



Curt Russell
Topock Project Manager
Environmental Remediation

Topock Compressor Station
145453 National Trails Hwy
Needles, CA 92363

Mailing Address
P.O. Box 337
Needles, CA 92363

760.791.5884
Fax: 760.326.5542
Email: gcr4@pge.com

July 10, 2021

Ms. Pamela Innis
U.S. Department of the Interior
CHF Remedial Project Manager
One North Central Avenue, Suite 800
Phoenix, AZ 85004-4427

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

Subject: June 2021 Monthly Progress Report for the Final Groundwater Remedy Construction and Startup, PG&E Topock Compressor Station, Needles, California
(Document ID: TPK_Monthly_Progress_Rpt_June_2021_20210710)

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)* (Paragraph 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 in June 2021, as well as activities planned for the next six weeks (July 4 to August 14, 2021), and presents available results from sampling and testing performed in the reporting period.

This report also discusses material deviations from the approved design documents and/or the C/RAWP, if any, that PG&E has proposed to DTSC and DOI, or that have been approved by DTSC and DOI. This report 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 2019 Community Outreach Plan, as well as contacts with the local community, representatives of the press, and/or public interest groups, if any. This report also includes data from samples collected as part of the sitewide groundwater monitoring program within 60 days of sample collection, as required by the Condition of Approval # xi in DTSC's approval letter dated August 24, 2018.

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. This is the 33rd monthly progress report. Please contact me at (760) 791-5884 if you have any questions or comments regarding this submittal.

Sincerely,

A handwritten signature in cursive script that reads 'C Russell'.

Curt Russell
Topock Project Manager

Topock Project Executive Abstract

| | |
|---|--|
| Document Title: <i>June 2021 Monthly Progress Report for the Groundwater Remedy Construction and Startup, PG&E Topock Compressor Station, Needles, California</i> Submitting Agency: DOI, DTSC Final Document? <input checked="" type="checkbox"/> Yes ___ No | Date of Document: 7/10/2021 Who Created this Document?: (i.e. PG&E, DTSC, DOI, Other) PG&E |
| Priority Status: ___ HIGH ___ MED <input checked="" type="checkbox"/> LOW | Is this time critical? ___ Yes <input checked="" type="checkbox"/> No |
| Type of Document: ___ Draft <input checked="" type="checkbox"/> Report ___ Letter ___ Memo ___ Other / Explain: | Action Required: <input checked="" type="checkbox"/> Information Only ___ Review and Input ___ Other / Explain: |
| 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) <input checked="" type="checkbox"/> Corrective Measures Implementation (CMI)/Remedial Action (RA) ___ California Environmental Quality Act (CEQA)/Environmental Impact Report (EIR) ___ Interim Measures ___ Other / Explain: | Is this a Regulatory Requirement? <input checked="" type="checkbox"/> Yes ___ No If no, why is the document needed? |
| What is the consequence of NOT doing this item? What is the consequence of DOING this item? 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). | Other Justification/s: ___ Permit ___ Other / Explain: |
| Brief Summary of attached document: This monthly report describes activities taken in June 2021 as well as activities planned for the next six weeks (July 4 to August 14, 2021) and presents available results from sampling and testing in the reporting period. In addition, this report discusses material deviations from the approved design documents and/or the <i>Construction/ Remedial Action Work Plan</i> (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 at the Topock Compressor Station in support of DOI's 2012 Community Involvement Plan and DTSC's 2019 Community Outreach Plan, as well as contacts with local community, representatives of the press, and/or public interest groups, if any. Written by: Pacific Gas and Electric Company | |
| Recommendations: Provide input to PG&E. | |
| How is this information related to the Final Remedy or Regulatory Requirements: This submittal is required in compliance with the CACA, CD, and pursuant to the C/RAWP. | |
| Other requirements of this information? None. | |



June 2021
Monthly Progress Report for the
Final Groundwater Remedy Construction and Startup

PG&E Topock Compressor Station
Needles, California

Document ID: TPK_Monthly_Progress_Rpt_June_20210710

July 2021

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

On Behalf of
Pacific Gas and Electric Company



Contents

| | |
|--|-----|
| Topock Project Executive Abstract..... | iii |
|--|-----|

| | |
|---|-----------|
| Acronyms and Abbreviations | ix |
|---|-----------|

| | |
|---|----------|
| 1. Introduction..... | 1 |
| 2. Monthly Update..... | 2 |
| 2.1 Work Completed..... | 2 |
| 2.2 Freshwater Usage, Waste Generation and Management | 4 |
| 2.2.1 Freshwater and Wastewater..... | 4 |
| 2.2.2 Displaced Materials/Soils/Clay | 5 |
| 2.2.3 General Construction Waste, Sanitary Waste, and Recyclables..... | 5 |
| 2.3 Worker Training and Education..... | 5 |
| 2.4 Status of Work Variance Requests (WVRs) | 6 |
| 2.5 Use of Future Activity Allowance..... | 6 |
| 2.6 Issues Encountered and Actions Taken to Rectify Issues/Problems | 6 |
| 2.7 Key Personnel Changes | 6 |
| 2.8 Communication with the Public..... | 7 |
| 2.9 Planned Activities for Next Six Weeks..... | 7 |
| 2.10 Construction Schedule Review | 7 |
| 2.11 Available Sitewide Groundwater Monitoring Data (DTSC Condition of Approval xi) | 7 |
| 4. References | 7 |

Tables

| | |
|---|----------|
| Table 2-1a. Summary of Non-Well Environmental Release-To-Constructions (ERTCs) | TABLES-1 |
| Table 2-1b. Summary of Well Environmental Release-To-Constructions (ERTCs)..... | TABLES-3 |
| Table 2-2. Monitoring Wells Nomenclature Changes..... | TABLES-5 |
| Table 2-3. Summary of Work Variance Requests (WVRs)..... | TABLES-7 |
| Table 2-4. Summary of Cumulative Percent Completeness of Key Construction Activities..... | TABLES-9 |

Figures

| |
|--|
| 2-1 Construction Site Plan and Access Routes |
| 2-2 Well and Pipeline Locations |

Attachments

| |
|---|
| A Photographs |
| B Available Boring and Well Construction Logs, Groundwater Sample Results from Well Drilling, and Well Testing Activities |
| C Soil Sampling Locations and Available Soil Analytical Results |
| D Perimeter Air Sampling Analytical Results |
| E Noise Monitoring Results (SEIR NOISE-2 Requirement) |
| F Six-Week Look-Ahead Schedule |
| G Validated Groundwater Monitoring Data (DTSC Condition of Approval xi) |

Acronyms and Abbreviations

| Acronym | Definition |
|-------------------|--|
| µg/m ³ | microgram(s) per cubic meter |
| AOC | Area of Concern |
| ARAR | applicable or relevant and appropriate requirement |
| BLM | U.S. Bureau of Land Management |
| 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 |
| COC | Constituents of Concern |
| CRWQCB | California Regional Water Quality Control Board, Colorado River Basin Region |
| DOI | United States Department of the Interior |
| DTSC | California Department of Toxic Substances Control |
| ERTC | Environmental Release to Construct |
| FCR | field contact representative |
| IM-3 | Interim Measure No. 3 |
| IRZ | in-situ reactive zone |
| LOC | level of concern |
| NTH | National Trails Highway |
| PG&E | Pacific Gas and Electric Company |
| RCRA | Resource Conservation and Recovery Act |
| RPWC | Remedy-Produced Water Conditioning |
| SEIR | Subsequent Environmental Impact Report |
| SMP | Soil Management Plan |
| SPY | Soil Processing Yard |
| SWPPP | Stormwater Pollution Prevention Plan |
| SWRCB | State Water Resources Control Board |
| 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 monthly electronic progress reports during construction of the remedial action, and to submit progress reports 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 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 33rd of the monthly progress reports that will be submitted to DOI and DTSC for the duration of the remedy construction and startup. This monthly progress report documents activities during June 2021, and follows the content and format described in Exhibit 2.6-2 of the approved C/RAWP. The report is organized as follows:

- Sections 2.1 through 2.7 describe 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.
- Sections 2.8 through 2.9 summarize key project personnel changes, if any, 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, 2019) 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 2.10 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 2.11 presents validated data from samples collected as part of the sitewide groundwater monitoring program within 60 days of sample collection, as required by the Condition of Approval # xi in DTSC's approval letter dated August 24, 2018 (DTSC, 2018a).
- 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 Work Completed

Highlights of key activities related to the construction of the groundwater remedy completed during the reporting period 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), the California Regional Water Quality Control Board, Colorado River Basin Region (CRWQCB), the Metropolitan Water District of Southern California, Tribes, and the Technical Review Committee (TRC). PG&E continues to send these weekly emails to date. As of June 30, 2021, a total of 157 six-week look-ahead schedule emails have been sent. Of those, four six-week look-ahead schedule emails were sent in June 2021 (on June 6, 13, 20, and 27).
- On August 10, 2018, PG&E issued the first Environmental Release to Construct (ERTC) to contractors. As of June 30, 2021, a total of 74 ERTCs were issued for mobilization and construction activities. The ERTCs are listed in Tables 2-1a and 2-1b. Addendum 5 to ERTC 1 was issued for civil work on MW-20 Bench and asphalt repair on portion of NTH associated with MW-20 Bench. In addition, pipeline ERTCs #11b and 11c were extended to allow for asphalt repair on portions of NTH associated with these pipelines.
- 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 June 2021, a total of 24 daily construction activities lists were published and discussed at the morning tailboards.
- In June 2021, PG&E performed the following construction activities (note that Figures 2-1 and 2-2 show the locations of key areas and wells, and Table 2-2 presents the changes in well nomenclature):
 - **Attachment A** includes select photos of activities during this reporting period.
 - **Attachment B** presents all water analytical results from Phase 1 well drilling. Phase 1 well drilling is now complete. Groundwater sampling to establish baseline concentrations at those wells is ongoing and their results are reported in **Attachment G** of this report.
 - May 30 to June 5 activities:
 - Continued site-wide electrical installation within vaults, 12KV sectionalizing, and TW-01 pump hookup.
 - Continued mechanical equipment installation, site civil work, and waste management activities at MW-20 Bench.
 - Completed TW-01 pipeline construction, leak testing, and vault installation.
 - June 6 to 15 activities:
 - Continued vault mechanical construction activities.
 - Continued various site clean-up activities.
 - Continued site-wide electrical installation within vaults.

- Continued mechanical equipment installation in building at MW-20 Bench. Lifted and installed ethanol tank.
- Continued construction of a temporary pipeline for the upcoming TW-01 aquifer test.
- June 6 to 12 activities:
 - Continued site-wide electrical and control panel installation work in vaults and TW-01 electrical and controls installation.
 - Continued mechanical equipment installation, site civil work (excavation and grading), and waste management activities at MW-20 Bench.
 - Commenced TW-01 test tracer injection.
- June 13 to 19 activities:
 - Continued site-wide electrical and control panel installation work in vaults.
 - Continued mechanical equipment installation and site civil work (excavation and grading).
 - Commenced TW-01 aquifer test on June 14, 2021. The test was halted for a day after an unintended release of pumped water from the vault at IRZ-39. The test was re-initiated at midday on June 15, 2021 and has continually operated since then.
- June 20 to 26 activities:
 - Continued site-wide electrical and control panel installation work in vaults.
 - Continued mechanical equipment installation and site civil work at MW-20 Bench (excavation and grading).
 - Completed the one-week TW-01 aquifer test. Continued to operate the pumping for the rest of the week. Re-initiated tracer injection into MW-67.
 - Graded access road to TCS ponds.
 - Conducted bat surveys and studies.
- June 27 to July 3 activities:
 - Continued site-wide electrical and control panel installation work in vaults and at the TCS tank farm area.
 - Conducted vault lid arm replacement work at IRZ-35 and IRZ-37 vaults.
 - Continued mechanical equipment installation, lightning protection, and site civil work at MW-20 Bench (excavation and grading).
 - Commenced downhole pump installation activities at IRZ wells.
 - Continued to operate TW-01 pump to evaluate tracer transit. Continued tracer injection into MW-67.
 - Conducted local plant seed collection activities.
- Baseline/Opportunistic Soil Sampling in June 2021:
 - No baseline or opportunistic sampling was conducted in June 2021.
 - **Attachment C** includes a figure showing all soil sampling locations (since the start of remedy construction) and an excel spreadsheet with soil analytical results available to date.

– Fugitive Dust Monitoring/Perimeter Air Sampling in June 2021 (below are highlights, details are in **Attachment D**):

- In June 2021, 18 real time dust observation/monitoring events were conducted at the perimeter of the work areas (outside of the exclusion zone). No exceedance of the action level for fugitive dust monitoring ($100 \mu\text{g}/\text{m}^3$) was observed in June 2021.
- Tables D-1a and D-1b of **Attachment D** present all analytical results from air sampling events available to date. All results are below the project level of concern (LOC) for hexavalent chromium which is $0.00094 \mu\text{g}/\text{m}^3$.

– Noise Monitoring in June 2021 (below are highlights, details are in **Attachment E**):

In June 2021, the following monitoring events were conducted:

- Twenty-three events at a location west of the mobile home park at Moabi Regional Park. Construction activities closest to this monitoring location include activities at the SPY and CHQ, as well as construction traffic on NTH. The sound level typically varied between 34 and 53 dBA, with an average and median of 46-47 dBA.
- Twenty-four events at a location in the Upland just off the IM-3 access road, and near the top of the hill closest to the NTH and MW-20 Bench. Construction activities closest to this monitoring location include activities at the MW-20 Bench and construction traffic on the IM-3 access road. The sound level varied between 41 and 58 dBA, with an average and mean of 49 dBA.
- Twenty-two events at the old restaurant location west of NTH. Construction activities closest to this monitoring location include construction traffic on NTH and construction traffic in the north floodplain. The sound level varied between 41 and 56 dBA, with an average and median of 49 dBA.
- Twenty events at a location on a bluff below TCS, just south of I-40 and east of the Topock Maze. Construction activities closest to this monitoring location are associated with work related to the TW-01 aquifer test and activities at TCS. The sound level varied between 50 and 59 dBA, with an average and median of 54 dBA.

2.2 Freshwater Usage, Waste Generation and Management

As of June 30, 2021, the volumes of freshwater used for remedy construction and waste streams generated from remedy construction (starting on October 2, 2018) are as follows:

2.2.1 Freshwater and Wastewater

- As of June 30, 2021, an approximate total of 7,402,272 (22.72 acre-feet) of freshwater have been used, of which approximately 28.7 percent was for pilot boring/well installation/well testing and general construction, 6.2 percent was for hydrostatic testing of pipeline and piping/mechanical components inside well vaults, and 65.1 percent was for fugitive dust suppression. Of this amount, approximately 92,000 gallons of freshwater was used in June 2021.
- As of June 30, 2021, an approximate total of 112,325 gallons of hydrostatic testing water has been discharged to land (note that although an approximate 2000 gallons of hydrostatic testing water was used for testing of TW-01 conveyance piping in June 2021, that water was not discharged to land, rather it was sent to IM3 after the testing was done). All water discharged to land (used for dust control) was in compliance with the substantive requirements of State Water Resources Control Board (SWRCB) Water Quality Order 2003-0003-DWQ. Attachment F presents the approximate volume at each approved discharge location and date of each discharge.
- As of June 30, 2021, approximately 154,893 gallons of injectivity testing water has been discharged to land. No injection testing was conducted in June 2021.

- As of June 30, 2021, IM-3 has received an approximate total of 2,323,991 gallons of remedy wastewater (generated from drilling operations and well testing). An approximate 1,981,000 gallons of extracted water from TW-01 was sent to IM3 in June 2021.
- As of June 30, 2021, an approximate total of 1,373,952 gallons of wastewater generated from drilling operations were discharged to Compressor Station evaporation pond #4. No remedy wastewater was sent to Compressor Station evaporation pond #4 since November 2020.
 - It should be noted that in January 2021, remedy wastewater from pond #4 was transferred to pond #3 as PG&E prepared to remove sludge from pond #4. A project to remove sludge from pond #4 was started in late June 2021.

2.2.2 Displaced Materials/Soils/Clay

- As of June 30, 2021, approximately 12,208 cubic yards of displaced materials/excess soils were generated from remedy construction activities. The displaced materials/soils were tested, processed (if needed), and managed in accordance with the Soil Management Plan (which is Appendix L of the C/RAWP). Approximately 89.8% of the materials were classified as clean, suitable for reuse onsite. The remaining 10.2% of the materials (total weight of 1,517 tons or 1,250 cubic yards) were deemed not suitable for reuse onsite and were disposed of at US Ecology in Beatty, Nevada.
- Clean materials are often processed to remove rocks/boulders and plastics prior to reuse. Approximately 82% was fine materials and 18% was rocks/boulders.

2.2.3 General Construction Waste, Sanitary Waste, and Recyclables

- As of June 30, 2021, approximately 1,964 cubic yards of general construction waste, 267.21 tons of construction debris, 504 tons of green waste, and 276 cubic yards of recyclables were generated from remedy construction activities. Of those, approximately 7.21 tons of trash/construction debris were generated in the reporting period.
- In April 2021, approximately 40 cubic yards of asphalt was sent offsite for recycling at Kern Asphalt facility in Bakersfield, California.
- A total of nine tires were recovered during construction along Pipeline B/J and disposed of at Mohave Valley landfill in Fort Mohave, Arizona for disposal. No additional tires were encountered since February 2020.
- Sanitary waste from construction trailers/portable toilets is hauled offsite as needed.
- Starting in September 2019, recycling at the site was ceased due to the high costs of local recycling.

2.3 Worker Training and Education

- In June 30, 2021, PG&E continues to implement health-protective practices at the site in response to the emergent broader public health threat posed by the COVID-19 virus, in accordance with guidance received from federal and state public health departments, and included, for example, implementation of social distancing protocols and increasing the frequency of cleaning of the common work areas. In addition, during the morning tailboards, on-site workers were provided with updated guidance relating to the mitigation of the risks of viral exposure and transmission. All new or returning workers or visitors are required to take a mandatory COVID-19 protocol briefing and complete a daily self-declaration form. As of June 30, 2021, a total of 489 personnel (including employees, contractors, and visitors) received the mandatory briefing.
- PG&E continues to provide the mandatory Site Health and Safety Training for its employees and contractors on a daily basis. As of June 30, 2021, a total of 264 health and safety training sessions were held and 747 employees and contractors received the training. Of those, in June 2021, 13 sessions were conducted and 29 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 or Tuesdays and Thursdays, and more frequently as needed. As of June 30, 2021, a total of 232 WEAT sessions were conducted and 790 employees and contractors received the training. Of those, in June 2021, 6 sessions were conducted and 22 employees/contractors were trained or retrained. 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 WEAT Completion Form.
- 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 June 30, 2021, a total of 19 FCR training sessions were conducted. No FCR session was conducted in June 2021.
- Training records are kept electronically and at the temporary construction trailers at the SPY. The records are available upon request.

2.4 Status of Work Variance Requests (WVRs)

There were no proposed WVRs in June 2021. For reference, Table 2-3 includes information regarding activities related to approved and proposed WVRs (i.e., material deviations from the design documents, the C/RAWP, or other approved work plans), and agencies' actions on those requests.

2.5 Use of Future Activity Allowance

There was no proposed use of Future Activity Allowance (FAA) in June 2021.

2.6 Issues Encountered and Actions Taken to Rectify Issues/Problems

- On June 29, 2021, the onsite biological monitor noticed what appeared to be small blobs of oil on NTH and informed compliance. Compliance informed the construction contractor who was working on the MW-20 Bench. An equipment inspection was immediately conducted by the contractor. The water truck was inspected and the diesel cap was observed to be cross threaded and leaked diesel fuel. Affected soil was scooped up and placed in two 5-gallon buckets and brought to the SPY. A detailed report with corrective action to prevent reoccurrence is forthcoming.
- On June 22, 2021, during installation of earthen fill material around the carbon substrate tank pad, an Arcadis employee noticed an antifreeze leak coming from the back of the skid steer and onto the ground. Absorbent material was deployed for containment. Wet soil was removed and put into a 5-gallon bucket and taken to the SPY. Similar to a previous release of antifreeze, this soil will be disposed offsite. A detailed report with corrective action to prevent reoccurrence is forthcoming.
- On June 14, 2021, during the startup of the TW-01 aquifer test, the team checked for leaks and noticed the IRZ-39 well vault was full of water overflowing onto the ground. A few hundred gallons of TW-01 water/freshwater was released onto the ground. The extent of the damp soil was marked for reference. A sample of the water in the IRZ-39 well vault was collected and determined to be 975 ppb of Cr6, as analyzed by the IM-3 lab. As a reference, the extracted water from TW-01 (collected on 6/13/21) has a Cr6 concentration of 1400 ppb, which means that the water in the vault is a blend of TW-01 extracted water and freshwater from the pipe testing program. PG&E's preliminary determination is that one or more valves were in the wrong position. The test was suspended for the evening and resumed the next morning after a quality control review. A detailed report is forthcoming. All of the wet soil was excavated the next day and placed on plastic. A soil sample was collected and submitted to the laboratory for analysis.

2.7 Key Personnel Changes

There was no change in key PG&E personnel in June 2021.

2.8 Communication with the Public

There was no communication with the public by PG&E on remedy construction activities in June 2021.

2.9 Planned Activities for Next Six Weeks

The planned activities for next six weeks ((July 4 to August 14, 2021) include the following:

- Continue site-wide electrical and control panel installation work in vaults and at the Remedy-Produced Water Conditioning (RPWC) system tank farm in TCS.
- Continue mechanical equipment installation and site civil work at MW-20 Bench.
- Continue TW-01 aquifer test.
- Continue downhole pump installation activities at IRZ wells.
- 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 SMP.

Attachment G 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).

2.10 Construction Schedule Review

Phase 1 of the groundwater remedy construction started on October 2, 2018. Table 2-4 presents a summary of the percent completeness for key construction activities as of June 30, 2021. In addition, the latest project schedule including Phase 1 construction can be downloaded from the [project website](#).

2.11 Available Sitewide Groundwater Monitoring Data (DTSC Condition of Approval xi)

Pursuant to Condition of Approval # xi in DTSC's approval letter dated August 24, 2018 (DTSC, 2018a), PG&E is required to report data from samples collected as part of the sitewide groundwater monitoring program within 60 days of sample collection. In compliance with this requirement, PG&E submitted validated data to DTSC via monthly emails. For ease of recordkeeping and to minimize the number of ad-hoc compliance reports/emails, PG&E has included validated data in each monthly progress report starting with the November 2018 monthly report. The validated data are included in Attachment H of this report.

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). 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.

California Department of Toxic Substances Control (DTSC). 2018b. *Final Subsequent Environmental Impact Report for the Pacific Gas and Electric Company Topock Compressor Station Final Groundwater Remediation Project*. April 24.

California Department of Toxic Substances Control (DTSC). 2019. [Community Outreach Plan, Pacific Gas and Electric Company's Topock Compressor Station, Needles, California](#). May.

CH2M HILL, Inc. (CH2M). 2014. *Final Programmatic Biological Assessment for Pacific Gas and Electric Topock Compressor Station Final Groundwater Remedy*. April 28.

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.

CH2M HILL, Inc. (CH2M). 2015b. *Construction/Remedial Action Work Plan for the Final Groundwater Remedy, PG&E Topock Compressor Station, Needles, California*. November 18.

United States Department of the Interior (DOI). 2012. [Community Involvement Plan, Pacific Gas and Electric Topock Compressor Station, Needles, California](#). September.

United States Department of the Interior (DOI). 2013. *Remedial Action/Remedial Design Consent Decree (CD) between the United States of America and Pacific Gas & Electric Company*. Case 5:13-cv-00074-BRO-OP, Document 23. Entered November 21.

United States Department of the Interior (DOI). 2018. *Approval of PG&E Topock Compressor Station Remediation Site – Basis of Design Report/Final (100%) Design Submittal and Construction/Remedial Action Work Plan for the Final Groundwater Remedy and the Supplemental and Errata Information for the Final (100%) Design for the Final Groundwater Remedy, PG&E Topock Compressor Station, Needles, California*. Letter from Pamela Innis/DOI to Curt Russell/PG&E. April 3.

Tables

Table 2-1a. Summary of Non-Well Environmental Release-To-Constructions (ERTCs)
June 2021 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 | Original Issue Date |
|-------------------------|--|---------------------|
| 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 |
| Addendum 4 to ERTC #1 | Scope included the installation of a temporary handrail along the walkway from the MW-20 Bench to the floodplain. | December 28, 2018 |
| Addendum 5 to ERTC #1 | Scope included civil work on MW-20 Bench and asphalt repair along the portion of NTH associated with the MW-20 Bench. | June 2, 2021 |
| 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 Topock Compressor Station (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 |
| 9 | Scope included the transplantation and planting of sensitive plants. | November 9, 2018 |
| 10 | Scope included potholing activities along approved pipeline alignments and in building footprints, that are also in AOCs/SMWUs. The purpose is to pre-characterize soil in preparation for construction. | March 29, 2019 |
| 11 | Scope included preparation of temporary staging areas, vegetation clearance, placement of stabilization mats, potholing in select locations, and installation of Pipeline C segments C1 through C6 in the floodplain. | January 3, 2019 |
| 11a | Scope included preparation of temporary staging areas, vegetation clearance, placement of stabilization mats, potholing in select locations, and installation of Pipeline C segments C7-C10, and C17 in the floodplain. | February 11, 2019 |
| Addendum 1 to ERTC #11a | Scope included installation of Pipeline C Segment C14 along the southern access road to the floodplain (between BNSF railroad and I-40 bridges). | October 3, 2019 |
| ERTC #11b* | Scope included installation of Pipelines B, F, and J. | May 31, 2019 |
| Addendum 1 to ERTC #11b | Scope included details for installation of Pipeline B/F/J inside TCS. | July 25, 2019 |
| ERTC #11c* | Scope included details for installation of Pipeline C Segments C13, C15, C16, C19, and C20, along NTH. | July 27, 2020 |

| ERTC No. | Brief Description of Covered Areas and Scope of Authorized Activities | Original Issue Date |
|------------------------|--|---------------------|
| 12 | Scope included non-intrusive site preparation work for the brine tanks containment upgrade on the MW-20 Bench (per Work Variance Request #1, refer to Table 2-3). A forthcoming addendum to this ERTC will be issued to include the actual upgrade activities. | January 10, 2019 |
| 12a | Scope included the actual brine tanks containment upgrade activities which include intrusive work on the MW-20 Bench (per Work Variance Request #1, refer to Table 2-3). | February 6, 2019 |
| 13 | Scope included the installation of remedy facilities on MW-20 Bench. | November 21, 2019 |
| 14 | Scope included site preparation for the installation of Pipeline M inside TCS. | December 11, 2019 |
| Addendum 1 to ERTC #14 | Scope included site preparation for the Phase 1 Remedy-produced Water Conditioning System and associated piping. | February 27, 2020 |
| Addendum 2 to ERTC #14 | Scope included the installation of the Phase 1 Remedy-produced Water Conditioning System and associated piping, as well as the secondary containment pad for the water conditioning system. | June 17, 2020 |
| Addendum 3 to ERTC #14 | Scope included the installation of X2-X3 conduits inside TCS. | September 30, 2020 |
| 15 | Scope included the installation of Pipeline M2-M6 and X1 Installation Inside TCS | December 13, 2019 |
| 16 | Scope included soil resistivity survey and the installation of pipeline C9 (Jack and Bore) and pipeline C8b. | December 29, 2019 |
| 17 | Scope included the implementation of the TW-01 aquifer test. | April 8, 2021 |
| 18 | Scope included the install of erosion control measures at TW Bench and along Pipeline F. | February 12, 2021 |

Notes:

- ERTC #8 was intended for wastewater management. However, it was cancelled as the management of wastewater is integrated into each ERTC as applicable.

* Time extension was granted for remedy pipeline ERTCs to accommodate for asphalt repair along portions of NTH.

Table 2-1b. Summary of Well Environmental Release-To-Constructions (ERTCs)
*June 2021 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 | Original Issue Date |
|-------------------------|--|---------------------|
| 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 |
| 5e | Scope included the site setup, drilling, testing, and demobilization at MW-N in the upland. | November 15, 2018 |
| 5f | Scope included the site setup, drilling, testing, and demobilization at IRZ-13 in the floodplain. | November 7, 2018 |
| 5g | Scope included the site setup, drilling, testing, and demobilization at IRZ-23 on the MW-20 Bench. | November 8, 2018 |
| 5h | Scope included the site setup, drilling, testing, and demobilization at MW-M in the upland. | January 15, 2019 |
| 5i* | Scope included the site setup, drilling, testing, and demobilization at IRZ-9 in the floodplain. | November 28, 2018 |
| 5j | Scope included the site setup, drilling, testing, and demobilization at IRZ-25 on the MW-20 Bench. | December 3, 2018 |
| 5k | Scope included the site setup, drilling, testing, and demobilization at IRZ-21 on the MW-20 Bench. | December 9, 2018 |
| 5l | Scope included the site setup, drilling, testing, and demobilization at MW-B in the floodplain. | December 10, 2018 |
| Addendum to ERTC #5l | Scope included the setup of an additional temporary equipment and material staging area in the floodplain. | December 13, 2018 |
| 5m | Scope included the site setup, drilling, testing, and demobilization at MW-F along NTH. | December 17, 2018 |
| 5n | Scope included the site setup, drilling, testing, and demobilization at IRZ-11 in the floodplain. | December 17, 2018 |
| 5o | Scope included the site setup, drilling, testing, and demobilization at MW-X and MW-Y' in Arizona. | April 23, 2019 |
| 5p | Scope included the site setup, drilling, testing, and demobilization at MW-G along NTH. | January 14, 2019 |
| 5q | Scope included the site setup, drilling, testing, and demobilization at IRZ-16 and IRZ-17 in the floodplain. | February 14, 2019 |
| 5r | Scope included the site setup, drilling, testing, and demobilization at IRZ-27 and IRZ-29 along NTH. Also included in the scope are potholing activities along Pipeline C Segments C13, C15, and C16 and on the MW-20 Bench. | March 9, 2019 |
| Addendum #1 to ERTC #5r | Scope included the potholing to locate Transwestern Gas Pipeline within NTH (in support of Pipeline C installation). | April 24, 2019 |
| Addendum #2 to ERTC #5r | Scope included the installation of NTH IRZ-27/29/31/33/35 and the temporary Frontier bypass. | November 19, 2019 |
| 5s | Scope included the site setup, drilling, testing, and demobilization at IRZ-39 in the low area, north of the Transwestern Bench. | March 12, 2019 |

| ERTC No. | Brief Description of Covered Areas and Scope of Authorized Activities | Original Issue Date |
|--------------------------|--|---------------------|
| 5t | Scope included the site setup, drilling, testing, and demobilization at IRZ-27 along NTH. | March 19, 2019 |
| 5u | Scope included the site setup, drilling, testing, and demobilization at MW-U in I-40 median. | March 22, 2019 |
| 5v | Scope included the site setup, drilling, testing, and demobilization at MW-10D in Bat Cave Wash. | March 27, 2019 |
| 5w | Scope included the site setup, drilling, testing, and demobilization at MW-W in the floodplain. | March 22, 2019 |
| 5x | Scope included the site setup, drilling, testing, and demobilization at RB-1 through 5 wells and MW-O in the floodplain. | March 30, 2019 |
| 5y | Scope included the site setup, drilling, testing, and demobilization at MW-S on the access road to Bat Cave Wash. | April 12, 2019 |
| 5z | Scope included the site setup, drilling, testing, and demobilization at MW-R in the Upland. | May 8, 2019 |
| 5aa | Scope included the site setup, drilling, testing, and demobilization at MW-C, MW-D, and MW-H in the floodplain | June 6, 2019 |
| 5ab | Scope included the site setup, drilling, testing, and demobilization at IRZ-19 (sonic drilling) in the floodplain | July 22, 2019 |
| 5ac | Scope included the site setup, drilling, testing, and demobilization at MW-11D (sonic drilling) in Bat Cave Wash | September 25, 2019 |
| 5ad | Scope included the site setup, drilling, testing, and demobilization at Hydro-6a monitoring well in Arizona | October 16, 2019 |
| 5ae | Scope included the site setup, drilling, testing, and demobilization at MW-70BRd in East Ravine | October 4, 2019 |
| 5af | Scope included the site setup, drilling, testing, and demobilization at MW-Z | January 22, 2020 |
| 5ag | Scope included the site setup, drilling, testing, and demobilization at IRZ-18 on MW-20 Bench | November 15, 2019 |
| 5ah | Scope included the site setup, drilling, testing, and demobilization at MW-V | February 10, 2020 |
| Addendum #1 to ERTC #5ah | Scope included the preparation of the access road to the existing Site B well for sampling | December 11, 2020 |
| 5ai | Scope included vegetation removal at PGE-9S, 9N, and HNWR-1A | February 14, 2020 |
| 5aj | Scope included the site setup, drilling, testing, and demobilization at MW-96 (former MW-A, relocated) and MW-97 (former IRZ-11, repurposed) in the floodplain | June 29, 2020 |
| 5ak | Scope included activities related to the 72-Hour aquifer test at TW-3D | May 22, 2020 |
| 5al | Scope included the site setup, drilling, testing, and demobilization at MW-99 (aka, the second Hydro-6 well) | August 17, 2020 |
| 5am | Scope included the site setup, access road preparation, drilling, testing, and demobilization at MW-K | September 11, 2020 |
| 5an | Scope included the preparation of access to the existing Site B well for purposes of sampling | December 11, 2020 |
| 5ao | Scope included the development of MW-38. | November 19, 2020 |
| 5ap | Scope included the installation of downhole equipment at IRZ wells. | March 26, 2021 |

Table 2-2. Monitoring Wells Nomenclature Changes

*June 2021 Monthly Progress Report for the Final Groundwater Remedy Construction and Startup
PG&E Topock Compressor Station, Needles, California*

| Previous Well Name | New Monitoring Well Name |
|--------------------|--------------------------|
| MW-70BR-D | MW-70BR-289 |
| MW-B-033 | MW-75-033 |
| MW-B-117 | MW-75-117 |
| MW-B-202 | MW-75-202 |
| MW-B-267R | MW-75-267 |
| MW-B-337 | MW-75-337 |
| MW-C-039 | MW-76-039 |
| MW-C-156 | MW-76-156 |
| MW-C-181 | MW-76-181 |
| MW-C-218 | MW-76-218 |
| MW-D-046R | MW-77-046 |
| MW-D-102 | MW-77-102 |
| MW-D-158 | MW-77-158 |
| MW-D-187 | MW-77-187 |
| MW-E-072 | MW-78-072 |
| MW-E-142 | MW-78-142 |
| MW-F-060 | MW-79-060 |
| MW-F-104 | MW-79-104 |
| MW-G-057 | MW-80-057 |
| MW-G-082 | MW-80-082 |
| Former IRZ-19 | MW-81-43 |
| Former IRZ-19 | MW-81-98 |
| MW-H-046 | MW-82-046 |
| MW-H-112 | MW-82-112 |
| MW-H-168 | MW-82-168 |
| MW-H-198 | MW-82-198 |
| MW-L-090 | MW-83-090 |
| MW-L-180 | MW-83-180 |
| MW-L-225 | MW-83-225 |
| MW-L-245 | MW-83-245 |
| MW-M-057 | MW-84-057 |
| MW-M-095 | MW-84-095 |
| MW-M-132 | MW-84-132 |
| MW-M-193 | MW-84-193 |

| Previous Well Name | New Monitoring Well Name |
|--------------------|--------------------------|
| MW-N-129 | MW-85-129 |
| MW-N-217 | MW-85-217 |
| MW-N-237 | MW-85-237 |
| MW-O-030 | MW-86-030 |
| MW-O-066 | MW-86-066 |
| MW-O-120 | MW-86-120 |
| MW-O-140 | MW-86-140 |
| MW-R-109 | MW-87-109 |
| MW-R-139 | MW-87-139 |
| MW-R-192 | MW-87-192 |
| MW-R-275 | MW-87-275 |
| MW-S-109 | MW-88-109 |
| MW-U-183 | MW-89-183 |
| MW-U-273 | MW-89-273 |
| MW-W-031 | MW-90-031 |
| MW-X-045 | MW-91-045 |
| MW-X-120 | MW-91-120 |
| MW-X-170 | MW-91-170 |
| MW-X-320 | MW-91-320 |
| MW-Y-037 | MW-92-037 |
| MW-Y-072 | MW-92-072 |
| MW-Y-102 | MW-92-102 |
| MW-Y-122 | MW-92-122 |
| MW-Z | MW-93 |
| HYDRO-6 (deep) | MW-94-30 |
| HYDRO-6 (mid) | MW-94-100 |
| HYDRO-6 (shallow) | MW-94-175 |
| MW-V | MW-95-TBD |
| MW-A | MW-96-TBD |
| Former IRZ-11 | MW-97-TBD |
| Relocated MW-K | MW-98-TBD |
| Second HYDRO-6 | MW-99-TBD |

Table 2-3. Summary of Work Variance Requests (WVRs)

June 2021 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 (refer to 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 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 Topock Compressor Station (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/DTSC approved WVR #2 on August 29, 2018</p> |
| 3 | <p>PG&E proposed changes within the CHQ fence line to avoid/minimize the overall amount of soil disturbance during construction, reduce the number of truck trips to haul wastewater, and allow for additional working space within the yard. There are no proposed changes to the CHQ footprint nor its fence line. The specifics are described below:</p> <ul style="list-style-type: none"> • Relocate the decontamination pad from the western fence to the northern fence (near the western corner). Based on recent survey data collected during construction, the difference in ground elevation between northern and southern end of the pad is about 4 feet. Moving the pad to the northern fence would eliminate the difference in ground elevation and reduce the amount of soil disturbance by at least 80 cubic yards. • Bring the remedy-produced wastewater tank from belowground to aboveground, increase the tank volume from 1,000 to 2,500 gallons, and place the aboveground, double-walled tank adjacent to the decontamination pad. The change from belowground to aboveground reduces the amount of soil disturbance by at least 50 cubic yards. The change to a bigger tank will reduce the amount of truck trips needed to haul wastewater. The placement of the tank adjacent to the decontamination pad allows for the pad to function as a secondary containment for the haul truck during off-loading of the wastewater. • Defer construction of the underground sewage tanks. Deferral of the underground tanks reduces the overall amount of soil disturbance by at least 800 cubic yards. All sanitary wastes will be managed in aboveground sewage tanks (similar to the ones currently used for the SPY trailers) or portable toilets. • Swap the location of the construction trailers and the sunshade and change the configuration of the sunshade from a rectangle to a square. This change will allow for more working space within the CHQ. All functions that would occur in the Workshop/Sampling Processing building will be conducted in the construction trailers. | <p>DOI/DTSC approved WVR #3 on January 4, 2019</p> |

| WVR No. | Brief Description of Work Variance Request | Approval Dates |
|---------|--|--|
| 4 | PG&E proposed to revise a segment of Pipeline C near the I-40 bridge, to meet the permit requirement in Caltrans Encroachment Permit No. 08-18-6-MW-0533. The revision involves relocating a small segment of Pipeline C to within National Trails Highway to meet a minimum distance of 10 feet from current and future I-40 bridge footings. The treatment measure specified for Segment X of National Trails Highway in the Cultural and Historic Property Management Plan will be implemented during installation of this pipeline segment. | DOI/DTSC approved WVR #4 on May 14, 2019 |
| 5 | PG&E proposed to phase the remedy produced water conditioning system within the approved footprint inside TCS. | DOI and DTSC approved WVR #5 on July 19 and July 22, 2019, respectively. |
| 6 | <p>In early October 2018, PG&E conducted a geotechnical investigation along the Pipeline F alignment on the entrance road to the TCS and the adjacent hill side. Based on the geotechnical results, the construction contractor (PIVOX) indicated that soldier piles and lagging would be required for temporary shoring. Over 40 soldier piles would be installed by drilling using a 330-sized excavator or larger. A 330-sized excavator has a general width of 11 feet, and counter weight clearance of approximately 4 feet. During operation, this rig would occupy a minimum 15 to 16 feet width of the TCS entrance road for about 12 days. The paved width of the road is between 22 to 24 feet in the area of shoring (per review of the location via Google Earth).</p> <p>Assuming a minimum clearance of 1 foot (which is still less than the recommended clearance) from any operating equipment, there will be approximately 5 to 8 feet of available lane width for access by TCS traffic. Large vehicles (tractor-trailers, delivery trucks, construction equipment) will likely not be able to pass by the active operation, and passenger vehicles may also not be able to pass the active operation in locations where the road narrows. Also, the excavator cannot be repositioned while soldier piles are being drilled. In sum, access to TCS will be severely restricted for about 12 days. This is not acceptable for Compressor Station operations.</p> <p>Therefore, PG&E proposed to realign Pipeline F (starting from segment F3) along the approved alignment of Pipelines B and J. Construction of Pipelines F, B, and J would occur in the same alignment and at the same time.</p> | DOI and DTSC approved WVR #6 on May 21 and May 22, 2019, respectively. |
| 7 | <p>This WVR proposed the following changes to remedy infrastructure at the CHQ and SPY.</p> <ul style="list-style-type: none"> a) Locate all temporary office and break trailers at the SPY. PG&E proposed to keep the three existing office trailers at their current locations in the SPY and add two additional office trailers and one break trailer for workers. The additional trailers will be equipped with aboveground sewage tanks, similar to the existing trailers. They will also be powered by Needles Electric. This will require the original SPY fence line to be extended south/southwest to encompass these trailers and the original truck entrance from National Trails Highway to the access road east of SPY. Neither changes reduce the overall area available for soil storage. b) Eliminate the workshop/sample processing building at the CHQ. The function planned for this building will be moved to the Carbon Amendment building at the MW-20 Bench. Removal of this building reduces the amount of soil disturbance by approximately 334 cubic yards. c) Eliminate the sunshade at the CHQ. The function for the sunshade will be replaced by the break trailer for the workers. Removal of the sunshade reduces the amount of soil distance (i.e., installation of the footings) by approximately 14 cubic yards. d) Convert the utility pad at the CHQ to a smaller transformer/electrical panel pad. With the relocation of the six trailers to SPY and elimination of the workshop/sample processing building, PG&E proposed to convert the utility pad to smaller pad for a smaller transformer/electrical panel to serve the remaining trailers at the CHQ. This reduces the amount of soil disturbance by approximately 61 cubic yards. | DOI and DTSC approved WVR #7 on June 14, 2019. |
| 8 | On September 12, 2019, PG&E proposed a WVR to change the alignment of pipeline segment C6 on the eastern slope of the MW-20 Bench. The purpose of the WVR is to reduce the amount of soil disturbance, reduce the number of plants to be removed, reduce the safety risks associated with construction atop the MW-20 bench, and reduce the hazards associated with operation at the MW-20 bench during construction. | DTSC and DOI approved WVR #8 on October 4 and 8, 2019, respectively. |
| 9 | On March 20, 2020 and at DTSC's direction, PG&E submitted a WVR to relocate MW-A and convert IRZ-11 to a monitoring well. | DTSC and DOI approved WVR #9 on April 24, 2020. |

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 2-4. Summary of Cumulative Percent Completeness of Key Construction Activities
June 2021 Monthly Progress Report for the Final Groundwater Remedy Construction and Startup
PG&E Topock Compressor Station, Needles, California

| Activity | % Complete | Cumulative Status of Construction Activities (as of June 30, 2021) |
|--|------------|---|
| Project signage & Public Information Office | 100% | Complete. |
| Staging Areas 9, 18, and 23 set-up | 100% | Complete. |
| Temporary construction offices at Soil Processing Yard | 100% | Complete. |
| Soil Processing Yard including security fence | 100% | Complete. |
| National Trails Highway lane closure and traffic control installation | 100% | Complete. |
| Temporary construction water line | 100% | Complete. |
| TCS Ponds concrete containment pad | 100% | Complete. |
| Construction Headquarters (CHQ) access road and security fence | 100% | Complete. |
| Brine Tanks containment upgrade | 100% | Complete. |
| MW-L, N, E, W, O, R, M, U, 10D, 11D, B, C, D, H, S, Hydro-6, X, Y', G, F, V, and Z, and MW-99. | 100% | Complete. |
| MW-70BR (damaged) | 100% | Bentonite grout had entered the well casing. The conductor casing was damaged and the well was repaired in June 2020. The repair consisted of cleaning out the borehole to approximately 246 feet bgs, set a 4-inch PVC sleeve to approximately 240 feet, and cement to approximately 230 feet. Well development was completed in July 2020. Well surface completion was completed in October 2020. |
| MW-97 (former IRZ-11 MW) | 100% | Complete. |
| MW-96 (relocated MW-A) | 100% | Complete. |
| Pilot borings for wells RB-5, RB-4, RB-3, RB-2, IRZ-9, 13, 15, 16, 17, 18, 21, 23, 25, 27, 29, 31, 35, 37, and 39. | 100% | Complete. |
| RB-2, RB-3, RB-4, and RB-5 | 100% | Complete. |
| IRZ-9, IRZ-13S/D, IRZ-15, IRZ-16, IRZ-17, IRZ-18, IRZ-21, IRZ-23, IRZ-25, IRZ-27, IRZ-29, IRZ-31, IRZ-33, IRZ-35, IRZ-37, and IRZ-39 | 99% | Complete. |
| Pipeline B | 100% | Substantially complete. Temporary erosion control measures in place. |
| Pipeline C Floodplain Segments C3, C4, C5, C6, C7, C8, C8-Alt, C14 including aggregate-based access road in floodplain | 100% | Substantially complete. |
| Pipeline C NTH Segments C13, C15, C16, C19, C20 | 100% | Substantially complete. |
| Pipeline C9, C10, C17 | 100% | Substantially complete. |
| Pipeline F | 100% | Substantially complete. |
| Pipeline J Segments J1 and J2 | 100% | Asphalt paving complete. |
| Pipeline J Segments J3 and J4 | 100% | Substantially complete. |
| Pipeline M2-M6 (inside TCS) | 100% | Substantially complete. |

| Activity | % Complete | Cumulative Status of Construction Activities (as of June 30, 2021) |
|--|------------|--|
| Pipeline/Conduit F8/M1/X (inside TCS) | 100% | Substantially complete. |
| Phase 1 Remedy-produced water conditioning system and associated facilities (TCS) | 100% | Substantially complete. |
| MW-20 Bench carbon amendment facility and associated piping | 85% | Building structure complete; mechanical work and site grading in progress, to be completed in August 2021. |
| Remediation well vaults and well buildout | 82% | Vault installation and wellhead piping complete, down-well in progress, to be completed in August 2021. |
| Underground electrical and controls cable installation | 100% | Substantially complete. |
| Electrical installation at transformer nodes 99 (TCS), 2 (south floodplain), 3 (MW-20 Bench), and 4 (north floodplain) | 0% | Starting July 2021. To be completed in September 2021. |
| Controls installation and programming at Phase 1 Remedy-Produced water conditioning facilities (TCS) | 0% | Starting July 2021. To be completed in September 2021. |
| Controls installation and programming at MW-20 Bench carbon amendment facility | 0% | Starting July 2021. To be completed in September 2021. |
| Controls installation and programming at Phase 1 remediation wells | 50% | Started April 2021. To be completed in September 2021. |

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:

- Decontamination pads will be located in Area #21 (Topock Compressor Station), and Area #23 (Transwestern Bench).
- 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.
- 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.

- 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
- Injection Well
 - Groundwater Monitoring Well
 - Water Supply Well
 - Remediation Well

Figure 2-2
Well Locations
Groundwater Remedy Phase 1 Construction
PG&E Topock Compressor Station Needles,
California

Attachment A

Photographs



Photo showing flange mounted to well casing at IRZ-9, prior to downhole equipment installation commenced.



Photo showing Cascade lowering submersible extraction pump into IRZ-9 well casing.



Photos showing preparation for control panel installation (top) and control panel inside IRZ-27 well vault (bottom).



Photo showing grading near the southeast corner of MW-20 Bench.



Photo showing crew moving pipe to allow backfill alongside of unloading pad.

Attachment B
Available Boring and Well Construction
Logs, Groundwater Sample Results from
Well Drilling, and Well Testing Activities

(Logs and Well Testing Plans/Results are Presented in
Separate PDFs)

Table B-1. Groundwater Sampling Results

*June 2021 Monthly Progress Report for the Final Groundwater Remedy Construction and Startup
PG&E Topock Compressor Station, Needles, California*

| Location | Sample ID | Sample Date | Sample Depth Interval in feet below ground surface | Total Dissolved Chromium Concentration in microgram per liter | Hexavalent Chromium Concentration in microgram per liter |
|--------------------------------|------------------------|-------------|--|--|--|
| MW-10D | MW-10D-041119 | 04/11/19 | Vertical aquifer sample collected at 108 to 123 feet | 160 | 160 |
| MW-10D | MW-10D-VAS-107- 112 | 04/01/19 | Vertical aquifer sample collected at 107 to 112 feet | 95 | 96 |
| MW-10D | MW-10D-VAS-118- 123 | 04/02/19 | Vertical aquifer sample collected at 118 to 123 feet | 200 | 190 |
| MW-11D | MW-11D-VAS-122-127 | 10/07/19 | Vertical aquifer sample collected at 122 to 127 feet | 120 | 92 |
| MW-11D | MW-11D-VAS-152-157 | 10/07/19 | Vertical aquifer sample collected at 152 to 157 feet | 1.1 | 10 |
| MW-11D | MW-11D-VAS-177-182 | 10/08/19 | Vertical aquifer sample collected at 177 to 182 feet | Not detected below reporting limit of 0.13 microgram per liter | Not detected below reporting limit of 0.17 microgram per liter |
| MW-11D | MW-11D-VAS-67-72 | 10/06/19 | Vertical aquifer sample collected at 67 to 72 feet | 370 | 370 |
| MW-11D | MW-11D-VAS-92-97 | 10/06/19 | Vertical aquifer sample collected at 92 to 97 feet | 99 | 72 |
| MW-11D | MW-11D-110219 | 11/02/19 | Sample collected from well development | 26 | 17 |
| MW-94 (formerly Hydro-6) | MW-94-175-120419 | 12/04/19 | Sample collected from well development | 5.2 | 5.7 |
| MW-75 (former MW-B) | MW-B-VAS-27-32 | 01/06/19 | Vertical aquifer sample collected at 27 to 32 feet | Estimated concentration of 5.9 micrograms per liter | Estimated concentration of 7.7 micrograms per liter |
| MW-75 (former MW-B) | MW-B-VAS-47-52 | 01/09/19 | Vertical aquifer sample collected at 47 to 52 feet | Not detected below reporting limit of 0.13 microgram per liter | Not detected below reporting limit of 0.17 microgram per liter |
| MW-75 (former MW-B) | MW-B-VAS-67-72 | 01/09/19 | Vertical aquifer sample collected at 67 to 72 feet | Not detected below reporting limit of 0.13 microgram per liter | Not detected below reporting limit of 0.17 microgram per liter |
| MW-75 (former MW-B) | MW-B-VAS-102-107 | 01/10/19 | Vertical aquifer sample collected at 102 to 107 feet | Not detected below reporting limit of 0.13 microgram per liter | Not detected below reporting limit of 0.17 microgram per liter |
| MW-75 (former MW-B) | MW-B-VAS-142-147 | 01/15/19 | Vertical aquifer sample collected at 142 to 147 feet | Not detected below reporting limit of 0.13 microgram per liter | Not detected below reporting limit of 0.17 microgram per liter |
| MW-75 (former MW-B) | MW-B-VAS-182-187 | 02/13/19 | Vertical aquifer sample collected at 182 to 187 feet | Not detected below reporting limit of 0.13 microgram per liter | Not detected below reporting limit of 0.17 microgram per liter |

| Location | Sample ID | Sample Date | Sample Depth Interval in feet below ground surface | Total Dissolved Chromium Concentration in microgram per liter | Hexavalent Chromium Concentration in microgram per liter |
|---------------------------|-----------------------------|-------------|--|--|--|
| MW-75 (former MW-B) | MW-B-VAS-207-212 | 02/14/19 | Vertical aquifer sample collected at 207 to 212 feet | Not detected below reporting limit of 0.13 microgram per liter | Not detected below reporting limit of 0.17 microgram per liter |
| MW-75 (former MW-B) | MW-B-VAS-247-252 | 02/17/19 | Vertical aquifer sample collected at 247 to 252 feet | Estimated concentration of 11 micrograms per liter | Not detected below reporting limit of 0.83 microgram per liter |
| MW-75 (former MW-B) | MW-B-VAS-264-269 | 02/18/19 | Vertical aquifer sample collected at 264 to 269 feet | Not detected below reporting limit of 0.13 microgram per liter | Not detected below reporting limit of 0.33 microgram per liter |
| MW-75 (former MW-B) | MW-B-VAS-287-292 | 02/20/19 | Vertical aquifer sample collected at 287 to 292 feet | Not detected below reporting limit of 0.13 microgram per liter | Not detected below reporting limit of 0.17 microgram per liter |
| MW-75 (former MW-B) | MW-B-VAS-317-322 | 02/21/19 | Vertical aquifer sample collected at 317 to 322 feet | Not detected below reporting limit of 0.13 microgram per liter | Not detected below reporting limit of 0.17 microgram per liter |
| MW-75 (former MW-B) | MW-B-VAS-339-344 | 02/27/19 | Vertical aquifer sample collected at 339 to 344 feet | Not detected below reporting limit of 0.13 microgram per liter | Not detected below reporting limit of 0.33 microgram per liter |
| MW-75 (former MW-B) | MW-B-VAS-352-357 | 02/28/19 | Vertical aquifer sample collected at 352 to 357 feet | Estimated concentration of 0.603 microgram per liter | Not detected below reporting limit of 0.33 microgram per liter |
| MW-75 (former MW-B) | MW-B-117-033019 | 03/30/19 | Sample collected from well development at 117 feet | Not detected below reporting limit of 0.13 microgram per liter | Not detected below reporting limit of 0.17 microgram per liter |
| MW-75 (former MW-B) | MW-B-33-033119 | 03/31/19 | Sample collected from well development at 33 feet | 3.7 | 2.3 |
| MW-75 (former MW-B) | MW-B-337-062619- INTERIM | 6/26/19 | Sample collected from well development | Estimated concentration of 0.255 microgram per liter | Not detected below reporting limit of 0.17 microgram per liter |
| MW-75 (former MW-B) | MW-B-337-090719 | 9/7/2019 | Sample collected from well development | Estimated concentration of 0.251 microgram per liter | Not detected below reporting limit of 0.17 microgram per liter |
| MW-75 (former MW-B) | MW-B-267R-101619 | 10/16/19 | Sample collected from well development | Estimated concentration of 0.147 microgram per liter | Not detected below reporting limit of 0.17 microgram per liter |
| MW-75 (former MW-B) | MW-B-202-101819 | 10/18/19 | Sample collected from well development | Not detected below reporting limit of 0.13 microgram per liter | Not detected below reporting limit of 0.17 microgram per liter |
| MW-76 (former MW-C) | MW-C-VAS-26-31 | 6/19/19 | Vertical aquifer sample collected at 26 to 31 feet | 360 | 380 |
| MW-76 (former MW-C) | MW-C-VAS-51-56 | 6/25/19 | Vertical aquifer sample collected at 51 to 56 feet | Estimated concentration of 0.13 microgram per liter | Estimated concentration of 0.146 microgram per liter |

| Location | Sample ID | Sample Date | Sample Depth Interval in feet below ground surface | Total Dissolved Chromium Concentration in microgram per liter | Hexavalent Chromium Concentration in microgram per liter |
|---------------------------|------------------|-------------|--|--|--|
| MW-76 (former MW-C) | DUP-01-062519 | 6/25/19 | Vertical aquifer sample collected at 51 to 56 feet | Not detected below reporting limit of 0.13 microgram per liter | Estimated concentration of 0.0931 microgram per liter |
| MW-76 (former MW-C) | MW-C-VAS-66-71 | 6/26/19 | Vertical aquifer sample collected at 66 to 71 feet | Not detected below reporting limit of 0.13 microgram per liter | Not detected below reporting limit of 0.033 microgram per liter |
| MW-76 (former MW-C) | MW-C-VAS-81-86 | 6/27/19 | Vertical aquifer sample collected at 81 to 86 feet | Not detected below reporting limit of 0.13 microgram per liter | Not detected below reporting limit of 0.17 microgram per liter |
| MW-76 (former MW-C) | MW-C-VAS-117-122 | 6/28/19 | Vertical aquifer sample collected at 117 to 122 feet | Not detected below reporting limit of 0.13 microgram per liter | Not detected below reporting limit of 0.17 microgram per liter |
| MW-76 (former MW-C) | MW-C-VAS-147-152 | 6/29/19 | Vertical aquifer sample collected at 147 to 152 feet | Not detected below reporting limit of 0.13 microgram per liter | Not detected below reporting limit of 0.17 microgram per liter |
| MW-76 (former MW-C) | MW-C-VAS-165-170 | 6/30/19 | Vertical aquifer sample collected at 165 to 170 feet | Not detected below reporting limit of 0.13 microgram per liter | Not detected below reporting limit of 0.17 microgram per liter |
| MW-76 (former MW-C) | MW-C-VAS-176-181 | 7/1/19 | Vertical aquifer sample collected at 176 to 181 feet | 380 | 410 |
| MW-76 (former MW-C) | MW-C-VAS-186-191 | 7/1/19 | Vertical aquifer sample collected at 186 to 191 feet | Not detected below reporting limit of 0.13 microgram per liter | Not detected below reporting limit of 0.17 microgram per liter |
| MW-76 (former MW-C) | MW-C-VAS-200-205 | 7/2/19 | Vertical aquifer sample collected at 200 to 205 feet | Not detected below reporting limit of 0.13 microgram per liter | Not detected below reporting limit of 0.17 microgram per liter |
| MW-76 (former MW-C) | MW-C-VAS-216-221 | 7/3/19 | Vertical aquifer sample collected at 216 to 221 feet | Estimated concentration of 0.448 microgram per liter | Not detected below reporting limit of 0.17 microgram per liter |
| MW-76 (former MW-C) | MW-C-156-081519 | 8/15/2019 | Sample collected from well development | Data not available | Not detected below reporting limit of 0.17 microgram per liter |
| MW-76 (former MW-C) | MW-C-181-082019 | 8/20/2019 | Sample collected from well development | 280 | 280 |
| MW-76 (former MW-C) | MW-C-218-082219 | 8/22/2019 | Sample collected from well development | 39 | 40 |
| MW-76 (former MW-C) | MW-C-39-090519 | 9/5/2019 | Sample collected from well development | 14 | 16 |
| MW-77 (former MW-D) | MW-D-VAS-30-35 | 08/10/19 | Vertical aquifer sample collected at 30 to 35 | Not detected below reporting limit of 0.13 microgram per liter | Not detected below reporting limit of 0.17 microgram per liter |

| Location | Sample ID | Sample Date | Sample Depth Interval in feet below ground surface | Total Dissolved Chromium Concentration in microgram per liter | Hexavalent Chromium Concentration in microgram per liter |
|---------------------------|------------------|-------------|--|--|--|
| MW-77 (former MW-D) | MW-D-VAS-46-51 | 08/11/19 | Vertical aquifer sample collected at 46 to 51 feet | Estimated concentration of 0.558 microgram per liter | 0.47 |
| MW-77 (former MW-D) | MW-D-VAS-91-96 | 08/12/19 | Vertical aquifer sample collected at 91 to 96 feet | Not detected below reporting limit of 0.13 microgram per liter | Not detected below reporting limit of 0.033 microgram per liter |
| MW-77 (former MW-D) | MW-D-VAS-131-136 | 08/21/19 | Vertical aquifer sample collected at 131 to 136 feet | Not detected below reporting limit of 0.13 microgram per liter | Not detected below reporting limit of 0.066 microgram per liter |
| MW-77 (former MW-D) | MW-D-VAS-141-146 | 08/22/19 | Vertical aquifer sample collected at 141 to 146 feet | Not detected below reporting limit of 0.13 microgram per liter | Not detected below reporting limit of 0.17 microgram per liter |
| MW-77 (former MW-D) | MW-D-VAS-151-156 | 08/22/19 | Vertical aquifer sample collected at 151 to 156 feet | Not detected below reporting limit of 0.13 microgram per liter | Not detected below reporting limit of 0.17 microgram per liter |
| MW-77 (former MW-D) | MW-D-VAS-161-166 | 08/23/19 | Vertical aquifer sample collected at 161 to 166 feet | Not detected below reporting limit of 0.13 microgram per liter | Not detected below reporting limit of 0.17 microgram per liter |
| MW-77 (former MW-D) | MW-D-VAS-171-176 | 08/23/19 | Vertical aquifer sample collected at 171 to 176 feet | Not detected below reporting limit of 0.13 microgram per liter | Not detected below reporting limit of 0.17 microgram per liter |
| MW-77 (former MW-D) | MW-D-VAS-181-186 | 08/24/19 | Vertical aquifer sample collected at 181 to 186 feet | Not detected below reporting limit of 0.13 microgram per liter | Not detected below reporting limit of 0.17 microgram per liter |
| MW-77 (former MW-D) | MW-D-VAS-191-196 | 08/25/19 | Vertical aquifer sample collected at 191 to 196 feet | Not detected below reporting limit of 0.13 microgram per liter | Not detected below reporting limit of 0.17 microgram per liter |
| MW-77 (former MW-D) | MW-D-158-092419 | 09/24/19 | Sample collected from well development | Estimated concentration of 0.203 microgram per liter | Not detected below reporting limit of 0.17 microgram per liter |
| MW-77 (former MW-D) | MW-D-187-092519 | 09/25/19 | Sample collected from well development | Not detected below reporting limit of 0.13 microgram per liter | Not detected below reporting limit of 0.17 microgram per liter |
| MW-77 (former MW-D) | MW-D-102-100219 | 10/02/19 | Sample collected from well development | Not detected below reporting limit of 0.13 microgram per liter | Not detected below reporting limit of 0.033 microgram per liter |
| MW-77 (former MW-D) | MW-D-46R-103119 | 10/31/19 | Sample collected from well development | Not detected below reporting limit of 0.13 microgram per liter | Not detected below reporting limit of 0.033 microgram per liter |
| MW-78 (former MW-E) | MW-E-VAS-52-57 | 11/05/18 | Vertical aquifer sample collected at 52 to 57 feet | 7800 | 7000 |
| MW-78 (former MW-E) | MW-E-VAS-82-87 | 11/06/18 | Vertical aquifer sample collected at 82 to 87 feet | 190 | 200 |

| Location | Sample ID | Sample Date | Sample Depth Interval in feet below ground surface | Total Dissolved Chromium Concentration in microgram per liter | Hexavalent Chromium Concentration in microgram per liter |
|-----------------------------|------------------|-------------|---|---|--|
| MW-78 (former MW-E) | MW-E-VAS-112-117 | 11/06/18 | Vertical aquifer sample collected at 112 to 117 feet | 3000 | 3100 |
| MW-78 (former MW-E) | MW-E-VAS-137-142 | 11/07/18 | Vertical aquifer sample collected at 137 to 142 feet | 7900 | 7300 |
| MW-78 (former MW-E) | MW-E-70-121418 | 12/14/18 | Sample collected from well development at a depth of 70 feet | -- | 3000 |
| MW-78 (former MW-E) | MW-E-142-121418 | 12/14/18 | Sample collected from well development at a depth of 142 feet | 4500 | 4200 |
| MW-79 (former MW-F) | MW-F-VAS-52-57 | 01/06/19 | Vertical aquifer sample collected at 52 to 57 feet | 2700 | 2500 |
| MW-79 (former MW-F) | MW-F-VAS-82-87 | 01/07/19 | Vertical aquifer sample collected at 82 to 87 feet | 120 | 110 |
| MW-79 (former MW-F) | MW-F-VAS-97-102 | 01/07/19 | Vertical aquifer sample collected at 97 to 102 feet | 1900 | 1800 |
| MW-79 (former MW-F) | MW-F-VAS-112-117 | 01/08/19 | Vertical aquifer sample collected at 112 to 117 feet | 790 | 740 |
| MW-79 (former MW-F) | MW-F-104-022719 | 02/27/19 | Sample collected from well development at a depth of 104 feet | 1800 | 1700 |
| MW-79 (former MW-F) | MW-F-60-022819 | 02/28/19 | Sample collected from well development at a depth of 60 feet | 2300 | 2200 |
| MW-80 (former MW-G) | MW-G-VAS-52-57 | 02/13/19 | Vertical aquifer sample collected at 52 to 57 feet | 790 | 680 |
| MW-80 (former MW-G) | MW-G-VAS-67-72 | 02/14/19 | Vertical aquifer sample collected at 67 to 72 feet | 1000 | 920 |
| MW-80 (former MW-G) | MW-G-VAS-77-82 | 02/15/19 | Vertical aquifer sample collected at 77 to 82 feet | 710 | 600 |
| MW-80 (former MW-G) | MW-G-82-030219 | 03/02/19 | Sample collected from well development at a depth of 82 feet | 1500 | 1500 |
| MW-80 (former MW-G) | MW-G-57-030219 | 03/02/19 | Sample collected from well development at a depth of 57 feet | 510 | 560 |
| MW-81 (former IRZ-19) | MW-81-98-121919 | 12/19/19 | Sample collected from well development | Estimated concentration of 0.145 microgram per liter | Not detected below reporting limit of 0.033 microgram per liter |

| Location | Sample ID | Sample Date | Sample Depth Interval in feet below ground surface | Total Dissolved Chromium Concentration in microgram per liter | Hexavalent Chromium Concentration in microgram per liter |
|-----------------------|------------------|-------------|--|--|---|
| MW-81 (former IRZ-19) | MW-81-43-010820 | 01/08/20 | Sample collected from well development | Estimated concentration of 0.202 microgram per liter | Not detected below reporting limit of 0.033 microgram per liter |
| MW-82 (former MW-H) | MW-H-VAS-32-37 | 8/7/2019 | Vertical aquifer sample collected at 32 to 37 feet | Not detected below reporting limit of 0.13 microgram per liter | Not detected below reporting limit of 0.17 microgram per liter |
| MW-82 (former MW-H) | MW-H-VAS-47-52 | 8/7/2019 | Vertical aquifer sample collected at 47 to 52 feet | Not detected below reporting limit of 0.13 microgram per liter | Not detected below reporting limit of 0.17 microgram per liter |
| MW-82 (former MW-H) | MW-H-VAS-82-87 | 08/08/19 | Vertical aquifer sample collected at 82 to 87 feet | Not detected below reporting limit of 0.13 microgram per liter | Not detected below reporting limit of 0.033 microgram per liter |
| MW-82 (former MW-H) | MW-H-VAS-112-117 | 08/09/19 | Vertical aquifer sample collected at 112 to 117 feet | 8.1 | Not detected below reporting limit of 0.17 microgram per liter |
| MW-82 (former MW-H) | MW-H-VAS-142-147 | 08/10/19 | Vertical aquifer sample collected at 142 to 147 feet | Estimated concentration of 18 micrograms per liter | Not detected below reporting limit of 0.17 microgram per liter |
| MW-82 (former MW-H) | MW-H-VAS-152-157 | 08/10/19 | Vertical aquifer sample collected at 152 to 157 feet | Not detected below reporting limit of 0.13 microgram per liter | Not detected below reporting limit of 0.17 microgram per liter |
| MW-82 (former MW-H) | MW-H-VAS-162-167 | 08/11/19 | Vertical aquifer sample collected at 162 to 167 feet | Not detected below reporting limit of 0.13 microgram per liter | Not detected below reporting limit of 0.17 microgram per liter |
| MW-82 (former MW-H) | MW-H-VAS-172-177 | 08/12/19 | Vertical aquifer sample collected at 172 to 177 feet | Not detected below reporting limit of 0.13 microgram per liter | Not detected below reporting limit of 0.17 microgram per liter |
| MW-82 (former MW-H) | MW-H-VAS-182-187 | 08/13/19 | Vertical aquifer sample collected at 182 to 187 feet | Not detected below reporting limit of 0.13 microgram per liter | Not detected below reporting limit of 0.17 microgram per liter |
| MW-82 (former MW-H) | MW-H-VAS-192-197 | 08/14/19 | Vertical aquifer sample collected at 192 to 197 feet | Not detected below reporting limit of 0.13 microgram per liter | Not detected below reporting limit of 0.17 microgram per liter |
| MW-82 (former MW-H) | MW-H-112-092019 | 09/20/19 | Sample collected from well development | Not detected below reporting limit of 0.13 microgram per liter | Not detected below reporting limit of 0.17 microgram per liter |
| MW-82 (former MW-H) | MW-H-168-092119 | 09/21/19 | Sample collected from well development | Not detected below reporting limit of 0.13 microgram per liter | Not detected below reporting limit of 0.17 microgram per liter |
| MW-82 (former MW-H) | MW-H-198-092219 | 09/22/19 | Sample collected from well development | Not detected below reporting limit of 0.13 microgram per liter | Not detected below reporting limit of 0.17 microgram per liter |
| MW-82 (former MW-H) | MW-H-46-091919 | 09/19/19 | Sample collected from well development | 19 | 1.4 |
| MW-83 (former MW-L) | MW-L-VAS-76-81 | 10/06/18 | Vertical aquifer sample collected at 76 to 81 feet | 8.1 | 31 |

| Location | Sample ID | Sample Date | Sample Depth Interval in feet below ground surface | Total Dissolved Chromium Concentration in microgram per liter | Hexavalent Chromium Concentration in microgram per liter |
|---------------------------|------------------|-------------|---|--|--|
| MW-83 (former MW-L) | MW-L-VAS-106-111 | 10/09/18 | Vertical aquifer sample collected at 106 to 111 feet | Estimated concentration of 0.697 microgram per liter | 0.84 |
| MW-83 (former MW-L) | MW-L-VAS-141-146 | 10/10/18 | Vertical aquifer sample collected at 141 to 146 feet | Not detected below reporting limit of 0.13 microgram per liter | Not detected below reporting limit of 0.033 microgram per liter |
| MW-83 (former MW-L) | MW-L-VAS-181-186 | 10/20/18 | Vertical aquifer sample collected at 181 to 186 feet | 3.8 | 3.3 |
| MW-83 (former MW-L) | MW-L-VAS-218-223 | 10/21/18 | Vertical aquifer sample collected at 218 to 223 feet | 68 | 66 |
| MW-83 (former MW-L) | MW-L-VAS-261-266 | 10/22/18 | Vertical aquifer sample collected at 261 to 266 feet | 0.284 microgram per liter | Not detected below reporting limit of 0.17 microgram per liter |
| MW-83 (former MW-L) | MW-L-180-032819 | 03/28/19 | Sample collected from well development at a depth of 180 feet | Not detected below reporting limit of 0.13 microgram per liter | Not detected below reporting limit of 0.17 microgram per liter |
| MW-83 (former MW-L) | MW-L-245-030319 | 03/03/19 | Sample collected from well development at a depth of 245 feet | 14 | 15 |
| MW-83 (former MW-L) | MW-L-90-032919 | 03/29/19 | Sample collected from well development at a depth of 90 feet | 19 | 18 |
| MW-83 (former MW-L) | MW-L-225-032919 | 03/29/19 | Sample collected from well development at a depth of 225 feet | 410 | 380 |
| MW-84 (former MW-M) | MW-M-VAS-52-57 | 03/28/19 | Vertical aquifer sample collected at 52 to 57 feet | 29 | 28 |
| MW-84 (former MW-M) | MW-M-VAS-72-77 | 03/29/19 | Vertical aquifer sample collected at 72 to 77 feet | Not detected below reporting limit of 0.13 microgram per liter | Not detected below reporting limit of 0.033 microgram per liter |
| MW-84 (former MW-M) | MW-M-VAS-107-112 | 03/30/19 | Vertical aquifer sample collected at 107 to 112 feet | Not detected below reporting limit of 0.13 microgram per liter | Not detected below reporting limit of 0.033 microgram per liter |
| MW-84 (former MW-M) | MW-M-VAS-147-152 | 03/31/19 | Vertical aquifer sample collected at 147 to 152 feet | Not detected below reporting limit of 0.13 microgram per liter | Not detected below reporting limit of 0.17 microgram per liter |
| MW-84 (former MW-M) | MW-M-VAS-172-177 | 04/02/19 | Vertical aquifer sample collected at 172 to 177 feet | Not detected below reporting limit of 0.13 microgram per liter | Not detected below reporting limit of 0.033 microgram per liter |
| MW-84 (former MW-M) | MW-M-VAS-190-195 | 04/10/19 | Vertical aquifer sample collected at 190 to 195 feet | Not detected below reporting limit of 0.13 microgram per liter | Not detected below reporting limit of 0.17 microgram per liter |

| Location | Sample ID | Sample Date | Sample Depth Interval in feet below ground surface | Total Dissolved Chromium Concentration in microgram per liter | Hexavalent Chromium Concentration in microgram per liter |
|---------------------|--------------------|-------------|---|--|---|
| MW-84 (former MW-M) | MW-M-132-061519 | 6/16/19 | Sample collected from well development | Not detected below reporting limit of 0.13 microgram per liter | Not detected below reporting limit of 0.033 microgram per liter |
| MW-84 (former MW-M) | MW-M-193-061419 | 6/14/19 | Sample collected from well development | Not detected below reporting limit of 0.13 microgram per liter | Not detected below reporting limit of 0.17 microgram per liter |
| MW-84 (former MW-M) | MW-M-57-061719 | 6/17/19 | Sample collected from well development | Estimated concentration of 0.715 microgram per liter | 0.72 |
| MW-84 (former MW-M) | MW-M-95-061619 | 6/16/19 | Sample collected from well development | Not detected below reporting limit of 0.13 microgram per liter | Not detected below reporting limit of 0.033 microgram per liter |
| MW-85 (former MW-N) | MW-N-VAS-121-126 | 02/14/19 | Vertical aquifer sample collected at 121 to 126 feet | Estimated concentration of 0.699 microgram per liter | 0.51 |
| MW-85 (former MW-N) | MW-N-VAS-142-147 | 02/16/19 | Vertical aquifer sample collected at 142 to 147 feet | Not detected below reporting limit of 0.13 microgram per liter | Not detected below reporting limit of 0.033 microgram per liter |
| MW-85 (former MW-N) | MW-N-VAS-173-178 | 02/18/19 | Vertical aquifer sample collected at 173 to 178 feet | Not detected below reporting limit of 0.13 microgram per liter | Not detected below reporting limit of 0.033 microgram per liter |
| MW-85 (former MW-N) | MW-N-VAS-210-215 | 02/21/19 | Vertical aquifer sample collected at 210 to 215 feet | 320 | 290 |
| MW-85 (former MW-N) | MW-N-VAS-228-233 | 02/26/19 | Vertical aquifer sample collected at 228 to 233 feet | Not detected below reporting limit of 0.13 microgram per liter | Not detected below reporting limit of 0.17 microgram per liter |
| MW-85 (former MW-N) | MW-N-217-040219 | 04/02/19 | Sample collected from well development at a depth of 217 feet | 110 | 110 |
| MW-85 (former MW-N) | MW-N-237-040119 | 04/01/19 | Sample collected from well development at a depth of 237 feet | 1600 | 1500 |
| MW-85 (former MW-N) | MW-N-129-040319 | 04/03/19 | Sample collected from well development at a depth of 129 feet | 45 | 46 |
| MW-86 (former MW-O) | MW-O-VAS-101-106 | 05/10/19 | Vertical aquifer sample collected at 101 to 106 feet | Not detected below reporting limit of 0.13 microgram per liter | Not detected below reporting limit of 0.033 microgram per liter |
| MW-86 (former MW-O) | MW-O-VAS-106-111 | 05/11/19 | Vertical aquifer sample collected at 106 to 111 feet | Not detected below reporting limit of 0.13 microgram per liter | Not detected below reporting limit of 0.17 microgram per liter |
| MW-86 (former MW-O) | MW-O-VAS-12.5-17.5 | 05/08/19 | Vertical aquifer sample collected at 12 to 18 feet | Not detected below reporting limit of 0.13 microgram per liter | Estimated concentration of 0.163 J |

| Location | Sample ID | Sample Date | Sample Depth Interval in feet below ground surface | Total Dissolved Chromium Concentration in microgram per liter | Hexavalent Chromium Concentration in microgram per liter |
|---------------------------|------------------|-------------|--|--|--|
| MW-86 (former MW-O) | MW-O-VAS-136-141 | 05/11/19 | Vertical aquifer sample collected at 136 to 141 feet | Not detected below reporting limit of 0.13 microgram per liter | Not detected below reporting limit of 0.17 microgram per liter |
| MW-86 (former MW-O) | MW-O-VAS-51-56 | 05/09/19 | Vertical aquifer sample collected at 51 to 56 feet | Not detected below reporting limit of 0.13 microgram per liter | Not detected below reporting limit of 0.033 microgram per liter |
| MW-86 (former MW-O) | MW-O-VAS-66-71 | 05/09/19 | Vertical aquifer sample collected at 66 to 71 feet | Not detected below reporting limit of 0.13 microgram per liter | Estimated concentration of 0.178 J |
| MW-86 (former MW-O) | MW-O-140-071819 | 7/18/19 | Sample collected from well development | Not detected below reporting limit of 0.13 microgram per liter | Not detected below reporting limit of 0.17 microgram per liter |
| MW-86 (former MW-O) | MW-O-30-071719 | 7/17/19 | Sample collected from well development | Not detected below reporting limit of 0.13 microgram per liter | Not detected below reporting limit of 0.033 microgram per liter |
| MW-86 (former MW-O) | MW-O-66-071519 | 7/15/19 | Sample collected from well development | Not detected below reporting limit of 0.13 microgram per liter | Not detected below reporting limit of 0.033 microgram per liter |
| MW-87 (former MW-R) | MW-R-VAS-92-97 | 05/13/19 | Vertical aquifer sample collected at 92 to 97 feet | 42 | 45 |
| MW-87 (former MW-R) | MW-R-VAS-117-122 | 05/14/19 | Vertical aquifer sample collected at 117 to 122 feet | 4.6 | 5.8 |
| MW-87 (former MW-R) | MW-R-VAS-151-156 | 05/15/19 | Vertical aquifer sample collected at 151 to 156 feet | Not detected below reporting limit of 0.13 microgram per liter | Not detected below reporting limit of 0.033 microgram per liter |
| MW-87 (former MW-R) | MW-R-VAS-192-197 | 05/16/19 | Vertical aquifer sample collected at 192 to 197 feet | Not detected below reporting limit of 0.13 microgram per liter | Not detected below reporting limit of 0.033 microgram per liter |
| MW-87 (former MW-R) | MW-R-VAS-227-232 | 05/17/19 | Vertical aquifer sample collected at 227 to 232 feet | Not detected below reporting limit of 0.13 microgram per liter | Not detected below reporting limit of 0.033 microgram per liter |
| MW-87 (former MW-R) | MW-R-VAS-255-260 | 05/29/19 | Vertical aquifer sample collected at 255 to 260 feet | Not detected below reporting limit of 0.13 microgram per liter | Not detected below reporting limit of 0.17 microgram per liter |
| MW-87 (former MW-R) | MW-R-VAS-269-274 | 05/30/19 | Vertical aquifer sample collected at 269 to 274 feet | Not detected below reporting limit of 0.13 microgram per liter | Not detected below reporting limit of 0.17 microgram per liter |
| MW-87 (former MW-R) | MW-R-109-062819 | 6/28/19 | Sample collected from well development | 2.6 | 2.5 |
| MW-87 (former MW-R) | MW-R-139-071319 | 7/13/19 | Sample collected from well development | Not detected below reporting limit of 0.13 microgram per liter | Not detected below reporting limit of 0.033 microgram per liter |

| Location | Sample ID | Sample Date | Sample Depth Interval in feet below ground surface | Total Dissolved Chromium Concentration in microgram per liter | Hexavalent Chromium Concentration in microgram per liter |
|---------------------|------------------|-------------|--|--|---|
| MW-87 (former MW-R) | MW-R-192-070219 | 7/2/19 | Sample collected from well development | Not detected below reporting limit of 0.13 microgram per liter | Not detected below reporting limit of 0.033 microgram per liter |
| MW-87 (former MW-R) | MW-R-275-070919 | 7/9/19 | Sample collected from well development | Not detected below reporting limit of 0.13 microgram per liter | Not detected below reporting limit of 0.17 microgram per liter |
| MW-88 (former MW-S) | MW-S-VAS-107-112 | 09/24/19 | Vertical aquifer sample collected at 107 to 112 feet | 20 | 15 |
| MW-88 (former MW-S) | MW-S-VAS-92-97 | 09/22/19 | Vertical aquifer sample collected at 92 to 97 feet | 25 | 26 |
| MW-90 (former MW-W) | MW-W-VAS-7-12 | 03/27/19 | Vertical aquifer sample collected at 7 to 12 feet | Estimated concentration of 0.266 microgram per liter | Not detected below reporting limit of 0.17 microgram per liter |
| MW-90 (former MW-W) | MW-W-VAS-22-27 | 03/28/19 | Vertical aquifer sample collected at 22 to 27 feet | Not detected below reporting limit of 0.13 microgram per liter | Not detected below reporting limit of 0.033 microgram per liter |
| MW-90 (former MW-W) | MW-W-31-040419 | 04/04/19 | Sample collected from well development at a depth of 31 feet | Not detected below reporting limit of 0.13 microgram per liter | Not detected below reporting limit of 0.17 microgram per liter |
| MW-91 (former MW-X) | MW-X-VAS-12-17 | 06/25/19 | Vertical aquifer sample collected at 12 to 17 feet | 1.2 | Not detected below reporting limit of 0.033 microgram per liter |
| MW-91 (former MW-X) | MW-X-VAS-32-37 | 06/26/19 | Vertical aquifer sample collected at 32 to 37 feet | Not detected below reporting limit of 0.13 microgram per liter | Not detected below reporting limit of 0.033 microgram per liter |
| MW-91 (former MW-X) | MW-X-VAS-71-76 | 6/27/19 | Vertical aquifer sample collected at 71 to 76 feet | Not detected below reporting limit of 0.13 microgram per liter | Not detected below reporting limit of 0.033 microgram per liter |
| MW-91 (former MW-X) | MW-X-VAS-107-112 | 6/27/19 | Vertical aquifer sample collected at 107 to 112 feet | Not detected below reporting limit of 0.13 microgram per liter | Not detected below reporting limit of 0.033 microgram per liter |
| MW-91 (former MW-X) | MW-X-VAS-112-117 | 6/28/19 | Vertical aquifer sample collected at 112 to 117 feet | Not detected below reporting limit of 0.13 microgram per liter | Not detected below reporting limit of 0.033 microgram per liter |
| MW-91 (former MW-X) | MW-X-VAS-152-157 | 6/29/19 | Vertical aquifer sample collected at 152 to 157 feet | Not detected below reporting limit of 0.13 microgram per liter | Not detected below reporting limit of 0.17 microgram per liter |
| MW-91 (former MW-X) | MW-X-VAS-182-187 | 6/29/19 | Vertical aquifer sample collected at 182 to 187 feet | Not detected below reporting limit of 0.13 microgram per liter | Not detected below reporting limit of 0.17 microgram per liter |

| Location | Sample ID | Sample Date | Sample Depth Interval in feet below ground surface | Total Dissolved Chromium Concentration in microgram per liter | Hexavalent Chromium Concentration in microgram per liter |
|----------------------------|------------------|-------------|--|--|--|
| MW-91 (former MW-X) | MW-X-VAS-207-212 | 6/30/19 | Vertical aquifer sample collected at 207 to 212 feet | Not detected below reporting limit of 0.13 microgram per liter | Not detected below reporting limit of 0.17 microgram per liter |
| MW-91 (former MW-X) | MW-X-VAS-245-250 | 7/1/19 | Vertical aquifer sample collected at 245 to 250 feet | Not detected below reporting limit of 0.13 microgram per liter | Not detected below reporting limit of 0.033 microgram per liter |
| MW-91 (former MW-X) | MW-X-VAS-292-297 | 7/2/19 | Vertical aquifer sample collected at 292 to 297 feet | Not detected below reporting limit of 0.13 microgram per liter | Not detected below reporting limit of 0.17 microgram per liter |
| MW-91 (former MW-X) | MW-X-VAS-337-342 | 7/11/19 | Vertical aquifer sample collected at 337 to 342 feet | Estimated concentration of 0.564 microgram per liter | Not detected below reporting limit of 0.17 microgram per liter |
| MW-91 (former MW-X) | MW-X-VAS-382-387 | 7/13/19 | Vertical aquifer sample collected at 382 to 387 feet | Estimated concentration of 0.582 microgram per liter | Not detected below reporting limit of 0.17 microgram per liter |
| MW-91 (former MW-X) | MW-X-VAS-412-417 | 7/15/19 | Vertical aquifer sample collected at 412 to 417 feet | 38 | Not detected below reporting limit of 0.17 microgram per liter |
| MW-91 (former MW-X) | MW-X-120-112019 | 11/20/19 | Sample collected from well development | Not detected below reporting limit of 0.13 microgram per liter | Not detected below reporting limit of 0.033 microgram per liter |
| MW-91 (former MW-X) | MW-X-170-112319 | 11/23/19 | Sample collected from well development | Not detected below reporting limit of 0.13 microgram per liter | Not detected below reporting limit of 0.033 microgram per liter |
| MW-91 (former MW-X) | MW-X-320-112219 | 11/22/19 | Sample collected from well development | Estimated concentration of 0.912 microgram per liter | Not detected below reporting limit of 0.17 microgram per liter |
| MW-91 (former MW-X) | MW-X-45-111819 | 11/18/19 | Sample collected from well development | Not detected below reporting limit of 0.13 microgram per liter | Not detected below reporting limit of 0.033 microgram per liter |
| MW-92 (former MW-Y') | MW-Y-122-103119 | 10/31/19 | Sample collected from well development | Not detected below reporting limit of 0.13 microgram per liter | Not detected below reporting limit of 0.17 microgram per liter |
| MW-92 (former MW-Y') | MW-Y-102-102319 | 10/23/19 | Sample collected from well development | Not detected below reporting limit of 0.13 microgram per liter | Not detected below reporting limit of 0.033 microgram per liter |
| MW-92 (former MW-Y') | MW-Y-72-102219 | 10/22/19 | Sample collected from well development | Not detected below reporting limit of 0.13 microgram per liter | Not detected below reporting limit of 0.033 microgram per liter |
| MW-92 (former MW-Y') | MW-Y-37-102019 | 10/20/19 | Sample collected from well development | Not detected below reporting limit of 0.13 microgram per liter | Not detected below reporting limit of 0.033 microgram per liter |

| Location | Sample ID | Sample Date | Sample Depth Interval in feet below ground surface | Total Dissolved Chromium Concentration in microgram per liter | Hexavalent Chromium Concentration in microgram per liter |
|----------------------------|-------------------|-------------|--|--|--|
| MW-92 (former MW-Y') | MW-Y-VAS-92-97 | 08/22/19 | Vertical aquifer sample collected at 92 to 97 feet | Estimated concentration of 0.620 microgram per liter | 0.31 |
| MW-92 (former MW-Y') | MW-Y-VAS-98-103 | 08/23/19 | Vertical aquifer sample collected at 98 to 103 feet | Estimated concentration of 0.521 microgram per liter | Not detected below reporting limit of 0.033 microgram per liter |
| MW-92 (former MW-Y') | MW-Y-VAS-112-117 | 08/23/19 | Vertical aquifer sample collected at 112 to 117 feet | Not detected below reporting limit of 0.13 microgram per liter | Not detected below reporting limit of 0.033 microgram per liter |
| MW-92 (former MW-Y') | MW-Y-VAS-52-57 | 08/21/19 | Vertical aquifer sample collected at 52 to 57 feet | Estimated concentration of 0.378 microgram per liter | Not detected below reporting limit of 0.033 microgram per liter |
| MW-92 (former MW-Y') | MW-Y-VAS-12-17 | 08/20/19 | Vertical aquifer sample collected at 12 to 17 feet | Not detected below reporting limit of 0.13 microgram per liter | Not detected below reporting limit of 0.033 microgram per liter |
| MW-93 (former MW-Z) | MW-93-VAS-57-61.1 | 02/06/20 | Vertical aquifer sample collected at 57 to 61 feet | Not detected below reporting limit of 0.13 microgram per liter | Not detected below reporting limit of 0.033 microgram per liter |
| MW-93 (former MW-Z) | MW-93-VAS-42-46.3 | 02/06/20 | Vertical aquifer sample collected at 42 to 46 feet | 7.1 | 8.5 |
| MW-93 (former MW-Z) | MW-93-VAS-32-37 | 02/06/20 | Vertical aquifer sample collected at 32 to 37 feet | 4.9 | 2.5 |
| MW-93 (former MW-Z) | MW-93-VAS-72-77 | 2/7/2020 | Vertical aquifer sample collected at 72 to 77 feet | Estimated concentration of 0.161 microgram per liter | Not detected below reporting limit of 0.033 microgram per liter |
| MW-93 (former MW-Z) | MW-93-VAS-112-117 | 2/8/2020 | Vertical aquifer sample collected at 112 to 117 feet | Estimated concentration of 0.452 microgram per liter | Not detected below reporting limit of 0.033 microgram per liter |
| MW-93 (former MW-Z) | MW-93-VAS-142-147 | 2/8/2020 | Vertical aquifer sample collected at 142 to 147 feet | Estimated concentration of 0.254 microgram per liter | Not detected below reporting limit of 0.17 microgram per liter |
| MW-93 (former MW-Z) | MW-93-VAS-152-157 | 2/9/2020 | Vertical aquifer sample collected at 152 to 157 feet | Estimated concentration of 0.198 microgram per liter | Not detected below reporting limit of 0.17 microgram per liter |
| MW-93 (former MW-Z) | MW-93-VAS-172-177 | 2/10/2020 | Vertical aquifer sample collected at 172 to 177 feet | Estimated concentration of 0.241 microgram per liter | Not detected below reporting limit of 0.17 microgram per liter |

| Location | Sample ID | Sample Date | Sample Depth Interval in feet below ground surface | Total Dissolved Chromium Concentration in microgram per liter | Hexavalent Chromium Concentration in microgram per liter |
|------------------------------|-------------------|-------------|---|--|--|
| MW-93 (former MW-Z) | MW-93-VAS-192-197 | 2/10/2020 | Vertical aquifer sample collected at 192 to 197 feet | Not detected below reporting limit of 0.13 microgram per liter | Not detected below reporting limit of 0.033 microgram per liter |
| MW-93 (former MW-Z) | MW-93-VAS-212-217 | 2/11/2020 | Vertical aquifer sample collected at 212 to 217 feet | Estimated concentration of 0.412 microgram per liter | Not detected below reporting limit of 0.17 microgram per liter |
| MW-93 (former MW-Z) | MW-93-213-060420 | 06/04/20 | Sample from well development at 213 feet | Estimated concentration of 0.188 microgram per liter | Not detected below reporting limit of 0.17 microgram per liter |
| MW-93 (former MW-Z) | MW-93-50-060320 | 06/03/20 | Sample from well development at 50 feet | Estimated concentration of 0.554 microgram per liter | 0.29 |
| MW-94 (former HYDRO-6) | MW-94-175-120419 | 12/4/19 | Sample collected from well development | 5.2 | 5.7 |
| MW-95 (former MW-V) | MW-95-VAS-122-127 | 03/10/20 | Vertical aquifer sample collected at 122 to 127 feet | Estimated concentration of 0.855 microgram per liter | 0.87 |
| MW-95 (former MW-V) | MW-95-VAS-97-102 | 03/10/20 | Vertical aquifer sample collected at 97 to 102 feet | Estimated concentration of 0.44 microgram per liter | 0.79 |
| MW-95 (former MW-V) | MW-95-VAS-152-157 | 03/12/20 | Vertical aquifer sample collected at 152 to 157 feet | Not detected below reporting limit of 0.13 microgram per liter | Not detected below reporting limit of 0.033 microgram per liter |
| MW-95 (former MW-V) | MW-95-VAS-182-187 | 03/20/20 | Vertical aquifer sample collected at 182 to 187 feet | Not detected below reporting limit of 0.13 microgram per liter | Not detected below reporting limit of 0.17 microgram per liter |
| MW-95 (former MW-V) | MW-95-113-061020 | 06/10/20 | Sample collected from well development at a depth of 113 feet | Estimated concentration of 0.29 microgram per liter | Estimated concentration of 0.0771 microgram per liter |
| MW-95 (former MW-V) | MW-95-157-060920 | 06/09/20 | Sample collected from well development at a depth of 157 feet | Estimated concentration of 0.421 microgram per liter | Not detected below reporting limit of 0.033 microgram per liter |
| MW-96 (Relocated MW-A) | MW-96-VAS-132-137 | 08/07/20 | Vertical aquifer sample collected at 132 to 137 feet | Estimated concentration of 0.702 microgram per liter | Not detected below reporting limit of 0.17 microgram per liter |
| MW-96 (Relocated MW-A) | MW-96-VAS-182-187 | 08/08/20 | Vertical aquifer sample collected at 182 to 187 feet | Estimated concentration of 0.227 microgram per liter | Not detected below reporting limit of 0.17 microgram per liter |
| MW-96 (Relocated MW-A) | MW-96-VAS-192-197 | 08/08/20 | Vertical aquifer sample collected at 192 to 197 feet | Estimated concentration of 0.238 microgram per liter | Not detected below reporting limit of 0.17 microgram per liter |

| Location | Sample ID | Sample Date | Sample Depth Interval in feet below ground surface | Total Dissolved Chromium Concentration in microgram per liter | Hexavalent Chromium Concentration in microgram per liter |
|------------------------|-------------------|-------------|--|--|---|
| MW-96 (Relocated MW-A) | MW-96-VAS-202-207 | 08/09/20 | Vertical aquifer sample collected at 202 to 207 feet | Estimated concentration of 0.217 microgram per liter | Not detected below reporting limit of 0.17 microgram per liter |
| MW-96 (Relocated MW-A) | MW-96-VAS-212-217 | 08/09/20 | Vertical aquifer sample collected at 212 to 217 feet | Estimated concentration of 0.26 microgram per liter | Not detected below reporting limit of 0.17 microgram per liter |
| MW-96 (Relocated MW-A) | MW-96-VAS-222-227 | 08/10/20 | Vertical aquifer sample collected at 222 to 227 feet | Estimated concentration of 0.151 microgram per liter | Not detected below reporting limit of 0.17 microgram per liter |
| MW-96 (Relocated MW-A) | MW-96-VAS-37-42 | 08/05/20 | Vertical aquifer sample collected at 37 to 42 feet | Not detected below reporting limit of 0.13 microgram per liter | Not detected below reporting limit of 0.033 microgram per liter |
| MW-96 (Relocated MW-A) | MW-96-VAS-45-50 | 08/05/20 | Vertical aquifer sample collected at 45 to 50 feet | Estimated concentration of 0.905 microgram per liter | Not detected below reporting limit of 0.033 microgram per liter |
| MW-96 (Relocated MW-A) | MW-96-VAS-82-87 | 08/06/20 | Vertical aquifer sample collected at 82 to 87 feet | Not detected below reporting limit of 0.13 microgram per liter | Not detected below reporting limit of 0.17 microgram per liter |
| MW-97 (IRZ-11 MW) | MW-97-VAS-27-32 | 07/09/20 | Vertical aquifer sample collected at 27 to 32 feet | 280 | 270 |
| MW-97 (IRZ-11 MW) | MW-97-VAS-82-87 | 07/10/20 | Vertical aquifer sample collected at 82 to 87 feet | Not detected below reporting limit of 0.13 microgram per liter | Not detected below reporting limit of 0.033 microgram per liter |
| MW-97 (IRZ-11 MW) | MW-97-VAS-132-137 | 07/12/20 | Vertical aquifer sample collected at 132 – 137 feet | Estimated concentration of 0.977 microgram per liter | Not detected below reporting limit of 0.17 microgram per liter |
| MW-97 (IRZ-11 MW) | MW-97-VAS-172-177 | 07/13/20 | Vertical aquifer sample collected at 172 to 177 feet | Estimated concentration of 0.462 microgram per liter | Not detected below reporting limit of 0.17 microgram per liter |
| MW-97 (IRZ-11 MW) | MW-97-VAS-177-182 | 07/14/20 | Vertical aquifer sample collected at 177 to 182 feet | Estimated concentration of 0.244 microgram per liter | Not detected below reporting limit of 0.17 microgram per liter |
| MW-97 (IRZ-11 MW) | MW-97-VAS-182-187 | 07/14/20 | Vertical aquifer sample collected at 182 to 187 feet | Estimated concentration of 0.313 microgram per liter | Not detected below reporting limit of 0.17 microgram per liter |
| MW-97 (IRZ-11 MW) | MW-97-VAS-189-194 | 07/15/20 | Vertical aquifer sample collected at 189 to 194 feet | Estimated concentration of 0.534 microgram per liter | Not detected below reporting limit of 0.17 microgram per liter |
| MW-97 (IRZ-11 MW) | MW-97-VAS-197-202 | 07/16/20 | Vertical aquifer sample collected at 197 to 202 feet | 4.4 | 1.1 |

| Location | Sample ID | Sample Date | Sample Depth Interval in feet below ground surface | Total Dissolved Chromium Concentration in microgram per liter | Hexavalent Chromium Concentration in microgram per liter |
|-------------------------|-------------------|-------------|---|--|--|
| MW-97 (IRZ-11 MW) | MW-97-VAS-207-212 | 07/21/20 | Vertical aquifer sample collected at 207 to 212 feet | Estimated concentration of 0.321 microgram per liter | Not detected below reporting limit of 0.17 microgram per liter |
| MW-98 (MW-K) | MW-98-VAS-44-49 | 10/10/20 | Vertical aquifer sample collected at 44 to 49 feet | 430 | 430 |
| MW-98 (MW-K) | MW-98-VAS-72-77 | 10/11/20 | Vertical aquifer sample collected at 72 to 77 feet | 14 | 24 |
| MW-U | MW-U-VAS-137-142 | 04/12/19 | Vertical aquifer sample collected at 137 to 142 feet | Estimated concentration of 0.818 microgram per liter | 1.4 |
| MW-U | MW-U-VAS-181-186 | 04/13/19 | Vertical aquifer sample collected at 181 to 186 feet | Not detected below reporting limit of 0.13 microgram per liter | Estimated concentration of 0.112 J |
| MW-U | MW-U-VAS-222-227 | 04/14/19 | Vertical aquifer sample collected at 222 to 227 feet | Not detected below reporting limit of 0.13 microgram per liter | Not detected below reporting limit of 0.033 microgram per liter |
| MW-U | MW-U-VAS-257-262 | 04/16/19 | Vertical aquifer sample collected at 257 to 262 feet | Not detected below reporting limit of 0.13 microgram per liter | Estimated concentration of 0.0896 J |
| MW-U | MW-U-VAS-287-292 | 04/17/19 | Vertical aquifer sample collected at 287 to 292 feet | Not detected below reporting limit of 0.13 microgram per liter | Not detected below reporting limit of 0.033 microgram per liter |
| MW-U | MW-U-VAS-317-322 | 04/24/19 | Vertical aquifer sample collected at 317 to 322 feet | Not detected below reporting limit of 0.13 microgram per liter | Not detected below reporting limit of 0.17 microgram per liter |
| MW-U | MW-U-183-050819 | 05/08/19 | Sample collected from well development at a depth of 183 feet | Not detected below reporting limit of 0.13 microgram per liter | Not detected below reporting limit of 0.033 microgram per liter |
| MW-U | MW-U-273-051019 | 05/10/19 | Sample collected from well development at a depth of 273 feet | Not detected below reporting limit of 0.13 microgram per liter | Not detected below reporting limit of 0.033 microgram per liter |
| IRZ-9 | IRZ-9-VAS-27-32 | 12/03/18 | Vertical aquifer sample collected at 27 to 32 feet | 120 | 120 |
| IRZ-9 | IRZ-9-VAS-47-52 | 12/04/18 | Vertical aquifer sample collected at 47 to 52 feet | Not detected below reporting limit of 0.13 microgram per liter | Not detected below reporting limit of 0.033 microgram per liter |
| IRZ-9 | IRZ-9-VAS-62-67 | 12/04/18 | Vertical aquifer sample collected at 62 to 67 feet | Not detected below reporting limit of 0.13 microgram per liter | Not detected below reporting limit of 0.033 microgram per liter |

| Location | Sample ID | Sample Date | Sample Depth Interval in feet below ground surface | Total Dissolved Chromium Concentration in microgram per liter | Hexavalent Chromium Concentration in microgram per liter |
|----------|--------------------|-------------|--|--|--|
| IRZ-9 | IRZ-9-VAS-182-187 | 12/11/18 | Vertical aquifer sample collected at 182 to 187 feet | Not detected below reporting limit of 0.13 microgram per liter | Not detected below reporting limit of 0.17 microgram per liter |
| IRZ-9 | IRZ-9-VAS-207-212 | 12/13/18 | Vertical aquifer sample collected at 207 to 212 feet | Not detected below reporting limit of 0.13 microgram per liter | Not detected below reporting limit of 0.17 microgram per liter |
| IRZ-9 | IRZ-9-VAS-232-237 | 12/13/18 | Vertical aquifer sample collected at 232 to 237 feet | Estimated concentration of 0.811 microgram per liter | Not detected below reporting limit of 0.17 microgram per liter |
| IRZ-9 | IRZ-9-VAS-264-269 | 12/15/18 | Vertical aquifer sample collected at 264 to 269 feet | Not detected below reporting limit of 0.13 microgram per liter | Not detected below reporting limit of 0.17 microgram per liter |
| IRZ-9 | IRZ-9-VAS-276-281 | 12/16/18 | Vertical aquifer sample collected at 276 to 281 feet | Not detected below reporting limit of 0.13 microgram per liter | Not detected below reporting limit of 0.17 microgram per liter |
| IRZ-9 | IRZ-9-VAS-292-297 | 12/18/18 | Vertical aquifer sample collected at 292 to 297 feet | Not detected below reporting limit of 0.13 microgram per liter | Not detected below reporting limit of 0.17 microgram per liter |
| IRZ-13 | IRZ-13-VAS-32-37 | 11/17/18 | Vertical aquifer sample collected at 32 to 37 feet | 170 | 220 |
| IRZ-13 | IRZ-13-VAS-57-62 | 11/18/18 | Vertical aquifer sample collected at 57 to 62 feet | Not detected below reporting limit of 0.13 microgram per liter | Not detected below reporting limit of 0.17 microgram per liter |
| IRZ-13 | IRZ-13-VAS-102-107 | 11/19/18 | Vertical aquifer sample collected at 102 to 107 feet | Not detected below reporting limit of 0.13 microgram per liter | Not detected below reporting limit of 0.17 microgram per liter |
| IRZ-13 | IRZ-13-VAS-142-147 | 11/19/18 | Vertical aquifer sample collected at 142 to 147 feet | Not detected below reporting limit of 0.13 microgram per liter | Not detected below reporting limit of 0.17 microgram per liter |
| IRZ-13 | IRZ-13-VAS-180-185 | 11/27/18 | Vertical aquifer sample collected at 180 to 185 feet | 230 | 190 |
| IRZ-13 | IRZ-13-VAS-197-202 | 11/28/18 | Vertical aquifer sample collected at 197 to 202 feet | Not detected below reporting limit of 0.13 microgram per liter | Not detected below reporting limit of 0.83 microgram per liter |
| IRZ-13 | IRZ-13-VAS-224-229 | 11/28/18 | Vertical aquifer sample collected at 224 to 229 feet | Not detected below reporting limit of 0.13 microgram per liter | Not detected below reporting limit of 0.83 microgram per liter |
| IRZ-13 | IRZ-13-VAS-237-242 | 11/29/18 | Vertical aquifer sample collected at 237 to 242 feet | Not detected below reporting limit of 0.13 microgram per liter | Not detected below reporting limit of 0.17 microgram per liter |
| IRZ-15 | IRZ-15-VAS-32-37 | 11/01/18 | Vertical aquifer sample collected at 32 to 37 feet | 13 | 13 |
| IRZ-15 | IRZ-15-VAS-62-67 | 11/02/18 | Vertical aquifer sample collected at 62 to 67 feet | Not detected below reporting limit of 0.65 microgram per liter | Estimated concentration of 0.459 J |

| Location | Sample ID | Sample Date | Sample Depth Interval in feet below ground surface | Total Dissolved Chromium Concentration in microgram per liter | Hexavalent Chromium Concentration in microgram per liter |
|----------|--------------------|-------------|--|---|---|
| IRZ-15 | IRZ-15-VAS-102-107 | 11/03/18 | Vertical aquifer sample collected at 102 to 107 feet | Not detected below reporting limit of 0.65 microgram per liter | Not detected below reporting limit of 0.17 microgram per liter |
| IRZ-15 | IRZ-15-VAS-132-137 | 11/04/18 | Vertical aquifer sample collected at 132 to 137 feet | Estimated concentration of 0.228 microgram per liter | Not detected below reporting limit of 0.17 microgram per liter |
| IRZ-15 | IRZ-15-VAS-162-167 | 11/05/18 | Vertical aquifer sample collected at 162 to 167 feet | 3400 | 3200 |
| IRZ-15 | IRZ-15-VAS-182-187 | 11/06/18 | Vertical aquifer sample collected at 182 to 187 feet | 130 | 140 |
| IRZ-15 | IRZ-15-VAS-222-227 | 11/07/18 | Vertical aquifer sample collected at 222 to 227 feet | Not detected below reporting limit of 0.13 microgram per liter | Not detected below reporting limit of 0.17 microgram per liter |
| IRZ-15 | IRZ-15-200-063020 | 06/30/20 | Sample from well development at 200 feet | 790 | 800 |
| IRZ-15 | IRZ-15-55-063020 | 06/30/20 | Sample from well development at 55 feet | 39 | 36 |
| IRZ-16 | IRZ-16-VAS-27-32 | 02/20/19 | Vertical aquifer sample collected at 27 to 32 feet | 480 | 480 |
| IRZ-16 | IRZ-16-VAS-57-62 | 02/20/19 | Vertical aquifer sample collected at 57 to 62 feet | Not detected below reporting limit of 0.033 microgram per liter | Not detected below reporting limit of 0.033 microgram per liter |
| IRZ-16 | IRZ-16-VAS-102-107 | 02/21/19 | Vertical aquifer sample collected at 102 to 107 feet | Not detected below reporting limit of 0.033 microgram per liter | Not detected below reporting limit of 0.033 microgram per liter |
| IRZ-16 | IRZ-16-VAS-132-137 | 02/26/19 | Vertical aquifer sample collected at 132 to 137 feet | Not detected below reporting limit of 0.17 microgram per liter | Not detected below reporting limit of 0.17 microgram per liter |
| IRZ-16 | IRZ-16-VAS-147-152 | 02/27/19 | Vertical aquifer sample collected at 147 to 152 feet | Not detected below reporting limit of 0.17 microgram per liter | Not detected below reporting limit of 0.17 microgram per liter |
| IRZ-16 | IRZ-16-VAS-172-177 | 02/27/19 | Vertical aquifer sample collected at 172 to 177 feet | 110 | 110 |
| IRZ-16 | IRZ-16-VAS-192-197 | 02/28/19 | Vertical aquifer sample collected at 192 to 197 feet | Not detected below reporting limit of 0.17 microgram per liter | Not detected below reporting limit of 0.17 microgram per liter |
| IRZ-17 | IRZ-17-165-012420 | 1/24/2020 | Sample collected from well development | 120 | 130 |
| IRZ-17 | IRZ-17-52-011620 | 1/16/2020 | Sample collected from well development | 20 | 20 |

| Location | Sample ID | Sample Date | Sample Depth Interval in feet below ground surface | Total Dissolved Chromium Concentration in microgram per liter | Hexavalent Chromium Concentration in microgram per liter |
|----------|--------------------|-------------|--|--|---|
| IRZ-17 | IRZ-17-VAS-32-37 | 03/02/19 | Vertical aquifer sample collected at 32 to 37 feet | 78 | 67 |
| IRZ-17 | IRZ-17-VAS-62-67 | 03/02/19 | Vertical aquifer sample collected at 62 to 67 feet | Estimated concentration of 0.750 microgram per liter | Estimated concentration of 0.604 microgram per liter |
| IRZ-17 | IRZ-17-VAS-102-107 | 03/03/19 | Vertical aquifer sample collected at 102 to 107 feet | Not detected below reporting limit of 0.13 microgram per liter | Not detected below reporting limit of 0.17 microgram per liter |
| IRZ-17 | IRZ-17-VAS-132-137 | 03/13/19 | Vertical aquifer sample collected at 132 to 137 feet | Not detected below reporting limit of 0.13 microgram per liter | Not detected below reporting limit of 0.17 microgram per liter |
| IRZ-17 | IRZ-17-VAS-137-142 | 03/12/19 | Vertical aquifer sample collected at 137 to 142 feet | Not detected below reporting limit of 0.13 microgram per liter | Not detected below reporting limit of 0.13 microgram per liter |
| IRZ-17 | IRZ-17-VAS-142-147 | 03/04/19 | Vertical aquifer sample collected at 142 to 147 feet | 68 | 84 |
| IRZ-17 | IRZ-17-VAS-147-152 | 03/12/19 | Vertical aquifer sample collected at 147 to 152 feet | Not detected below reporting limit of 0.13 microgram per liter | Not detected below reporting limit of 0.033 microgram per liter |
| IRZ-17 | IRZ-17-VAS-152-157 | 03/04/19 | Vertical aquifer sample collected at 152 to 157 feet | 16 | 7.0 |
| IRZ-17 | IRZ-17-VAS-162-167 | 03/04/19 | Vertical aquifer sample collected at 162 to 167 feet | Not detected below reporting limit of 0.13 microgram per liter | Not detected below reporting limit of 0.17 microgram per liter |
| IRZ-17 | IRZ-17-VAS-172-177 | 03/05/19 | Vertical aquifer sample collected at 172 to 177 feet | Not detected below reporting limit of 0.13 microgram per liter | Not detected below reporting limit of 0.17 microgram per liter |
| IRZ-18 | IRZ-18-VAS-42-47 | 11/19/19 | Vertical aquifer sample collected at 42 to 47 feet | 520 | 580 |
| IRZ-18 | IRZ-18-VAS-62-67 | 11/19/19 | Vertical aquifer sample collected at 62 to 67 feet | Not detected below reporting limit of 0.13 microgram per liter | Not detected below reporting limit of 0.033 microgram per liter |
| IRZ-18 | IRZ-18-VAS-67-72 | 11/19/19 | Vertical aquifer sample collected at 67 to 72 feet | Not detected below reporting limit of 0.13 microgram per liter | Not detected below reporting limit of 0.033 microgram per liter |
| IRZ-18 | IRZ-18-VAS-102-107 | 11/20/19 | Vertical aquifer sample collected at 102 to 107 feet | Not detected below reporting limit of 0.13 microgram per liter | Not detected below reporting limit of 0.17 microgram per liter |
| IRZ-18 | IRZ-18-VAS-112-117 | 11/20/19 | Vertical aquifer sample collected at 112 to 117 feet | Not detected below reporting limit of 0.13 microgram per liter | Not detected below reporting limit of 0.17 microgram per liter |

| Location | Sample ID | Sample Date | Sample Depth Interval in feet below ground surface | Total Dissolved Chromium Concentration in microgram per liter | Hexavalent Chromium Concentration in microgram per liter |
|----------|--------------------|-------------|--|---|--|
| IRZ-18 | IRZ-18-VAS-137-142 | 11/21/19 | Vertical aquifer sample collected at 137 to 142 feet | Not detected below reporting limit of 0.13 microgram per liter | Not detected below reporting limit of 0.17 microgram per liter |
| IRZ-18 | IRZ-18-VAS-147-152 | 11/21/19 | Vertical aquifer sample collected at 147 to 152 feet | Not detected below reporting limit of 0.13 microgram per liter | Not detected below reporting limit of 0.17 microgram per liter |
| IRZ-18 | IRZ-18-VAS-152-157 | 11/22/19 | Vertical aquifer sample collected at 152 to 157 feet | Estimated concentration of 0.267 microgram per liter | Not detected below reporting limit of 0.17 microgram per liter |
| IRZ-18 | IRZ-18-VAS-157-162 | 11/22/19 | Vertical aquifer sample collected at 157 to 162 feet | 1100 | 870 |
| IRZ-18 | IRZ-18-VAS-162-167 | 11/22/19 | Vertical aquifer sample collected at 162 to 167 feet | 3400 | 3300 |
| IRZ-18 | IRZ-18-VAS-167-172 | 11/23/19 | Vertical aquifer sample collected at 167 to 172 feet | 4800 | 4700 |
| IRZ-18 | IRZ-18-VAS-172-177 | 12/03/19 | Vertical aquifer sample collected at 172 to 177 feet | 740 | 660 |
| IRZ-18 | IRZ-18-VAS-177-182 | 12/03/19 | Vertical aquifer sample collected at 177 to 182 feet | 360 | 390 |
| IRZ-18 | IRZ-18-VAS-182-187 | 12/04/19 | Vertical aquifer sample collected at 182 to 187 feet | Not detected below reporting limit of 0.13 microgram per liter | Not detected below reporting limit of 0.17 microgram per liter |
| IRZ-18 | IRZ-18-VAS-187-192 | 12/04/19 | Vertical aquifer sample collected at 187 to 192 feet | Not detected below reporting limit of 0.13 microgram per liter | Not detected below reporting limit of 0.17 microgram per liter |
| IRZ-18 | IRZ-18-VAS-202-207 | 12/05/19 | Vertical aquifer sample collected at 202 to 207 feet | Estimated concentration of 0.204 microgram per liter | Not detected below reporting limit of 0.17 microgram per liter |
| IRZ-19 | IRZ-19-VAS-122-127 | 9/8/2019 | Vertical aquifer sample collected at 122 to 127 feet | Not detected below reporting limit of 0.13 microgram per liter | Not detected below reporting limit of 0.17 microgram per liter |
| IRZ-19 | IRZ-19-131-136 | 9/9/2019 | Vertical aquifer sample collected at 131 to 136 feet | Not detected below reporting limit of 0.13 microgram per liter | Not detected below reporting limit of 0.17 microgram per liter |
| IRZ-19 | IRZ-19-142-147 | 9/9/2019 | Vertical aquifer sample collected at 142 to 147 feet | Not detected below reporting limit of 0.13 microgram per liter | Not detected below reporting limit of 0.17 microgram per liter |
| IRZ-19 | IRZ-19-VAS-152-157 | 9/10/2019 | Vertical aquifer sample collected at 152 to 157 feet | Estimated concentration of 0.187 microgram per liter | Not detected below reporting limit of 0.17 microgram per liter |
| IRZ-19 | IRZ-19-VAS-162-167 | 9/11/2019 | Vertical aquifer sample collected at 162 to 167 feet | Not detected below reporting limit of 0.13 microgram per liter | Not detected below reporting limit of 0.17 microgram per liter |

| Location | Sample ID | Sample Date | Sample Depth Interval in feet below ground surface | Total Dissolved Chromium Concentration in microgram per liter | Hexavalent Chromium Concentration in microgram per liter |
|----------|--------------------|-------------|--|---|---|
| IRZ-19 | IRZ-19-VAS-177-182 | 9/12/2019 | Vertical aquifer sample collected at 177 to 182 feet | Estimated concentration of 0.275 microgram per liter | Not detected below reporting limit of 0.17 microgram per liter |
| IRZ-19 | IRZ-19-VAS-27-32 | 9/6/2019 | Vertical aquifer sample collected at 27 to 32 feet | Not detected below reporting limit of 0.13 microgram per liter | Not detected below reporting limit of 0.033 microgram per liter |
| IRZ-19 | IRZ-19-VAS-37-42 | 9/6/2019 | Vertical aquifer sample collected at 37 to 42 feet | Not detected below reporting limit of 0.13 microgram per liter | Not detected below reporting limit of 0.033 microgram per liter |
| IRZ-19 | IRZ-19-VAS-82-87 | 9/7/2019 | Vertical aquifer sample collected at 82 to 87 feet | Not detected below reporting limit of 0.13 microgram per liter | Not detected below reporting limit of 0.033 microgram per liter |
| IRZ-20 | IRZ-17-VAS-197-202 | 03/06/19 | Vertical aquifer sample collected at 197 to 202 feet | Not detected below reporting limit of 0.13 microgram per liter | Not detected below reporting limit of 0.17 microgram per liter |
| IRZ-20 | IRZ-17-VAS-217-222 | 03/06/19 | Vertical aquifer sample collected at 217 to 222 feet | Not detected below reporting limit of 0.13 microgram per liter | Not detected below reporting limit of 0.17 microgram per liter |
| IRZ-20 | IRZ-20-VAS-112-117 | 10/22/18 | Vertical aquifer sample collected at 112 to 117 feet | Not detected below reporting limit of 0.13 microgram per liter | Not detected below reporting limit of 0.17 microgram per liter |
| IRZ-20 | IRZ-20-VAS-131-136 | 10/23/18 | Vertical aquifer sample collected at 131 to 136 feet | Not detected below reporting limit of 0.13 microgram per liter | Not detected below reporting limit of 0.17 microgram per liter |
| IRZ-20 | IRZ-20-VAS-173-178 | 10/24/18 | Vertical aquifer sample collected at 173 to 178 feet | Not detected below reporting limit of 0.13 microgram per liter | Not detected below reporting limit of 0.83 microgram per liter |
| IRZ-21 | IRZ-21-VAS-52-57 | 12/15/18 | Vertical aquifer sample collected at 52 to 57 feet | 100 | 97 |
| IRZ-21 | IRZ-21-VAS-77-82 | 12/16/18 | Vertical aquifer sample collected at 77 to 82 feet | 1.3 | 1.1 |
| IRZ-21 | IRZ-21-VAS-112-117 | 12/16/18 | Vertical aquifer sample collected at 112 to 117 feet | Not detected below reporting limit of 0.13 microgram per liter | Not detected below reporting limit of 0.17 microgram per liter |
| IRZ-21 | IRZ-21-VAS-132-137 | 12/17/18 | Vertical aquifer sample collected at 132 to 137 feet | Not detected below reporting limit of 0.13 microgram per liter | Not detected below reporting limit of 0.17 microgram per liter |
| IRZ-21 | IRZ-21-VAS-147-152 | 12/18/18 | Vertical aquifer sample collected at 147 to 152 v | 4000 | 3600 |
| IRZ-23 | IRZ-23-VAS-67-72 | 12/01/18 | Vertical aquifer sample collected at 67 to 72 feet | 86 | 85 |

| Location | Sample ID | Sample Date | Sample Depth Interval in feet below ground surface | Total Dissolved Chromium Concentration in microgram per liter | Hexavalent Chromium Concentration in microgram per liter |
|----------|--------------------|-------------|--|---|---|
| IRZ-23 | IRZ-23-VAS-92-97 | 12/01/18 | Vertical aquifer sample collected at 92 to 97 feet | Estimated concentration of 0.453 microgram per liter | Not detected below reporting limit of 0.033 microgram per liter |
| IRZ-23 | IRZ-23-VAS-122-127 | 12/02/18 | Vertical aquifer sample collected at 122 to 127 feet | 2100 | 2000 |
| IRZ-23 | IRZ-23-VAS-139-144 | 12/02/18 | Vertical aquifer sample collected at 139 to 144 feet | 3400 | 3000 |
| IRZ-25 | IRZ-25-VAS-52-57 | 12/05/18 | Vertical aquifer sample collected at 52 to 57 feet | 4300 | 3500 |
| IRZ-25 | IRZ-25-VAS-67-72 | 12/05/18 | Vertical aquifer sample collected at 67 to 72 feet | 750 | 620 |
| IRZ-25 | IRZ-25-VAS-92-97 | 12/06/18 | Vertical aquifer sample collected at 92 to 97 feet | 140 | 130 |
| IRZ-25 | IRZ-25-VAS-112-117 | 12/11/18 | Vertical aquifer sample collected at 112 to 117 feet | Not detected below reporting limit of 0.13 microgram per liter | Not detected below reporting limit of 0.17 microgram per liter |
| IRZ-25 | IRZ-25-VAS-147-152 | 12/11/18 | Vertical aquifer sample collected at 147 to 152 feet | 3800 | 3600 |
| IRZ-25 | IRZ-25-VAS-162-167 | 12/13/18 | Vertical aquifer sample collected at 162 to 167 feet | 3000 | 3000 |
| IRZ-27 | IRZ-27-VAS-52-57 | 03/15/19 | Vertical aquifer sample collected at 52 to 57 feet | 4500 | 4400 |
| IRZ-27 | IRZ-27-VAS-72-77 | 03/17/19 | Vertical aquifer sample collected at 72 to 77 feet | Estimated concentration of 0.338 microgram per liter | Not detected below reporting limit of 0.033 microgram per liter |
| IRZ-27 | IRZ-27-VAS-102-107 | 03/18/19 | Vertical aquifer sample collected at 102 to 107 feet | Not detected below reporting limit of 0.13 microgram per liter | Not detected below reporting limit of 0.17 microgram per liter |
| IRZ-27 | IRZ-27-VAS-132-137 | 03/20/19 | Vertical aquifer sample collected at 132 to 137 feet | 1200 | 1300 |
| IRZ-27 | IRZ-27-67-030720 | 03/07/20 | Sample collected from well development | 2300 | 2300 |
| IRZ-27 | IRZ-27-100-030720 | 03/07/20 | Sample collected from well development | 490 | 510 |
| IRZ-27 | IRZ-27-134-030320 | 03/03/20 | Sample collected from well development | 5500 | 5400 |
| IRZ-29 | IRZ-29-VAS-47-52 | 12/16/19 | Vertical aquifer sample collected at 47 to 52 feet | 4400 | 4500 |

| Location | Sample ID | Sample Date | Sample Depth Interval in feet below ground surface | Total Dissolved Chromium Concentration in microgram per liter | Hexavalent Chromium Concentration in microgram per liter |
|----------|----------------------|-------------|--|---|---|
| IRZ-29 | IRZ-29-VAS-62-67 | 12/17/19 | Vertical aquifer sample collected at 62 to 67 feet | 2500 | 2400 |
| IRZ-29 | IRZ-29-VAS-87-92 | 12/17/19 | Vertical aquifer sample collected at 87 to 92 feet | Not detected below reporting limit of 0.13 microgram per liter | Not detected below reporting limit of 0.033 microgram per liter |
| IRZ-29 | IRZ-29-VAS-112-117 | 12/18/19 | Vertical aquifer sample collected at 112 to 117 feet | 730 | 760 |
| IRZ-29 | IRZ-29-VAS-116-120.5 | 12/19/19 | Vertical aquifer sample collected at 116 to 120 feet | 18 | 23 |
| IRZ-29 | IRZ-29-77-032820 | 03/28/20 | Sample collected from well development | 1700 | 1600 |
| IRZ-29 | IRZ-29-121-032820 | 03/28/20 | Sample collected from well development | 2500 | 2500 |
| IRZ-31 | IRZ-31-VAS-48-53 | 01/08/20 | Vertical aquifer sample collected at 48 to 53 feet | 2000 | 2000 |
| IRZ-31 | IRZ-31-VAS-72-77 | 01/09/20 | Vertical aquifer sample collected at 72 to 77 feet | 570 | 480 |
| IRZ-31 | IRZ-31-VAS-102-107 | 01/10/20 | Vertical aquifer sample collected at 102 to 107 feet | 2300 | 2300 |
| IRZ-31 | IRZ-31-VAS-115-120 | 01/11/20 | Vertical aquifer sample collected at 115 to 120 feet | 2500 | 2500 |
| IRZ-31 | IRZ-31-77-032920 | 03/29/20 | Sample collected from well development | 2000 | 2100 |
| IRZ-31 | IRZ-31-121-032920 | 03/29/20 | Sample collected from well development | 3100 | 3100 |
| IRZ-33 | IRZ-33-VAS-49-54 | 01/21/20 | Vertical aquifer sample collected at 49 to 54 feet | 1900 | 2100 |
| IRZ-33 | IRZ-33-VAS-72-77 | 01/22/20 | Vertical aquifer sample collected at 72 to 77 feet | 1600 | 1600 |
| IRZ-33 | IRZ-33-VAS-105-110 | 01/23/20 | Vertical aquifer sample collected at 105 to 110 feet | 1400 | 1300 |
| IRZ-33 | IRZ-33-111-071320 | 07/13/20 | Sample collected from well development | 2200 | 2100 |
| IRZ-35 | IRZ-35-VAS-52-57 | 01/13/20 | Vertical aquifer sample collected at 52 to 57 feet | 850 | 810 |

| Location | Sample ID | Sample Date | Sample Depth Interval in feet below ground surface | Total Dissolved Chromium Concentration in microgram per liter | Hexavalent Chromium Concentration in microgram per liter |
|----------|--------------------|-------------|--|---|---|
| IRZ-35 | IRZ-35-VAS-67-72 | 01/13/20 | Vertical aquifer sample collected at 67 to 72 feet | 990 | 920 |
| IRZ-35 | IRZ-35-VAS-82-87 | 01/14/20 | Vertical aquifer sample collected at 82 to 87 feet | 2300 | 2500 |
| IRZ-35 | IRZ-35-88-072420 | 07/24/20 | Sample collected from well development | 1700 | 1500 |
| IRZ-37 | IRZ-37-VAS-52-57 | 10/06/19 | Vertical aquifer sample collected at 52 to 57 feet | 1100 | 1000 |
| IRZ-37 | IRZ-37-VAS-57-62 | 10/07/19 | Vertical aquifer sample collected at 57 to 62 feet | 1200 | 1100 |
| IRZ-39 | IRZ-39-VAS-27-32 | 03/30/19 | Vertical aquifer sample collected at 27 to 32 feet | 31 | 29 |
| IRZ-39 | IRZ-39-110419 | 11/04/19 | Sample collected from well development | 38 | 36 |
| RB-2 | RB-2-VAS-102-107 | 7/1/19 | Vertical aquifer sample collected at 102 to 107 feet | Not detected below reporting limit of 0.13 microgram per liter | Not detected below reporting limit of 0.033 microgram per liter |
| RB-2 | RB-2-VAS-142-147 | 7/9/19 | Vertical aquifer sample collected at 142 to 147 feet | Estimated concentration of 0.270 microgram per liter | Not detected below reporting limit of 0.17 microgram per liter |
| RB-2 | RB-2-VAS-172-177 | 7/12/19 | Vertical aquifer sample collected at 172 to 177 feet | Estimated concentration of 0.233 microgram per liter | Not detected below reporting limit of 0.17 microgram per liter |
| RB-2 | RB-2-VAS-202-207 | 7/14/19 | Vertical aquifer sample collected at 202 to 207 feet | Estimated concentration of 0.218 microgram per liter | Not detected below reporting limit of 0.17 microgram per liter |
| RB-2 | RB-2-VAS-237-242 | 7/15/19 | Vertical aquifer sample collected at 237 to 242 feet | Estimated concentration of 0.233 microgram per liter | Not detected below reporting limit of 0.17 microgram per liter |
| RB-2 | RB-2-VAS-274-279 | 7/18/19 | Vertical aquifer sample collected at 274 to 279 feet | Estimated concentration of 0.514 microgram per liter | Not detected below reporting limit of 0.17 microgram per liter |
| RB-2 | RB-2-VAS-287-292 | 7/26/19 | Vertical aquifer sample collected at 287 to 292 feet | Not detected below reporting limit of 0.13 microgram per liter | Not detected below reporting limit of 0.17 microgram per liter |
| RB-2 | RB-2-VAS-36.5-41.5 | 6/29/19 | Vertical aquifer sample collected at 36 to 42 feet | Not detected below reporting limit of 0.13 microgram per liter | Not detected below reporting limit of 0.033 microgram per liter |

| Location | Sample ID | Sample Date | Sample Depth Interval in feet below ground surface | Total Dissolved Chromium Concentration in microgram per liter | Hexavalent Chromium Concentration in microgram per liter |
|----------|-------------------|-------------|---|---|---|
| RB-2 | RB-2-VAS-72-77 | 6/30/19 | Vertical aquifer sample collected at 72 to 77 feet | Not detected below reporting limit of 0.13 microgram per liter | Not detected below reporting limit of 0.033 microgram per liter |
| RB-3 | RB-3-VAS-15-20 | 04/26/19 | Vertical aquifer sample collected at 15 to 20 feet | Not detected below reporting limit of 0.13 microgram per liter | Not detected below reporting limit of 0.033 microgram per liter |
| RB-3 | RB-3-VAS-50-55 | 04/27/19 | Vertical aquifer sample collected at 50 to 55 feet | Not detected below reporting limit of 0.13 microgram per liter | Estimated concentration of 0.100 microgram per liter |
| RB-3 | RB-3-VAS-80-85 | 04/27/19 | Vertical aquifer sample collected at 80 to 85 feet | Not detected below reporting limit of 0.13 microgram per liter | Estimated concentration of 0.132 microgram per liter |
| RB-3 | RB-3-VAS-120-125 | 04/28/19 | Vertical aquifer sample collected at 120 to 125 feet | Not detected below reporting limit of 0.13 microgram per liter | Not detected below reporting limit of 0.17 microgram per liter |
| RB-3 | RB-3-VAS-150-155 | 04/29/19 | Vertical aquifer sample collected at 150 to 155 feet | Estimated concentration of 0.257 microgram per liter | Not detected below reporting limit of 0.17 microgram per liter |
| RB-3 | RB-3-VAS-180-185 | 04/29/19 | Vertical aquifer sample collected at 180 to 185 feet | Not detected below reporting limit of 0.13 microgram per liter | Not detected below reporting limit of 0.033 microgram per liter |
| RB-3 | RB-3-VAS-205-210 | 04/30/19 | Vertical aquifer sample collected at 205 to 210 feet | Not detected below reporting limit of 0.13 microgram per liter | Not detected below reporting limit of 0.17 microgram per liter |
| RB-3 | RB-3-193.5-061620 | 06/16/20 | Sample collected from well development at 193 to 194 feet | Estimated concentration of 0.809 microgram per liter | Estimated concentration of 0.156 microgram per liter |
| RB-3 | RB-3-91-061720 | 06/17/20 | Sample collected from well development at 91 feet | Not detected below reporting limit of 0.13 microgram per liter | Not detected below reporting limit of 0.033 microgram per liter |
| RB-4 | RB-4-VAS-15-20 | 04/12/19 | Vertical aquifer sample collected at 15 to 20 feet | Not detected below reporting limit of 0.13 microgram per liter | Estimated concentration of 0.0556 microgram per liter |
| RB-4 | RB-4-VAS-41-46 | 04/12/19 | Vertical aquifer sample collected at 41 to 46 feet | Not detected below reporting limit of 0.13 microgram per liter | Not detected below reporting limit of 0.033 microgram per liter |
| RB-4 | RB-4-VAS-81-86 | 04/12/19 | Vertical aquifer sample collected at 81 to 86 feet | Not detected below reporting limit of 0.13 microgram per liter | Not detected below reporting limit of 0.033 microgram per liter |

| Location | Sample ID | Sample Date | Sample Depth Interval in feet below ground surface | Total Dissolved Chromium Concentration in microgram per liter | Hexavalent Chromium Concentration in microgram per liter |
|----------|------------------|-------------|--|--|--|
| RB-4 | RB-4-VAS-121-126 | 04/13/19 | Vertical aquifer sample collected at 121 to 126 | Not detected below reporting limit of 0.13 microgram per liter | Not detected below reporting limit of 0.033 microgram per liter |
| RB-4 | RB-4-VAS-136-141 | 04/13/19 | Vertical aquifer sample collected at 136 to 141 feet | Not detected below reporting limit of 0.13 microgram per liter | Not detected below reporting limit of 0.17 microgram per liter |
| RB-4 | RB-4-VAS-155-160 | 04/17/19 | Vertical aquifer sample collected at 155 to 160 feet | Not detected below reporting limit of 0.13 microgram per liter | Not detected below reporting limit of 0.17 microgram per liter |
| RB-4 | RB-4-138-102019 | 10/20/19 | Sample collected from well development | Not detected below reporting limit of 0.13 microgram per liter | Estimated concentration of 0.135 microgram per liter |
| RB-4 | RB-4-58-102119 | 10/21/19 | Sample collected from well development | Not detected below reporting limit of 0.13 microgram per liter | Not detected below reporting limit of 0.033 microgram per liter |
| RB-5 | RB-5-VAS-12-17 | 04/04/19 | Vertical aquifer sample collected at 12 to 17 feet | Estimated concentration of 0.235 microgram per liter | Estimated concentration of 0.125 microgram per liter |
| RB-5 | RB-5-VAS-42-47 | 04/09/19 | Vertical aquifer sample collected at 42 to 47 feet | Not detected below reporting limit of 0.13 microgram per liter | Not detected below reporting limit of 0.033 microgram per liter |
| RB-5 | RB-5-VAS-82-87 | 04/09/19 | Vertical aquifer sample collected at 82 to 87 feet | Estimated concentration of 0.769 microgram per liter | Estimated concentration of 0.127 microgram per liter |
| RB-5 | RB-5-44-102419 | 10/24/19 | Sample collected from well development | Not detected below reporting limit of 0.13 microgram per liter | Not detected below reporting limit of 0.033 microgram per liter |
| RB-5 | RB-5-89-102319 | 10/23/19 | Sample collected from well development | Not detected below reporting limit of 0.13 microgram per liter | Not detected below reporting limit of 0.033 microgram per liter |

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



Monthly Progress Report
Groundwater Remedy Phase 1 Construction
PG&E Topock Compressor Station, Needles, California

JACOBS

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 (LOCs) 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 June 2021, 18 real time dust observation/monitoring events were conducted at the perimeter of the work areas (outside of the exclusion zone). No exceedance of the action level for fugitive dust monitoring ($100 \mu\text{g}/\text{m}^3$) was observed in June 2021.

Tables D-1a and D-1b of **Attachment D** present all analytical results from air sampling events to date. All results are below the project level of concern (LOC) for hexavalent chromium which is $0.00094 \mu\text{g}/\text{m}^3$.

References Cited:

California Department of Toxic Substances Control (DTSC). 2011. [LeadSpread8](#).

California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment Note 3 – DTSC-Modified Screening Levels (DTSC-SLs), California Department of Toxic Substances Control, Human and Ecological Risk Office (HERO). January.

CH2M HILL, Inc. (CH2M). 2015. *Construction/Remedial Action Work Plan for the Final Groundwater Remedy, PG&E Topock Compressor Station, Needles, California*. November 18.

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

U.S. Environmental Protection Agency (USEPA). 2009. *Risk Assessment Guidance for Superfund Volume I: Human Health Evaluation Manual (Part F, Supplemental Guidance for Inhalation Risk Assessment)*. Final. OSWER 9285.7-82. January.

U.S. Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs)—Generic Tables. November.

Table D-1a. Perimeter Air Sampling Results – Hexavalent Chromium

*June 2021 Monthly Progress Report for the Final Groundwater Remedy Construction and Startup
PG&E Topock Compressor Station, Needles, California*

| Location ID | Location | Sampling Date | Hexavalent Chromium Concentration in micrograms per cubic meter |
|-------------|--------------------------|---------------|---|
| GRAM TWB-D1 | GRAM TWB Downwind1 | 3/24/2021 | Not detected at a reporting limit of 0.0000285 micrograms per cubic meter |
| GRAM TWB-D2 | GRAM TWB Downwind2 | 3/24/2021 | Not detected at a reporting limit of 0.0000294 micrograms per cubic meter |
| GRAM TWB-U1 | GRAM TWB Upwind | 3/24/2021 | Not detected at a reporting limit of 0.0000285 micrograms per cubic meter |
| GRAM TWB-D1 | GRAM TWB Downwind1 | 3/23/2021 | Not detected at a reporting limit of 0.0000323 micrograms per cubic meter |
| GRAM TWB-D2 | GRAM TWB Downwind2 | 3/23/2021 | Not detected at a reporting limit of 0.0000324 micrograms per cubic meter |
| GRAM TWB-U1 | GRAM TWB Upwind | 3/23/2021 | Not detected at a reporting limit of 0.0000312 micrograms per cubic meter |
| GRAM TWB-D1 | GRAM TWB Downwind1 | 3/22/2021 | Not detected at a reporting limit of 0.0000354 micrograms per cubic meter |
| GRAM TWB-D2 | GRAM TWB Downwind2 | 3/22/2021 | Not detected at a reporting limit of 0.0000353 micrograms per cubic meter |
| GRAM TWB-U1 | GRAM TWB Upwind | 3/22/2021 | Not detected at a reporting limit of 0.0000354 micrograms per cubic meter |
| GRAM TWB-D1 | GRAM TWB Downwind1 | 3/18/2021 | Not detected at a reporting limit of 0.0000342 micrograms per cubic meter |
| GRAM TWB-D2 | GRAM TWB Downwind2 | 3/18/2021 | Not detected at a reporting limit of 0.0000347 micrograms per cubic meter |
| GRAM TWB-U1 | GRAM TWB Upwind | 3/18/2021 | Not detected at a reporting limit of 0.0000338 micrograms per cubic meter |
| GRAM TWB-D1 | GRAM TWB Downwind1 | 3/17/2021 | Not detected at a reporting limit of 0.0000284 micrograms per cubic meter |
| GRAM TWB-D1 | GRAM TWB Downwind1 - DUP | 3/17/2021 | Not detected at a reporting limit of 0.0000284 micrograms per cubic meter |
| GRAM TWB-D2 | GRAM TWB Downwind2 | 3/17/2021 | Not detected at a reporting limit of 0.0000289 micrograms per cubic meter |
| GRAM TWB-U1 | GRAM TWB Upwind | 3/17/2021 | Not detected at a reporting limit of 0.0000283 micrograms per cubic meter |
| GRAM TWB-D1 | GRAM TWB Downwind1 | 3/16/2021 | 0.000289 – concentration reported by laboratory in micrograms per cubic meter |
| GRAM TWB-D2 | GRAM TWB Downwind2 | 3/16/2021 | Not detected at a reporting limit of 0.0000334 micrograms per cubic meter |
| GRAM TWB-U1 | GRAM TWB Upwind | 3/16/2021 | Not detected at a reporting limit of 0.0000332 micrograms per cubic meter |
| GRAM TWB-D1 | GRAM TWB Downwind1 | 3/15/2021 | Not detected at a reporting limit of 0.0000291 micrograms per cubic meter |
| GRAM TWB-D2 | GRAM TWB Downwind2 | 3/15/2021 | Not detected at a reporting limit of 0.0000290 micrograms per cubic meter |

| Location ID | Location | Sampling Date | Hexavalent Chromium Concentration in micrograms per cubic meter |
|-------------|---------------------|---------------|---|
| GRAM TWB-U1 | GRAM TWB Upwind | 3/15/2021 | Not detected at a reporting limit of 0.0000297 micrograms per cubic meter |
| GRAM TWB-D1 | GRAM TWB Downwind1 | 3/11/2021 | Not detected at a reporting limit of 0.0000256 micrograms per cubic meter |
| GRAM TWB-D2 | GRAM TWB Downwind2 | 3/11/2021 | Not detected at a reporting limit of 0.0000254 micrograms per cubic meter |
| GRAM TWB-U1 | GRAM TWB Upwind | 3/11/2021 | Not detected at a reporting limit of 0.0000261 micrograms per cubic meter |
| GRAM TWB-D1 | GRAM TWB Downwind1 | 3/10/2021 | Not detected at a reporting limit of 0.0000278 micrograms per cubic meter |
| GRAM TWB-D2 | GRAM TWB Downwind2 | 3/10/2021 | Not detected at a reporting limit of 0.0000281 micrograms per cubic meter |
| GRAM TWB-U1 | GRAM TWB Upwind | 3/10/2021 | Not detected at a reporting limit of 0.0000281 micrograms per cubic meter |
| GRAM SPY-D1 | GRAM SPY Downwind 1 | 11/09/2020 | Not detected at a reporting limit of 0.0000248 micrograms per cubic meter |
| GRAM SPY-D2 | GRAM SPY Downwind 2 | 11/09/2020 | Not detected at a reporting limit of 0.000025 micrograms per cubic meter |
| GRAM SPY-U1 | GRAM SPY Upwind | 11/09/2020 | Not detected at a reporting limit of 0.0000241 micrograms per cubic meter |
| GRAM SPY-D1 | GRAM SPY Downwind 1 | 11/11/2020 | Not detected at a reporting limit of 0.0000254 micrograms per cubic meter |
| GRAM SPY-D2 | GRAM SPY Downwind 2 | 11/11/2020 | Not detected at a reporting limit of 0.0000248 micrograms per cubic meter |
| GRAM SPY-U1 | GRAM SPY Upwind | 11/11/2020 | Not detected at a reporting limit of 0.0000247 micrograms per cubic meter |
| GRAM SPY-D1 | GRAM SPY Downwind 1 | 11/13/2020 | Not detected at a reporting limit of 0.0000278 micrograms per cubic meter |
| GRAM SPY-D2 | GRAM SPY Downwind 2 | 11/13/2020 | Not detected at a reporting limit of 0.0000279 micrograms per cubic meter |
| GRAM SPY-U1 | GRAM SPY Upwind | 11/13/2020 | Not detected at a reporting limit of 0.0000278 micrograms per cubic meter |
| AOC12-D1 | AOC12 Downwind 1 | 9/17/2020 | Not detected at a reporting limit of 0.0000274 micrograms per cubic meter |
| AOC12-D2 | AOC12 Downwind 2 | 9/17/2020 | 0.0000527 - concentration estimated by laboratory or data validation |
| AOC12-U1 | AOC12 Upwind | 9/17/2020 | Not detected at a reporting limit of 0.0000266 micrograms per cubic meter |
| AOC12-D1 | AOC12 Downwind 1 | 9/16/2020 | Not detected at a reporting limit of 0.0000261 micrograms per cubic meter |
| AOC12-D2 | AOC12 Downwind 2 | 9/16/2020 | 0.0000707 - concentration estimated by laboratory or data validation |
| AOC12-U1 | AOC12 Upwind | 9/16/2020 | Not detected at a reporting limit of 0.0000256 micrograms per cubic meter |
| AOC10d-D1 | AOC10d Downwind 1 | 7/6/2020 | 0.000139 - concentration estimated by laboratory or data validation |

| Location ID | Location | Sampling Date | Hexavalent Chromium Concentration in micrograms per cubic meter |
|-------------|-------------------|---------------|---|
| AOC10d-D2 | AOC10d Downwind 2 | 7/6/2020 | 0.000133 - concentration estimated by laboratory or data validation |
| AOC10d-U1 | AOC10d Upwind | 7/6/2020 | 0.000125 - concentration estimated by laboratory or data validation |
| AOC11f-D1 | AOC11f Downwind 1 | 6/18/2020 | 0.0000777 - concentration estimated by laboratory or data validation |
| AOC11f-D2 | AOC11f Downwind 2 | 6/18/2020 | 0.0000473 - concentration estimated by laboratory or data validation |
| AOC11f-U1 | AOC11f Upwind | 6/18/2020 | 0.0000373 - concentration estimated by laboratory or data validation |
| AOC7-D1 | AOC7 Downwind 1 | 6/4/2020 | Not detected at a reporting limit of 0.0000325 micrograms per cubic meter |
| AOC7-D2 | AOC7 Downwind 2 | 6/4/2020 | 0.00011 - concentration estimated by laboratory or data validation |
| AOC7-U1 | AOC7 Upwind | 6/4/2020 | 0.000088 - concentration estimated by laboratory or data validation |
| AOC7-D1 | AOC7 Downwind 1 | 3/17/2020 | 0.0000511 - concentration estimated by laboratory or data validation |
| AOC7-D2 | AOC7 Downwind 2 | 3/17/2020 | 0.000121 - concentration estimated by laboratory or data validation |
| AOC7-U1 | AOC7 Upwind | 3/17/2020 | Not detected at a reporting limit of 0.0000338 micrograms per cubic meter |
| AOC30-D1 | AOC30 Downwind 1 | 12/16/2019 | 0.0000871 - concentration estimated by laboratory or data validation |
| AOC30-D2 | AOC30 Downwind 2 | 12/16/2019 | Not detected at a reporting limit of 0.0000271 micrograms per cubic meter |
| AOC30-U1 | AOC30 Upwind 1 | 12/16/2019 | 0.0000782 - concentration estimated by laboratory or data validation |
| AOC08-D1 | AOC08 Downwind 1 | 12/17/2019 | 0.000106 - concentration estimated by laboratory or data validation |
| AOC08-D2 | AOC08 Downwind 2 | 12/17/2019 | 0.000151 – concentration reported by laboratory |
| AOC08-U1 | AOC08 Upwind 1 | 12/17/2019 | 0.000063 - concentration estimated by laboratory or data validation |
| AOC30-D1 | AOC30 Downwind 1 | 12/17/2019 | 0.0000584 - concentration estimated by laboratory or data validation |
| AOC30-D2 | AOC30 Downwind 2 | 12/17/2019 | 0.0000537 - concentration estimated by laboratory or data validation |
| AOC30-U1 | AOC30 Upwind 1 | 12/17/2019 | 0.0000644 - concentration estimated by laboratory or data validation |
| AOC30-D1 | AOC30 Downwind 1 | 12/18/2019 | 0.0000601 - concentration estimated by laboratory or data validation |
| AOC30-D2 | AOC30 Downwind 2 | 12/18/2019 | 0.0000806 - concentration estimated by laboratory or data validation |
| AOC30-U1 | AOC30 Upwind 1 | 12/18/2019 | Not detected at a reporting limit of 0.000031 micrograms per cubic meter |
| AOC08-D1 | AOC08 Downwind 1 | 12/18/2019 | 0.000233 – concentration reported by laboratory |

| Location ID | Location | Sampling Date | Hexavalent Chromium Concentration in micrograms per cubic meter |
|-------------|------------------|---------------|---|
| AOC08-D2 | AOC08 Downwind 2 | 12/18/2019 | 0.000123 - concentration estimated by laboratory or data validation |
| AOC08-U1 | AOC08 Upwind 1 | 12/18/2019 | Not detected at a reporting limit of 0.000027 micrograms per cubic meter |
| AOC30-D1 | AOC30 Downwind 1 | 12/19/2019 | 0.0000648 - concentration estimated by laboratory or data validation |
| AOC30-D2 | AOC30 Downwind 2 | 12/19/2019 | 0.0000584 - concentration estimated by laboratory or data validation |
| AOC30-U1 | AOC30 Upwind 1 | 12/19/2019 | 0.0000749 - concentration estimated by laboratory or data validation |
| AOC08-D1 | AOC08 Downwind 1 | 12/19/2019 | 0.0000806 - concentration estimated by laboratory or data validation |
| AOC08-D2 | AOC08 Downwind 2 | 12/19/2019 | 0.0000837 - concentration estimated by laboratory or data validation |
| AOC08-U1 | AOC08 Upwind 1 | 12/19/2019 | Not detected at a reporting limit of 0.00003 micrograms per cubic meter |
| AOC10-D1 | AOC10 Downwind 1 | 11/04/2019 | 0.0000696 - concentration estimated by laboratory or data validation |
| AOC10-D2 | AOC10 Downwind 2 | 11/04/2019 | 0.0000781 - concentration estimated by laboratory or data validation |
| AOC10-U1 | AOC10 Upwind | 11/04/2019 | 0.0000609 - concentration estimated by laboratory or data validation |
| AOC10-D1 | AOC10 Downwind 1 | 11/06/2019 | 0.0000602 - concentration estimated by laboratory or data validation |
| AOC10-D2 | AOC10 Downwind 2 | 11/06/2019 | 0.0000582 - concentration estimated by laboratory or data validation |
| AOC10-U1 | AOC10 Upwind | 11/06/2019 | 0.0000401 - concentration estimated by laboratory or data validation |
| AOC10-D1 | AOC10 Downwind 1 | 10/18/2019 | Not detected at a reporting limit of 0.0000347 micrograms per cubic meter |
| AOC10-D2 | AOC10 Downwind 2 | 10/18/2019 | Not detected at a reporting limit of 0.0000375 micrograms per cubic meter |
| AOC10-U1 | AOC10 Upwind | 10/18/2019 | Not detected at a reporting limit of 0.0000386 micrograms per cubic meter |
| AOC10-D1 | AOC10 Downwind 1 | 10/17/2019 | 0.0000321 - concentration estimated by laboratory or data validation |
| AOC10-D2 | AOC10 Downwind 2 | 10/17/2019 | Not detected at a reporting limit of 0.0000321 micrograms per cubic meter |
| AOC10-U1 | AOC10 Upwind | 10/17/2019 | Not detected at a reporting limit of 0.0000322 micrograms per cubic meter |
| AOC10-D1 | AOC10 Downwind 1 | 10/15/2019 | Not detected at a reporting limit of 0.0000324 micrograms per cubic meter |
| AOC10-D2 | AOC10 Downwind 2 | 10/15/2019 | Not detected at a reporting limit of 0.0000331 micrograms per cubic meter |
| AOC10-U1 | AOC10 Upwind | 10/15/2019 | Not detected at a reporting limit of 0.0000316 micrograms per cubic meter |

| Location ID | Location | Sampling Date | Hexavalent Chromium Concentration in micrograms per cubic meter |
|-----------------|-------------------------|---------------|---|
| PIPE B-D1 | PIPE B Downwind 1 | 8/13/2019 | Not detected at a reporting limit of 0.0000276 micrograms per cubic meter |
| PIPE B-D2 | PIPE B Downwind 2 | 8/13/2019 | Not detected at a reporting limit of 0.0000276 micrograms per cubic meter |
| PIPE B-U1 | PIPE B Upwind | 8/13/2019 | Not detected at a reporting limit of 0.0000276 micrograms per cubic meter |
| PIPE B-D1 | PIPE B Downwind 1 | 8/12/2019 | Not detected at a reporting limit of 0.0000278 micrograms per cubic meter |
| PIPE B-D2 | PIPE B Downwind 2 | 8/12/2019 | 0.000035 - concentration estimated by laboratory or data validation |
| PIPE B-U1 | PIPE B Upwind | 8/12/2019 | Not detected at a reporting limit of 0.0000279 micrograms per cubic meter |
| AOC30-D1 | AOC30 Downwind 1 | 6/18/2019 | 0.0000407 - concentration estimated by laboratory or data validation |
| AOC30-D2 | AOC30 Downwind 2 | 6/18/2019 | Not detected at a reporting limit of 0.0000313 micrograms per cubic meter |
| AOC30-U1 | AOC30 Upwind | 6/18/2019 | Not detected at a reporting limit of 0.000031 micrograms per cubic meter |
| AOC30-D1 | AOC30 Downwind 1 | 6/17/2019 | Not detected at a reporting limit of 0.0000633 micrograms per cubic meter |
| AOC30-D2 | AOC30 Downwind 2 | 6/17/2019 | Not detected at a reporting limit of 0.0000636 micrograms per cubic meter |
| AOC30-U1 | AOC30 Upwind | 6/17/2019 | Not detected at a reporting limit of 0.0000589 micrograms per cubic meter |
| AOC4-D1 | AOC4 Downwind 1 | 5/16/2019 | 0.0000423 - concentration estimated by laboratory or data validation |
| AOC4-D2 | AOC4 Downwind 2 | 5/16/2019 | Not detected at a reporting limit of 0.0000385 micrograms per cubic meter |
| AOC4-U | AOC4 Upwind | 5/16/2019 | Not detected at a reporting limit of 0.0000378 micrograms per cubic meter |
| AOC11-D1 | AOC11 Downwind 1 | 5/15/2019 | Not detected at a reporting limit of 0.0000392 micrograms per cubic meter |
| AOC11-D2 | AOC11 Downwind 2 | 5/15/2019 | 0.0001262 - concentration estimated by laboratory or data validation |
| AOC11-U | AOC11 Upwind | 5/15/2019 | Not detected at a reporting limit of 0.0000386 micrograms per cubic meter |
| AOC4-D1 | AOC4 Downwind 1 | 5/14/2019 | Not detected at a reporting limit of 0.000148 micrograms per cubic meter |
| AOC4-D2 | AOC4 Downwind 2 | 5/14/2019 | Not detected at a reporting limit of 0.000155 micrograms per cubic meter |
| AOC4-U | AOC4 Upwind | 5/14/2019 | Not detected at a reporting limit of 0.000148 micrograms per cubic meter |
| AOC30-IRZ-23-D1 | AOC30-IRZ-23 Downwind 1 | 2/20/2019 | Not detected at a reporting limit of 0.0000859 micrograms per cubic meter |
| AOC30-IRZ-23-D2 | AOC30-IRZ-23 Downwind 2 | 2/20/2019 | Not detected at a reporting limit of 0.0000862 micrograms per cubic meter |

| Location ID | Location | Sampling Date | Hexavalent Chromium Concentration in micrograms per cubic meter |
|-----------------|---------------------|---------------|--|
| AOC30-IRZ-23-U1 | AOC30-IRZ-23 Upwind | 2/20/2019 | 0.000104 - concentration estimated by laboratory or data validation |
| AOC13-D1 | AOC13 Downwind 1 | 10/09/18 | 0.000732 - concentration estimated by laboratory or data validation |
| AOC13-D2 | AOC13 Downwind 2 | 10/09/18 | 0.000709 - concentration estimated by laboratory or data validation |
| AOC13-U | AOC13 Upwind | 10/09/18 | Not detected at a reporting limit of 0.000172 micrograms per cubic meter |

Table D-1b. Perimeter Air Sampling Results – Asbestos

*June 2021 Monthly Progress Report for the Final Groundwater Remedy Construction and Startup
PG&E Topock Compressor Station, Needles, California*

| Location ID | Location | Sampling Date | Asbestos Concentration in fibers per cubic meter |
|-------------|-------------------|---------------|---|
| AOC11f-D1 | AOC11f Downwind 1 | 6/18/2020 | Not detected at a reporting limit of 0.0006 fibers per cubic centimeter |
| AOC11f-D2 | AOC11f Downwind 2 | 6/18/2020 | Not detected at a reporting limit of 0.0007 fibers per cubic centimeter |
| AOC11f-U1 | AOC11f Upwind | 6/18/2020 | Not detected at a reporting limit of 0.0007 fibers per cubic centimeter |

Attachment E
Noise Monitoring Results
(SEIR NOISE-2 Requirement)

Attachment E. Noise Monitoring Results

In conformance with the Supplemental Environmental Impact Report (SEIR) Mitigation Measure NOISE-2, noise monitoring has been conducted with ANSI S1.4 Type 1, precision sound level meters when construction activities are within the specified distance (e.g., 1,850 feet from sensitive receptors in California) at approved monitoring locations previously determined in coordination with the Tribes and land owners/managers. The goal of the noise monitoring is to identify if noise levels from project construction activities exceed applicable standards of the San Bernardino and Mohave County codes. Exceedance of standards would require coordination with the Tribes and land owners/managers to evaluate the potential constraints and locations for temporary engineered acoustical barriers. Consistent with the request of the Tribes, monitoring equipment is not left at the approved monitoring locations; rather, it is mounted on a tripod for attended representative measurements and removed when the monitoring event is complete.

When a new construction activity is conducted or a previously monitored construction activity is conducted closer to a noise-sensitive area, monitoring is conducted at more frequent intervals to evaluate the potential need for an acoustical barrier. As the activities continue in the same location and multiple attended measurements indicate that the applicable standard has not been exceeded by the construction activity, periodic attending monitoring events are conducted to confirm continued compliance.

The attended monitoring events document the A-weighted equivalent continuous sound level (L_{eq}) at periodic intervals (e.g., 5, 10, 15, 20, 30, 40, 50 and 60 minutes). The trend of the data at these intervals is evaluated in the field to assess the stability in the sound level to determine the duration of the monitoring event. When the interval data are relatively stable or clearly below the standard, the attended monitoring event will typically be 15 to 30 minutes in duration. As the applicable standards are expressed in terms of the 24-hour average day-night sound level (L_{dn}) which is based on the L_{eq} metric, the measured L_{eq} is compared to the applicable L_{dn} standard for mobile noise sources (i.e., 60 A-weighted decibels [dBA] for Park Moabi, 65 dBA at all other locations). This results in a reasonable and conservative assessment given construction activities are not emitting noise continuously over a 24-hour period, nor are they occurring frequently during the nighttime hours (10 p.m. to 7 a.m.).

In June 2021, the following monitoring events were conducted:

- Twenty-three events at a location west of the mobile home park at Moabi Regional Park. Construction activities closest to this monitoring location include activities at the SPY and CHQ, as well as construction traffic on NTH. The sound level typically varied between 34 and 53 dBA, with an average and median of 46-47 dBA.
- Twenty-four events at a location in the Upland just off the IM-3 access road, and near the top of the hill closest to the NTH and MW-20 Bench. Construction activities closest to this monitoring location include activities at the MW-20 Bench and construction traffic on the IM-3 access road. The sound level varied between 41 and 58 dBA, with an average and mean of 49 dBA.
- Twenty-two events at the old restaurant location west of NTH. Construction activities closest to this monitoring location include construction traffic on NTH and construction traffic in the north floodplain. The sound level varied between 41 and 56 dBA, with an average and median of 49 dBA.
- Twenty events at a location on a bluff below TCS, just south of I-40 and east of the Topock Maze. Construction activities closest to this monitoring location are associated with work related to the TW-01 aquifer test and activities at TCS. The sound level varied between 50 and 59 dBA, with an average and median of 54 dBA.

Sound monitoring will continue as work progresses and moves into new areas to identify when an acoustical barrier needs to be considered.

Attachment F
Six-Week Look-Ahead Schedule

Six-Week Look-Ahead Schedule
PG&E Topock Compressor Station Remedial Activities

| Activity | Sunday | Monday | Tuesday | Wednesday | Thursday | Friday | Saturday |
|---|-------------------------------|---|---|---|---|--|---------------------------------|
| Primary Planned Activities | 7/4/2021 | 7/5/2021 | 7/6/2021 | 7/7/2021 | 7/8/2021 | 7/9/2021 | 7/10/2021 |
| Start Time (PST) | No Work | No Work | 7:00 AM | 7:00 AM | 7:00 AM | 7:00 AM | No Work |
| MW-20 Bench Facility Construction E5*, F5* | No Work | No Work | ^Mechanical Install, Site Civil | ^Mechanical Install, Site Civil | ^Mechanical Install, Site Civil | ^Mechanical Install, Site Civil | ^Mechanical Install, Site Civil |
| Site Wide Electrical & Controls Construction E5*, F5*, G5* | No Work | No Work | TCS/PWTF facility controls, IRZ vault electrical & control panels | TCS/PWTF facility controls, IRZ vault electrical & control panels | TCS/PWTF facility controls, IRZ vault electrical & control panels | No Work | No Work |
| Downwell Installation E5*, F5* | No Work | No Work | Downwell Installation @IRZ-23 | Downwell Installation @IRZ-15 | Downwell Installation @IRZ-15 | Downwell Installation @IRZ-16 | Downwell Installation @IRZ-16 |
| Site Wide Groundwater Sampling F5*, G5* | No Work | No Work | Monthly transducer downloads, PMP sampling, Dye injections | TW-01 sampling, Monthly transducer downloads, PMP sampling, Dye injections | Monthly transducer downloads, PMP sampling, Dye injections | Monthly transducer downloads, PMP sampling, Dye injections | No Work |
| Primary Planned Activities | 7/11/2021 | 7/12/2021 | 7/13/2021 | 7/14/2021 | 7/15/2021 | 7/16/2021 | 7/17/2021 |
| Start Time (PST) | No Work | No Work | 7:00 AM | 7:00 AM | 7:00 AM | 7:00 AM | No Work |
| MW-20 Bench Facility Construction E5*, F5* | No Work | ^Mechanical Install, Site Civil | ^Mechanical Install, Site Civil | ^Mechanical Install, Site Civil | ^Mechanical Install, Site Civil | ^Mechanical Install, Site Civil | No Work |
| TCS Facility Construction G5* | No Work | CPVC Mechanical Install | CPVC Mechanical Install | CPVC Mechanical Install | CPVC Mechanical Install | No Work | No Work |
| Site Wide Electrical & Controls Construction E5*, F5*, G5* | No Work | TCS/PWTF facility controls, IRZ vault electrical & control panels, | MW-20 Bench controls, TCS/PWTF facility controls, IRZ vault electrical & control panels | MW-20 Bench controls, TCS/PWTF facility controls, IRZ vault electrical & control panels | MW-20 Bench controls, TCS/PWTF facility controls, IRZ vault electrical & control panels | No Work | No Work |
| Downwell Installation E5*, F5* | Downwell Installation @IRZ-17 | Downwell Installation @IRZ-17 | Downwell Installation @IRZ-18 | Downwell Installation @IRZ-18 | Downwell Installation @IRZ-20 | No Work | No Work |
| Site Wide Groundwater Sampling F5*, G5* | No Work | TW-01 Sampling | TW-01 Sampling | TW-01 Sampling | TMP sampling | No Work | No Work |
| Primary Planned Activities | 7/18/2021 | 7/19/2021 | 7/20/2021 | 7/21/2021 | 7/22/2021 | 7/23/2021 | 7/24/2021 |
| Start Time (PST) | No Work | No Work | 7:00 AM | 7:00 AM | 7:00 AM | 7:00 AM | No Work |
| SPY and Construction Headquarters D1* | No Work | Tentative: ^Office Trailer Demobilization | Tentative: ^Office Trailer Demobilization | Tentative: ^Office Trailer Demobilization | No Work | No Work | No Work |
| MW-20 Bench Facility Construction E5*, F5* | No Work | ^Mechanical Install, Fence Install | ^Fence Install | ^Fence Install | ^Fence Install | ^Fence Install | No Work |
| TCS Facility Construction G5* | No Work | CPVC Mechanical Install | CPVC Mechanical Install | CPVC Mechanical Install | CPVC Mechanical Install | No Work | No Work |
| Site Wide Electrical & Controls Construction E5*, F5*, G5* | No Work | TCS/PWTF facility controls, IRZ vault electrical & control panels, MW-20 Bench controls | TCS/PWTF facility controls, IRZ vault electrical & control panels, MW-20 Bench controls | TCS/PWTF facility controls, IRZ vault electrical & control panels, MW-20 Bench controls | TCS/PWTF facility controls, IRZ vault electrical & control panels, MW-20 Bench controls | No Work | No Work |
| Downwell Installation E5*, F5* | No Work | No Work | Downwell Installation @IRZ-20, IRZ-27 | Downwell Installation @IRZ-27 | Downwell Installation @IRZ-29 | Downwell Installation @IRZ-29 | Downwell Installation @IRZ-21 |
| Site Wide Groundwater Sampling F5*, G5* | No Work | No Work | No Work | TW-01 Sampling | No Work | No Work | No Work |
| Primary Planned Activities | 7/25/2021 | 7/26/2021 | 7/27/2021 | 7/28/2021 | 7/29/2021 | 7/30/2021 | 7/31/2021 |
| Start Time (PST) | No Work | No Work | 7:00 AM | 7:00 AM | 7:00 AM | 7:00 AM | No Work |
| SPY and Construction Headquarters D1* | No Work | Tentative: ^Office Trailer Installation | Tentative: ^Office Trailer Installation | Tentative: ^Office Trailer Installation | No Work | No Work | No Work |
| MW-20 Bench Facility Construction E5*, F5* | No Work | ^Fence Install | ^Fence Install | ^Fence Install | ^Fence Install | ^Fence Install | No Work |

Six-Week Look-Ahead Schedule
PG&E Topock Compressor Station Remedial Activities

| Activity | Sunday | Monday | Tuesday | Wednesday | Thursday | Friday | Saturday |
|---|-------------------------------|---|---|--|--|-------------------------------|-------------------------------|
| TCS Facility Construction G5* | No Work | CPVC Mechanical Install | CPVC Mechanical Install | CPVC Mechanical Install | CPVC Mechanical Install | No Work | No Work |
| Site Wide Electrical & Controls Construction E5*, F5*, G5* | No Work | TCS/PWTF facility controls, IRZ vault electrical & control panels, ^Node 2/4 Conduit Install | TCS/PWTF facility controls, IRZ vault electrical & control panels, ^Node 2/4 Conduit Install | TCS/PWTF facility controls, IRZ vault electrical & control panels, ^Node 2/4 Concrete Pad Install | TCS/PWTF facility controls, IRZ vault electrical & control panels, ^Node 2/4 Concrete Pad Install | No Work | No Work |
| Downwell Installation E5*, F5* | Downwell Installation @IRZ-21 | Downwell Installation @IRZ-25 | Downwell Installation @IRZ-25 | Downwell Installation @IRZ-31 | Downwell Installation @IRZ-31 | No Work | No Work |
| Site Wide Groundwater Sampling F5*, G5* | No Work | TW-01 Sampling | TW-01 Sampling | TW-01 Sampling | No Work | No Work | No Work |
| Primary Planned Activities | 8/1/2021 | 8/2/2021 | 8/3/2021 | 8/4/2021 | 8/5/2021 | 8/6/2021 | 8/7/2021 |
| Start Time (PST) | No Work | No Work | 7:00 AM | 7:00 AM | 7:00 AM | 7:00 AM | No Work |
| Visitor Management Office D2* | No Work | Tentative: ^Office Trailer Demobilization | Tentative: ^Office Trailer Demobilization | Tentative: ^Office Trailer Demobilization | No Work | No Work | No Work |
| MW-20 Bench Facility Construction E5*, F5* | No Work | ^HVAC Install & Fence Install | ^HVAC Install & Fence Install | HVAC Install | HVAC Install | HVAC Install | No Work |
| TCS Facility Construction G5* | No Work | CPVC Mechanical Install | CPVC Mechanical Install | CPVC Mechanical Install | CPVC Mechanical Install | No Work | No Work |
| Site Wide Electrical & Controls Construction E5*, F5*, G5* | No Work | TCS/PWTF facility controls, IRZ vault electrical & control panels | TCS/PWTF facility controls, IRZ vault electrical & control panels | TCS/PWTF facility controls, IRZ vault electrical & control panels | TCS/PWTF facility controls, IRZ vault electrical & control panels | No Work | No Work |
| Downwell Installation E5*, F5* | No Work | No Work | Downwell Installation @IRZ-33 | Downwell Installation @IRZ-33 | Downwell Installation @IRZ-35 | Downwell Installation @IRZ-37 | Downwell Installation @IRZ-39 |
| Site Wide Groundwater Sampling F5*, G5* | No Work | Transducer downloads, PMP sampling | Transducer downloads, PMP sampling | TW-01 Sampling, Transducer downloads, PMP sampling | Transducer downloads, PMP sampling | No Work | No Work |
| Primary Planned Activities | 8/8/2021 | 8/9/2021 | 8/10/2021 | 8/11/2021 | 8/12/2021 | 8/13/2021 | 8/14/2021 |
| Start Time (PST) | No Work | No Work | 7:00 AM | 7:00 AM | 7:00 AM | 7:00 AM | No Work |
| MW-20 Bench Facility Construction E5*, F5* | No Work | HVAC Install | HVAC Install | HVAC Install | HVAC Install | HVAC Install | No Work |
| Site Wide Electrical & Controls Construction E5*, F5*, G5* | No Work | MW-20 Bench controls, TCS/PWTF facility controls, IRZ vault controls | MW-20 Bench controls, TCS/PWTF facility controls, IRZ vault controls | MW-20 Bench controls, TCS/PWTF facility controls, IRZ vault controls | MW-20 Bench controls, TCS/PWTF facility controls, IRZ vault controls | No Work | No Work |
| Site Wide Groundwater Sampling F5*, G5* | No Work | TW-01 Sampling | TW-01 Sampling | TW-01 Sampling | No Work | No Work | No Work |

Notes:
The timing of field activities is 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.
* **Bold font** = Work location as described on the Project Grid Map. See Project Grid Map tab for location of grid positions provided on the Look-Ahead.
^ = Intrusive/Ground-Disturbing work activity



Figure showing a grid superimposed on the Topock site map. Each grid position is denoted by an letter followed by a number.

Attachment G
Validated Groundwater Monitoring Data
(DTSC Condition of Approval xi)
(Groundwater Data Presented in Separate PDF)