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November 9, 2018

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Subject: October 2018 Monthly Progress Report for the Final Groundwater Remedy Construction and Startup, PG&E Topock Compressor Station, Needles, California
(Document ID: TPK_Monthly Progress Report_October 2018)

Dear Ms. Innis and Mr. Yue:

In compliance with the *1996 Corrective Action Consent Agreement* (CACA) (Attachment 6, Part E, Section 9a and Attachment 7) and the *2013 Remedial Design/Remedial Action Consent Decree* (CD) (§32 and Appendix C, Section 5), and pursuant to the *Construction/ Remedial Action Work Plan* (C/RAWP) (Section 2.6.3.1), this monthly report describes activities taken at Pacific Gas and Electric Company's (PG&E's) Topock Compressor Station during October 2018 as well as activities planned for the next six weeks (November 1 to December 13, 2018), and presents available results from sampling and testing performed in October 2018.

In addition, this report discusses material deviations from the approved design documents and/or the C/RAWP, if any, that PG&E has proposed to the California Department of Toxic Substances Control (DTSC) and the U.S. Department of the Interior (DOI), or that have been approved by DTSC and DOI. This report also highlights key personnel changes, if any, and summarizes activities performed and activities planned in support of DOI's 2012 Community Involvement Plan and DTSC's 2013 Community Outreach Plan, as well as contacts with the local community, representatives of the press, and/or public interest groups, if any.

Please note that since activities conducted to comply with the project's Applicable or Relevant and Appropriate Requirement (ARARs) and the Subsequent Environmental Impact Report (SEIR) mitigation measures are currently reported in separate compliance reports, this information is not repeated in the monthly reports.

Monthly progress reports will be submitted to DTSC and DOI by the 10th day of the following month during construction and start-up of the groundwater remedy at the Topock Compressor Station which officially began on October 2, 2018.

Please contact me at (760) 791-5884 if you have any questions or comments regarding this submittal.

Sincerely,

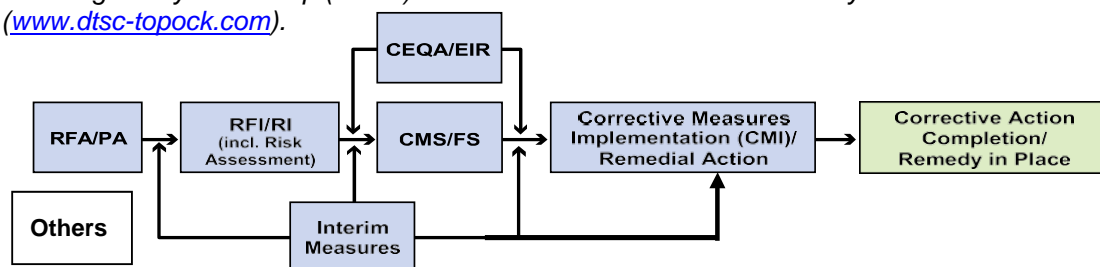
Curt Russell
Topock Project Manager

Topock Project Executive Abstract

<p>Document Title: <i>October 2018 Monthly Progress Report for the Groundwater Remedy Construction and Startup, PG&E Topock Compressor Station, Needles, California</i></p> <p>Submitting Agency: DOI, DTSC</p> <p>Final Document? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p>	<p>Date of Document: 11/10/2018</p> <p>Who Created this Document?: (i.e. PG&E, DTSC, DOI, Other) PG&E</p>
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<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>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 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 checked="" type="checkbox"/> Corrective Measures Implementation (CMI)/ Remedial Action(RA)</p> <p><input type="checkbox"/> California Environmental Quality Act (CEQA)/ Environmental Impact Report (EIR)</p> <p><input type="checkbox"/> Interim Measures</p> <p><input type="checkbox"/> Other / Explain:</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>The consequence for not doing this item is PG&E will be out of compliance with the 1996 Corrective Action Consent Agreement (CACA) and the 2013 Remedial Design/ Remedial Action Consent Decree (CD), as well as the Construction/Remedial Action Work Plan (C/RAWP).</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 monthly report describes activities taken during October 2018 and activities planned for the next six weeks (November 1 to December 13, 2018) and presents available results from sampling and testing in October 2018. In addition, this report discusses material deviations from the approved design documents and/or the <i>Construction/ Remedial Action Work Plan (C/RAWP)</i>, if any, that PG&E has proposed to the California Department of Toxic Substances Control (DTSC) and the U.S. Department of the Interior (DOI) or that have been approved by DTSC and DOI. This report also highlights key personnel changes, if any, and summarizes activities performed and activities planned at the Topock Compressor Station in support of DOI's 2012 Community Involvement Plan and DTSC's 2013 Community Outreach Plan, as well as contacts with local community, representatives of the press, and/or public interest groups, if any.</p> <p>Written by: Pacific Gas and Electric Company</p>	
<p>Recommendations:</p> <p>Provide input to PG&E.</p>	
<p>How is this information related to the Final Remedy or Regulatory Requirements:</p> <p>This submittal is required in compliance with the CACA, CD, and pursuant to the C/RAWP.</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).



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



October 2018
Monthly Progress Report for the
Final Groundwater Remedy Construction and Startup

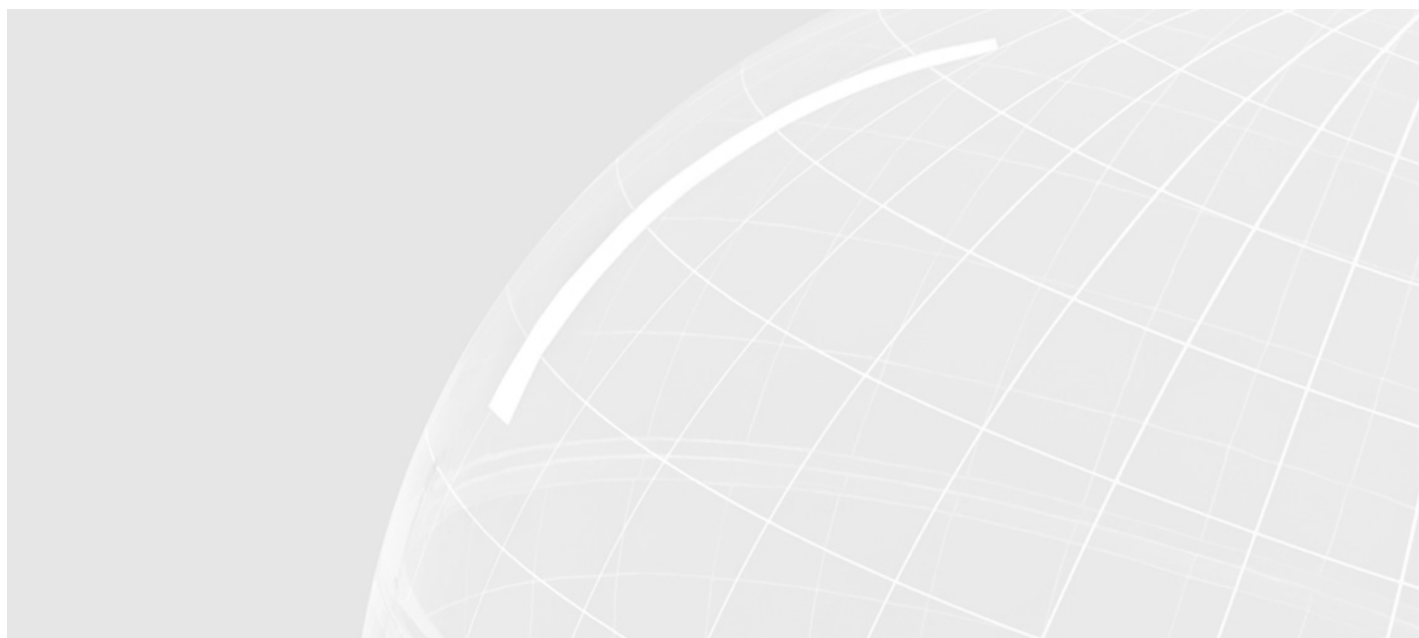
PG&E Topock Compressor Station
Needles, California

Document ID: TPK_Monthly Progress Report_October 2018

November 2018

Prepared for
U.S. Department of the Interior and California Department of Toxic Substances Control

On Behalf of
Pacific Gas and Electric Company



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Acronyms and Abbreviations

µg/m ³	micrograms per cubic meter
AOC	Area of Concern
ARAR	applicable or relevant and appropriate requirement
bgs	below ground surface
BMP	best management practice
CACA	Corrective Action Consent Agreement
C/RAWP	Construction/Remedial Action Work Plan
CD	Consent Decree
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CH2M	CH2M HILL, Inc.
CHQ	Construction Headquarters
DOI	United States Department of the Interior
DTSC	California Department of Toxic Substances Control
ERTC	Environmental Release to Construct
FCR	field contact representative
LOC	level of concern
NTH	National Trails Highway
PG&E	Pacific Gas and Electric Company
RCRA	Resource Conservation and Recovery Act
SEIR	Subsequent Environmental Impact Report
SPY	Soil Processing Yard
SWPPP	Stormwater Pollution Prevention Plan
TCS	Topock Compressor Station
TRC	Technical Review Committee
USEPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service
WEAT	Worker Environmental Awareness Training
WVR	Work Variance Request

1. Introduction

Pacific Gas and Electric Company (PG&E) is implementing the final groundwater remedy to address chromium in groundwater near the PG&E Topock Compressor Station (TCS), located in eastern San Bernardino County 15 miles southeast of the city of Needles, California.

The U.S. Department of the Interior (DOI) is the lead federal agency overseeing remedial actions at the TCS. PG&E and the United States executed a Remedial Design/Remedial Action Consent Decree (CD), on behalf of the DOI, under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) in 2012, which was approved by the U.S. District Court for the Central District of California in November 2013 (DOI, 2013). Paragraph 32 and Appendix C (Section 5) of the CD requires PG&E to submit to DOI electronic progress reports during construction of the remedial action and on a quarterly basis after the selected remedy has been implemented and demonstrated to be operating as intended.

The California Department of Toxic Substances Control (DTSC) is the lead state agency overseeing corrective actions at the TCS. Remedial activities are being performed in conformance with the requirements of the Resource Conservation and Recovery Act (RCRA) Corrective Action pursuant to a Corrective Action Consent Agreement (CACA) entered into by PG&E and the DTSC in February 1996 (DTSC, 1996). Attachment 6, Part E, Section 9a and Attachment 7 of the CACA require PG&E to provide certain information in monthly progress reports during construction of the corrective action.

In compliance with the above CACA and CD requirements, PG&E proposed a template for the monthly progress reports in Exhibit 2.6-2 of the Construction/Remedial Action Work Plan (C/RAWP) (CH2M HILL, Inc. [CH2M], 2015b). The C/RAWP was approved by DOI on April 3, 2018 (DOI, 2018) and DTSC on April 24, 2018 (DTSC, 2018a).

This is the first of the monthly progress reports that will be submitted to DOI and DOI for the duration of the remedy construction and startup. This monthly progress report documents activities during October 2018, and follows the content and format described in Exhibit 2.6-2 of the approved C/RAWP. The report is organized as follows:

- **Section 2.1** describes completed construction activities; data collected, generated or received; nature and volume of waste generated; waste handling/disposal; issues encountered; actions taken to rectify problems/issues; personnel changes; and Work Variance Requests (WVRs; i.e., material deviations from the design documents, the C/RAWP, or other approved work plans), if any, as well as agencies' actions on those requests, and potential schedule impacts.
- **Section 2.2** summarizes contacts with representatives of the press, local community, or public interest groups during the reporting period, other activities provided to assist DTSC and/or DOI in support of the Community Outreach Plan (DTSC, 2013) and/or Community Involvement Plan (DOI, 2012), respectively, and anticipated near-term (approximately next six weeks) activities in support of the Community Outreach and Community Involvement Plans.
- **Section 2.3** describes the planned activities for the next six weeks (construction activities, sampling and monitoring events, etc.).
- **Section 2.4** provides information relating to the construction schedule progress, sequencing of activities, information regarding percentage of completion, unresolved delays encountered or anticipated that may affect the future schedule, and a description of efforts made to mitigate those delays or anticipated delays, if any.
- **Section 3** lists the references cited in this report.

Please note that since activities conducted to comply with the project's Applicable or Relevant and Appropriate Requirement (ARARs) and the Subsequent Environmental Impact Report (SEIR; DTSC, 2018b) mitigation measures are currently reported in separate compliance reports, the same information is not repeated in the monthly reports.

2. Monthly Update

2.1 Description of Activities and Work Completed

2.1.1 Work Completed

Highlights of key activities related to the construction of the groundwater remedy completed during October 2018 include the following (in chronological order):

- On July 13, 2018, PG&E sent via email the first weekly six-week look-ahead schedule for the remedy construction field work. The weekly emails provide highlights of field activities in the previous week, field activities scheduled for the next week, and planned activities for the next six weeks. Recipients of the weekly emails are DOI, DTSC, the U.S. Fish and Wildlife Service (USFWS), Tribes, and the Technical Review Committee (TRC). PG&E continues to send these weekly emails to date. As of October 31, 2018, a total of 16 six-week look-ahead schedule emails were sent. **Of those, four six-week look-ahead schedule emails were sent in October 2018 (on October 6, 14, 20, and 27, 2018).**
- On August 10, 2018, PG&E issued the first Environmental Release to Construct (ERTC) to contractors. As of October 31, 2018, a total of ten ERTCs were issued for mobilization and construction activities. **Of those, four ERTCs were issued in October 2018.** Table 2-1 lists all issued ERTCs in chronological order.
- PG&E hosted a Phase 1 Construction initiation meeting on October 2, 2018, at the El Garces Hotel in Needles, California. Over eighty individuals participated in the initiation meeting, including representatives from DOI, DTSC, USFWS, Tribes (Fort Mojave Indian Tribe, Chemehuevi Tribe, Cocopah Indian Tribe, Colorado River Indian Tribes), the TRC, PG&E, consultants, and key construction contractors involved in the initial construction activities. A copy of the sign-in sheet is included at the end of this report. The initiation meeting covered initial construction activities and schedules, PG&E's health & safety expectations, DOI's and DTSC's expectations, and perspectives of the Tribes. This meeting fulfills the requirements for an initiation meeting prior to construction in Section 4.2.1 of the C/RAWP.
- Starting on October 4, 2018, PG&E has published a daily construction activities list and discussed the list at the morning tailboards with Tribes and agency representatives. This daily list is intended to inform and facilitate observation by Tribes and agency representatives on site on that day. PG&E continues to publish these daily lists and discuss the list at the daily morning tailboards to date. **In October 2018, a total of 24 daily construction activities lists were published and discussed at the morning tailboards.**
- In October 2018, PG&E completed the following construction activities (see Figures 2-1 and 2-2 for locations of key areas and wells, as well as select photos in **Attachment A**):
 - Installed traffic control on National Trails Highway (NTH) to facilitate construction activities along the south end of NTH. This includes traffic signals, K-rails, and signages (see photos).
 - Installed protection measures for sensitive biological and archaeological/historical resources as required in the ERTCs including:
 - a) Placed boulders east of the Soil Processing Yard (SPY) (north of NTH) to deter access to the location of sensitive resources.
 - b) Placed traffic cones to temporarily block access to the bluff above the work area used for installation of the temporary construction water line.
 - c) Installed fiber rolls to protect wooden rail along Historic Route 66 during installation of the temporary construction water line.
 - d) Installed snow fence to protect ethnobotanical plants and cacti at the SPY and the MW-20 Bench.

- e) Installed snow fence to protect sensitive plants at the temporary staging area used during installation of wells and remedy infrastructure in the floodplain.
- Installed construction storm water pollution prevention measures (also called Stormwater Pollution Prevention Plan [SWPPP] Best Management Practices [BMPs]) as required in the ERTCs including:
 - a) Installed a combination of silt fence and fiber rolls at the MW-20 Bench. This SWPPP BMP will be used for all work performed on the bench.
 - b) Installed silt fence at the temporary staging area used during installation of wells and remedy infrastructure in the floodplain.
 - c) Installed fiber rolls at MW-L and IRZ-15 locations.
- Installed freshwater and wastewater holding tanks (also called frac tanks) at the MW-20 Bench.
- Excavated and set form work for the truck containment pad at the TCS evaporation ponds.
- Conducted geotechnical investigations along the Pipeline F alignment (on the Compressor Station entrance road) and within the footprint of the future Carbon Amendment building on the MW-20 Bench.
- **Pilot Boring/Well Installation Activities (Rotosonic drilling):**
 - a) Completed drilling of the pilot boring at IRZ-20 to 187 feet vs. 172 feet target. Collected water samples at various intervals. Backfilled the borehole with sand.
 - b) Completed drilling of the first borehole at MW-L to 308 feet vs. 253 feet target. Collected water samples at various intervals. Reamed and extended boring to 315 feet for well installation.
 - c) Drilled the pilot boring at IRZ-15 to 37 feet (target depth is 212 feet).
 - d) See **Attachment B** for available information such as boring logs and water analytical results. For this initial monthly report there are no boring logs yet available; these will be presented in future monthly reports upon completion of boring activities.
- **Baseline/Opportunistic Soil Sampling Activities:**
 - a) Pursuant to the Baseline Soil Sampling and Analysis Plan (Appendix A of the Soil Management Plan [which is Appendix L of the C/RAWP]), collected soil samples at approximately 0.5 foot below ground surface (bgs) at 4 locations at the Construction Headquarters (CHQ) and 3 locations at the SPY. In addition, one soil sample was collected at 1 foot bgs each at MW-L, IRZ-15, and IRZ-20.
 - b) Collected an opportunistic sample of the stained soil encountered at approximately 1-2 feet bgs during the geotechnical investigation within the footprint of the future Carbon Amendment building on the MW-20 Bench.
 - c) See **Attachment C** for information about soil sampling locations and soil analytical results that are available at this time.
- **Perimeter Air Sampling Activities:**
 - a) Perimeter air sampling for hexavalent chromium is performed at the perimeter of the work areas (outside of the exclusion zone) that are inside Areas of Concern (AOCs) within the construction footprint where hexavalent chromium concentrations in soil have been historically reported. In October 2018, PG&E conducted perimeter air sampling during the geotechnical investigation along the Pipeline F alignment (on the Compressor Station entrance road). No perimeter air sampling was conducted at the well drilling sites.
 - b) See **Attachment D** for available information such as air sampling locations and air analytical results.
- **Noise Monitoring Activities:**

- a) Noise monitoring is conducted at pre-approved locations closest to the construction activities. In October 2018, noise monitoring was conducted at the following pre-approved locations:
 - Location west of the mobile home park at Moabi Regional Park,
 - Location Maze C Area 1,
 - Location Maze B Combined Area 1/2 and alternate location (the alternate location was only monitored when drilling at MW-L occurred),
 - Location Maze A Area 2, and
 - Location Maze A Area 3.
- b) A summary of noise monitoring data will be provided in the next monthly progress report.

2.1.2 Work Already Underway and During Implementation

- As of November 4, 2018, PG&E has started and will continue to perform the following activities:
 - Continue to place mats in the floodplain to facilitate access for drill rigs and construction equipment/vehicles.
 - Prepare for installation of a monitoring well in the first boring at MW-L. Drilling of the second bore hole did not start in October. Continue to collect water samples.
 - Continue to drill the pilot boring at IRZ-15. Continue to collect water samples.
 - Started drilling at MW-E. Continue to collect water samples.
 - Continue the installation of construction water tanks and the temporary construction water pipeline.
 - Continue staking of K-rail (part of traffic control on NTH).
 - Continue to conduct noise and dust monitoring and inspection of SWPPP BMPs.
 - Continue to track and manage waste generated.
 - Continue to manage displaced soil per the approved Soil Management Plan.

2.1.3 Waste Generation and Management

As of November 4, 2018, the following waste streams were generated from remedy construction:

- Approximately 11.2 cubic yards of drill cuttings were generated from well drilling and geotechnical investigation. Of those, approximately 1.3 cubic yards are clay, and PG&E is currently awaiting direction from DOI on the management of clay. The remaining drill cuttings will be sampled in accordance to the approved Soil Management Plan, and the final disposition will be reported in future monthly reports.
- Approximately 12,500 gallons of wastewater were generated from drilling operations at well MW-L (about 12,000 gallons), IRZ-15 (about 200 gallons), and IRZ-20 (about 300 gallons). At each drilling location, the wastewater is initially stored in a 3,000-gallon holding tank in the primary work zone, and is transferred from the primary work zone, as needed, to a common 20,000-gallon frac tank located at the MW-20 Bench. Each transfer load is tracked. Once the frac tank is full, its contents will be characterized and managed in accordance with the approved Waste Management Plan (Appendix R of the C/RAWP) and the final disposition will be reported in future monthly reports.
- Approximately 50 gallons of wastewater was generated from decontamination of drilling equipment at the Transwestern Bench. Wastewater is initially stored in a 1,000-gallon holding tank at the Transwestern Bench and is transferred to a common 20,000-gallon frac tank located at the MW-20 Bench.
- Approximately 12 cubic yards of general construction waste (including recyclables) was generated and transported to Republic Services in Lake Havasu City for disposal and management.

- Sanitary waste in portable toilets that is hauled offsite as needed.

2.1.4 Worker Training and Education

- PG&E continues to provide the mandatory Site Health and Safety Training for its employees and contractors on a daily basis. As of October 31, 2018, a total of 28 health and safety training sessions were held and 155 employees and contractors received the training. **Of those, in October 2018, 19 sessions were conducted and 102 employees/contractors were trained.** After the training, the attendees signed the training roster.
- PG&E continues to provide the mandatory Worker Environmental Awareness Training (WEAT) to its employees and contractors that will be involved in the remedy construction project. The training is offered regularly on Mondays and Thursdays, and more frequently as needed. As of October 31, 2018, a total of 28 WEAT sessions were conducted and 194 employees and contractors received the training. **Of those, in October 2018, 14 sessions were conducted and 91 employees/contractors were trained.** Educational brochures are made available to attendees of the training; they are designed to reinforce the key topics and highlight the take-aways discussed during the classroom training. After the training, the attendees signed the training roster.
- PG&E's onsite biologist also trained Field Contact Representatives (FCRs), who will be responsible for compliance with biological avoidance and mitigation measures. As of October 31, 2018, a total of 7 FCR training sessions were conducted and 33 employees and contractors received the training. **Of those, in October 2018, 4 training sessions were conducted and 19 employees/contractors were trained.**
- Training records are kept electronically and at the temporary construction trailers at the SPY. The records are available upon request.

2.1.5 Status of Work Variance Requests

PG&E did not submit any new WVRs in October 2018. See Table 2-2 for information regarding activities related to previously proposed WVRs (i.e., material deviations from the design documents, the C/RAWP, or other approved work plans), and agencies' actions on those requests.

2.1.6 Use of Future Activity Allowance

There was no proposed use of Future Activity Allowance (FAA) to date.

2.1.7 Issues Encountered and Actions Taken to Rectify Issues/Problems

- The amount of time needed to place soil stabilization mats in the floodplain was underestimated. The crew became more proficient at mat placement over time and the production rate has picked up.
- On October 8, 2018, as a drill crew member at MW-L began pumping water out of the tub which sits over the open borehole and contains soil/water generated during the drilling process, he noticed a puddle of water outside of the tub. The release material was a mixture of freshwater and aquifer water and was approximately 2 gallons. Crew stopped work, moved the tub and removed approximately three (3) 5-gallons buckets of wet/contaminated soil. The wet soil was then put into the hopper onsite along with the rest of the drilling cuttings.
 - o **Root cause** – the weight of the tank and drilling activity caused the ground to cave in slightly, which formed a void. The shifting ground made the seal weak causing the seal to leak. The dripping water was then able to run off the Visqueen sheeting slightly and saturate a small amount of soil.
 - o **Corrective action to prevent reoccurrence** - Seal was more carefully inspected during each day and upon setup. Moving forward bentonite will be used in the hole created by hand clearing for utilities and a 7-inch conductor casing will be drilled through the bentonite to create a tight seal.

Additional bentonite was added to construct the seal between the 7-inch conductor casing and the tub at MW-L.

- On October 10, 2018, as a drill crew member at MW-L began setting up hoses outside the mud tub which sits over the open borehole during the drilling process, he noticed the Visqueen plastic was wet from underneath. The release material was a mixture of freshwater and aquifer water and was approximately 1-2 gallons. Crew stopped work, moved the visqueen, and removed approximately 1.2 gallon of wet. The wet soil was then put into the hopper onsite along with the rest of the drilling cuttings.
 - o **Root cause** – The pressure from the drilling activity caused the water to push up, around the 7" casing and around the seal.
 - o **Corrective action to prevent reoccurrence** - Crew removed 7" and 6" casings and re-drilled 12" casing to 39' with a seal. Moving forward bentonite will be used in the hole created by hand clearing for utilities and a 7-inch conductor casing will be drilled through the bentonite to create a tight seal.
- On October 17, 2018, as construction crew was installing the silt fence in the floodplain to set up a temp staging area for soil bins and materials for the drilling of IRZ-15, the backhoe became stuck in the sand. In order to get out of the sand, the backhoe operator had to place the spoon down on the ground. The footprint of the spoon exceeded the max construction footprint by about 2 feet. No sensitive resources was affected (confirmed by AE archaeologist who was onsite at the time). The onsite Biologist inspected the area and confirmed that no plants was crushed and only a few branches of nearby arrow weed plants was cut.
 - o **Corrective action to prevent reoccurrence** - Use equipment that is on track whenever possible for work on the floodplain. Going forward, this type of incidents will be minimized due to the presence/use of stabilization mats for construction equipment including drill rigs in the floodplain.

2.1.8 Key Personnel Changes

There was no change to key PG&E project personnel in October 2018.

2.2 Communication with the Public

Below are the highlights of key communication and interactions with the public that occurred in October 2018:

- PG&E hosted a Phase 1 Construction initiation meeting on October 2, 2018, at the El Garces Hotel in Needles, California.
- PG&E met with the Park Moabi General Manager on a regular basis to provide project updates and check-in. PG&E also informed the Park Moabi concessionaire of the ongoing noise monitoring activity at the pre-approved location, west of the mobile home park. Two residents at the mobile home park asked the noise monitoring technician about the monitoring activity.
- PG&E met with the General Manager of Topock 66 Resort, the Editor of the *Topock Topics*, and the owner/operator of Golden Shores Water Company on a monthly basis to provide updates on the project and check-in.

2.3 Planned Activities for Next Six Weeks

The planned activities for next six weeks (November 1 through December 14, 2018) include the following:

- Well installation activities:
 - Complete installation of wells MW-E and MW-L.

- Complete the pilot boring at IRZ-15.
- Start pilot boring at IRZ-9, IRZ-13, and IRZ-23.
- Start installation of well MW-N.
- Non-well construction activities:
 - Complete the installation of construction water tanks and temporary construction water pipeline.
 - Complete the staking of K-rail (part of traffic control at NTH).
 - Complete plants transplantation and planting.
 - Improve access road to CHQ.
 - Site-wide grading at SPY.
 - Continue to conduct noise and dust monitoring and inspection of SWPPP BMPs.
 - Continue to log and manage waste generated.
 - Continue to manage displaced soil per the approved Soil Management Plan.

Attachment E contains the six-week look-ahead schedule available at this time. Any adjustments to the schedule will occur as needed via the weekly emails (sent at the end of each week) and/or the daily list of construction activities (published daily and discussed with agency and Tribal representatives on site on that day).

2.4 Construction Schedule Review

Phase 1 of the groundwater remedy construction started on October 2, 2018. Table 2-3 presents a summary of the percent completeness for key construction activities as of November 4, 2018. PG&E will continue to look for opportunities to optimize the construction workflow and schedule.

3. References

California Department of Toxic Substances Control (DTSC). 1996. *Corrective Action Consent Agreement (Revised), Pacific Gas and Electric Company's Topock Compressor Station, Needles, California*. EPA ID No. CAT080011729. February 2.

California Department of Toxic Substances Control (DTSC). 2013. *Community Outreach Plan, Pacific Gas and Electric Company's Topock Compressor Station, Needles, California*. http://dtsc-topock.com/sites/default/files/2013-01-11_FinalCOP_Web.pdf. January.

California Department of Toxic Substances Control (DTSC). 2018a. *Acceptance and Conditional Approval of Groundwater Remedy Design and Corrective Measures Implementation Workplan at Pacific Gas and Electric Company, Topock Compressor Station, Needles, California*. April 24.

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Tables

Table 2-1 Summary of Environmental Release-To-Constructions (ERTCs) Issued to Contractors*October 2018 Monthly Progress Report for the Final Groundwater Remedy Construction and Startup**PG&E Topock Compressor Station, Needles, California*

ERTC No.	Brief Description of Covered Areas and Scope of Authorized Activities	Issue Date
Non-Well ERTCs		
1	Initial mobilization activities at the Construction Headquarters (CHQ), Soil Processing Yard (SPY), and three staging areas (#9 Parking area off I-40, #18 MW-20 Bench, and #23 Transwestern Bench). Scope included installation of temporary construction trailers, portable generators, SWPPP BMPs, construction signages, and temporary construction fencing, as well as equipment staging and truck inspections.	August 10, 2018
Addendum 1 to ERTC #1	Scope included setup of wastewater and freshwater storage tanks at MW-20 Bench, improvement of the access road at the CHQ, installation of perimeter fence at the SPY, and grading at SPY.	September 21, 2018
Addendum 2 to ERTC #1	Scope included grading for drill rig setup at IRZ-20.	October 4, 2018
Addendum 3 to ERTC #1	Scope included geotechnical investigation in the footprint of the future Carbon Amendment building at the MW-20 Bench.	October 9, 2018
2	Scope included the installation of the temporary construction water system and construction water tanks at Area #25 Route 66 Welcome Sign.	September 28, 2018
3	Scope included the installation of the Public Information Trailer, a fugitive dust sign, an information kiosk, and a construction delivery sign at the northwest corner of Park Moabi Road and National Trails Highway (NTH).	September 4, 2018
4	Scope included the installation of a truck containment pad at the TCS evaporation ponds and maintenance of the access road to the ponds.	September 24, 2018
6	Scope included the geotechnical investigation along Pipeline F alignment (on the Compressor Station entrance road).	October 3, 2018
7	Scope included the installation of traffic control along the southern end of NTH per the Traffic Control Plan.	September 17, 2018
Well ERTCs		
5a	Scope included the site setup, drilling, testing, and demobilization at MW-L.	September 27, 2018
5b	Scope included the placement of soil stabilization mats in the floodplain, setup of a temporary staging area near the north end of the access route in the floodplain, rig setup, installation of snow fence to protect plants, drilling, testing, and demobilization at IRZ-15.	October 12, 2018
5c	Scope included the site setup, drilling, testing, and demobilization at IRZ-20 on the MW-20 Bench.	October 15, 2018
5d	Scope included the site setup, drilling, testing, and demobilization at MW-E on the MW-20 Bench.	October 29, 2018

Table 2-2 Summary of Work Variance Requests (WVRs)

October 2018 Monthly Progress Report for the Final Groundwater Remedy Construction and Startup

PG&E Topock Compressor Station, Needles, California

WVR No.	Brief Description of Work Variance Request	Approval Dates
1	<p>This WVR addressed PG&E's proposed modification to the brine tanks containment for use by the remedy, specifically:</p> <ul style="list-style-type: none"> • Upgrade the existing lined containment to concrete - The original synthetic liner material has degraded from exposure to UV light, heat, and abrasion and must be replaced. PG&E proposed to replace the synthetic-lined containment (including K-rails) with a concrete containment to support the groundwater remedy. The concrete color will be desert tan, and information on this proposed concrete color will be submitted to the agencies for review. The proposed concrete material will be similar to the material of the truck lane in the final remedy design (see Appendix E of the Final Basis of Design Report (CH2M, 2015a),* Section 033 00, Cast-In-Place Concrete). • Shorten the length of the containment - This containment will have the same height as the existing containment, but with a slightly smaller footprint (the length is 5 feet shorter). This smaller footprint still meets the required volume for a secondary containment and allows for more space for remedy construction at the tight MW-20 bench. 	<p>DOI approved WVR #1 on June 22, 2018</p> <p>DTSC approved WVR #1 on July 5, 2018</p>
2	<p>PG&E proposed to relocate the tie-in point for remedy construction water to an aboveground location inside TCS and below the TCS Water Storage Tanks. This is to eliminate the risk of damaging the existing pressurized 6-inch water line and to avoid any interference with PG&E Gas Operations control of the Station's water supply. The WVR addressed this relocation, specifically:</p> <ul style="list-style-type: none"> • Relocate the construction water tie-in point to an aboveground location below the TCS Water Storage Tanks, inside TCS – The final design calls for the temporary construction water line to hot-tap into the existing 6-inch steel water line just as the line turns southwest to continue to TCS. PG&E proposed to move the tie-in point to an aboveground valve manifold, located below the TCS Water Storage Tanks in the boneyard area. • Extend the temporary construction water line to the new tie-in point, along Pipeline 300A access road – The planned 4-inch high-density polyethylene (HDPE) temporary construction water line will be extended, following the route of the Pipeline 300A access road, to the new tie-in point inside TCS. This pipeline extension is approximately 1,950 feet and is also made of 4-inch HDPE. The pipe will be laid on ground surface and to the south of the 6-inch water line where possible. At the crossing with the SoCal Gas pipeline access road, the pipeline will be at grade with fill to allow for vehicle crossing. 	<p>DOI and DTSC approved WVR #2 on August 29, 2018</p>

Note:

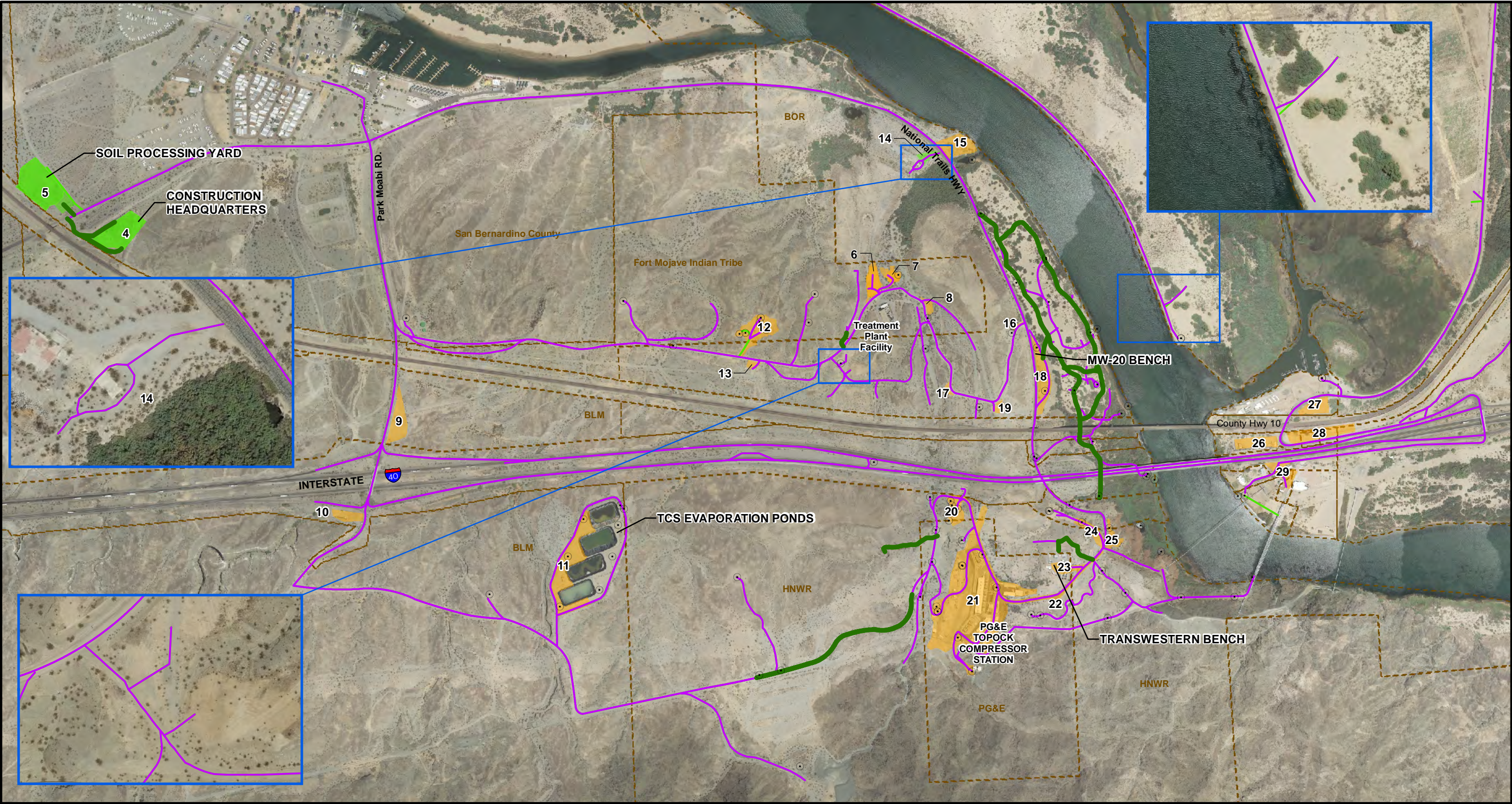
* CH2M HILL, Inc. (CH2M). 2015a. *Basis of Design Report/Final (100%) Design Submittal for the Final Groundwater Remedy, PG&E Topock Compressor Station, Needles, California*. November 18.

Table 2-3 Summary of Percent Completeness of Key Construction Activities

*October 2018 Monthly Progress Report for the Final Groundwater Remedy Construction and Startup
PG&E Topock Compressor Station, Needles, California*

Activity	% Complete	Current Status of Construction Activities (as of November 4, 2018)
Public Information Trailer, fugitive dust sign, and information kiosk	100%	Complete
Staging Area #9 (Parking Area off I-40) setup	100%	Complete
Staging Area #23 (Transwestern Bench) setup	100%	Complete
Staging Area #18 (MW-20 Bench) setup	100%	Complete
Temporary construction offices at Soil Processing Yard	100%	Complete
Soil Processing Yard setup for construction equipment and material staging	100%	Complete
National Trails Highway traffic control installation	99%	Complete staking of K-rail in early November
Temporary construction water system	75%	Pipeline installed, upstream and downstream connections in early November
TCS Ponds concrete containment pad	90%	Construction complete, final inspections/acceptance in early November
MW-L	55%	Complete borehole 1 well in mid-November, begin borehole 2 well installation in late-November
MW-E	70%	Complete well installation in mid-November
IRZ-15 pilot boring	85%	Complete in mid-November
IRZ-20 pilot boring	100%	Complete

Figures



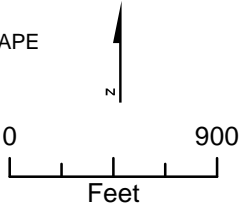
LEGEND

- Existing Access Route (will continue to be used for remedial activities)
- Existing Route (to be used as is for access to remedial activities)
- Roads to be improved or constructed for groundwater remedy
- Soil Processing (Area #5) and Construction Headquarters (Area #4) for Remediation Project
- Staging Areas for Remediation Project
- 5 Area # referenced in the Notes

Notes:

1. Decontamination pads will be located in Area #4 (Construction Headquarters), Area #21 (Topock Compressor Station), and Area #23 (Transwestern Bench).
2. Areas #15, 16, 17, 19, and 20 will not be used as staging areas. Areas #16, 17, and 19 may be part of the primary work zones for remedy infrastructure along the access road.
3. Area #20 may be part of the primary work zone for installation of future provisional well IRL-6 (if determined to be needed in the future) and associated piping/concrete/vault.

4. Public roadways outside of the EIR project area and the APE can also be used for remedy implementation.



**FIGURE 2-1
CONSTRUCTION SITE PLAN
AND ACCESS ROUTES**
GROUNDWATER REMEDY PHASE 1 CONSTRUCTION
PG&E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA



LEGEND

Property Boundaries

Existing Wells:

- Extraction Well
- Injection Well
- Monitoring Well
- Water Supply Well

Planned Wells:

- Extraction, National Trails Highway (NTH) In-situ Reactive Zone (IRZ)
- Extraction, Riverbank
- Injection, NTH IRZ
- Injection, Topock Compressor Station
- Remedy Monitoring Well
- Recirculation Well

Pipeline Corridor for Remedy

- Aboveground Pipe
- Underground Pipe/Conduit

Remedy Facilities

- Planned Transformer
- Future Provisional Transformer
- Proposed Remedy Structure

Approximate extent of hexavalent chromium [Cr(VI)] concentrations exceeding 32 micrograms per liter (µg/L) at any depth in groundwater based on fourth quarter 2013 sampling events. Dashed where based on limited data.

Note:

- Note that in compliance with EIR mitigation measure CUL-1a-9, as well as PA and CHPMP mitigation measures, the pipeline along the dirt road west of National Trails Hwy is located in an existing, previously disturbed, access road. In addition, the location of the road and pipeline was field verified and does not create any direct physical impact or effect on the Topock Maze, as it is manifested archaeologically, in compliance with EIR mitigation measure CUL-1a-10, PA, and CHPMP mitigation measures.
- All well and structure locations are approximate.

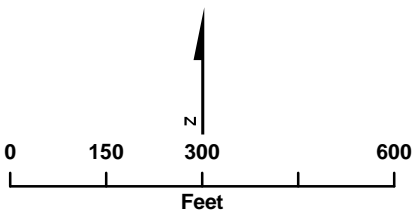


FIGURE 2-2
WELL AND PIPELINE LOCATIONS
GROUNDWATER REMEDY PHASE 1 CONSTRUCTION
PG&E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA

Attachment A

Photographs

PL01 Photo Log Photo Sheet



Soil stabilization mats in the floodplain to facilitate access



Temp staging area for IRZ-15 with snow and silt fences



Temp staging area for IRZ-15 with snow and silt fences



Drilling at IRZ-15 Location



Soil Processing Yard - Equipment and Material staging



Site of future Construction Headquarters



Temporary construction water tanks at Route 66 Welcome Sign (Area 25)



Temporary construction trailers at Soil Processing Yard



Public Information Trailer at Park Moabi



Construction Stormwater pollution prevention measures at MW-20 Bench



Truck containment pad at TCS ponds



Drilling at MW-E Location



Entrance to MW-20 Bench (Area 18)



Traffic control on National Trails Highway



Dust control by watering



Snow fence to protect palo verde plant



Drilling at MW-L location

Attachment B
Available Boring Logs and Groundwater
Sample Results from Well Drilling

Table B-1. Groundwater Sampling Results for October 2018*Groundwater Remedy Phase 1 Construction**PG&E Topock Compressor Station, Needles, California*

Location	Sample ID	Sample Date	Start Depth (ft bgs)	End Depth (ft bgs)	Total Chromium (µg/L)	Qualification	Hexavalent Chromium (µg/L)	Qualification
IRZ-20	IRZ-20-VAS-51-56	10/20/2018	51	56	130	-	150	-
IRZ-20	IRZ-20-VAS-82-87	10/21/2018	82	87	< 0.1298	U	< 0.0331	U
IRZ-20	IRZ-20-VAS-112-117	10/22/2018	112	117	< 0.1298	U	< 0.0331	U
IRZ-20	IRZ-20-VAS-131-136	10/23/2018	131	136	< 0.1298	U	< 0.0331	U
IRZ-20	DUP-1-VAS-102318	10/23/2018	131	136	< 0.1298	U	< 0.0331	U
IRZ-20	IRZ-20-VAS-173-178	10/24/2018	173	178	< 0.1298	U	< 0.0331	U
MW-L	MW-L-VAS-76-81	10/6/2018	76	81	34	-	31	-
MW-L	MW-L-VAS-106-111	10/9/2018	106	111	0.697	J	0.84	-
MW-L	MW-L-VAS-141-146	10/10/2018	141	146	< 0.1298	U	< 0.0331	U
MW-L	MW-L-VAS-181-186	10/20/2018	181	186	3.8	-	3.3	-
MW-L	MW-L-VAS-218-223	10/21/2018	218	223	68	-	66	-
MW-L	MW-L-VAS-261-266	10/22/2018	261	266	0.284	J	< 0.0331	U

Source: Arcadis, November 7, 2018.

Boring logs will be provided in future monthly progress reports when available. It is anticipated that groundwater sample results will be posted on the boring logs.

µg/L = micrograms per liter

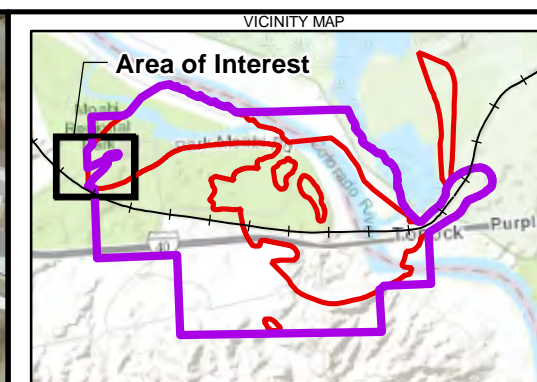
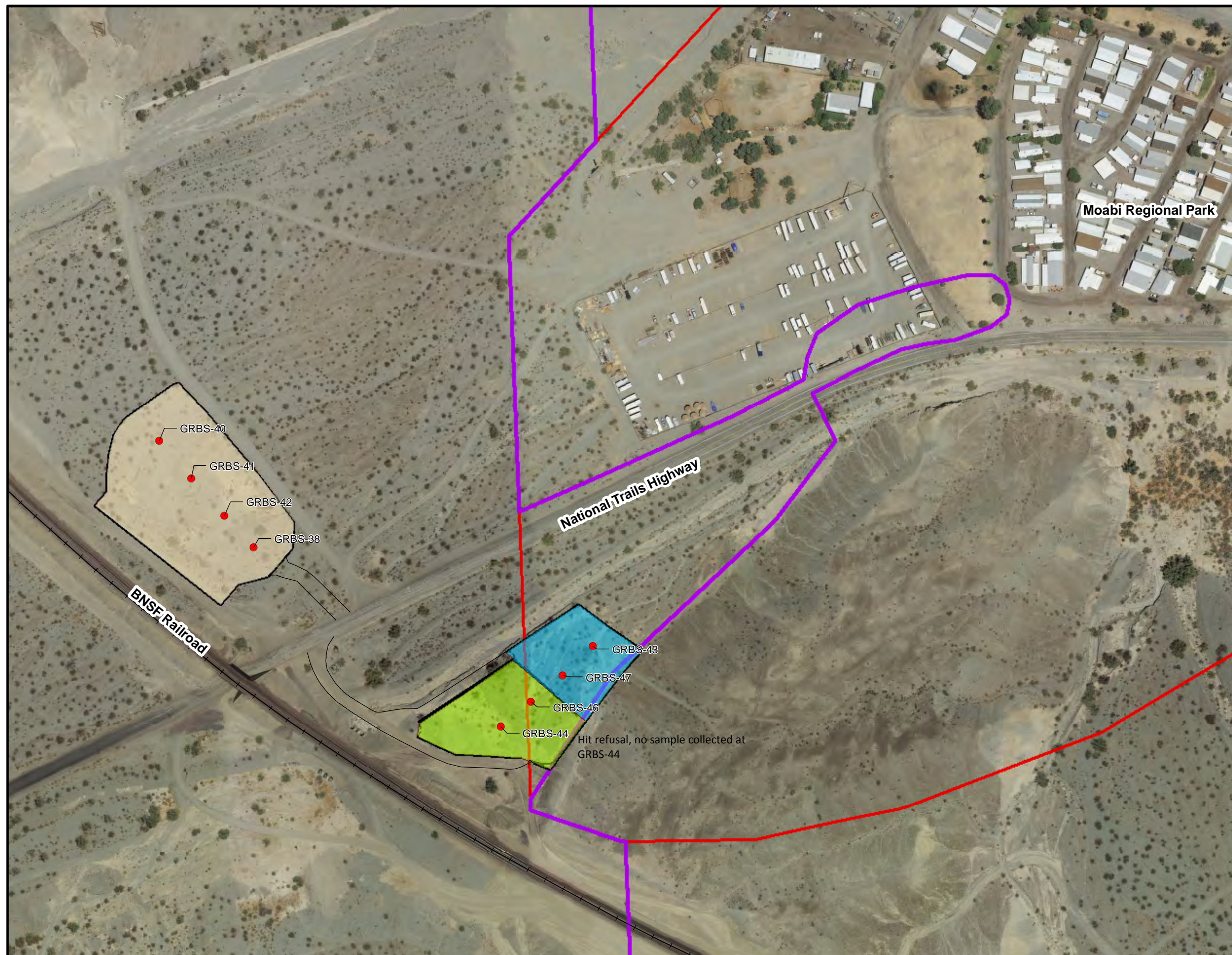
ft bgs = feet below ground surface

J = The analyte was positively identified; however, the associated numerical value is an estimated concentration only

U = The analyte was analyzed for but not detected at the analyte method detection limit indicated

VAS = vertical aquifer sampling

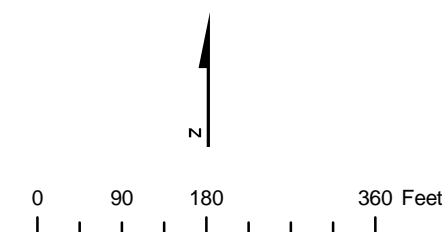
Attachment C
Soil Sampling Locations and Available Soil
Analytical Results
(Soil Data Presented in Excel File)



- LEGEND**
- Proposed Remedy System Soil Sample Location
 - Long-term Remedy Support Area (0.8 Acres Approximate)
 - Soil Processing Area (2.56 Acres Approximate)
 - Temporary Construction Laydown Area (1.05 Acres Approximate)
 - Area of Potential Effects (APE)
 - EIR Project Area

Notes:

1. Soil sampling locations are approximate.
2. Surface soil samples (0.5 feet below ground surface) on a 100 foot grid within the soil processing area and the longterm remedy support/temporary construction laydown area.



Service Layer Credits: Sources: Esri, HERE, DeLorme, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, MapmyIndia, © OpenStreetMap contributors, and the GIS

FIGURE 22 (PAGE 22 OF 23)
MAIN CONSTRUCTION YARD, SOIL STORAGE AREAS, AND SATELLITE STORAGE/MAINTENANCE YARD AND BASELINE SOIL SAMPLE LOCATIONS
 GROUNDWATER REMEDY IMPLEMENTATION - SOIL MANAGEMENT PLAN
 PG&E TOPOCK COMPRESSOR STATION, NEEDLES, CALIFORNIA

Attachment D
Perimeter Air Sampling Analytical Results

Attachment D. Perimeter Air Sampling Analytical Results

In conformance with the approved *Construction/Remedial Action Work Plan for the Final Groundwater Remedy, PG&E Topock Compressor Station, Needles, California* (CH2M, 2015), air monitoring has been conducted during construction to evaluate the ongoing effectiveness of the dust control program, to guide modifications to field activities and engineering control measures, if necessary, and to document that construction activities do not result in the migration of soil contaminants beyond the work area boundaries.

Perimeter air monitoring has been performed if construction activities have the potential to generate visible dust. The air monitoring program consists of both real-time fugitive dust monitoring and perimeter air sampling for select soil contaminants. Locations to be monitored and sampled are as follows:

- Real-time fugitive dust monitoring is performed at the perimeter of the work areas (outside of the exclusion zone) that have the potential to generate visible dust, including the Construction Headquarters (CHQ) and the Soil Processing Yard (SPY).
- Perimeter air sampling for hexavalent chromium is performed at the perimeter of the work areas (outside of the exclusion zone) that are inside Areas of Concern (AOCs) within the construction footprint where hexavalent chromium concentrations in soil have been historically reported. Air sampling for hexavalent chromium in the SPY will be performed when soil from AOCs with reported concentrations of hexavalent chromium is actively being processed. Air sampling may also be performed at other work areas at the site based on hexavalent chromium concentrations reported from new soil data or based on field observations during construction activities.
- Air sampling for asbestos will be limited to work areas where Asbestos Containing Material (ACM) has been observed in prior field investigations, including two areas in AOC 12 and one area in AOC 4. Perimeter air monitoring may also be performed at other work areas at the site if ACM is discovered during construction activities.

Project-specific levels of concern (LOC) and action levels were developed as an indicator to determine whether additional dust control measures, as presented in the project's Dust Control Plan required by the Mojave Desert Air Quality Management District (MDAQMD), are necessary.

- The LOCs, which represent conservative concentrations of compounds that receptors outside the work area could be safely exposed to during construction, have been evaluated for all compounds that have been detected in soil samples collected at the site in the prior investigations. The LOCs were developed using standard U.S. Environmental Protection Agency (USEPA) and California Environmental Protection Agency risk assessment methodology, toxicology data, and exposure assumptions (USEPA, 2009, 2017; California Department of Toxic Substances Control [DTSC], 2018). Both cancer and noncancer health effects were considered. For each type of health effect, the LOC was back-calculated from an established target or from acceptable cancer risk or noncancer hazard where USEPA or DTSC toxicity values are available. The LOCs for cancer effects are based on a target excess cancer risk of one in a million (1×10^{-6}). The LOCs for noncancer effects are based on a target hazard quotient of 1. The LOCs were developed using these assumptions:
 - Receptors are present outside the perimeter of the work areas
 - Exposure via inhalation is 10 hours per day for a 10 days on /4 days off schedule
 - Duration of Phase 1 of the final groundwater remedy construction is 20 months
- The action level for fugitive dust monitoring is 100 micrograms per cubic meter ($\mu\text{g}/\text{m}^3$) for a net (downwind minus upwind) dust concentration. This action level is based on MDAQMD Rule 403, Part C. A 10-hour time-weighted average of readings collected throughout the work day will be used to document compliance with MDAQMD Rule 403.
- For analytes detected in soil, the following equation was used to calculate maximum allowable airborne particulate concentrations for receptor exposure outside the work area (based on the approach presented by Marlowe (1999):

$$AL = \frac{LOC \times 1,000,000 \text{ mg/kg}}{CS}$$

Where:

AL = action level for airborne particulates ($\mu\text{g}/\text{m}^3$)

LOC = Project specific risk-based level of concern ($\mu\text{g}/\text{m}^3$)

CS = maximum detected concentration of compound in site soil (milligrams per kilogram [mg/kg])

Action levels were determined as follows:

- Soil data from prior investigations were gathered for the entire site.
- Sample locations within the maximum construction footprint were evaluated. Some sample locations were removed from evaluation as they were within the compressor station in locations where no construction activities will actually occur.
- The maximum reported soil concentration for each compound was determined and then used to calculate an airborne particulate action level.
- All compounds had allowable airborne particulate action levels greater than $100 \mu\text{g}/\text{m}^3$ except for hexavalent chromium at a few locations.
- Lead does not have USEPA or DTSC toxicity values; however, an action level was calculated using the DTSC (2011) LeadSpread 8 model. This is based on the maximum reported soil concentration for lead of 1,400 mg/kg from samples collected within the construction footprint and a blood level of concern through inhalation of 1 microgram per deciliter. The resulting action level for lead is $548 \mu\text{g}/\text{m}^3$.
- Therefore, keeping fugitive dust below the action level $100 \mu\text{g}/\text{m}^3$ will result in airborne particulate concentrations of contaminants (other than hexavalent chromium) remaining below their respective LOCs.
- Fugitive dust monitoring will be used to evaluate airborne contaminants in dust for all compounds except for hexavalent chromium.

In October 2018, perimeter air sampling for hexavalent chromium was conducted outside of the work area for the geotechnical investigation along the Pipeline F alignment on the Compressor Station entrance road. This area is located in AOC 13. Air samples for hexavalent chromium were collected at one upwind and two downwind locations and sent to Chester LabNet, a laboratory accredited by the National Environmental Laboratory Accreditation Program, for analysis. Table 1 presents the validated analytical results. The results are below the LOC for hexavalent chromium which is $0.00094 \mu\text{g}/\text{m}^3$.

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Marlowe, C. 1999. *Safety Now! Controlling Chemical Exposures at Hazardous Waste Sites with Real-Time Measurements*. Fairfax, Va.: American Industrial Hygiene Association Press.

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Table 1

Perimeter Air Sampling Results
Groundwater Remedy Phase 1 Construction
PG&E Topock Compressor Station, Needles, California

Location ID	Location	Date	Sample Type	Hexavalent Chromium ($\mu\text{g}/\text{m}^3$)
AOC13-D1	AOC13 Downwind 1	10/09/18	N	0.000732 J
AOC13-D2	AOC13 Downwind 2	10/09/18	N	0.000709 J
AOC13-U	AOC13 Upwind	10/09/18	N	ND (0.000172)

Notes:

$\mu\text{g}/\text{m}^3$ micrograms per cubic meter
J concentration or reporting limit estimated by laboratory or data validation
N primary sample
ND not detected at the listed reporting limit

Attachment E
Six-Week Look-Ahead Schedule
(November 11 through December 21, 2018)

Topock Final Groundwater Remedy Construction
Field Work Look-ahead Schedule

PG&E Topock Final Groundwater Remedy	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
Primary Planned Activities	11/11/2018	11/12/2018	11/13/2018	11/14/2018	11/15/2018	11/16/2018	11/17/2018
Start Time (PST)		6:30 AM	6:30 AM	6:30 AM	6:30 AM	6:30 AM	6:30 AM
Temp. Construction Water Line G5-G6	No Work	TCS raw water connection & construction water tank manifold installation	TCS raw water connection	TCS raw water connection	TCS raw water connection	TCS raw water connection	
Soil Processing Yard D1-E1		Sensitive Plant Transplanting	Sensitive Plant Transplanting	Sensitive Plant Transplanting	Site-wide clearing & grading	Site-wide clearing & grading	
Construction Headquarters Access Road E1		Excavation & riprap removal	Excavation & riprap removal	Excavation & riprap removal	Construction staking	Fill placement	
Well / Pilot Boring Installation (Rotosonic)		--	MW-L (E5), MW-E (F5), IRZ-15 (E5), IRZ-13 site prep (E5), IRZ-23 site prep (E5)	MW-L (E5), MW-E (F5), IRZ-15 (E5), IRZ-13 (E5), IRZ-23 site prep (E5)	MW-L (E5), MW-E (F5), IRZ-13 (E5), IRZ-23 site prep (E5)	MW-L (E5), MW-E (F5), IRZ-13 (E5), IRZ-23 site prep (E5)	MW-L (E5), MW-N site prep (F5), IRZ-13 (E5), IRZ-23 (E5)
Primary Planned Activities	11/18/2018	11/19/2018	11/20/2018	11/21/2018	11/22/2018	11/23/2018	11/24/2018
Start Time (PDT)	6:30 AM	6:30 AM	6:30 AM	6:30 AM	No Work	No Work	No Work
Temp. Construction Water Line G5-G6		TCS raw water connection					
Soil Processing Yard D1-E1		Site-wide clearing & grading	Site-wide clearing & grading	Site-wide clearing & grading			
Construction Headquarters Access Road E1		Fill placement	Fill placement, Conduit installation	Conduit installation			
Well / Pilot Boring Installation (Rotosonic)	MW-L (E5), MW-N site prep (F5), IRZ-13 (E5), IRZ-23 (E5)	MW-L (E5), MW-N site prep (F5), IRZ-13 (E5), IRZ-23 (E5)	MW-L (E5), IRZ-13 (E5), IRZ-23 (E5)	--			
Well Development & Testing	--	MW-E (F5)	MW-E (F5)	--	--	--	--
Primary Planned Activities	11/25/2018	11/26/2018	11/27/2018	11/28/2018	11/29/2018	11/30/2018	12/1/2018
Start Time (PST)		6:30 AM	6:30 AM	6:30 AM	6:30 AM	6:30 AM	6:30 AM
Construction Headquarters Access Road E1	No Work	Subgrade prep	Subgrade prep	Forms & rebar install	Forms & rebar install	Forms & rebar install	--
Construction Headquarters E1		--	Construction staking (tentative)	Construction staking (tentative)	Construction staking (tentative)	--	--
Well / Pilot Boring Installation (Rotosonic)		--	MW-N (F5), IRZ-13 (E5), IRZ-23 (E5)	MW-N (F5), IRZ-13 (E5), IRZ-23 (E5), IRZ-09 site prep (E5)	MW-N (F5), IRZ-23 (E5), IRZ-09 (E5), MW-F site prep (F5), MW-M site prep (E5)	MW-N (F5), IRZ-09 (E5), MW-F (F5), MW-M site prep (F5)	MW-N (F5), IRZ-09 (E5), MW-F (F5), MW-M site prep (F5)
Well Development & Testing		--	MW-L (E5)	MW-L (E5)	--	--	--
Primary Planned Activities	12/2/2018	12/3/2018	12/4/2018	12/5/2018	12/6/2018	12/7/2018	12/8/2018
Start Time (PST)	6:30 AM	6:30 AM	6:30 AM	6:30 AM	6:30 AM	7:00 AM	No Work
Construction Headquarters Access Road E1		Forms & rebar install	Forms & rebar install	Concrete placement	Waterstop installation	Concrete placement	
Well Installation	MW-N (F5), IRZ-09 (E5), MW-F (F5), MW-M site prep (F5)	MW-N (F5), IRZ-09 (E5), MW-F (F5), MW-M site prep (F5)	MW-N (F5), IRZ-09 (E5), MW-F (F5), MW-M site prep (F5)	MW-N (F5), IRZ-09 (E5), MW-F (F5), MW-M site prep (F5)	MW-N (F5), IRZ-09 (E5), MW-F (F5), MW-M site prep (F5)	--	
Primary Planned Activities	12/9/2018	12/10/2018	12/11/2018	12/12/2018	12/13/2018	12/14/2018	12/15/2018
Start Time (PST)	No Work	7:00 AM	7:00 AM	7:00 AM	7:00 AM	7:00 AM	7:00 AM
Well Installation		--	MW-N (F5), IRZ-09 (E5), MW-F (F5), MW-M site prep (F5)	MW-N (F5), MW-M site prep (F5), MW-B site prep (E5), IRZ-09 (E5), MW-F (F5)	MW-N (F5), MW-M (F5), MW-B (E5)	MW-N (F5), MW-M (F5), MW-B (E5)	MW-N (F5), MW-M (F5), MW-B (E5)
Well Development & Testing		--	--	--	MW-F (F5)	MW-F (F5)	--
Primary Planned Activities	12/16/2018	12/17/2018	12/18/2018	12/19/2018	12/20/2018	12/21/2018	12/22/2018
Start Time (PST)		7:00 AM	7:00 AM	7:00 AM	7:00 AM	7:00 AM	No Work
Construction Headquarters E1		Sensitive Plant Transplanting (pending concrete strength test)	Sensitive Plant Transplanting (pending concrete strength test)	Clearing & grading (entire CHQ area), pending transplanting	Clearing & grading (entire CHQ area), pending transplanting	Clearing & grading (entire CHQ area), pending transplanting	
Well Installation	MW-N (F5), MW-M (F5), MW-B (E5)	MW-N (F5), MW-M (F5), MW-B (E5)	MW-N (F5), MW-M (F5), MW-B (E5)	MW-N (F5), MW-M (F5), MW-B (E5)	MW-N (F5), MW-M (F5), MW-B (E5)	--	
Primary Planned Activities	12/23/2018	12/24/2018	12/25/2018	12/26/2018	12/27/2018	12/28/2018	12/29/2018
Start Time (PST)	No Work	No Work	No Work	No Work	No Work	No Work	No Work

Note - The timing of field activities are estimated and may change day-to-day based on site conditions, field progress, or other factors.
When planning to visit the site to observe a specific activity or area, please contact Curt Russell (760-791-5884) for the latest schedule information.

