferred access route would pass through the observation area and along an existing dirt roadway down the slope into the mouth of Bat Cave Wash. No grading or other grounddisturbing activities such as drainage improvements would be required to improve the road. Approximately twenty cubic yards of soil would be placed on top of the existing roadbed to smooth out unleveled ground. Because no grading or other ground-disturbing activities would occur within a noncontributing portion of the resource, the site would not be significantly impacted. Implementation of Mitigation Measures CR-1a through CR-1d (Tribal coordination, worker education program, preinvestigation historical resources field check, cultural resources monitoring program), and CR-2 would ensure that known historic-period built resources and archaeological resources qualifying as historical resources under CEQA are avoided during construction. Impacts to known historical resources (other than the Topock Traditional Cultural Property [TCP]) would be less than significant with mitigation. Because no grading or other ground disturbing activities would occur, no impacts would occur to paleontological resources or human remains.

12.3.3 Conclusion

Based on the above information and analysis, the following clarification is hereby included within the Project Description of the Revised Draft EIR at page 3-16:

The proposed sampling locations are accessible by the existing network of roads throughout the Project Site; this road network would be used to the extent practicable. The proposed access routes are shown in Figure 3-2, including the preferred access route for Bat Cave Wash shown in Figure 12-1 of the Errata to the Final EIR.

