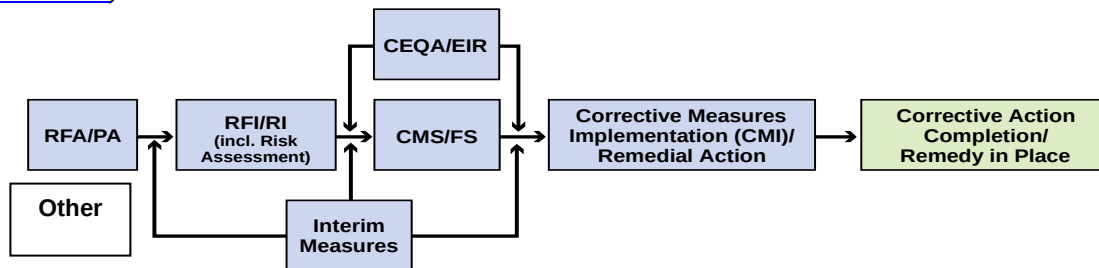


Topock Project Executive Abstract

Document Title: Biological Resources Completion Report for AOC 4 Removal Action, Topock Compressor Station, Needles, California Submitting Agency: Department of the Interior (DOI) Final Document? ☐ Yes ☒ No	Date of Document: 2/22/2011 Who Created this Document?: (i.e. PG&E, DTSC, DOI, Other) PG&E
Priority Status: ☒ HIGH ☐ MED ☐ LOW Is this time critical? ☒ Yes ☐ No	Action Required: ☐ Information Only ☒ Review & Comment Return to: <u>DOI</u> By Date: <u>TBD with DOI</u> ☐ Other / Explain:
Type of Document: ☐ Draft ☒ Report ☐ Letter ☐ Memo ☐ Other / Explain: Work Plan	What does this information pertain to? ☐ Resource Conservation and Recovery Act (RCRA) Facility Assessment (RFA)/Preliminary Assessment (PA) ☐ RCRA Facility Investigation (RFI)/Remedial Investigation (RI) (including Risk Assessment) ☐ Corrective Measures Study (CMS)/Feasibility Study (FS) ☐ Corrective Measures Implementation (CMI)/Remedial Action ☐ California Environmental Quality Act (CEQA)/Environmental Impact Report (EIR) ☒ Interim Measures Other / Explain:)
What is the consequence of NOT doing this item? What is the consequence of DOING this item? This Biological Resources Completion Report is required to be in compliance with the Programmatic Biological Assessment (PBA) for Pacific Gas and Electric Topock Compressor Station Remediation and Investigation Action (or PBA, January 2007).	Is this a Regulatory Requirement? ☒ Yes ☐ No If no, why is the document needed?
Other Justification/s: ☐ Permit ☐ Other / Explain:	
Brief Summary of attached document: This Biological Resources Completion Report is submitted in conformance with the approved Final Work Plan for the Time-Critical Removal Action at AOC 4 Debris Ravine, Pacific Gas and Electric Company Topock Compressor Station, Needles, California, (or TCRA Work Plan, dated December 18, 2010); the PBA, and the Master Streambed Alteration Agreement (or MSAA, California Department of Game and Fish (CDFG) Notification No. 1600-2005-0140-R6, as amended in January 2007). The Biological Resources Completion Report presents the findings of pre- and post-activity biological survey results and describes the project disturbance. 1.60 acres of temporary disturbance were created by the TCRA of the 3.0 acres of upland disturbance allowed under the PBA. Of the 1.60 acres total upland disturbance measured under PBA compliance, a smaller area of 0.115 acres also represented disturbance measured for MSAA compliance: 0.043 acres of disturbance occurred within the AOC 4 Debris Ravine and 0.072 acres in Bat Cave Wash at its confluence with the Debris Ravine. These latter two areas are recognized as Jurisdictional Waters of the U.S and Waters of the State. There was no take of threatened or endangered species by the TCRA, in compliance with the PBA determinations. Written by: PG&E	
Recommendations: Review and provide comments to DOI.	
How is this information related to the Final Remedy or Regulatory Requirements: This Biological Resources Completion Report is required by the Programmatic Biological Assessment (2007).	
Other requirements of this information? None	

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).



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

Biological Resources Completion Report for AOC 4 Removal Action, 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

February 14, 2011

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Acronyms and Abbreviations

AOC	area of concern
CDFG	California Department of Fish and Game
COPC	constituent of potential concern
COPEC	constituent of potential ecological concern
Cr(VI)	hexavalent chromium
DOI	United States Department of the Interior
DTSC	California Environmental Protection Agency Department of Toxic Substance Control
ESA	Endangered Species Act
HNWR	Havasu National Wildlife Refuge
MBTA	Migratory Bird Treaty Act
MSAA	Master Streambed Alteration Agreement
PAH	polycyclic aromatic hydrocarbon
PBA	<i>Programmatic Biological Assessment for the Pacific Gas and Electric Topock Compressor Station Remedial and Investigative Actions</i>
PCBs	polychlorinated biphenyls
PG&E	Pacific Gas and Electric Company
RCRA	Resource Conservation and Recovery Act
RFI/RI	RCRA facility investigation/remedial investigation
SAA	Streambed Alteration Agreement
TCRA	Time-Critical Removal Action
TCS	Topock Compressor Station
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 (RCRA) corrective action process under an agreement between PG&E and the California Environmental Protection Agency Department of Toxic Substances Control (DTSC), as well as under the Comprehensive Environmental Response, Compensation, and Liability Act under an agreement between PG&E and the United States Department of the Interior (DOI). Under the terms of these agreements, PG&E is conducting the RCRA facility investigation/remedial investigation (RFI/RI) to identify and evaluate the nature and extent of hazardous waste and constituent releases at the compressor station.

The *Final RCRA Facility Investigation/Remedial Investigation Report, Volume 1 – Site Background and History* (RFI/RI Volume 1) (CH2M HILL, 2007a) identifies the Solid Waste Management Units, areas of concern (AOCs), and other undesignated areas at the Topock Compressor Station (collectively referred to as the investigation areas) based on review of company records, interviews with current and former employees, and review of government agency files.

AOC 4 is one of the areas identified in the RFI/RI Volume 1. AOC 4 is located on PG&E property, except for a small portion of the westernmost end, which extends onto Havasu National Wildlife Refuge (HNWR). The HNWR is managed by the United States Fish and Wildlife Service (USFWS).

AOC 4 comprises a narrow, steep-sided arroyo that drains into Bat Cave Wash at the southwest corner of the compressor station. Operational history at AOC 4 is not well documented; however, over the years, fill material and debris have been deposited over the northern slope, with some debris accumulating in the bottom of the ravine.

Based on observations made during the recent investigation, there are two primary areas of fill material and debris deposition at AOC 4, which include:

- The western portion of the north side (south-facing slope) of the ravine.
- A smaller area of fill material concentrated at the upper end of a service road in the northeastern portion of the AOC.

Constituents of potential concern (COPCs) and constituents of potential ecological concern (COPECs) for AOC 4 identified in the RFI/RI Volume 1 include Title 22 metals, hexavalent chromium (Cr[VI]), polycyclic aromatic hydrocarbons (PAHs), and asbestos. Subsequent to the RFI, dioxins and polychlorinated biphenyls (PCBs) were identified in additional debris samples from AOC 4.

The removal action activities were completed as outlined in the *Final Work Plan for Time-Critical Removal Action at AOC 4* (CH2M HILL, 2009)

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, 2007b). Activities followed all applicable General Project Management Measures in the PBA, a 2007 USFWS letter of concurrence (USFWS, 2007), Streambed Alteration Agreement (CDFG Notification No. 1600-2005-0140-R6, as amended in January 2007), and DOI approval letter dated January 7, 2010 (DOI, 2010). The project was conducted under the authority of Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Section 104 and was exempted from administrative permitting requirements. The CDFG (Mr. David Elms) was notified of the upcoming work in a letter from PG&E dated January 18, 2010.

The AOC 4 Time-Critical Removal Action (TCRA) work was performed in compliance with substantive requirements of the Master Streambed Alteration Agreement (MSAA), under the CERCLA exemption. The disturbed area under the MSAA was 0.043 acres of temporary disturbance in the bedrock/boulder ephemeral AOC 4 debris ravine channel. The area of temporary disturbance for the gabion acre for the gabion at the confluence of the AOC 4 Debris Ravine with Bat Cave Wash was 0.072 acres. Almost all of the 1.6-acre area within the AOC 4 TCRA is upland and falls under the 3.0 acres of disturbance allowed under the *Topock Programmatic Biological Assessment for the Pacific Gas and Electric Topock Compressor Station Remedial and Investigative Actions* (Topock PBA), rather than under the MSAA.

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 United States 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 1 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 the removal action in AOC 4, also known as the Debris Ravine. Preactivity and postactivity conditions were also documented for previously disturbed areas used as waste management areas and equipment staging areas from January 26, 2010, through December 16, 2010.

The PBA (CH2M HILL, 2007b) 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, 2007b). 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:

- Documentation of awareness training and compliance monitoring (Section 2.0)
- Project activity description (Section 3.0)
- Project location and existing disturbed areas (Section 4.0)
- Preactivity and postactivity 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 Awareness Training and Compliance Monitoring

In accordance with the General Project Management Measure 5 described in the PBA (CH2M HILL, 2007b), 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 January 26, 2010, 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. 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 provided compliance monitoring. In accordance with General Project Management Measure 2, the field contact representative was responsible for overseeing compliance with the mitigation measures.

3.0 Project Activity Description

Prior to removal activities at the site, runoff and runoff controls were installed. Two temporary check dams were constructed within the drainage channel itself using a combination of hay bales, wire reinforced silt fencing, rock and other erosion control methods. The first check dam was constructed at the upgradient side of the drainage near the southeast border of removal activities. This check dam was constructed to help divert water from precipitation events flowing toward work areas of the site. A temporary pipeline was constructed at the upgradient low point of this check dam and was used to convey collected waters from upgradient sources by gravity flow through closed pipe to the downstream end of the work area. This flexible pipeline followed the bottom of the ravine allowing temporary removal while the work was being conducted. The second check dam was constructed at the northwest end (downstream) of the drainage. The flexible pipeline used in the upgradient check dam was discharged below the downstream check dam. This downstream dam served as a settling and filtration barrier to slow runoff leaving the site and to reduce the potential for sediment migrating offsite.

In general, the removal of fill material and debris began at the upper elevation of the ravine slope and progressed from the southeast (upstream) to the northwest (downstream), as practicable.

To the extent possible, removed material was directly loaded into covered bins. As each bin was filled and covered, it was then moved to the waste staging area. A clean, empty bin was then positioned within reach of the excavator that was removing the material.

A rock gabion was also installed in the ravine outfall to Bat Cave Wash downstream of Sub-area F at the start of AOC 4 work activities. The gabion was installed downstream from the two temporary check dams described in the work plan. The gabion (cobble-filled wire baskets lined with filter fabric) acts as a sediment filter and retains any debris that is washed out of the drainage during seasonal rains.

4.0 Project Location and Existing Disturbance

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 Removal Action Area

The removal area described in Section 2.0, the two waste management areas, and six associated equipment 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. These locations are presented in Figures 2 and 3.

- **AOC 4:** A desert ravine located south of the Topock Compressor Station (TCS). The ravine has very steep walls, is sparsely vegetated with creosote bush (*Larrea tridentata*) scrub and mesquite (*Prosopis* spp.), and has been previously disturbed by dumping.
- **Gabion:** A rock gabion was installed in the ravine outfall to Bat Cave Wash downstream of Subarea F (see Figure 4). The outfall area was dominated by catclaw acacia (*Senegalia* [*Acacia*] *greggii*) and California flannelbush (*Fremontodendron californicum*), which were trimmed back but not completely removed. The HNWR authorized the removal of the vegetation at the gabion location based on two communications: the email transmittal of gabion installation and soil sampling plans on January 22, 2010, by PG&E; and the clarification email transmittal dated February 5, 2010, and sent by CH2M HILL on PG&E's behalf to USFWS and HNWR. Both of those transmittals requested reply from USFWS only if there were any differences to the plan or clarifications. Additionally, site meetings on the week of January 25 and February 8 with Carrie Marr and other HNWR representatives reviewed and observed the gabion installation and the collection of several soil samples from the gabion location.
- **Equipment Staging Areas:** Six equipment staging areas were identified for the removal action. These areas were used for the staging of equipment and clean empty waste containers arriving onsite. In accordance with standard site procedures, all idle powered equipment was staged over containment devices to prevent the release of any leaked fuel, hydraulic fluids, or other hazardous materials to the environment. These six areas (Figure 3) were identified for equipment staging in the approved TCRA Work Plan because they had been previously disturbed and have little to no native vegetation present.
- **Waste Management Areas:** Waste management areas include all areas where waste was handled before being containerized and subsequently staged. These two areas (Figure 3) were identified for waste management in the approved TCRA Work Plan because they had been previously disturbed and denuded of vegetation.

Vegetation adjacent to existing disturbed areas was avoided during project activities. All construction occurred within previously disturbed areas. Equipment access and egress to the mouth of AOC 4 was kept to the active channel to limit impacts to the banks of the wash and minimize erosion. In all cases, access was restricted to previously disturbed routes and to the active wash to limit impacts to biological resources. Additionally, worker access to the short portion of the AOC 4 ravine east of the confluence with Bat Cave Wash, where the Debris Ravine is incised into bedrock and overhung by indurated sediments, was prohibited for safety reasons.

No additional areas were disturbed by the activity, and minimal temporary habitat loss occurred. Preactivity and postactivity photographs are included as Appendix B.

5.0 Preactivity and Postactivity Surveys

5.1 Surveys

Prior to commencing the removal action of AOC 4, a qualified biologist conducted a preactivity survey on January 26, 2010. The survey of AOC 4, the proposed equipment staging areas, and waste management areas consisted of a pedestrian survey. The focus of the survey was to identify sensitive plant and wildlife species, nests, and burrows, and to document existing disturbance. No listed species or nesting birds were observed during the preactivity survey. During the preactivity survey, sensitive vegetation that was to be avoided such as a mature honey mesquite (*Prosopis glandulosa*) on the channel bottom of AOC 4 debris ravine was flagged. Native vegetation adjacent to the AOC 4 removal area was also flagged to avoid disruption when moving equipment and materials. Areas identified for disturbance were photographed and are provided in Appendix B of this report. Additionally, site-wide protocol surveys were conducted at Topock for both the Southwest Willow Flycatcher and Desert Tortoise from 2005 through 2009, and for Southwest Willow Flycatcher only in 2010. These protocol surveys had negative findings (nesting Southwest Willow Flycatcher absent and no Desert Tortoise present) in all years.

After completion the removal action, a qualified biologist conducted a postactivity survey on December 16, 2010. AOC 4, equipment staging areas, and waste management areas were surveyed to document disturbance of the removal action. The survey consisted of walking accessible areas and confirming the removal area was the same as what was submitted in the final work plan. Photographs were also taken from the same locations the preactivity photos were taken to document the disturbance and are also provided in Appendix B. Flora and fauna observed during the preactivity and postactivity survey are listed in Table 5-1.

TABLE 5-1
List of Plants and Wildlife Observed During Preactivity and Postactivity Surveys
Biological Resources Completion Report for the Time-Critical Removal Action at AOC 4, PG&E Topock Compressor Station, Needles, California

Common Name	Scientific Name ¹
Plants	
Allscale	<i>Atriplex polycarpa</i>
Anderson's lycium	<i>Lycium andersonii</i>
Apricot mallow	<i>Sphaeralcea ambigua</i> var. <i>ambigua</i>
Beavertail cactus	<i>Opuntia basilaris</i>
Brittlebush	<i>Encelia farinosa</i>
Catclaw	<i>Senegalia</i> [Acacia] <i>greggii</i>
White cheesebush	<i>Ambrosia</i> [Hymenoclea] <i>salsola</i>
Creosote bush	<i>Larrea tridentata</i>

TABLE 5-1

List of Plants and Wildlife Observed During Preactivity and Postactivity Surveys
Biological Resources Completion Report for the Time-Critical Removal Action at AOC 4, PG&E Topock Compressor Station, Needles, California

Common Name	Scientific Name ¹
Ovate plantain	<i>Plantago ovata</i>
Desert trumpet	<i>Eriogonum inflatum</i>
Devil's spine-flower	<i>Chorizanthe rigida</i>
California flannelbush	<i>Fremontodendron californicum</i>
Fluff grass	<i>Erioneuron pulchellum</i>
Honey mesquite	<i>Prosopis glandulosa</i>
Blue palo verde	<i>Parkinsonia florida</i>
Pygmy-cedar	<i>Peucephyllum schottii</i>
Foxtail brome	<i>Bromus madritensis</i> ssp. <i>rubens</i>
Russian thistle	<i>Salsola tragus</i>
White bursage	<i>Ambrosia dumosa</i>
Screwbean mesquite	<i>Prosopis pubescens</i>
Storks bill	<i>Erodium cicutarium</i>
Reptiles	
Side-blotched lizard	<i>Uta stansburiana</i>
Birds	
California quail	<i>Callipepla californica</i>
Common raven	<i>Corvus corax</i>
House finch	<i>Carpodacus mexicanus</i>
Mourning dove	<i>Zenaida macroura</i>
Rock pigeon	<i>Columba livia</i>
Say's phoebe	<i>Sayornis saya</i>
Turkey vulture	<i>Cathartes aura</i>
Mammals	
Black-tailed jackrabbit	<i>Lepus californicus</i>
Desert cottontail	<i>Sylvilagus audubonii</i>

¹ Plant nomenclature follows The Jepson Manual (Hickman, 1993), except for addenda published on the Jepson Herbarium Online Interchange (2011).

6.0 Conclusion

The removal action activities were approved by the federal and State regulatory agencies and were subject to the Topock PBA and Streambed Alteration Agreement (SAA). The project was conducted under the authority of CERCLA Section 104 and was exempted from administrative permitting requirements.

In conformance with the SAA, the California Department of Fish and Game (CDFG) was contacted prior to initiation of the Project, and conditions of the SAA were followed. In addition, all disturbed areas were restored to near original condition and there was no take of State or federal special-status species, including species protected by the Migratory Bird Treaty Act (MBTA), by Project activities.

In conformance with the PBA General Project Management Measures, personnel were provided with awareness training, and qualified biologists conducted preactivity and postactivity surveys in all areas subject to construction use. A field contact representative remained onsite during all construction activities.

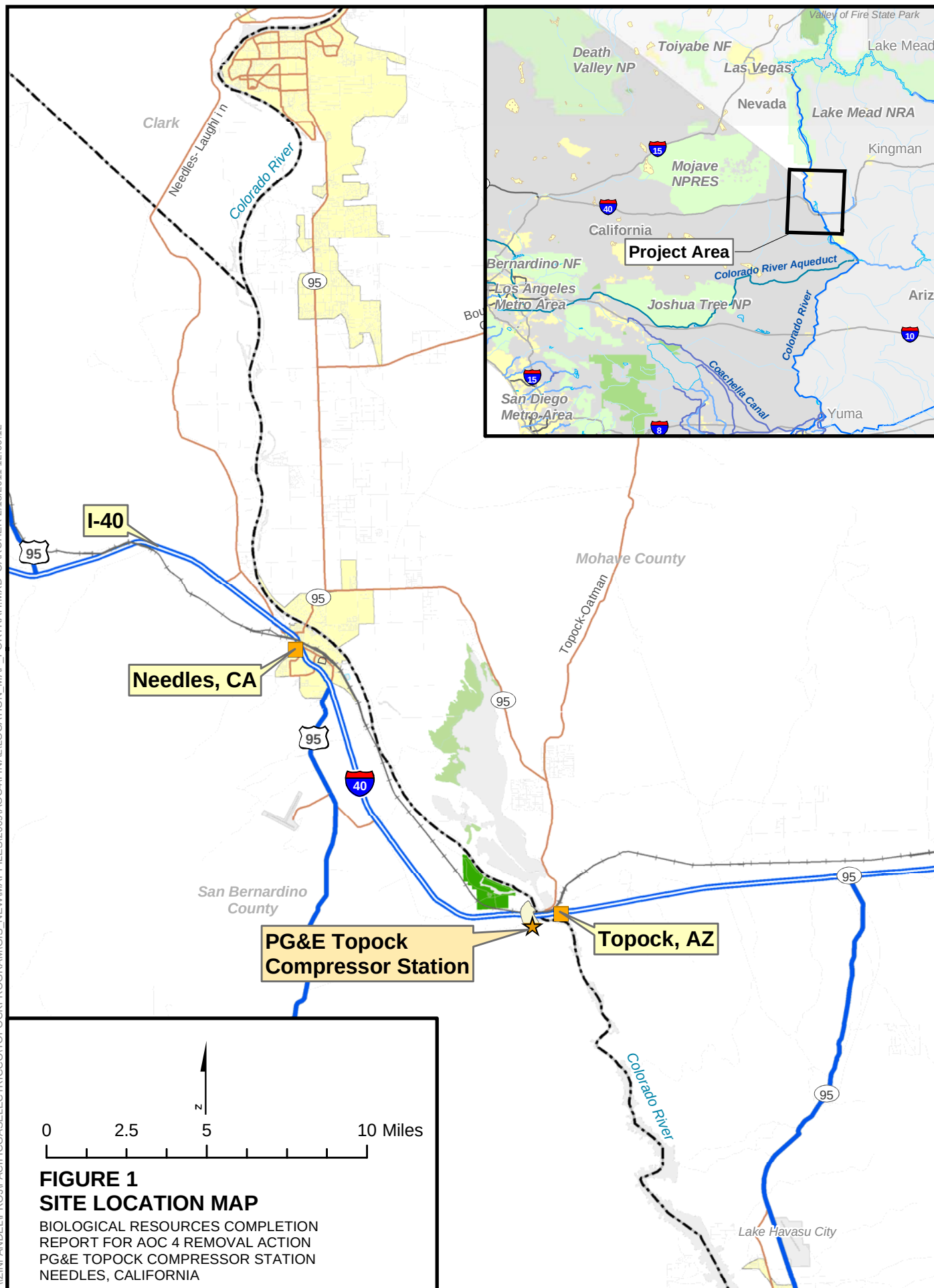
Several creosote bushes were removed along the north wall of the ravine and one honey mesquite (*Prosopis glandulosa*) was trimmed as part of the removal action. During the removal action, contaminated soil was removed from the root ball of this mesquite and replaced with clean soil). Approximately 69,845 square feet (1.60 acres) was disturbed, and 11,774 cubic yards of soil/waste was removed from AOC 4. Of the 1.60 acres of total disturbance for the removal action, approximately 0.043 acres were temporarily disturbance within the AOC 4 debris ravine channel. Approximately 0.072 additional acres were also disturbed by the placement of the gabion structure on the channel surface at the mouth of Debris Ravine. These latter two areas, totaling 0.115 acres, are recognized as jurisdictional Waters of the U.S. and Waters of the State.

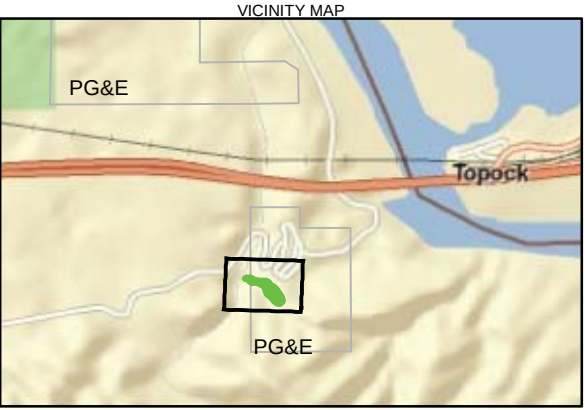
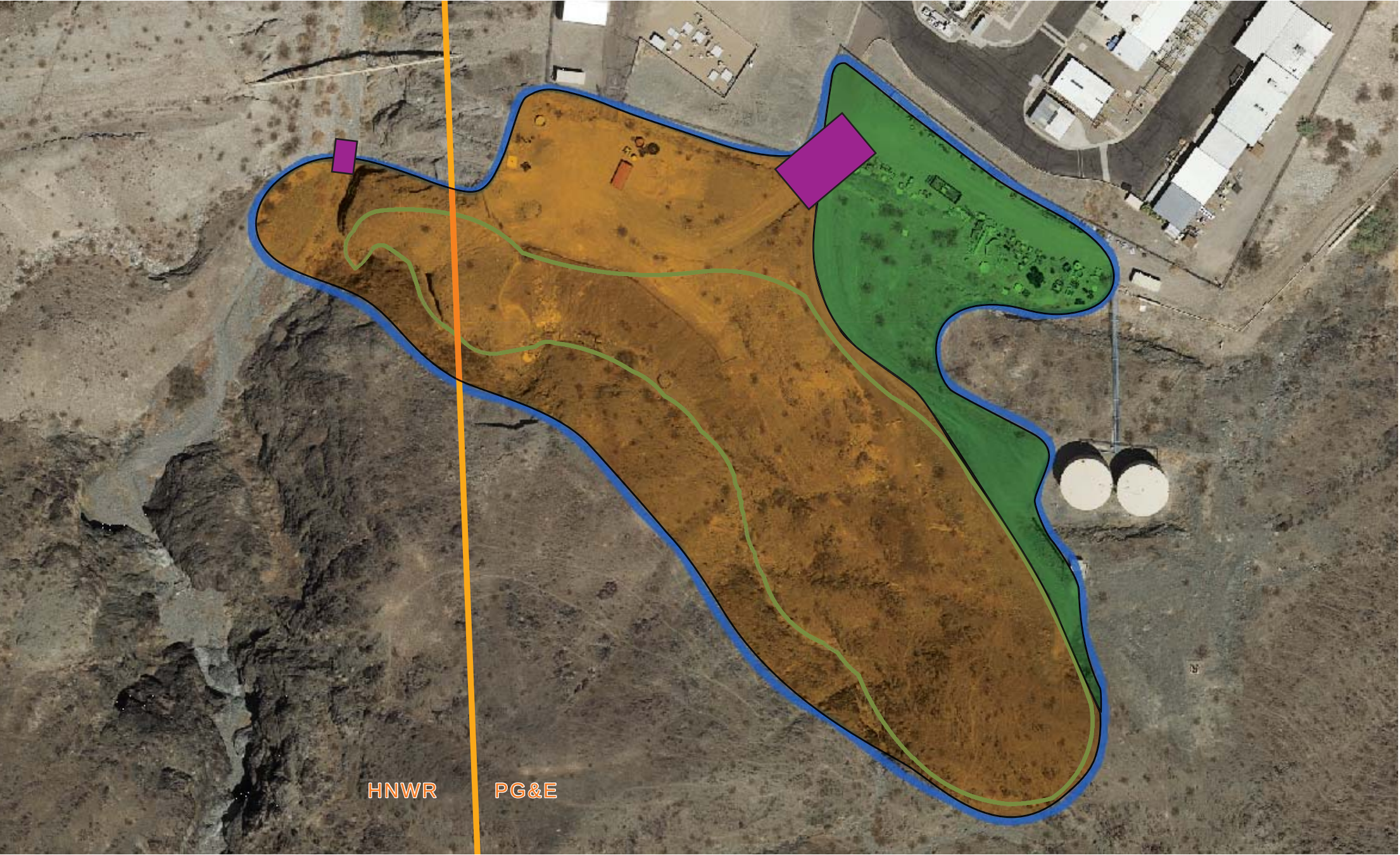
The General Project Management Measures described in the PBA were effective in minimizing impacts to the work area and surrounding lands. The project was conducted under a “may affect, but not likely to adversely affect” determination for the southwestern willow flycatcher, Mojave desert tortoise, Yuma clapper rail (*Rallus longirostris yumanensis*), razorback sucker (*Xyrauchen texanus*), and bonytail chub (*Gila elegans*) and under a “no effect” determination for the Colorado pikeminnow (*Ptychocheilus lucius*). In compliance with these determinations, there was no take of these species.

7.0 References

- CH2M HILL. 2007a. *Final RCRA Facility Investigation/Remedial Investigation Report, Volume 1 – Site Background and History* (RFI/RI Volume 1)
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- . 2010b. *Email transmittal to Linda Miller and Carrie Marr, USFWS, “Gabion Construction Details”. Dated January 22, 2010.*
- United States Department of the Interior (DOI). 2008. *Letter to Yvonne Meeks PG&E. “PG&E Topock Compressor Station Remediation Site –Federal agency consultation on Work Plan for Time-Critical Removal Action at AOC 4, dated January 7, 2010.”*
- . 2010. *Letter to Yvonne Meeks PG&E. Conditional Approval of Work Outlined in the Final Work Plan for Time Critical Removal Action at AOC4 Debris Ravine, dated January 7, 2010.*
- United States Fish and Wildlife Service (USFWS). 2007. *Letter to Field Manager, Lake Havasu Field Office, Bureau of Land Management. “Programmatic Biological Assessment for Pacific Gas and Electric Topock Compressor Station Remedial Investigative Actions, January 2007.” Dated February 8, 2007.*

Figures





- LEGEND**
- Property Boundary
 - AOC 4 Boundary From RFI (2007)
 - AOC 4 Primary Work Zone
 - Primary Support Zone
 - Contaminant Reduction Zones
 - General Exclusion Zone Area
 - HNWR Havasu National Wildlife Refuge
(Managed by U.S. Fish and Wildlife Service)

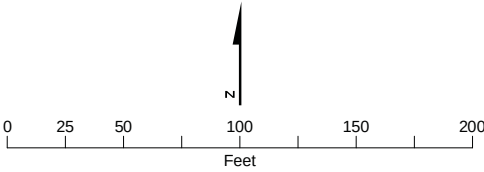
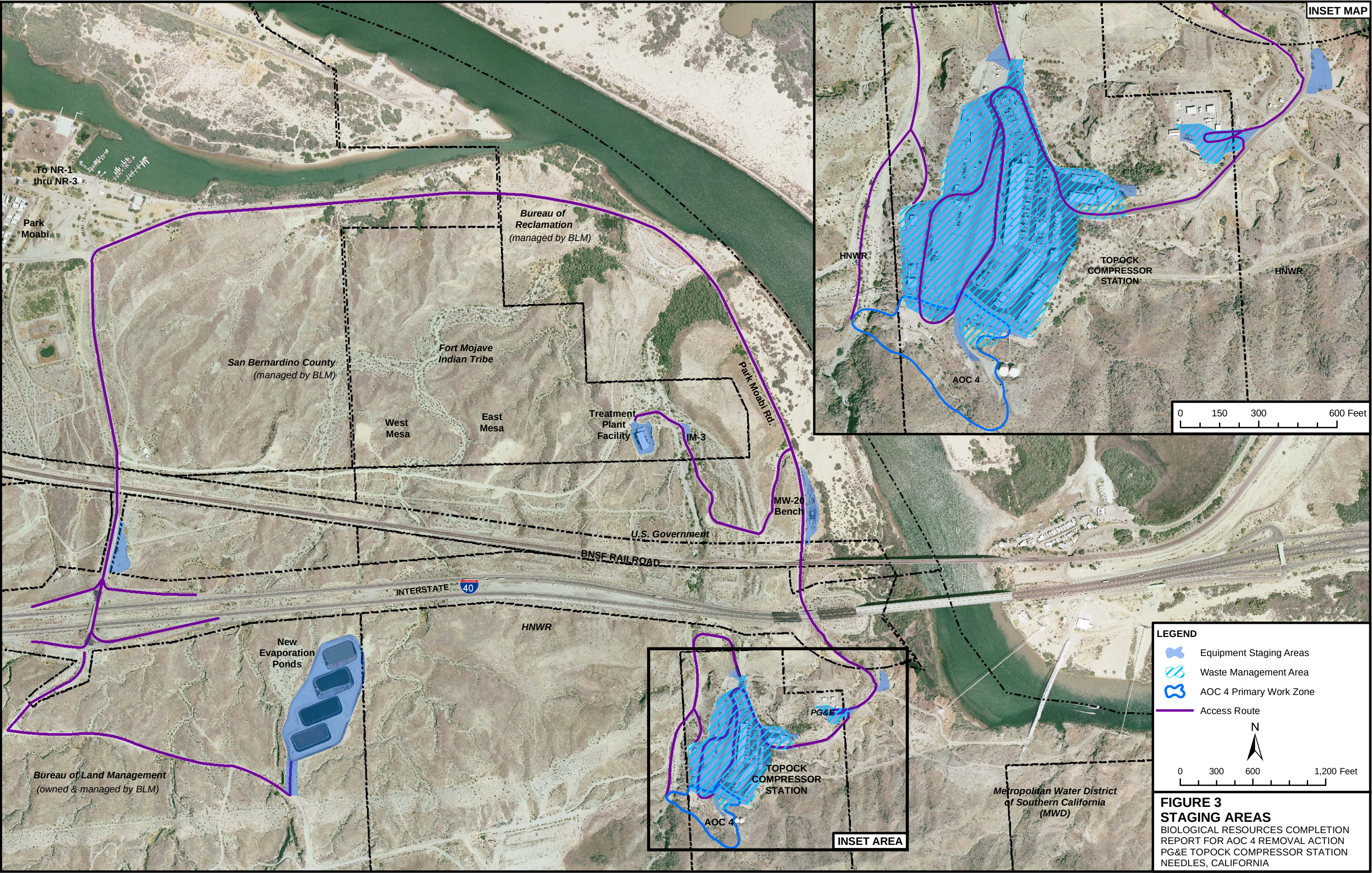
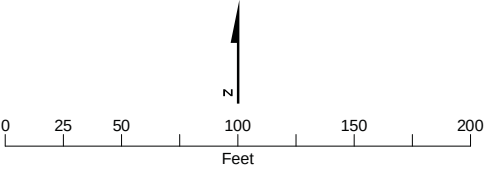
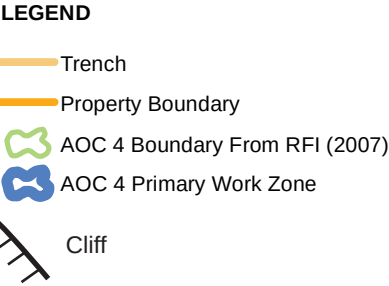
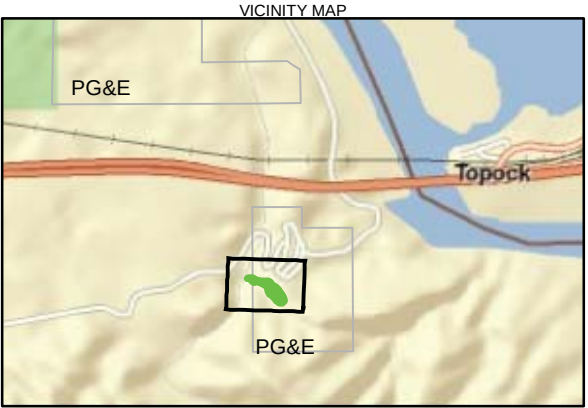
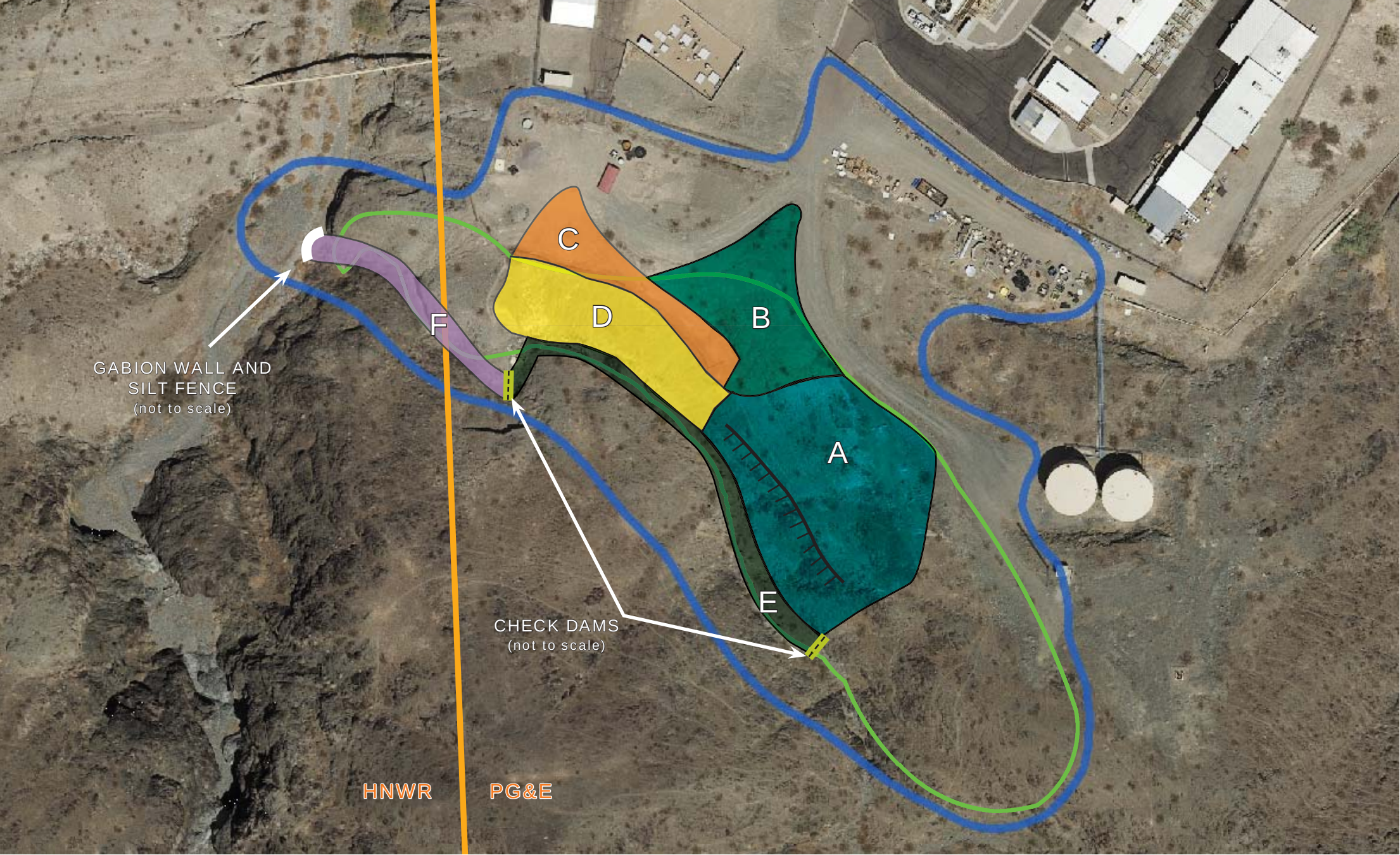


FIGURE 2
DESIGNATED WORK ZONES
 BIOLOGICAL RESOURCES COMPLETION
 REPORT FOR AOC 4 REMOVAL ACTION
 PG&E TOPOCK COMPRESSOR STATION
 NEEDLES, CALIFORNIA





Area	Description
A	Eastern Slope and Burned Area
B	Upper Portion of Primary Slope
C	Plateau of Primary Slope
D	Lower Portion of Primary Slope
E	Ravine Bottom
F	Ravine Bottom - Unsafe Access

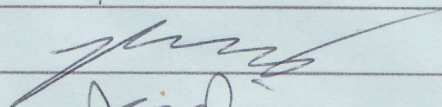
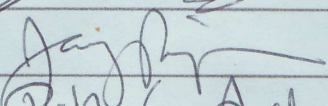
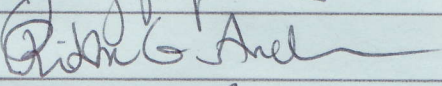
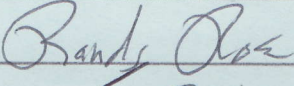
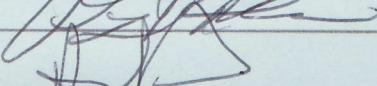
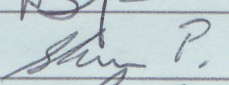
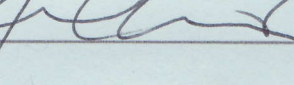
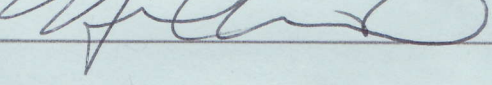
FIGURE 4
REMOVAL AREAS AND
GABION LOCATION
 BIOLOGICAL RESOURCES COMPLETION
 REPORT FOR AOC 4 REMOVAL ACTION
 PG&E TOPOCK COMPRESSOR STATION
 NEEDLES, CALIFORNIA

Appendix A

Awareness Training Sign-Off Sheets

FCR TRAINING

1/26/2020

NAME	STUD FEED	FROM STUD
ROBERT HERNANDEZ		CH2M HILL
JAM PIDER		CH2M
Rikke G Andersen		CH2M Hill
GARY CHFT		ARCADIS
Randy Rose		CH2M HILL
ALAN STECKELBERG		ARCADIS
ERM Kelly		CH2M HILL/EZ
TYLER DEEDS		ARCADIS
Hans Johannes		ARCADIS
Shawn Duffy		CH2M HILL
Barry Colleen		CH2M HILL
MIKE CAVALIERE		CH2M HILL

Appendix B

Photograph Documentation



Photo 1: Pre-construction view of AOC 4 from the north side of ravine.



Photo 2: Post-construction view of AOC 4 from the north side of ravine.

Topock AOC 4
Removal Action.
2010.



Photo 3: Pre-construction view of AOC 4 from the north side of ravine.



Photo 4: Post-construction view of AOC 4 from the north side of ravine.

Topock AOC 4
Removal Action.
2010.



Photo 5: Pre-construction view of AOC 4 from the north side of ravine.



Photo 6: Post-construction view of AOC 4 from the north side of ravine.

Topock AOC 4
Removal Action.
2010.



Photo 7: Pre-construction view of AOC 4 from the south side of ravine.



Photo 8: Post-construction view of AOC 4 from the south side of ravine.

Topock AOC 4
Removal Action.
2010.



Photo 9: Post-construction view of AOC 4 from the south side of ravine.



Photo 10: Post-construction view of AOC 4 from the south side of ravine.

Topock AOC 4
Removal Action.
2010.



Photo 11: Pre-construction view of AOC 4 from the east side of ravine.



Photo 12: Post-construction view of AOC 4 from the east side of ravine.

Topock AOC 4
Removal Action.
2010.



Photo 13: Pre-construction view of AOC 4 from the east side of ravine.



Photo 14: Post-construction view of AOC 4 from the east side of ravine.

Topock AOC 4
Removal Action.
2010.



Photo 15: Pre-construction view of AOC 4 from the east side of ravine.



Photo 16: Post-construction view of AOC 4 from the east side of ravine.

Topock AOC 4
Removal Action.
2010.



Photo 17: Pre-construction view of AOC 4 from the east side of ravine.



Photo 18: Post-construction view of AOC 4 from the east side of ravine.

Topock AOC 4
Removal Action.
2010.



Photo 19: Pre-construction view of the mouth to AOC 4 from Bat Cave Wash.



Photo 20: Post-construction view of the mouth to AOC 4 from Bat Cave Wash.

Topock AOC 4
Removal Action.
2010.



Photo 21: Pre-construction view of access route to AOC 4 within Bat Cave Wash.



Photo 22: Post-construction view of access route to AOC 4 within Bat Cave Wash.

**Topock AOC 4
Removal Action.
2010.**



Photo 23: Pre-construction view of access route to AOC 4 within Bat Cave Wash.



Photo 24: Post-construction view of access route to AOC 4 within Bat Cave Wash.

**Topock AOC 4
Removal Action.
2010.**



Photo 25: Pre-construction view of access route to AOC 4 within Bat Cave Wash.



Photo 26: Post-construction view of access route to AOC 4 within Bat Cave Wash.

**Topock AOC 4
Removal Action.
2010.**



Photo 27: Pre-construction view of waste management area.



Photo 28: Post-construction view of waste management area.

Topock AOC 4
Removal Action.
2010.



Photo 29: Pre-construction view of equipment staging area south of BNSF railroad.



Photo 30: Post-construction view of equipment staging area south of BNSF railroad.

Topock AOC 4
Removal Action.
2010.



Photo 31: Pre-construction view of equipment staging area at MW-20 bench.



Photo 32: Post-construction view of equipment staging area at MW-20 bench.

Topock AOC 4
Removal Action.
2010.



Photo 33: Pre-construction view of equipment staging area at IM3.



Photo 34: Post-construction view of equipment staging area at IM3.

Topock AOC 4
Removal Action.
2010.



Photo 35: Pre-construction view of equipment staging area next to Park Moabi Road.



Photo 36: Post-construction view of equipment staging area next to Park Moabi Road.

**Topock AOC 4
Removal Action.
2010.**



Photo 37: Pre-construction view of equipment staging area at the evaporation ponds.



Photo 38: Post-construction view of equipment staging area at the evaporation ponds.

Topock AOC 4
Removal Action.
2010.



Photo 39: Pre-construction view of equipment staging area north of the TCS.



Photo 40: Post-construction view of equipment staging area north of the TCS.

Topock AOC 4
Removal Action.
2010.