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September 10, 2021

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**Subject: August 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\_August\_2021\_20210910)

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 August 2021, as well as activities planned for the next six weeks (September 5 to October 16, 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 10<sup>th</sup> 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 35<sup>th</sup> 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 black ink that reads 'Curt Russell'. The signature is written in a cursive, flowing style.

Curt Russell  
Topock Project Manager

# Topock Project Executive Abstract

<p>Document Title: <i>August 2021 Monthly Progress Report for the Groundwater Remedy Construction and Startup, PG&amp;E Topock Compressor Station, Needles, California</i></p> <p>Submitting Agency: DOI, DTSC</p> <p>Final Document?    <input checked="" type="checkbox"/> Yes    <input type="checkbox"/> No</p>	<p>Date of Document: 9/10/2021</p> <p>Who Created this Document?: (i.e. PG&amp;E, DTSC, DOI, Other) PG&amp;E</p>
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<p>What does this information pertain to?</p> <p><input type="checkbox"/> Resource Conservation and Recovery Act (RCRA) Facility Assessment (RFA)/Preliminary Assessment (PA)</p> <p><input type="checkbox"/> RCRA Facility Investigation (RFI)/Remedial Investigation (RI) (including Risk Assessment)</p> <p><input type="checkbox"/> Corrective Measures Study (CMS)/Feasibility Study (FS)</p> <p><input checked="" type="checkbox"/> Corrective Measures Implementation (CMI)/ Remedial Action (RA)</p> <p><input type="checkbox"/> California Environmental Quality Act (CEQA)/ Environmental Impact Report (EIR)</p> <p><input type="checkbox"/> Interim Measures</p> <p><input type="checkbox"/> Other / Explain:</p>	<p>Is this a Regulatory Requirement?</p> <p><input checked="" type="checkbox"/> Yes</p> <p><input type="checkbox"/> No</p> <p>If no, why is the document needed?</p>
<p>What is the consequence of NOT doing this item? What is the consequence of DOING this item?</p> <p>The consequence for not doing this item is PG&amp;E will be out of compliance with the 1996 Corrective Action Consent Agreement (CACA) and the 2013 Remedial Design/ Remedial Action Consent Decree (CD), as well as the Construction/Remedial Action Work Plan (C/RAWP).</p>	<p>Other Justification/s:</p> <p><input type="checkbox"/> Permit    <input type="checkbox"/> Other / Explain:</p>
<p>Brief Summary of attached document:</p> <p>This monthly report describes activities taken in August 2021 as well as activities planned for the next six weeks (September 5 to October 16, 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 (C/RAWP)</i>, if any, that PG&amp;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.</p> <p>Written by: Pacific Gas and Electric Company</p>	
<p>Recommendations:</p> <p>Provide input to PG&amp;E.</p>	
<p>How is this information related to the Final Remedy or Regulatory Requirements:</p> <p>This submittal is required in compliance with the CACA, CD, and pursuant to the C/RAWP.</p>	
<p>Other requirements of this information?</p> <p>None.</p>	



**August 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\_August\_20210910**

**September 2021**

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

*On Behalf of*  
Pacific Gas and Electric Company



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## Acronyms and Abbreviations

<b>Acronym</b>	<b>Definition</b>
µg/m <sup>3</sup>	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 35<sup>th</sup> 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 August 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 August 31, 2021, a total of 166 six-week look-ahead schedule emails have been sent. Of those, five six-week look-ahead schedule emails were sent in August 2021 (on August 1, 8, 15, 22, and 29).
- On August 10, 2018, PG&E issued the first Environmental Release to Construct (ERTC) to contractors. As of August 31, 2021, a total of 75 ERTCs were issued for mobilization and construction activities. The ERTCs are listed in Tables 2-1a and 2-1b. One new ERTC was issued on August 27, 2021 for the installation of a stormwater sampling location on the MW-20 Bench. The new stormwater sampling location will be used to collect stormwater samples for purpose of the IM3/Remedy Industrial Stormwater Pollution Prevention Program (SWPPP). In addition, Addendum No. 1 to ERTC 1 was renewed to allow for grading work inside the Soil Processing Yard (SPY) for purposes of installing the new triple-wide trailer.
- 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 August 2021, a total of 25 daily construction activities lists were published and discussed at the morning tailboards.
- In August 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.
  - August 1 to 7 activities:
    - Continued site-wide electrical and control panel installation work in vaults, electrical nodes 2 and 4, and at the Remedy-produced water conditioning (RPWC) system tank farm in TCS.
    - Continued mechanical equipment installation and pressure testing at MW-20 Bench.
    - Continued office trailer mobilization at SPY.
    - Continued grading and asphalt installation at TW Bench for stormwater management.
    - Continue downhole pump installation activities at IRZ wells.
    - Continued to operate TW-01 pump.

- August 8 to 14 activities:
  - Continued site-wide electrical and control panel installation work in vaults, MW-20 Bench, and installation at electrical nodes 2, 3, and 4.
  - Continued mechanical equipment installation and pressure testing at MW-20 Bench.
  - Mechanical equipment preparation work at TCS tank farm.
  - Continued office trailer installation work at SPY, including grading.
  - Completed downhole pump installation activities at IRZ wells.
  - Continued to operate TW-01 pump.
- August 15 to 21 activities:
  - Continued site-wide electrical and control panel installation work in vaults, MW-20 Bench, and installation at Nodes 2, 3, & 4.
  - Conducted mechanical equipment preparation work for influent tank move at TCS tank farm.
  - Continued office trailer installation work at Soil Processing Yard.
  - Conducted soil processing at TW Bench.
  - Continued to operate TW-01 pump.
- August 22 to 28 activities:
  - Continued site-wide electrical and control panel installation work in vaults, MW-20 Bench, and installation at electrical nodes 2, 3, and 4. Also poured red slurry at electrical nodes 2 and 4.
  - Commenced installing switchgear equipment at TCS tank farm.
  - Continued office trailer installation work at Soil Processing Yard.
  - Continued to operate TW-01 pump.
- August 29 to September 4 activities:
  - Continued forming and rebar installation at electrical nodes 2 and 4. Continue electrical controls work in IRZ vaults and at electrical nodes 3 and 99.
  - Continued installing switchgear equipment at TCS.
  - Continued office trailer installation work at SPY.
  - Installed stormwater sampling location at MW-20 Bench.
  - Conducted material sorting at SPY.
  - Pumped stormwater out of IRZ vaults on September 1.
  - Continued to operate TW-01 pump.
- Remedy Baseline/Opportunistic Soil Sampling in August 2021:
  - No baseline or opportunistic sampling during remedy construction was conducted in August 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 August 2021 (below are highlights, details are in **Attachment D**):

- In August 2021, 56 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 µg/m<sup>3</sup>) was observed in August 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 µg/m<sup>3</sup>.

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

In August 2021, the following monitoring events were conducted:

- Fifteen 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 36 and 54 dBA, with an average and median of 45 dBA.
- Eighteen events 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 45 and 56 dBA, with an average and mean of 51 dBA.
- Eighteen events 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 50 dBA, with an average and median of 46 dBA.
- Fifteen 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 51 and 57 dBA, with an average and median of 53 dBA.

## 2.2 Freshwater Usage, Waste Generation and Management

As of August 31, 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 August 31, 2021, an approximate total of 7,492,272 (22.99 acre-feet) of freshwater have been used, of which approximately 28.5 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 65.5 percent was for fugitive dust suppression. Of this amount, approximately 41,000 gallons of freshwater was used in August 2021.
- As of August 31, 2021, an approximate total of 112,325 gallons of hydrostatic testing water has been discharged to land (used for dust control). All water discharged to land was in compliance with the substantive requirements of State Water Resources Control Board (SWRCB) Water Quality Order 2003-0003-DWQ.

In August, an approximate 1,000 gallons of hydrostatic testing water was generated from testing conducted at the MW-20 Bench. After testing was complete, the water was containerized in the southernmost frac tank (T-602) on the MW-20 Bench, which will be processed by IM3.

- As of August 31, 2021, approximately 154,893 gallons of injectivity testing water has been discharged to land. No injection testing was conducted in August 2021.

- As of August 31, 2021, IM-3 has received an approximate total of 10,013,804 gallons of remedy wastewater (generated from drilling operations, well testing, aquifer testing). An approximate 3,803,477 gallons of extracted water from TW-01 was sent to IM3 in August 2021. In addition, an approximate 1,000 gallons from hydrostatic testing of piping at MW-20 Bench was sent to IM3 in August 2021.
- As of August 31, 2021, an approximate total of 1,387,952 gallons of wastewater generated from drilling operations were discharged to Compressor Station evaporation pond #4. Between November 2020 and the week of July 19, 2021, no remedy wastewater was transported to Pond #4 as PG&E prepared for and removed sludge from the pond. Starting the week of July 26, 2021, PG&E resumed disposal of approximately 14,000 gallons of wastewater generated from PGE-9 wells (part of SEIR Hydro-6 wells) to Pond #4. No remedy wastewater was discharged to TCS ponds in August 2021.
- The Topock site experienced monsoon-related storms in late August 2021. Stormwater runoff along NTH naturally follows the existing roadway flowline and some of this stormwater accumulated in the IRZ well and metering vaults along NTH. An inspection of the vaults was conducted on September 1. At that time, the depth of stormwater in the vaults ranged from approximately 1 inch (at IRZ-18, IRZ-25, and IRZ-33) to 12 inches (at IRZ-29). Per standard operating procedure, stormwater was pumped out of the vaults, and sediment at the bottom was manually removed (see Attachment A for photos of before and after cleanup). A total of about 920 gallons of stormwater was removed and used for dust control along the IM3 access dirt road.

### **2.2.2 Displaced Materials/Soils/Clay**

- As of August 31, 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.

No excess soil was generated or sent offsite in July.

- 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 August 31, 2021, approximately 1,966 cubic yards of general construction waste, 269.1 tons of construction debris, 504 tons of green waste, and 276 cubic yards of recyclables were generated from remedy construction activities. Of those, approximately 1.89 tons of trash/construction debris were generated in August 2021 and hauled to the local Republic Services land fill located in Bullhead City, Arizona.
- 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 August 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 August 31, 2021, a total of 517 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 August 31, 2021, a total of 283 health and safety training sessions were held and 775 employees and contractors received the training. Of those, in August 2021, 11 sessions were conducted and 19 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 August 31, 2021, a total of 237 WEAT sessions were conducted and 799 employees and contractors received the training. Of those, in August 2021, 5 sessions were conducted and 9 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 August 31, 2021, a total of 19 FCR training sessions were conducted. No FCR session was conducted in August 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 August 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 August 2021.

In May 2021, DTSC prepared and adopted an addendum to the Groundwater Subsequent Environmental Impact Report (SEIR) for the TW-01 aquifer test activities. As part of the approval of the TW-01 aquifer test work plan, DTSC has also determined that the proposed additional water conveyance pipeline and power pole are considered future activities allowance (FAA) considered in the SEIR. DTSC and DOI approved the TW-01 aquifer test work plan on April 8, 2021. DTSC directed PG&E to track and record the additional infrastructures associated with TW-01 aquifer test as required by the SEIR mitigation measure CUL-1a-14. As of July 31, 2021, the following additional infrastructures were associated with implementation of the TW-01 aquifer test:

- An approximate 2,090 linear feet (lf) of aboveground and 56 lf of belowground conveyance pipeline were installed. In addition, a trench (50 ft long x 3 ft deep x 3 ft wide) was excavated for piping installation under the access road on the MW-24 bench. A trench (6 ft long x 4.5 ft deep x 4 ft wide) was excavated to connect with the IM-3 spare pipe on the MW-20 bench. One temporary electrical pole was installed by Needles Electrical to provide electrical power needed for the TW-01 aquifer test.

## 2.6 Issues Encountered and Actions Taken to Rectify Issues/Problems

During this reporting period, one of the influent storage tanks (frac tank) at the TCS tank farm and its mechanical connections (valves, pipes, etc.) had to be removed in order to make room for the switch gear

to be maneuvered into the canopy. After the switch gear has been placed, the tank was moved back to its original location. Mechanical connections will be re-established in September 2021.

In addition, the current forecast for the IRZ start-up is early November, a delay of more than a month from the startup date presented at the last CWG in June 2021. This delay is due to a slower-than-anticipated production rate for the site-wide electrical and controls installation, which was caused by a combination of supply issue (e.g., availability of critical parts) and availability of skilled trades (e.g., high turn-over rate of skilled labor).

## **2.7 Key Personnel Changes**

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

## **2.8 Communication with the Public**

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

## **2.9 Planned Activities for Next Six Weeks**

The planned activities for next six weeks (September 5 to October 16, 2021) include the following:

- Conduct maintenance at AOC 4 (remove soil accumulated behind the gabion).
- 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 at MW-20 Bench.
- Continue TW-01 aquifer test.
- Start paving along shoulder of NTH.
- Conduct soil sampling to assist in evaluating alternative planting sites.
- 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 August 31, 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

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## **Tables**

**Table 2-1a. Summary of Non-Well Environmental Release-To-Constructions (ERTCs)**  
*August 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 installation of erosion control measures at TW Bench and along Pipeline F.	February 12, 2021
19	Scope included the installation of a stormwater water sampling location on the MW-20 Bench.	August 27, 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.

\* This addendum was renewed to allow for grading inside SPY for purposes of installing the new triple-wide trailer.



**Table 2-1b. Summary of Well Environmental Release-To-Constructions (ERTCs)**  
*August 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**

*August 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)**

August 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&amp;E's proposed modification to the brine tanks containment for use by the remedy, specifically:</p> <ul style="list-style-type: none"> <li> <b>Upgrade the existing lined containment to concrete</b> - The original synthetic liner material has degraded from exposure to UV light, heat, and abrasion and must be replaced. PG&amp;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).                 </li> <li> <b>Shorten the length of the containment</b> - 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.                 </li> </ul>	<p>DOI approved WVR #1 on June 22, 2018 DTSC approved WVR #1 on July 5, 2018</p>
2	<p>PG&amp;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&amp;E Gas Operations control of the Station's water supply. The WVR addressed this relocation, specifically:</p> <ul style="list-style-type: none"> <li>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&amp;E proposed to move the tie-in point to an aboveground valve manifold, located below the TCS Water Storage Tanks in the boneyard area.</li> <li>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.</li> </ul>	<p>DOI/DTSC approved WVR #2 on August 29, 2018</p>
3	<p>PG&amp;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"> <li>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.</li> <li>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.</li> <li>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.</li> <li>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.</li> </ul>	<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&amp;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&amp;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"> <li>a) Locate all temporary office and break trailers at the SPY. PG&amp;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.</li> <li>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.</li> <li>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.</li> <li>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&amp;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.</li> </ul>	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.

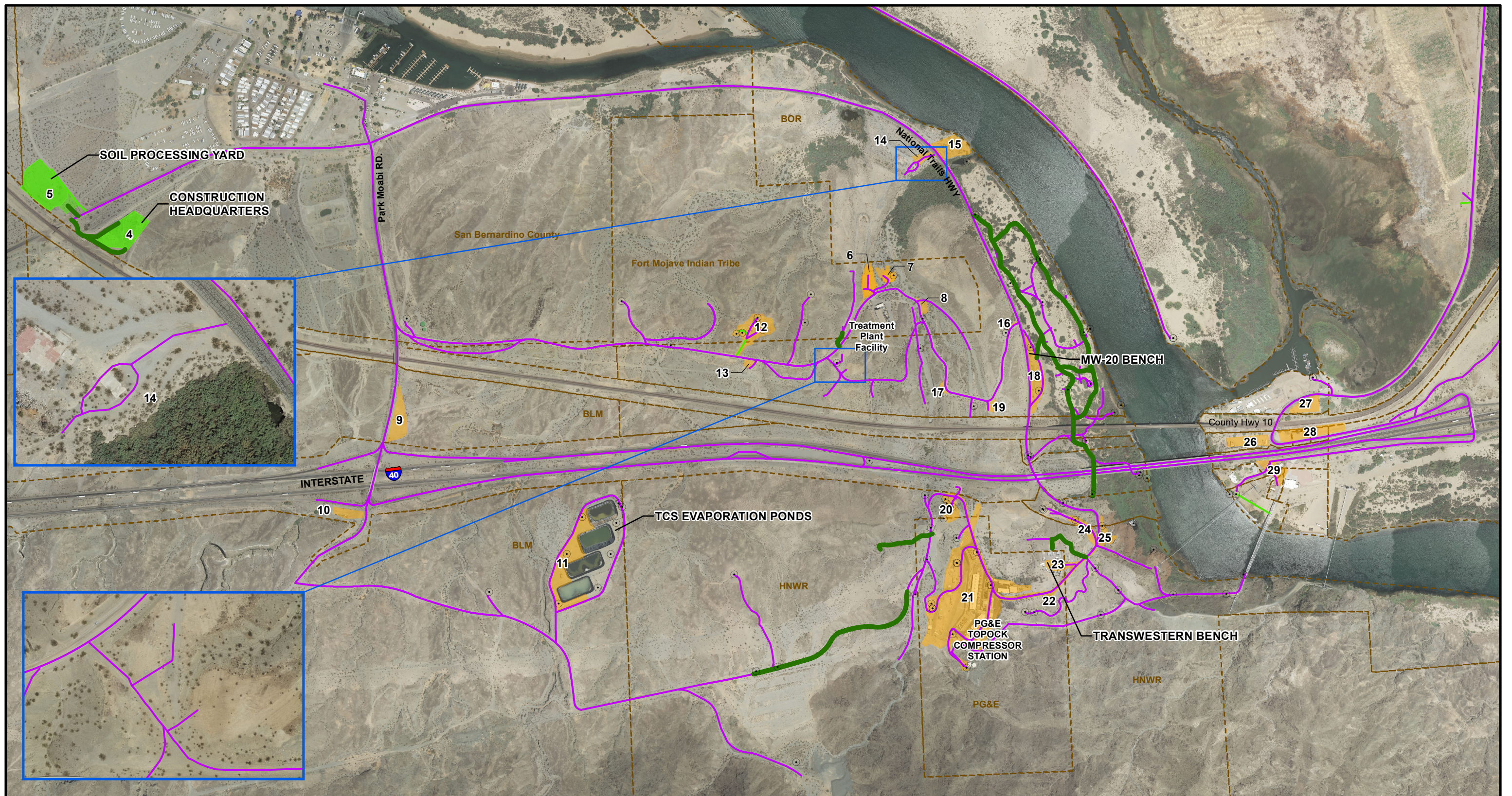
**Table 2-4. Summary of Cumulative Percent Completeness of Key Construction Activities**  
*August 2021 Monthly Progress Report for the Final Groundwater Remedy Construction and Startup*  
*PG&E Topock Compressor Station, Needles, California*

Activity	% Complete	Cumulative Status of Construction Activities (as of August 31, 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 August 31, 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	90%	Building structure, mechanical work, and site earthwork complete; worked paused pending materials lead times – HVAC, electrical, and fencing to be completed in October 2021.
Remediation well vaults and well buildout	100%	Substantially complete
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)	40%	Starting August 2021. To be completed in October 2021.
Controls installation and programming at Phase 1 Remedy-Produced water conditioning facilities (TCS)	60%	In Progress, to be completed in October 2021.
Controls installation and programming at MW-20 Bench carbon amendment facility	40%	Starting August 2021. To be completed in October 2021.
Controls installation and programming at Phase 1 remediation wells	75%	Started April 2021. Panel installations complete; final wiring and terminations to be completed in October 2021.



## **Figures**



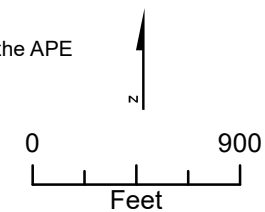
**LEGEND**

- 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:**

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

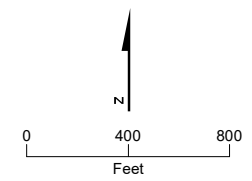
4. Public roadways outside of the EIR project area and the APE can also be used for remedy implementation.



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



- LEGEND
- ◆ 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 conduit installation at Electrical Node 2 (Looking east towards the river).**



**Photo showing transformer pad installation at Electrical Node 2 (Looking west towards TCS).**



**Photo showing  
conduit installation at  
Electrical Node 4  
(Looking north).**



**Photo showing panel  
installation at IRZ-39.**



**Photo showing removing front of switch gear canopy.**



**Photo showing installation of new trailer at SPY.**



**Photos taken on September 1, 2021 showing the IRZ-27 well vault with stormwater accumulated after the storm (left) and after water was pumped out and sediment removed (right).**



**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**

August 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 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-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

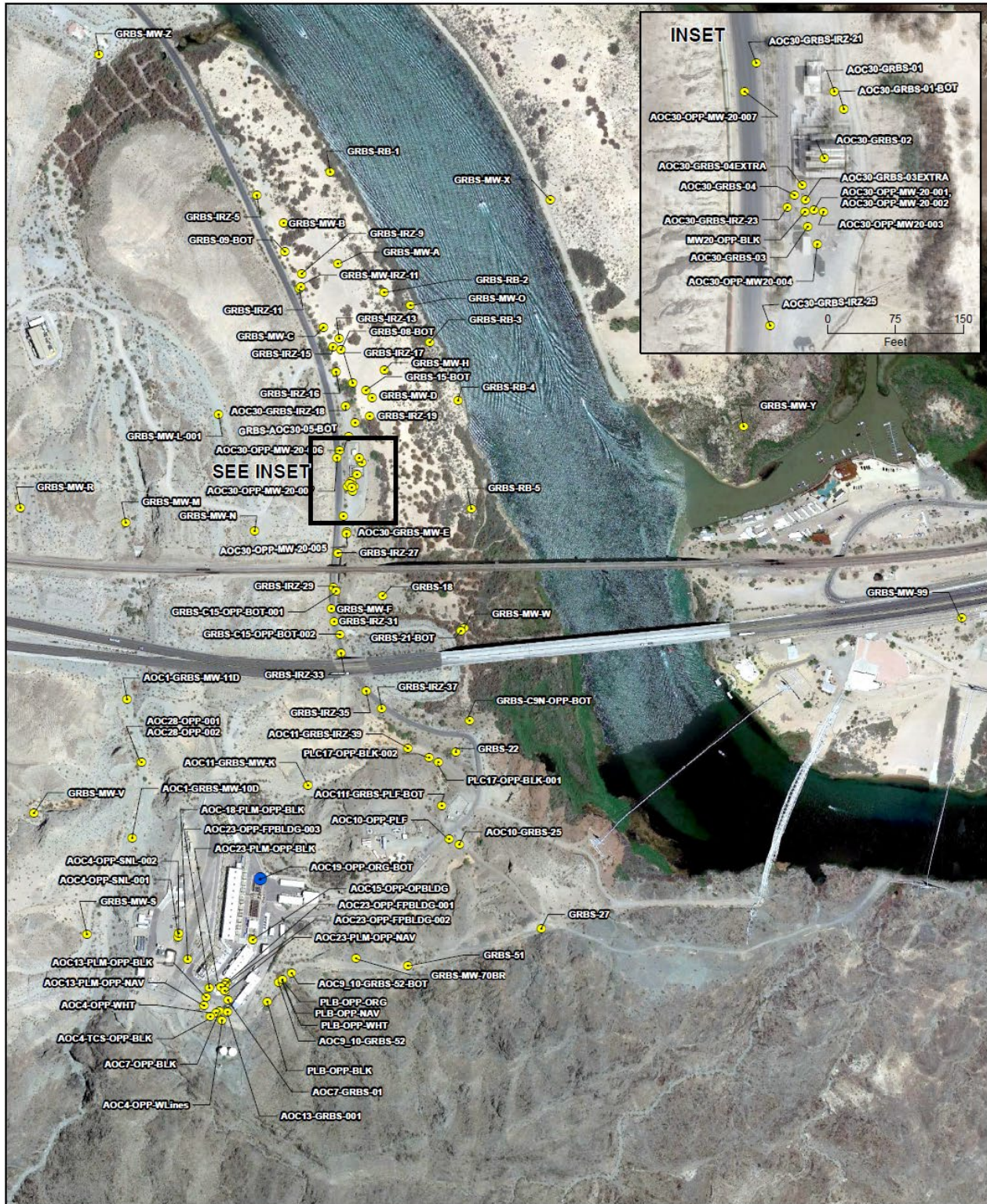
Location	Sample ID	Sample Date	Sample Depth Interval in feet below ground surface	Total Dissolved Chromium Concentration in microgram per liter	Hexavalent Chromium Concentration in microgram per liter
IRZ-35	IRZ-35-VAS-67-72	01/13/20	Vertical aquifer sample collected at 67 to 72 feet	990	920
IRZ-35	IRZ-35-VAS-82-87	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

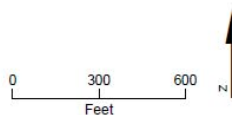
Location	Sample ID	Sample Date	Sample Depth Interval in feet below ground surface	Total Dissolved Chromium Concentration in microgram per liter	Hexavalent Chromium Concentration in microgram per liter
RB-4	RB-4-VAS-121-126	04/13/19	Vertical aquifer sample collected at 121 to 126	Not detected below reporting 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)



**LEGEND**

- Soil Sample Location
- Soil Sample Collected from this Location in May 2021



**Baseline and Opportunistic Soil Sampling Locations**

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

**Attachment D**  
**Perimeter Air Sampling Analytical Results**

## Attachment D. Perimeter Air Sampling Analytical Results

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

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

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

Project-specific levels of concern (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 ( $1 \times 10^{-6}$ ). 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 (µg/m<sup>3</sup>)

LOC = Project specific risk-based level of concern (µg/m<sup>3</sup>)

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 µg/m<sup>3</sup> 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 µg/m<sup>3</sup>.
- Therefore, keeping fugitive dust below the action level 100 µg/m<sup>3</sup> 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 August 2021, 56 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 µg/m<sup>3</sup>) was observed in August 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 µg/m<sup>3</sup>.

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

*August 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 August 2021, the following monitoring events were conducted:

- Fifteen 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 36 and 54 dBA, with an average and median of 45 dBA.
- Eighteen 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 45 and 56 dBA, with an average and mean of 51 dBA.
- Eighteen 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 50 dBA, with an average and median of 46 dBA.
- Fifteen 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 51 and 57 dBA, with an average and median of 53 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
<b>Primary Planned Activities</b>	<b>9/5/2021</b>	<b>9/6/2021</b>	<b>9/7/2021</b>	<b>9/8/2021</b>	<b>9/9/2021</b>	<b>9/10/2021</b>	<b>9/11/2021</b>
Start Time (PST)	No Work	No Work - Labor Day	7:00 AM	7:00 AM	7:00 AM	7:00 AM	No Work
Monitoring Well Site Maintenance <b>E6*, G5*, G6*</b>	No Work	No Work	^Transfer of rocks from various site locations to MW-Y' well site	^Transfer of rocks from various site locations to MW-Y' well site	^Transfer of rocks from various site locations to MW-Y' well site	No Work	No Work
Soil Processing Yard <b>D1*</b>	No Work	No Work	^Trailer assembly @ SPY	^Trailer assembly @ SPY	^Trailer assembly @ SPY	No Work	No Work
AOC4 and BCW Confluence, <b>G5*</b>	No Work	No Work	No Work	^^Tentative* Soil Removal	^^Tentative* Soil Removal	No Work	No Work
Site Wide Electrical & Controls Construction <b>E5*, F5*, G5*</b>	No Work	No Work	Node 3 and 99 controls, IRZ vault controls, ^Node 2/4 rebar and form install	Node 3 and 99 controls, IRZ vault controls, ^Node 2/4 rebar and form install	Node 3 and Node 99 controls, IRZ vault controls	No Work	No Work
Site Wide Groundwater Sampling <b>F5*, G5*</b>	No Work	No Work	Transducer downloads, PMP sampling, TW-01 sampling	Transducer downloads, PMP sampling, TW-01 sampling	Transducer downloads, PMP sampling, TW-01 sampling	Transducer downloads, PMP sampling	No Work
<b>Primary Planned Activities</b>	<b>9/12/2021</b>	<b>9/13/2021</b>	<b>9/14/2021</b>	<b>9/15/2021</b>	<b>9/16/2021</b>	<b>9/17/2021</b>	<b>9/18/2021</b>
Start Time (PST)	No Work	No Work	7:00 AM	7:00 AM	7:00 AM	No Work	No Work
Soil Processing Yard <b>D1*</b>	No Work	Materials transfer from VM office to SPY office	Materials transfer from VM office to SPY office	Materials transfer from VM office to SPY office	Materials transfer from VM office to SPY office	Materials transfer from VM office to SPY office	
MW-20 Bench Facility Construction <b>E5*, F5*</b>	No Work	^^Tentative* Asphalt Installation	^^Tentative* Asphalt Installation	^^Tentative* Asphalt Installation	^^Tentative* Asphalt Installation	^^Tentative* Asphalt Installation	No Work
AOC4 and BCW Confluence, <b>G5*</b>	No Work	^Soil Removal	^Soil Removal	^Soil Removal	^Soil Removal	No Work	No Work
Site Wide Electrical & Controls Construction <b>E5*, F5*, G5*</b>	No Work	IRZ vault controls, ^Node 2/4 rebar and form install	Node 3 and 99 controls, IRZ vault controls, ^Node 2/4 rebar and form install	Node 3 and 99 controls, IRZ vault controls, ^Node 2/4 rebar and form install	Node 3 and 99 controls, IRZ vault controls, ^Node 2/4 concrete install	No Work	No Work
Site Wide Groundwater Sampling <b>F5*, G5*</b>	No Work	No Work	No Work	TW-01 Sampling	No Work	No Work	No Work
<b>Primary Planned Activities</b>	<b>9/19/2021</b>	<b>9/20/2021</b>	<b>9/21/2021</b>	<b>9/22/2021</b>	<b>9/23/2021</b>	<b>9/24/2021</b>	<b>9/25/2021</b>
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 <b>E5*, F5*</b>	No Work	^^Tentative* Asphalt Installation	^^Tentative* Asphalt Installation	^^Tentative* Asphalt Installation	^^Tentative* Asphalt Installation	^^Tentative* Asphalt Installation	No Work
AOC4 and BCW Confluence, <b>G5*</b>	No Work	^Soil Removal	^Soil Removal	^Soil Removal	^Soil Removal	No Work	No Work
Site Wide Electrical & Controls Construction <b>E5*, F5*, G5*</b>	No Work	Node 3 and Node 99 controls, IRZ vault controls	Node 3 and Node 99 controls, IRZ vault controls	Node 3 and Node 99 controls, IRZ vault controls	Node 3 and Node 99 controls, IRZ vault controls	No Work	No Work
Site Wide Revegetation Coordination <b>E4*, E5*, F5*</b>	No Work	^Soil sampling and field survey	^Soil sampling and field survey	^Soil sampling and field survey	^Soil sampling and field survey	^Soil sampling and field survey	No Work
Site Wide Groundwater Sampling <b>F5*, G5*, E6*</b>	No Work	TW-01 sampling, AZ program samples	TW-01 sampling, AZ program samples	TW-01 sampling, AZ program samples	TW-01 sampling, AZ program samples	AZ program samples	No Work
<b>Primary Planned Activities</b>	<b>9/26/2021</b>	<b>9/27/2021</b>	<b>9/28/2021</b>	<b>9/29/2021</b>	<b>9/30/2021</b>	<b>10/1/2021</b>	<b>10/2/2021</b>
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 <b>E5*, F5*</b>	No Work	^^Tentative* Asphalt Installation & Fence Installation	^^Tentative* Asphalt Installation & Fence Installation	^^Tentative* Asphalt Installation & Fence Installation	^^Tentative* Asphalt Installation & Fence Installation	^^Tentative* Asphalt Installation & Fence Installation	No Work
Site Wide Electrical & Controls Construction <b>E5*, F5*, G5*</b>	No Work	Node 3 controls, IRZ vault controls, Node 99 I&C tie-in	Node 3 controls, IRZ vault controls, Node 99 I&C tie-in	Node 3 controls, IRZ vault controls, Node 99 I&C tie-in	Node 3 controls, IRZ vault controls, Node 99 I&C tie-in	No Work	No Work
Site Wide Groundwater Sampling <b>F5*, G5*, E6*</b>	No Work	3Q GMP sampling	3Q GMP sampling	TW-01 sampling, 3Q GMP sampling	3Q GMP sampling	3Q GMP sampling	No Work
<b>Primary Planned Activities</b>	<b>10/3/2021</b>	<b>10/4/2021</b>	<b>10/5/2021</b>	<b>10/6/2021</b>	<b>10/7/2021</b>	<b>10/8/2021</b>	<b>10/9/2021</b>
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 <b>E5*, F5*</b>	No Work	^^Tentative* Fence Installation	^^Tentative* Fence Installation	^^Tentative* Fence Installation	^^Tentative* Fence Installation	^^Tentative* Fence Installation	No Work
Site Wide Electrical & Controls Construction <b>E5*, F5*, G5*</b>	No Work	Node 3 and Node 99 controls, IRZ vault controls, *Tentative* Node 2 & 4 panels install	Node 3 and Node 99 controls, IRZ vault controls, *Tentative* Node 2 & 4 panels install	Node 3 and Node 99 controls, IRZ vault controls, *Tentative* Node 2 & 4 panels install	Node 3 and Node 99 controls, IRZ vault controls, *Tentative* Node 2 & 4 panels install	No Work	No Work
Site Wide Groundwater Sampling <b>F5*, G5*, E6*</b>	No Work	TW-01 sampling, 3Q GMP sampling, Transducer downloads, PMP sampling	TW-01 sampling, 3Q GMP sampling, Transducer downloads, PMP sampling	TW-01 sampling, 3Q GMP sampling, Transducer downloads, PMP sampling	TW-01 sampling, 3Q GMP sampling, Transducer downloads, PMP sampling	3Q GMP sampling	No Work
<b>Primary Planned Activities</b>	<b>10/10/2021</b>	<b>10/11/2021</b>	<b>10/12/2021</b>	<b>10/13/2021</b>	<b>10/14/2021</b>	<b>10/15/2021</b>	<b>10/16/2021</b>
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 <b>E5*, F5*</b>	No Work	^^Tentative* Fence & HVAC Installation	^^Tentative* Fence & HVAC Installation	^^Tentative* Fence & HVAC Installation	^^Tentative* Fence & HVAC Installation	^^Tentative* Fence & HVAC Installation	No Work
Site Wide Electrical & Controls Construction <b>E5*, F5*, G5*</b>	No Work	Node 3 and Node 99 controls, IRZ vault controls, *Tentative* Node 2 & 4 wire terminations	Node 3 and Node 99 controls, IRZ vault controls, *Tentative* Node 2 & 4 wire terminations	Node 3 and Node 99 controls, IRZ vault controls, *Tentative* Node 2 & 4 wire terminations	Node 3 and Node 99 controls, IRZ vault controls, *Tentative* Node 2 & 4 wire terminations	No Work	No Work

**Six-Week Look-Ahead Schedule**

*PG&E Topock Compressor Station Remedial Activities*

Activity	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
Site Wide Groundwater Sampling <b>F5*, G5*, E6*</b>	No Work	No Work	No Work	No Work	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.



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)