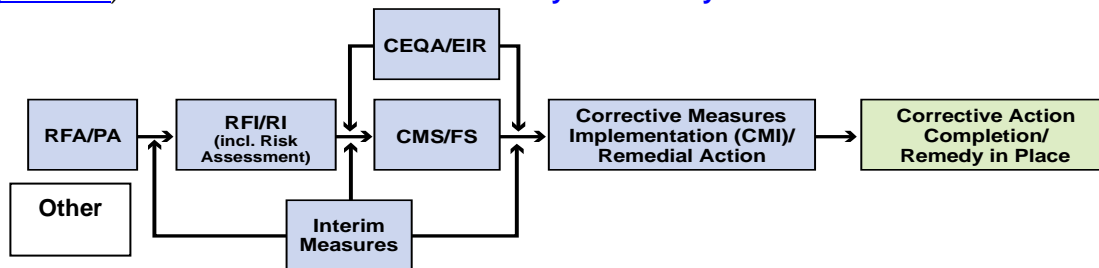


# Topock Project Executive Abstract

<p>Document Title:</p> <p>Biological Resources Completion Report for the Soil Investigation Project, Topock Compressor Station, Needles, California</p> <p>Submitting Agency: Bureau of Land Management/Havas National Wildlife Refuge</p> <p>Final Document? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p>	<p>Date of Document: December 23, 2008</p> <p>Who Created this Document?: (i.e. PG&amp;E, DTSC, DOI, Other)</p> <p>PG&amp;E</p>
<p>Priority Status: <input type="checkbox"/> <b>HIGH</b> <input type="checkbox"/> <b>MED</b> <input checked="" type="checkbox"/> <b>LOW</b></p> <p>Is this time critical? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p>	<p>Action Required:</p> <p><input checked="" type="checkbox"/> Information Only <input type="checkbox"/> Review &amp; Comment</p> <p>Return to: _____</p> <p>By Date: _____</p> <p><input type="checkbox"/> Other / Explain:</p>
<p>Type of Document:</p> <p><input type="checkbox"/> Draft <input checked="" type="checkbox"/> Report <input type="checkbox"/> Letter <input type="checkbox"/> Memo</p> <p><input type="checkbox"/> Other / Explain:</p>	
<p>What does this information pertain to?</p> <p><input type="checkbox"/> Resource Conservation and Recovery Act (RCRA) Facility Assessment (RFA)/Preliminary Assessment (PA)</p> <p><input type="checkbox"/> RCRA Facility Investigation (RFI)/Remedial Investigation (RI) (including Risk Assessment)</p> <p><input type="checkbox"/> Corrective Measures Study (CMS)/Feasibility Study (FS)</p> <p><input type="checkbox"/> Corrective Measures Implementation (CMI)/Remedial Action</p> <p><input type="checkbox"/> California Environmental Quality Act (CEQA)/Environmental Impact Report (EIR)</p> <p><input type="checkbox"/> Interim Measures</p> <p><input checked="" type="checkbox"/> Other / Explain:</p> <p>This report is a requirement under the Programmatic Biological Assessment (PBA) for the Pacific Gas and Electric Topock Compressor Station Remedial and Investigative Actions (2007).</p>	<p>Is this a Regulatory Requirement?</p> <p><input checked="" type="checkbox"/> Yes</p> <p><input type="checkbox"/> No</p> <p>If no, why is the document needed?</p>
<p>What is the consequence of NOT doing this item? What is the consequence of DOING this item?</p> <p>Non-delivery would be a failure to comply with measures required by the PBA.</p>	<p>Other Justification/s:</p> <p><input type="checkbox"/> Permit <input type="checkbox"/> Other / Explain:</p>
<p>Brief Summary of attached document:</p> <p>This biological completion report documents pre-construction and post-construction conditions for the field activities associated with the Soil Sampling Part A, Phase 1 field activities. The PBA General Project Management Measure No. 23 requires that within 60 days of completion of the construction activities, a brief report shall be prepared and submitted to the Bureau of Land Management and the Havasu National Wildlife Refuge.</p> <p>Sampling activities were confined to areas with pre-existing disturbance and/or active channels in the desert wash. The general project management measures included in the PBA were effective in minimizing impacts to the Soil Sampling Part A, Phase 1 investigation work areas and surrounding lands.</p>	
<p>Written by: PG&amp;E</p>	
<p>Recommendations:</p> <p>This report documents pre- and post-construction conditions and does not provide recommendations.</p>	
<p>How is this information related to the Final Remedy or Regulatory Requirements:</p> <p>This report is required by General Project Management Measure No. 23 in the PBA.</p>	
<p>Other requirements of this information?</p> <p>None.</p>	

Related Reports and Documents:

Click any boxes in the Regulatory Road Map (below) to be linked to the Documents Library on the DTSC Topock Web Site ([www.dtsc-topock.com](http://www.dtsc-topock.com)). The link to the Documents Library is currently **UNDER CONSTRUCTION**.



**Legend**

RFA/PA – RCRA Facility Assessment/Preliminary Assessment

RFI/RI – RCRA Facility Investigation/CERCLA Remedial Investigation (including Risk Assessment)

CMS/FS – RCRA Corrective Measure Study/CERCLA Feasibility Study

CEQA/EIR – California Environmental Quality Act/Environmental Impact Report



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December 23, 2008

Ms. Cathy Wolfe-White  
U.S. Department of the Interior  
Bureau of Land Management  
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Lake Havasu City, Arizona 86406

Ms. Cindi Hall  
Refuge Manager  
Havasus National Wildlife Refuge  
P.O. Box 3009  
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Needles, California 92363

Subject: Biological Resources Completion Report for the Soil Investigation Project:  
Topock Compressor Station, Needles, California

Dear Ms. Wolff-White & Ms. Hall:

This letter transmits the Biological Resources Completion Report for the Soil Investigation Project: Topock Compressor Station. The document is submitted in conformance with the January 2007 *Programmatic Biological Assessment for the Pacific Gas and Electric Topock Compressor Station Remedial and Investigative Actions* and Condition #30 of the special conditions associated with the Soil Sampling Part A, Phase I field activities performed on the Havasu National Wildlife Refuge in the Department of the Interior approval letter for the Soil Sampling Part A, Phase 1 Project, dated August 22, 2008.

PG&E appreciates your consideration of the attached report. Please contact me at (805) 234-2257 with any questions or concerns.

Sincerely,

A handwritten signature in blue ink that reads 'Yvonne Meeks'.

Yvonne Meeks  
Topock Project Manager

cc: Carrie Marr/USFWS  
Pamela Innis/DOI  
Aaron Yue/DTSC

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*Report*

**Biological Resources  
Completion Report for the Soil  
Investigation Project,  
Topock Compressor Station  
Needles, California**

Prepared for  
**United States Bureau of Land Management  
United States Fish and Wildlife Service**

On behalf of  
**Pacific Gas and Electric Company**

December 2008

**CH2MHILL**  
155 Grand Avenue, Suite 1000  
Oakland, California 94612

# **Biological Resources Completion Report for the Soil Investigation Project, Topock Compressor Station Needles, California**



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Gary Santolo  
CH2M HILL Senior Biologist



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Jennifer Low  
CH2M HILL Project Manager

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# Acronyms and Abbreviations

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AOC	Area of Concern
BLM	Bureau of Land Management
ESA	Endangered Species Act
HNWR	Havasu National Wildlife Refuge
PBA	<i>Programmatic Biological Assessment for the Pacific Gas and Electric Topock Compressor Station Remedial and Investigative Actions</i>
PG&E	Pacific Gas and Electric Company
SWMU	Solid Waste Management Unit
USFWS	United States Fish and Wildlife Service

# 1.0 Introduction

---

Pacific Gas and Electric Company (PG&E) is addressing chromium in groundwater at the Topock Compressor Station located in eastern San Bernardino County, California, approximately 15 miles southeast of Needles, California. Figure 1-1 provides a site location map for the Topock Compressor Station.

Investigative and remedial activities at the Topock Compressor Station are being performed under the Resource Conservation and Recovery Act Corrective Action process under an agreement between PG&E and the California Department of Toxic Substances Control, as well as under the Comprehensive Environmental Response, Compensation and Liability Act under an agreement between PG&E and the Department of the Interior. Under the terms of these agreements, PG&E is conducting the Resource Conservation and Recovery Act facility investigation/remedial investigation to identify and evaluate the nature and extent of hazardous waste and constituent releases at the compressor station.

This biological completion report documents field activities associated with a soil sampling event conducted at and around the Topock Compressor Station. Soil sampling was conducted at 27 locations collectively:

- Area of Concern (AOC) 4, located on property owned and managed by PG&E. AOC 4 is located southwest of the Topock Compressor Station in the Debris Ravine.
- AOC 9, located on property owned and managed by PG&E, located just southeast of the Topock Compressor Station fenced property.
- AOC 10, located partially on land owned and managed by PG&E, and partially on Havasu National Wildlife Refuge (HNWR) land managed by United States Fish and Wildlife Service (USFWS). AOC 10 is located in the eastern drainage, which is southeast of the Topock Compressor Station.
- AOC 11 located on HNWR land managed by USFWS. AOC 11 is located northeast of the Topock Compressor Station and south of Interstate-40.
- AOC 12, located partially on land owned and managed by PG&E, and partially on Havasu National Wildlife Refuge (HNWR) land managed by United States Fish and Wildlife Service (USFWS). AOC 12 is located northeast of the Topock Compressor Station and south of Interstate-40.
- AOC 14, located partially within the Caltrans Right-of-Way for Interstate 40 on HNWR land managed by USFWS, and partially on land owned and managed by Burlington Northern & Santa Fe Railroad (BNSF). AOC 14 is located northwest of the Topock Compressor Station, south of the Burlington Northern Santa Fe railroad tracks, and north of Interstate-40.
- AOC 1 and Solid Waste Management Unit (SWMU) 1, located in Bat Cave Wash. Bat Cave Wash is partially on PG&E property, partially on HNWR managed by USFWS, and partially on BNSF land. Bat Cave Wash is located west and north of the Topock



Compressor Station, and sample locations extend from south of the Topock Compressor Station to the confluence with the Colorado River in the north.

- Former 300B Pipeline Liquids Tank, located on HNWR managed by USFWS. This site is located east of the Topock Compressor Station and west of the Colorado River.
- Potential Pipe Disposal Area, located on HNWR managed by USFWS. This site is located west of the Topock Compressor Station and south of Interstate-40.
- BKG-01, located on land owned by San Bernardino County and managed by the Bureau of Land Management. BKG is located adjacent to Park Moabi Road, north of BNSF railroad tracks.
- BKG-02 and BKG-03, located on land owned by San Bernardino County and managed by the Bureau of Land Management. Background sample locations BKG-02 and BKG-03 are located within a large unnamed wash north of historic Route-66 and south of Park Moabi Road.
- BKG-04, located on land owned and managed by PG&E. Background sampling location BKG-04 is also located within a large unnamed wash north of historic Route-66 and south of Park Moabi Road.
- BKG-05, BKG-06 and BKG-07, located on land owned and managed by the Bureau of Land Management. These background sampling locations are located adjacent to an existing dirt pipeline maintenance road located west of the Topock Compressor Station and south of Interstate-40.
- BKG-08, BKG-09 and BKG-12, located on land located on HNWR managed by USFWS. These background sample locations are located southwest of the Topock Compressor Station and south of Interstate-40 within the upper reach of Batcave Wash, just downstream of and inactive rock quarry.
- BKG-10 and BKG-11, located on land located on HNWR managed by USFWS. These background sample locations are located southwest of the Topock Compressor Station and south of Interstate-40 within inactive rock quarry.
- BKG-13 and BKG-17, located on HNWR managed by USFWS. These background sample locations are located southwest of the Topock Compressor Station and south of Interstate-40 within inactive rock quarry.
- BKG-14, located on land owned and managed by PG&E. Background sampling location BKG-14 is also located northwest of the Topock Compressor Station, north of historic Route-66 and south of Park Moabi Road.
- BKG-15 and BKG-16, located on land owned and managed by PG&E. Background sampling locations BKG-15 and BKG-16 are located northwest of the Topock Compressor Station along the fence line of the IM-3 facility.

These investigation areas surround the PG&E Topock Compressor Station. These activities have been approved and are addressed in the *Programmatic Biological Assessment for Pacific Gas and Electric Topock Compressor Station Remedial and Investigative Actions* (PBA)

(CH2M HILL, 2007). Soil sampling activities followed all applicable General Project Management Measures in the PBA, 2007 USFWS letter of concurrence, and an August 22, 2008 letter from USFWS containing special conditions for the Soil Sampling Part A, Phase 1 Project.

## 1.1 Regional Environmental Setting

The Topock Compressor Station is located in a sparsely populated, rural area. Much of the nearby surrounding land is publicly owned by the federal government and has important spiritual meaning to local Indian tribes. Public lands in the area are owned and/or managed by a number of federal and regional agencies, including the Bureau of Land Management, USFWS, Bureau of Reclamation, and San Bernardino County.

Dominant features of the area include the Colorado River to the east; the Chemehuevi Mountains to the south; the Burlington Northern Santa Fe railroad tracks and bridge; and Interstate 40, which links Barstow, California and Topock, Arizona. Topography in the area is abrupt, rising from around 450 feet above mean sea level at the Colorado River to over 1,200 feet above mean sea level within one mile to the south and southwest.

The area is characterized by arid conditions and high temperatures. The surrounding land consists of a series of terraces divided by desert washes. The landscape within the project area is considerably eroded and can most suitably be described as badlands. The lands are made of small to moderately-sized terraces with very steep slopes. Terraces occurring in the project area are homogeneous, composed of rocky soils with very sparse vegetation. Structurally diverse vegetation in the project area is primarily limited to the Colorado River floodplain and the ephemeral washes.

## 1.2 Report Objectives and Organization

This biological completion report documents field activities associated with collection of soil samples at the nine locations listed above performed between August 22, 2008 and October 24, 2008.

The PBA (CH2M HILL, 2007) was prepared to determine any potential effect on species protected under the federal Endangered Species Act (ESA) resulting from remedial and investigative activities at the Topock Compressor Station. The USFWS concurred with the determinations provided in the PBA, as documented in a letter dated February 8, 2007 (USFWS, 2007). The field activities addressed in this report are included in the PBA; therefore, this report, as part of the PBA, serves as supporting documentation under the ESA for the evaluation of project effects to federally-listed species and resulting determinations.

This report has been prepared in compliance with the General Project Management Measure 23 of the PBA (CH2M HILL, 2007). This condition requires that, within 60 days of completion of construction activities, a brief report shall be prepared for the Bureau of Land Management and the HNWR. This report shall document the effectiveness of the mitigation measures, make recommendations for modifying the measures to enhance species

protection, and provide information on survey and monitoring activities, observed listed species, and the actual acreage disturbed by the project.

To comply with these requirements, this report contains:

- A description of the project activities (Section 2.0).
- Documentation of awareness training and compliance monitoring (Section 3.0).
- Project location and existing disturbed areas (Section 4.0).
- Pre- and post-activity surveys, including the observed listed species (Section 5.0).
- Conclusions, including a discussion of the effectiveness of the mitigation measures and recommendations for modifying the measures to enhance species protection (Section 6.0).

## 2.0 Project Description

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The project activities addressed in this report consisted of a soil sampling event at nine locations between August 22, 2008 and October 24, 2008. This section describes the soil sampling activities. The soil sampling locations are depicted in Figure 2-1 and Figure 4-1.

### 2.1 Soil Sampling Activities

Field activities were conducted at nine AOCs, one SWMU, and other undesignated areas as part of the Soil Sampling Part A, Phase 1 sampling project. In addition to these areas, field activities were conducted at 17 background locations. Data collected during these field activities will be used to supplement the existing soil sample data set collected during previous phases of investigation. Field activities conducted during this project include:

- Installation of boreholes for soil sample collection.
- Installation of trenches and potholes for soil sample collection and evaluation of the presence of buried fill and debris material.
- Modification of existing soil embankment in the East Ravine (AOC 10) to facilitate drill rig access.

Rotosonic and direct-push drilling methods, which involve advancing a core barrel through the subsurface, were used to install each borehole. Both the rotosonic and direct-push drilling rigs were track-mounted. The trenching, potholing, and soil embankment modification work was conducted using mechanical digging equipment, including a track-mounted excavator and a rubber-tire backhoe.

Following sample collection, each shallow borehole (less than 20 feet deep) was backfilled with bentonite chips. Three deeper borings installed at SWMU 1 and AOC 1 were backfilled with bentonite slurry. Each trench and pothole was backfilled with the material from that excavation.

### 3.0 Awareness Training and Compliance Monitoring

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In accordance with the General Project Management Measure 5 described in the PBA (CH2M HILL, 2007), awareness training was provided to personnel before the start of construction activities. The awareness training focused on the southwestern willow flycatcher (*Empidonax traillii extimus*) and the desert tortoise (*Gopherus agassizii*) for activities in the desert washes and uplands. PG&E and CH2M HILL biologists provided training to onsite personnel prior to initiating work activities. The core groups were trained at the project initiation meeting on August 20, 2008, and new personnel were identified at safety meetings each morning before work. Training included a description of each species; its habitat, natural history, threats, and legal protection under the ESA; potential penalties; current survey findings; management; and protection measures in the PBA, 2007 USFWS letter of concurrence, an August 22, 2008 letter from USFWS containing special conditions for the Soil Sampling Part A, Phase 1 Project, and the CDFG Streambed Alteration Agreement. The awareness training sign-off sheets are provided as Appendix A to this report.

During project activities, a designated PG&E or CH2M HILL field contact representative (FCR) provided compliance monitoring. In accordance with General Project Management Measure 2, the FCR was responsible for overseeing compliance with the mitigation measures.

## 4.0 Project Location and Existing Disturbance

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Various past activities have resulted in land disturbance of the general area of the Topock Compressor Station. The area is traversed by a major highway, a railway, several gas pipelines, gas pipeline access roads, overhead electric power lines, county roads, private property access roads, and parking areas.

### 4.1 Soil Sampling Locations

Most soil sampling locations described in Section 2.0, the associated construction staging areas, and the access routes were located within previously-disturbed areas on the Topock Compressor Station and HNWR land adjacent to the Topock Compressor Station.

- AOC 4 is located in an unvegetated narrow steep walled ravine southwest of the Topock Compressor Station. AOC 4 is only accessible by foot but has been disturbed by dumping of debris from a ledge above.
- AOC 9 is previously disturbed and is located southeast of the Topock Compressor Station on a slope behind a PG&E workshop. The slope is sparsely vegetated with creosote bush (*Larrea tridentata*), salt cedar (*Tamarix* spp.), and oleander (*Nerium oleander*).
- AOC 10 is a previously disturbed desert wash located southeast of the Topock Compressor Station. The wash is sparsely vegetated with creosote bush scrub species and has been disturbed by construction of earthen berms, culverts, roads, and pipelines within or adjacent to the wash.
- AOC 11 is located northeast of the Topock Compressor Station and south of Interstate-40 on sparsely vegetated land with creosote bush scrub species. This area has been previously disturbed by pipeline, well, and road construction.
- AOC 12 is sparsely vegetated with creosote bush scrub species and is a graded area located northeast of the Topock Compressor Station. This area has been previously disturbed by pipeline construction.
- AOC 14 is sparsely vegetated with creosote bush scrub species and is located on previously disturbed land south of the Burlington Northern Santa Fe railroad tracks and north of Interstate-40. AOC 14 is located northwest of the Topock Compressor Station.
- Bat Cave Wash (AOC 1 and SWMU 1) is a large desert wash that has been previously disturbed by grading, well, pipeline, and access road construction. AOC 1 and SWMU 1 are located west and northwest of the Topock Compressor Station..
- The Former 300B Pipeline Liquids Tank is an area that housed a liquids tank and is located on previously disturbed land sparsely vegetated with creosote bush scrub. This area is located east of the Topock Compressor Station and west of the Colorado River.

- Potential Pipe Disposal Area is on a previously disturbed area on HNWR. This site is sparsely vegetated with creosote bush scrub species and is located west of the Topock Compressor Station and south of Interstate-40.

Because the soil sampling locations, associated staging areas, and access routes have been used for past activities, these areas have sparse vegetation. All vegetation adjacent to pre-existing disturbed areas was avoided during project activities. All construction occurred within previously disturbed areas. No additional areas were disturbed by the activity, and no habitat loss occurred. Pre- and post-construction photographs are included as Appendix B.

## 4.2 Background Soil Sampling Locations

Seventeen background sample locations were established and sampled during this investigation. All but three background sample locations are located within previously disturbed areas or directly adjacent to previously disturbed land.

- BKG-01 is located on land previously disturbed by grading. This background sampling location is sparsely vegetated with creosote bush scrub species and situated adjacent a well maintained dirt road located east of Park Moabi Road.
- BKG-02, BKG-03, and BKG-04 are located within a large unnamed wash north of historic Route-66 and south of Park Moabi Road. The sample locations were established adjacent to the active channel to limit impacts to the wash. The wash is sparsely vegetated with Mojave desert wash species such as creosote bush, palo verde (*Cercidium* sp.), smoke tree (*Dalea spinosa*), catclaw acacia (*Acacia greggii*), and Mormon tea (*Ephedra* sp.).
- BKG-05 is located within a dirt road at the intersection of two pipeline maintenance roads. Since this sample location is within an actively maintained dirt road, it was previously disturbed and devoid of vegetation prior to sampling.
- BKG-06 and BKG-07 are located on previously disturbed land and situated adjacent to a maintained dirt road. These locations are sparsely vegetated with creosote bush scrub habitat species.
- BKG-08, BKG-09, and BKG-12 are located within Batcave Wash between the Topock Compressor Station downstream and an inactive rock quarry upstream. Although these sample locations have not been directly impacted by quarry activities, the area has seen some indirect impacts. Mined rocks line the channel from bank-to-bank for several hundred feet as a result of storm events carrying rock from the quarry downstream. This channel is devoid of vegetation, likely due to the high velocity of water conveyed through the canyon during storm events.
- BKG-10 and BKG-11 are located on land previously disturbed by past rock quarry operations. These two locations are located with the quarry area and are very sparsely vegetated with creosote bush scrub habitat species.
- BKG-13, BKG-14, and BKG-17 are located directly adjacent to land previously disturbed by construction of the IM-3 facilities. These background sample locations are located less

than five feet from previously disturbed land. These areas are very sparsely vegetated with creosote bush scrub habitat species.

- BKG-15 and BKG-16 are located on previously disturbed and graded land located outside the fence line of the IM-3 facility. These sample locations were devoid of vegetation prior to sampling and were accessed from the IM-3 facility.

As described above, background sample locations are located within previously disturbed areas or directly adjacent to previously disturbed land. Background sample locations BKG-02, BKG-03, and BKG-04 are located within a mostly undisturbed large unnamed desert wash. Equipment access and egress was kept to the active channel in order to limit impacts to the wash. In all cases, access to the background locations was kept to previously disturbed routes and to the active wash channel to limit impacts to biological resources. The background sample locations were situated no greater than seven feet from the edge of the active channel or a previously disturbed route. To access these sample locations, plywood was placed on the soil surface, extending from the access route to the sample location in order to not impact the ground surface, topography or desert pavement.

All vegetation was avoided during project activities. No additional areas were disturbed by the activity, and no habitat loss occurred. Pre- and post-construction photographs are included as Appendix B.



## 5.0 Pre- and Post-activity Surveys

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### 5.1 Southwestern Willow Flycatcher Surveys

Garcia and Associates (GANDA) conducted a protocol survey for the southwestern willow flycatcher (SWFL) (*Empidonax traillii extimus*) for Pacific Gas and Electric (PG&E) near the Topock Compressor Station, 15 miles southeast of Needles, California. The purpose of the survey was to determine the presence or absence of the federally and State of California threatened SWFL. Surveys were conducted following the survey protocol outlined in A Southwestern Willow Flycatcher Natural History and Survey Protocol (Sogge et al. 1997) and the changes outlined in the 2000 US Fish and Wildlife Service (USFWS) revision (USFWS 2000). Surveys were conducted from May 20 to 23, June 3 to 6, June 24 to 27, July 7 to 10, and July 14 to 16, 2008. The areas surveyed included some work sites and surrounding areas.

One pair of SWFL was detected on May 21, 22 and June 3, 2008 between call points A19 and A20 in Site A along the Arizona side of the Colorado River. Two additional pairs of SWFL were detected on May 22, 2008. Although SWFL were detected during the 2008 survey, the detections were most likely of transients, since no detections occurred after the first two survey periods (GANDA 2008a).

### 5.2 Desert Tortoise Surveys

GANDA conducted a 2008 yearly spring field survey for desert tortoise (*Gopherus agassizii*) on the lands surrounding Pacific Gas and Electric Company's (PG&E's) Topock Compressor Station near Needles, California. This area included the work sites and surrounding areas. Desert tortoise presence/absence surveys were conducted from April 23 – 25 and April 28 – May 1, 2008, which is during the active season for this species, in accordance with the protocol (USFWS 1992). Annual surveys are required by the PBA. The purpose of the surveys is to determine the presence or absence of the federally and state-threatened desert tortoise by following the guidelines published in the USFWS Field Survey Protocol for any Federal Action that May Occur Within the Range of the Desert Tortoise (protocol) (USFWS 1992). No desert tortoise were found during the surveys conducted in 2008 (GANDA, 2008b).

On September 24, 2008, during activities associated with implementation of soil sampling activities, a contractor located an aged tortoise chest plate (i.e., plastron) along the PG&E 300 B pipeline right of way near AOC 11C, which is east of the compressor station. Based on review of past reports, this appears to be a new find and is similar to earlier finds indicating that tortoises were there in the past. This area was not included in the initial surveys because the habitat was thought to be unsuitable for tortoise. General Project Management Measure 27 in the PBA (CH2M HILL, 2007) identifies actions required if a dead individual of a listed species is found. As per the PBA, the Bureau of Land Management and USFWS were notified. The plastron was left in place. In addition, the 2008 desert tortoise survey area

was compared to the location of the tortoise plastron, and it appears that the tortoise plastron is located in an area that was not included in previous desert tortoise surveys due to unsuitable habitat conditions. The discovery of the tortoise plastron was reported to federal agencies in a September 25, 2008 telephone call and in an October 2, 2008 email (CH2M HILL, 2008).

### 5.3 Preconstruction Surveys

Between August 19, 2008 and August 21, 2008, prior to the start of construction activity, qualified biologists surveyed work sites and surrounding areas for sensitive biological resources. No work occurred in the floodplain before September 30. No listed species or nesting birds were observed during the pre-activity survey. Photographs of pre-construction conditions are provided in Appendix B.

During the pre-construction survey, sensitive vegetation that was to be avoided was flagged, and the areas were photographed and conditions noted. On November 9, 2008 and December 20, 2008 following soil sampling and demobilization, a post-activity survey was conducted to document field conditions. No listed species were observed during the post-activity survey and this survey occurred outside of the avian nesting season. Photographs of post-construction conditions are provided as Appendix B. All sampling activities were confined to areas with pre-existing disturbance and active channels in the desert wash. No vegetation was cleared as a result of mobilization, soil sampling, and demobilization.

Flora and fauna observed during the pre- and post-activity survey are listed in Table 5-1.

**TABLE 5-1**

List of Observed Plants and Wildlife Incidental to Pre- and Post-activity Surveys  
*Biological Resources Completion Report for the Soil Investigation Project,*  
*Topock Compressor Station, Needles, California*

Common Name	Scientific Name
<b>Plants</b>	
Anderson lycium	<i>Lycium andersonii</i>
Apricot mallow	<i>Sphaeralcea ambigua</i> var <i>ambigua</i>
Arrow weed	<i>Pluchea sericea</i>
Beavertail cactus	<i>Opuntia basilaris</i>
Cat claw acacia	<i>Acacia greggii</i>
Creosote bush	<i>Larrea tridentata</i>
Desert fescue	<i>Vulpia microstachys</i> var <i>microstachys</i>
Desert trumpet	<i>Eriogonum inflatum</i>
Fluff grass	<i>Erioneuron pulchellum</i>
Honey mesquite	<i>Prosopis glandulosa</i>
Palo verde	<i>Parkinsonia</i> spp
Red brome	<i>Bromus madritensis</i> var. <i>rubens</i>
Rip-gut brome	<i>Bromus diandrus</i>
Russian thistle	<i>Salsola tragus</i>
Salt Cedar	<i>Tamarix ramosissima</i>

**TABLE 5-1**

List of Observed Plants and Wildlife Incidental to Pre- and Post-activity Surveys  
*Biological Resources Completion Report for the Soil Investigation Project,*  
*Topock Compressor Station, Needles, California*

Common Name	Scientific Name
Saltgrass	<i>Distichlis spicata</i>
Screwbean mesquite	<i>Prosopis pubescens</i>
Smoke tree	<i>Dalea spinosa</i>
Storks bill	<i>Erodium cicutarium</i>
<b>Reptiles</b>	
Side-blotched lizard	<i>Uta stansburiana</i>
Western whiptail	<i>Cnemidophorus tigris</i>
<b>Birds</b>	
Abert's towhee	<i>Pipilo aberti</i>
Black-throated sparrow	<i>Amphispiza bilineata</i>
California quail	<i>Callipepla californica</i>
Canyon wren	<i>Catherpes mexicanus</i>
Common raven	<i>Corvus corax</i>
Greater roadrunner	<i>Geococcyx californianus</i>
Great-tailed grackle	<i>Quiscalus mexicanus</i>
House finch	<i>Carpodacus mexicanus</i>
House sparrow	<i>Passer domesticus</i>
Ladder-backed woodpecker	<i>Picoides scalaris</i>
Lesser nighthawk	<i>Chordeiles acutipennis</i>
Mourning dove	<i>Zenaida macroura</i>
Red-tailed hawk	<i>Buteo jamaicensis</i>
Rock pigeon	<i>Columba livia</i>
Say's phoebe	<i>Sayornis saya</i>
Turkey vulture	<i>Cathartes aura</i>
White-crowned sparrow	<i>Zonotrichia leucophrys</i>
White-winged dove	<i>Zenaida asiatica</i>
<b>Mammals</b>	
Desert cottontail	<i>Sylvilagus audubonii</i>

## 6.0 Conclusion

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Soil sampling activities were approved by the federal regulatory agencies. In conformance with the PBA General Project Management Measures, personnel were provided with awareness training, and qualified biologists conducted pre- and post-activity surveys in all areas subject to construction use. A Field Contact Representative remained onsite during all construction activities.

The General Project Management Measures described in the PBA were effective in minimizing impacts to the work area and surrounding lands. One recommendation for modifying the measures to enhance species protection is being considered. Dirt roads, including pipeline access roads that cross between suitable and unsuitable habitat, will be surveyed during the annual protocol-level desert tortoise surveys. The project was conducted under a “may affect, but not likely to adversely affect” determination for the southwestern willow flycatcher, Mojave desert tortoise, Yuma clapper rail (*Rallus longirostris yumanensis*), razorback sucker (*Xyrauchen texanus*), and bonytail chub (*Gila elegans*), and a “no effect” determination for the Colorado pikeminnow (*Ptycheilus lucius*). In compliance with these determinations, there was no take of these species.

## 7.0 References

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CH2M HILL. 2007. *Programmatic Biological Assessment for Pacific Gas and Electric Topock Compressor Station Remedial and Investigative Actions*. January.

\_\_\_\_\_. 2008. Email from Mr. Gary Santolo/CH2M HILL. "Discovery of Desert Tortoise Plastron." October 2.

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\_\_\_\_\_. 2000. Southwestern Willow Flycatcher Protocol Revision 2000. July 11, 2000.

\_\_\_\_\_. 1992. Field Survey Protocol for any Federal Action that May Occur Within the Range of the Desert Tortoise. January 1992.

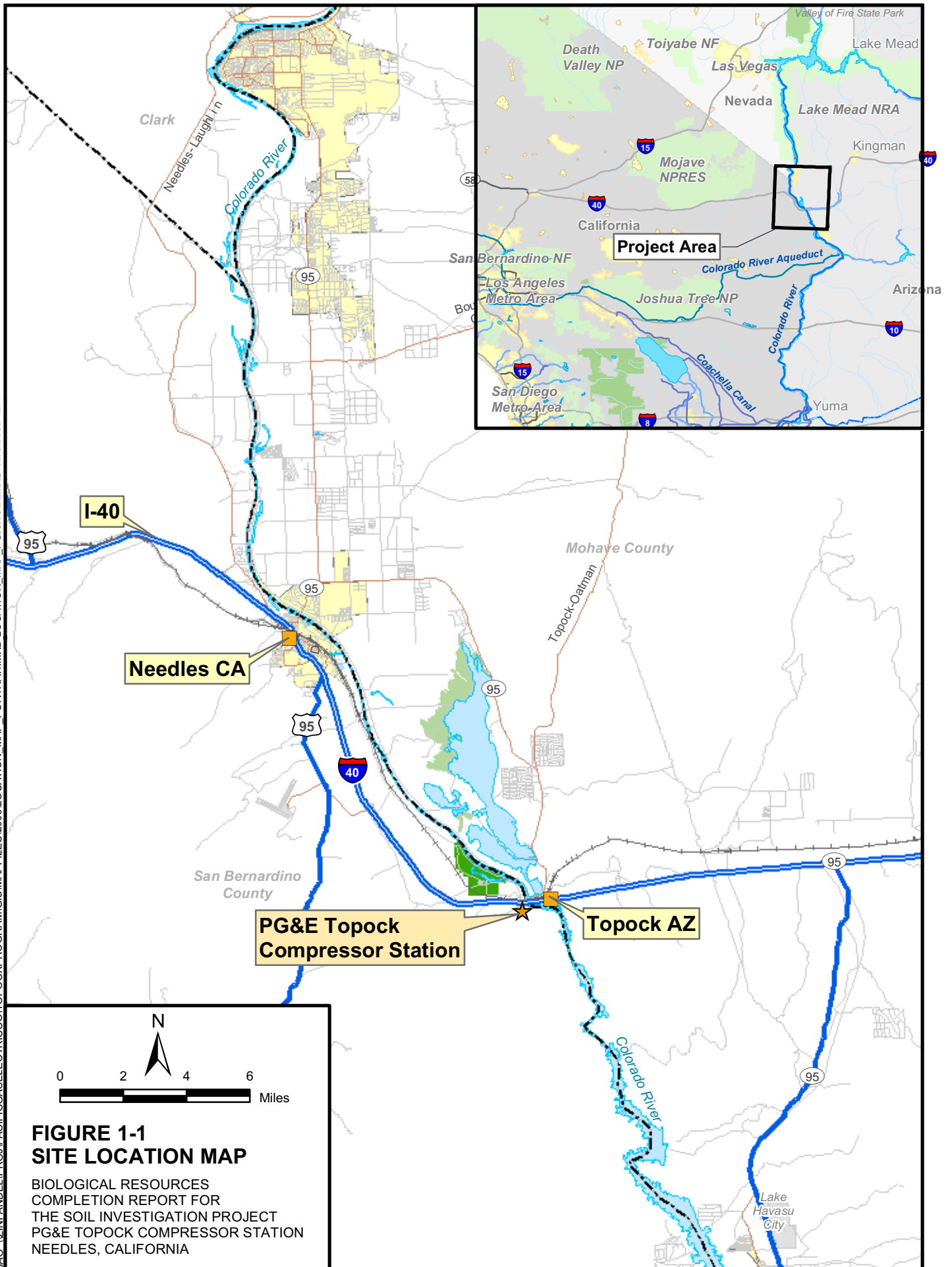
Reference August 22, 2008 USFWS approval

Reference CDFG Streambed Alteration Agreement

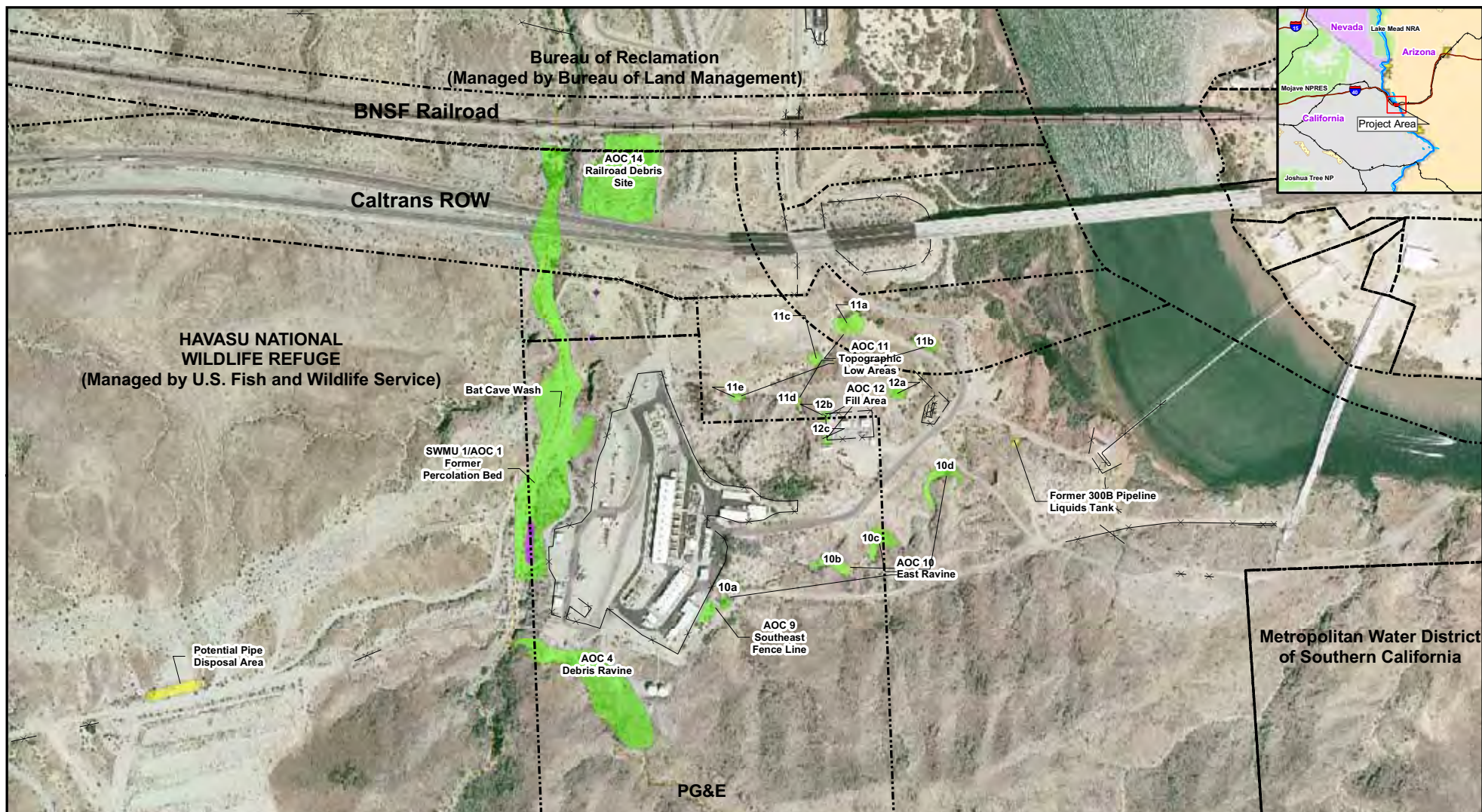
## Figures

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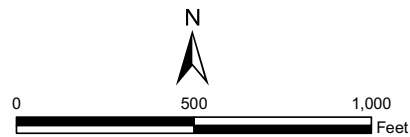






#### LEGEND

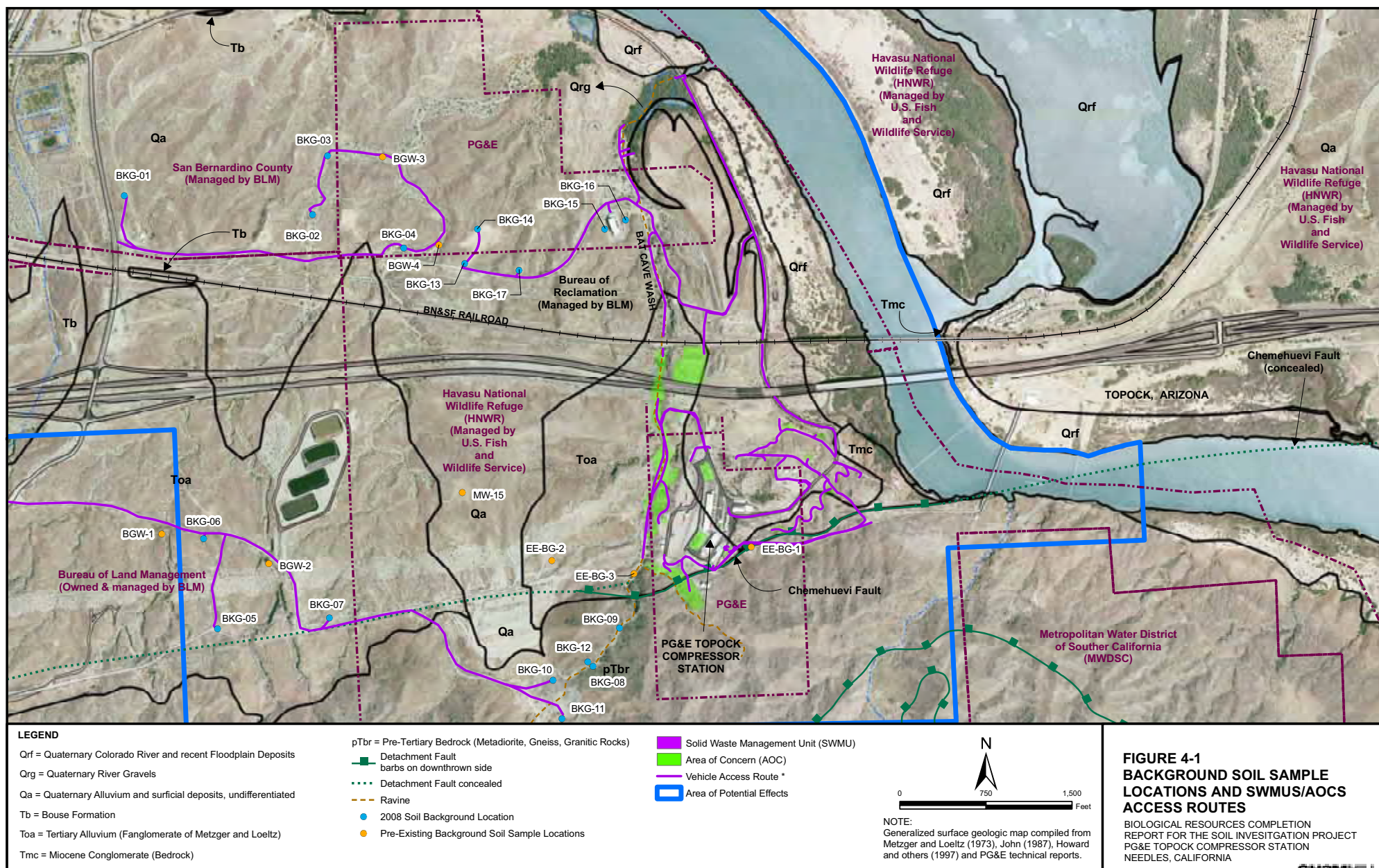
-  Solid Waste Management Unit (SWMU)
-  Area of Concern (AOC)
-  Other Undesignated Areas



**FIGURE 2-1  
SOLID WASTE MANAGEMENT UNITS, AREAS  
OF CONCERN, AND OTHER UNDESIGNATED  
AREAS TO BE INVESTIGATED**

BIOLOGICAL RESOURCES COMPLETION REPORT FOR  
THE SOIL INVESTIGATION PROJECT  
PG&E TOPOCK COMPRESSOR STATION  
NEEDLES, CALIFORNIA





**Appendix A**  
**Awareness Training Sign-off Sheets**

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August 21, 2008

1 of 2

# Project Initiation Meeting- Part A Soil Investigation

## Biological & Cultural Resources Awareness Training Attendance Sheet

### Pacific Gas and Electric Topock Groundwater Extraction & Remediation Project 2008

Your signature constitutes an agreement to abide by the biological and cultural resources avoidance and minimization measures presented in this training.

Date	Name (print)	Company/Affiliation	Telephone	Signature
8/21/08	Yvonne Meeks	PGA	805-234-2757	[Signature]
8-21-08	Bob Dass	PG&E	(415) 973-7601	[Signature]
8-21-08	Victoria McDougall - Ambro	T. McJannet Tribe	425-765-4475	[Signature]
8-21-08	MIKE CAVALLIERE	CH2M HILL	510-325-0022	[Signature]
8-21-08	Craig J. Johnson	BLM	928-718-3731	[Signature]
8-21-08	DANIEL HUBER	HUALAPAI NATION	928-769-2223	[Signature]
8/21/08	Carl Taylor	Tura-Key Const.	714-773-9840	[Signature]
8-21-08	Benny Collopy	CH2M HILL	541-740-3250	[Signature]
8-21-08	ROBERT HENNINGSON	CH2M HILL	714-227-4546	[Signature]
8-21-08	GEORGE SHANNON	BLM / DOI	928-505-1255	[Signature]
8-21-08	PAT MOLONEY	AF	310-770-6833	[Signature]
8-21-08	Dennis McDougall	IE	951-288-5567	[Signature]
8-21-08	Chris Guerre	DTSC	714-484-5422	[Signature]
8-21-08	Rick Newell	DOI	602-639-2753	[Signature]
8-21-08	BRIAN SARELA	GREY DRILLING	562-427-6879	[Signature]
8-21-08	CHRIS SMITH	PG&E	760-258-7899	[Signature]
8-21-08	GLENN CANO	PG&E	925-301-6754	[Signature]
8-21-08	Daniel Roberts	Greco Engineering	562-271-1006	[Signature]
8-21-08	Jesse Martinez	Brown Lab/BAC	562-344-9098	[Signature]
8-21-08	GERALD VOGT	CH2M HILL	530-229-5376	[Signature]
8-21-08	CHRISTINA HARTY	CH2M HILL	714-552-7652	[Signature]
8/21/08	Greg Neal	DTSC	914-484-5455	[Signature]
8/21/08	John Frazier	Northstar	919-324-1219	[Signature]
8/21/08	Linda Hall	DISPOS	760-265-7024	[Signature]
8/21/08	Cliff Reley	EWING CORP.	760-776-5962	[Signature]

X copy of report

X AND, ✓

✓

X

2 of 2

Your signature constitutes an agreement to abide by the biological and cultural resources avoidance and minimization measures presented in this training.

[illegible]

# Topock Compressor Station Supplemental Training Verification

Date	9-18-08	Meeting Leader Name (Print)	CURT RUSSELL PATE / DENISE GAUTHIER
Time Began	7:45 AM	Meeting Leader Signature	Denise Gauthier
Time Ended		Meeting Leader Employee ID	
Location	Topock Compressor Station		

## Topics Discussed

[Meeting Minutes - Please Attach (Refer to this document number and signed by Meeting Leader)  
Attach or Identify all documents, handouts or video provided, viewed and/or discussed]

OPERATION LIFE SAVER, HIGHWAY-RAIL GRADE CROSSINGS, <sup>THE 3 "E'S"</sup> CONSTRUCTION, ENGINEERING, EMERGENCY  
DOT X-ING NUMBER, HAZARDOUS TANK SIGNS, TIRE 49 CFR, THREE "L's"

## ATTENDEES

Print Last Name	Signature	Company Social Security No.	Print Last Name	Signature	Company Social Security No.
Hudson	[Signature]	Turn-key	Smith	[Signature]	PG&E
McCasland	[Signature]	Turn-key	TUREY	[Signature]	PG&E
CAVALIERE	[Signature]	CH2M HILL	EDGAR I. ARCEO	EIA.	BOART LONGYEAR
KELLY	[Signature]	CH2M HILL	GUERRE	[Signature]	DTSC
HANSEN	[Signature]	BOART LONGYEAR	MUNGOVIA	[Signature]	BOART LONGYEAR
DAVID CRUZ	[Signature]	GREGG	RUSSELL	[Signature]	PG&E
KIRSNIIS	[Signature]	GREGG	CANOSO	[Signature]	PG&E
DEACON	[Signature]	GREGG			
TWEIDT	[Signature]	NORTHSTAR			
BREWSTER	ARLIN	NORTHSTAR			
MOLONEY	[Signature]	Applied Dynamics			
LUCK	[Signature]	CH2M			
BRASSUS	[Signature]	Northstar			
Frank	[Signature]	E2			
Collins	[Signature]	CH2M Hill			

## **Appendix B**

### **Photograph Documentation**

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**Photo 1:** Pre-construction view of AOC 4



**Photo 2:** Post-construction view of AOC 4



**Photo 3:** Pre-construction view of AOC 4, Debris Ravine



**Photo 4:** Post-construction view of AOC 4, Debris Ravine.





**Photo 5:** Pre-construction view of AOC 9.



**Photo 6:** Post-construction view northwest of AOC 9.



**Photo 7:** Pre-construction view of AOC 10A.



**Photo 8:** Post-construction view of AOC 10A.

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2008

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**Photo 9:** Pre-construction view of AOC 10B.



**Photo 10:** Post-construction view of AOC 10B.



**Photo 11:** Pre-construction view of AOC 10C.



**Photo 12:** Post-construction view of AOC 10C.

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**Photo 13:** Pre-construction view of AOC 10D.



**Photo 14:** Post-construction view of AOC 10D.

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**Photo 15:** Pre-construction view of AOC 10D.



**Photo 16:** Post-construction view of AOC 10D.





**Photo 17:** Pre-construction view of AOC 11A.



**Photo 18:** Post-construction view of AOC 11A.



**Photo 19:** Pre-construction view of AOC 11B.



**Photo 20:** Post-construction view of AOC 11B.





**Photo 21:** Pre-construction view of AOC 11C



**Photo 22:** Post-construction view of AOC 11C.

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**Photo 23:** Pre-construction view of AOC 11D



**Photo 24:** Post-construction view of AOC 11D.

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**Photo 25:** Pre-construction view of AOC 11E.



**Photo 26:** Post-construction view of AOC 11E.



**Photo 27:** Pre-construction view of AOC 12A.



**Photo 28:** Post-construction view of AOC 12A.





**Photo 29:** Pre-construction view of AOC 12B.



**Photo 30:** Post-construction view of AOC 12B.



**Photo 31:** Pre-construction view of AOC 12C.



**Photo 32:** Post-construction view of AOC 12C.





**Photo 33:** Pre-construction view of AOC 14.



**Photo 34:** Post-construction view of AOC 14.



**Photo 35:** Pre-construction view of AOC 14.



**Photo 36:** Post-construction view of AOC 14.

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**Photo 37:** Pre-construction view of the former 300B Pipeline Liquids Tank location.



**Photo 38:** Post-construction view of the former 300B Pipeline Liquids Tank location.



**Photo 39:** Pre-construction view of the downstream portion of Batcave Wash near salt cedar stand.



**Photo 40:** Post-construction view of the downstream portion of Batcave Wash near salt cedar stand. .

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**Photo 41:** Pre-construction view of the downstream portion of Batcave Wash between Park Moabi Rd and Route 66.



**Photo 42:** Post-construction view of the downstream portion of Batcave Wash between Park Moabi Rd and Route 66.

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**Photo 43:** Pre-construction view of a portion of Batcave Wash between Route 66 and the BNSF Railroad Tracks.



**Photo 44:** Post-construction view of a portion of Batcave Wash between Route 66 and the BNSF Railroad Tracks.

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**Photo 45:** Pre-construction view of a portion of Batcave Wash between the BNSF Railroad Tracks and Interstate 40.



**Photo 46:** Post-construction view of a portion of Batcave Wash between the BNSF Railroad Tracks and Interstate 40.

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**Photo 47:** Pre-construction view of a portion of Batcave Wash between the BNSF Railroad Tracks and Interstate 40.



**Photo 48:** Post-construction view of a portion of Batcave Wash between the BNSF Railroad Tracks and Interstate 40.

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**Photo 49:** Pre-construction view of a portion of Batcave Wash between the BNSF Railroad Tracks and Interstate 40.



**Photo 50:** Post-construction view of a portion of Batcave Wash between the BNSF Railroad Tracks and Interstate 40.

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**Photo 51:** Pre-construction view of a portion of Batcave Wash north of Interstate 40.



**Photo 52:** Post-construction view of a portion of Batcave Wash north of Interstate 40.

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**Photo 53:** Pre-construction view of a portion of Batcave Wash north of Interstate 40.



**Photo 54:** Post-construction view of a portion of Batcave Wash north of Interstate 40.

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**Photo 55:** Pre-construction view of a portion of Batcave Wash north of Interstate 40.



**Photo 56:** Post-construction view of a portion of Batcave Wash north of Interstate 40.





**Photo 57:** Pre-construction view of a portion of Batcave Wash north of Interstate 40.



**Photo 58:** Post-construction view of a portion of Batcave Wash north of Interstate 40.



**Photo 59:** Pre-construction view of a potential pipe disposal area.



**Photo 60:** Post-construction view of a potential pipe disposal area.

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**Photo 61:** Pre-sampling view of BKG-01 sampling location.



**Photo 62:** Post-sampling view of BKG-01 sampling location.



**Photo 63:** Pre-sampling view of BKG-02 sampling location.



**Photo 64:** Post-sampling view of BKG-02 sampling location.





**Photo 65:** Pre-sampling view of BKG-03 sampling location.



**Photo 66:** Post-sampling view of BKG-03 sampling location.



**Photo 67:** Pre-sampling view of BKG-04 sampling location.



**Photo 68:** Post-sampling view of BKG-04 sampling location.





**Photo 69:** Post-sampling view of BKG-05 sampling location.



**Photo 70:** Post-sampling view of BKG-05 sampling location.



**Photo 71:** Pre-sampling view of BKG-06 sampling location.



**Photo 72:** Post-sampling view of BKG-06 sampling location.





**Photo 73:** Pre-sampling view of BKG-07 sampling location.



**Photo 74:** Post-sampling view of BKG-07 sampling location.





**Photo 75:** Pre-sampling view of BKG-08 sampling location.



**Photo 76:** Post-sampling view of BKG-08 sampling location.



**Photo 77:** Pre-sampling view of BKG-09 sampling location.



**Photo 78:** Post-sampling view of BKG-09 sampling location.





**Photo 79:** Pre-sampling view of BKG-10 sampling location.



**Photo 80:** Post-sampling view of BKG-10 sampling location.



**Photo 81:** Pre-sampling view of BKG-11 sampling location.



**Photo 82:** Post-sampling view of BKG-11 sampling location.





**Photo 83:** Pre-sampling view of BKG-12 sampling location.



**Photo 84:** Post-sampling view of BKG-12 sampling location.



**Photo 85:** Post-sampling view of BKG-13 sampling location.



**Photo 86:** Post-sampling view of BKG-13 sampling location.





**Photo 87:** Post-sampling view of BKG-14 sampling location.



**Photo 88:** Post-sampling view of BKG-14 sampling location.





**Photo 89:** Pre-sampling view of BKG-15 sampling location.



**Photo 90:** Post-sampling view of BKG-15 sampling location.



**Photo 91:** Post-sampling view of BKG-16 sampling location.



**Photo 92:** Post-sampling view of BKG-17 sampling location.





**Photo 93:** Post-sampling view of BKG-17 sampling location.