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October 15, 2021

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Scot Stormo California Regional Water Quality Control Board Colorado River Basin Region 73-720 Fred Waring Drive, Suite 100 Palm Desert, CA 92260

#### Subject: Topock IM-3 Third Quarter 2021 Monitoring Report PG&E Topock Compressor Station, Needles, California Interim Measure No. 3 Groundwater Treatment System

Dear Ms. Innis and Mr. Stormo:

Enclosed is the Third Quarter 2021 Monitoring Report for the Pacific Gas and Electric Company (PG&E) Topock Compressor Station, Interim Measure No. 3 (IM-3) Groundwater Treatment System. From July 2005 through September 2011 PG&E was operating the IM-3 groundwater treatment system as authorized by the Colorado River Basin Regional Water Quality Control Board (Regional Water Board) Order No. R7-2004-0103 (issued October 13, 2004); Order No. R7-2006-0060 (issued September 20, 2006); and the revised Monitoring and Reporting Program under Order No. R7-2006-0060 (issued August 28, 2008). Order No. R7-2006-0060 expired on September 20, 2011.

PG&E is currently operating the IM-3 groundwater treatment system as authorized by the U.S. Department of the Interior (DOI) Waste Discharge Applicable or Relevant and Appropriate Requirements (ARARs) as documented in Attachment A to the Letter Agreement issued July 26, 2011 from the Regional Water Board to DOI, and the subsequent Letter of Concurrence issued August 18, 2011 from DOI to the Regional Water Board. Quarterly monitoring reports are required to be submitted by the fifteenth day of the month following the end of the quarter.

The IM-3 groundwater extraction and treatment system has extracted and treated approximately 1,068,915,418 gallons of water and removed approximately 8,340 pounds of total chromium from August 1, 2005 through September 30, 2021.

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The groundwater monitoring results for wells OW-1S/M/D, OW-2S/M/D, OW-5S/M/D, CW-1M/D, CW-2M/D, CW-3M/D, and CW-4M/D will be submitted under separate cover, as part of the Compliance Monitoring Program.

If you have any questions regarding this report, please call me at (760) 326-5582.

Sincerely,

Curt Russell Topock Project Manager

Enclosures:

Topock IM-3 Third Quarter 2021 Monitoring Report

cc: Aaron Yue, California Department of Toxic Substances Control

# Topock Project Executive Abstract

Document Title:	Date of Document: October 15, 2021
Topock IM-3 Third Quarter 2021 Monitoring Report	Who Created this Document?: (i.e. PG&E, DTSC, DOI, Other)
Final Document? <u>X</u> Yes No	PG&E
Priority Status: HIGH MED X LOW	Is this time critical? Yes X No
Type of Document:	Action Required:
Draft X Report Letter Memo	X Information Only Review and Comment
Other / Explain:	Return to:
	By Date:
	Other / Explain:
What does this information pertain to?	Is this a Regulatory Requirement?
Resource Conservation and Recovery Act	X Yes
Assessment (PA)	If no, why is the document needed?
RCRA Facility Investigation (RFI)/Remedial	in ho, why is the document needed:
Investigation (RI) (including Risk Assessment)	
Corrective Measures Study (CMS)/Feasibility Study (FS)	
Corrective Measures Implementation (CMI)/	
California Environmental Quality Act (CEQA)/	
Environmental Impact Report (EIR)	
X Interim Measures	
Other / Explain:	
What is the consequence of NOT doing this item? What is	Other Justification/s:
the consequence of DOING this item?	Permit Other / Explain:
Submittal of this report is a compliance requirement of the ARARs for waste discharge as documented in Attachment	
A to the Letter Agreement issued July 26, 2011.	
Brief Summary of attached document:	
This report covers the Interim Measures No. 3 (IM-3) groundwater	treatment system monitoring activities during the Third Quarter
2021 period. The groundwater monitoring results for wells OW 1S.	/M/D, OW 2S/M/D, OW 5S/M/D, CW 1M/D, CW 2M/D, CW
Written by: Desifie Cas and Electric Company	and of the Compliance Monitoring Program.
Whiten by. Facine Gas and Electric Company	
Recommendations:	
This report is for your information only.	
How is this information related to the Final Remedy or Regulatory	Requirements?
The Topock IM-3 Third Quarter 2021 Monitoring Report is related	to the Interim Measure. PG&E is currently operating the IM-3
groundwater treatment system as authorized by the U.S. Departm and Appropriate Requirements (ARARs) as documented in Attach	ent of the Interior (DOI) Waste Discharge Applicable or Relevant ment A to the Letter Agreement issued July 26, 2011 from the
Colorado River Basin Regional Water Quality Control Board (Regi	onal Water Board) to DOI, and the subsequent Letter of
Concurrence issued August 18, 2011 from DOI to the Regional W	ater Board.
Other requirements of this information?	
None.	



# PG&E Topock Compressor Station Needles, California

### Third Quarter 2021 Monitoring Report Interim Measure No. 3 Groundwater Treatment System

October 15, 2021

Pacific Gas and Electric Company

Prepared for Colorado River Basin Regional Water Quality Control Board and United States Department of the Interior Third Quarter 2021 Monitoring Report

for Interim Measure No. 3 Groundwater Treatment System

PG&E Topock Compressor Station Needles, California

Prepared for

United States Department of the Interior and Colorado River Basin Regional Water Quality Control Board

on behalf of

Pacific Gas and Electric Company

October 15, 2021

This report was prepared under the supervision of a California Certified Professional Engineer

3 Poulle

John Porcella, P.E. Project Engineer





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# **Acronyms and Abbreviations**

ARARs	Applicable or Relevant and Appropriate Requirements
ASSET	ASSET Laboratories
DOI	United States Department of the Interior
gpm	gallons per minute
HMI	human-machine interface
IM	Interim Measure
IW	injection well
MRP	Monitoring and Reporting Program
PG&E	Pacific Gas and Electric Company
PLC	programmable logic controller
PST	Pacific Standard Time
Regional Water Board	Colorado River Basin Regional Water Quality Control Board
RO	reverse osmosis
Truesdail	Truesdail Laboratories, Inc.
WDR	Waste Discharge Requirements



### 1. Introduction

Pacific Gas and Electric Company (PG&E) is implementing an Interim Measure (IM) to address chromium concentrations in groundwater at the Topock Compressor Station near Needles, California. The IM consists of groundwater extraction for hydraulic control of the plume boundaries in the Colorado River floodplain, treatment of extracted groundwater, and treated groundwater injection into injection wells located on San Bernardino County Assessor's Parcel No. 650-151-06. The groundwater extraction, treatment, and injection systems collectively are referred to as Interim Measure No. 3 (IM-3). Figure 1 provides a map of the project area. All figures are located at the end of this report.

From July 2005 through September 2011 PG&E was operating the IM-3 groundwater treatment system as authorized by the Colorado River Basin Regional Water Quality Control Board (Regional Water Board) Order No. R7-2004-0103 (issued October 13, 2004), Order No. R7-2006-0060 (issued September 20, 2006), and the revised Monitoring and Reporting Program (MRP) under Order No. R7-2006-0060 (issued August 28, 2008). Order No. R7-2006-0060 expired September 20, 2011.

PG&E is currently operating the IM-3 groundwater treatment system as authorized by the U.S. Department of the Interior (DOI) Waste Discharge Applicable or Relevant and Appropriate Requirements (ARARs) as documented in Attachment A to the Letter Agreement issued July 26, 2011 from the Regional Water Board to DOI, and the subsequent Letter of Concurrence issued August 18, 2011 from DOI to the Regional Water Board. Quarterly monitoring reports are required to be submitted by the fifteenth day of the month following the end of the quarter.

This report covers monitoring activities related to operation of the IM-3 groundwater treatment system during the Third Quarter 2021. The groundwater monitoring results for wells OW-1S/M/D, OW-2S/M/D, OW-2S/M/D, CW-1M/D, CW-2M/D, CW-3M/D, and CW-4M/D will be submitted under separate cover, as part of the Compliance Monitoring Program.



## 2. Sampling Station Locations

Table 1 lists the locations of sampling stations. (All tables are located at the end of this report.) Sampling station locations are shown on the process and instrumentation diagrams (Figures TP-PR-10-10-04, PR-10-03, PR-10-04 and TP-PR-10-10-06) provided at the end of this report.



## 3. Description of Activities

The treatment system was initially operated between July 25 and July 28, 2005 for the Waste Discharge Requirement (WDR)-mandated startup phase. Discharge to the injection wells was initiated July 31, 2005 after successfully completing the startup phase in accordance with Order No. R7-2004-0103. Full-time operation of the treatment system commenced in August 2005.

Influent to the treatment facility, as listed in Attachment A, Waste Discharge ARARs, to the Letter Agreement issued July 26, 2011, includes:

- Groundwater from extraction wells TW-2S, TW-2D, TW-3D, and PE-1.
- Purged groundwater and water generated from rinsing field equipment during monitoring events.
- Groundwater generated during well installation, well development, and aquifer testing.

During the Third Quarter 2021, extraction wells TW-2D and TW-3D, combined with aquifer testing well TW-01, operated at a target pumping rate of 135 gallons per minute (gpm), excluding periods of planned and unplanned downtime. Extraction wells TW-2S and PE-1 were not operated during the Third Quarter 2021. The recorded operational run time for the IM-3 groundwater extraction system (combined or individual pumping), by month, was approximately:

- 97.5 percent during July 2021
- 96.3 percent during August 2021
- 92.7 percent during September 2021

Operation of the groundwater treatment system results in the following three out-flow components:

- Treated effluent: Treated water that is discharged to the injection well(s).
- **Reverse osmosis (RO) concentrate (brine)**: Treatment byproduct that is transported and disposed of offsite at a permitted facility.
- **Sludge:** Treatment byproduct that is transported offsite for disposal at a permitted facility. Disposal occurs each time a sludge waste storage bin reaches capacity or within 90 days of the start date for accumulation in the storage container.

Activities during the Third Quarter 2021 are detailed in Section 4.



### 4. **Groundwater Treatment System Flow Rates**

The Third Quarter 2021 treatment system monthly average flow rates (influent, effluent, and RO concentrate) are presented in Table 2.

The system influent flow rate was measured by flow meters at groundwater extraction wells TW-2S, TW-2D, TW-3D, and PE-1 (Figure TP-PR-10-10-03). The treatment system effluent flow rate was measured by flow meters in the piping into injection wells IW-2 and IW-3 (Figure TP-PR-10-10-11). The RO concentrate flow rate was measured by a flow meter at the piping carrying water from RO concentrate tank T-701 to the truck load-out station (Figure PR-10-04), or from Liquid Environmental Solutions non-hazardous waste manifests. Due to Final Groundwater Remedy construction activities at the MW-20 Bench adjacent to the IM-3 RO concentrate storage tank, the RO concentrate is temporarily being stored and shipped from the RO concentrate process collection tank. Since the flowmeter is located between the RO concentrate process collection tank and the RO concentrate storage tank, the RO concentrate shipped from the process collection tank was not recorded by the flowmeter. Zero shipments of RO concentrate were shipped off-site during the Third Quarter 2021.

The IM-3 facility treated approximately 15,626,487 gallons of extracted groundwater during the Third Quarter 2021. Four containers of solids (sludge) were transported offsite from the IM-3 facility during Third Quarter 2021.

Periods of planned and unplanned extraction system downtime (that together resulted in approximately 4.5 percent downtime during Third Quarter 2021) are summarized below. The times shown are in Pacific Standard Time (PST) to be consistent with other data collected (e.g., water level data) at the site.

### 4.1 July 2021

During July 2021, the IM-3 facility treated approximately 4,967,668 gallons of extracted groundwater, including 3,886,336 gallons pumped from TW-01 for the aquifer test. The IM-3 facility also treated 0 gallons of Final Groundwater Remedy wastewater, 1,000 gallons of sampling purge water, and 0 gallons of groundwater from injection well backwashing/re-development during July 2021. Zero containers of solids from the IM-3 facility were transported offsite during July 2021.

Periods of planned and unplanned extraction system downtime (that together resulted in approximately 2.5 percent downtime during July 2021) are summarized below.

- July 2, 2021 (unplanned): The extraction well system was offline from 3:10 p.m. to 3:14 p.m. due to a programmable logic controller (PLC) and human machine interface (HMI) connectivity issue. Extraction system downtime was 4 minutes.
- July 6, 2021 (unplanned): The extraction well system was offline from 4:02 p.m. to 4:06 p.m. due to a PLC and HMI connectivity issue. Extraction system downtime was 4 minutes.
- July 7, 2021 (unplanned): The extraction well system was offline from 8:24 a.m. to 2:24 p.m. to replace the Clarifier Feed Pump (P-400). Extraction system downtime was 6 hours 0 minutes.
- July 9, 2021 (unplanned): The extraction well system was offline from 5:30 p.m. to 5:40 p.m. and from 5:52 p.m. to 6:00 p.m. due to a City of Needles power outage. The outage required switching to the backup generator and resuming normal power supply when the power outage ended. Extraction system downtime was 18 minutes.
- July 13, 2021 (unplanned): The extraction well system was offline from 1:56 p.m. to 2:02 p.m. due to a PLC and HMI connectivity issue. Extraction system downtime was 6 minutes.
- July 21, 2021 (unplanned): The extraction well system was offline from 8:06 a.m. to 7:40 p.m. due to replacing microfilter modules. Extraction system downtime was 11 hours 34 minutes.
- July 22, 2021 (unplanned): The extraction well system was offline from 12:08 p.m. to 12:10 p.m. due to a City of Needles power outage. Extraction system downtime was 2 minutes.

# **JACOBS**<sup>°</sup>

- July 22, 2021 (unplanned): The extraction well system was offline from 12:16 p.m. to 12:18 p.m. due to a PLC and HMI connectivity issue. Extraction system downtime was 2 minutes.
- July 29, 2021 (unplanned): The extraction well system was offline from 8:06 a.m. to 8:26 a.m. due to high-water levels in the clarifier. The operator shut down extraction so the clarifier could drain to a suitable level. Extraction system downtime was 20 minutes.

### 4.2 August 2021

During August 2021, the IM-3 facility treated approximately 5,241,218 gallons of extracted groundwater, including 3,803,477 gallons pumped from TW-01 for the aquifer test. The IM-3 facility also treated 0 gallons of Final Groundwater Remedy wastewater, 975 gallons of sampling purge water, and 0 gallons of groundwater from injection well backwashing/re-development during August 2021. Two containers of solids from the IM-3 facility were transported offsite during August 2021.

Periods of planned and unplanned extraction system down time (that together resulted in approximately 3.7 percent downtime during August 2021) are summarized below.

- August 2, 2021 (unplanned): The extraction well system was offline from 1:12 p.m. to 2:14 p.m. due to high-water levels in the Raw Water Storage Tank (T-100). The operator shut down extraction so the tank could drain below the high-level alarm setpoint. Extraction system downtime was 1 hour 2 minutes.
- August 2-3, 2021 (unplanned): The extraction well system was offline from 7:08 p.m. to 12:26 a.m. due to cleaning the clarifier Sludge Withdrawal Pump (P-401) and replacing the associated piping. Extraction system downtime was 5 hours 18 minutes.
- August 3, 2021 (unplanned): The extraction well system was offline from 6:52 p.m. to 9:34 p.m. due to high-water levels in T-100. The operator shut down extraction so the tank could drain below the high-level alarm setpoint. Extraction system downtime was 2 hours 42 minutes.
- August 4, 2021 (unplanned): The extraction well system was offline from 3:24 a.m. to 4:20 a.m. due to high-water levels in T-100. The operator shut down extraction so the tank could drain below the high-level alarm setpoint. Extraction system downtime was 56 minutes.
- August 4, 2021 (unplanned): The extraction well system was offline from 9:00 a.m. to 6:14 p.m. due to cleaning the clarifier and repairing a leak in the ferrous chloride feed system. Extraction system downtime was 9 hours 14 minutes.
- August 11, 2021 (unplanned): The extraction well system was offline from 3:44 p.m. to 3:50 p.m. due to a PLC and HMI connectivity issue. Extraction system downtime was 6 minutes.
- August 11, 2021 (unplanned): The extraction well system was offline from 7:06 p.m. to 7:08 p.m. due to a PLC and HMI connectivity issue. Extraction system downtime was 2 minutes.
- August 20, 2021 (unplanned): The extraction well system was offline from 11:30 a.m. to 3:38 p.m. due to changing out the Clarifier Feed Pump (P-400) which was heavily scaled, reducing flow through the plant. Extraction system downtime was 4 hours 8 minutes.
- August 31, 2021 (unplanned): The extraction well system was offline from 5:08 p.m. to 8:56 p.m. due to high-water levels in T-100 caused by too much flow from extraction well TW-3D. Extraction system downtime was 3 hours 48 minutes.

### 4.3 September 2021

During September 2021, the IM-3 facility treated approximately 5,417,601 gallons of extracted groundwater, including 3,608,281 gallons pumped from TW-01 for the aquifer test. The IM-3 facility also treated 0 gallons of Final Groundwater Remedy wastewater, 150 gallons of sampling purge water, and 32,000 gallons of groundwater from injection well backwashing/re-development during September 2021. Two containers of solids from the IM-3 facility were transported offsite during September 2021.



Periods of planned and unplanned extraction system down time (that together resulted in approximately 7.3 percent downtime during September 2021) are summarized below.

- September 1, 2021 (unplanned): The extraction well system was offline from 12:08 p.m. to 2:36 p.m. due to high-water levels in the Raw Water Storage Tank (T-100). The operator shut down extraction so the tank could drain below the high-level alarm setpoint. Extraction system downtime was 2 hours 28 minutes.
- September 3, 2021 (unplanned): The extraction well system was offline from 9:20 a.m. to 11:04 a.m. due to troubleshooting microfilter operating issues and adjusting water levels in the process tanks. Extraction system downtime was 1 hour 44 minutes.
- **September 3, 2021 (unplanned)**: The extraction well system was offline from 5:50 p.m. to 5:54 p.m. due to due to a PLC and HMI connectivity issue. Extraction system downtime was 4 minutes.
- September 4, 2021 (unplanned): The extraction well system was offline from 2:06 a.m. to 12:42 a.m. due to an alarm in the extraction system leak detection system. Extraction system downtime was 10 hours 36 minutes.
- **September 4, 2021 (unplanned)**: The extraction well system was offline from 3:08 p.m. to 3:10 p.m. due to sampling extraction well TW-2D. Extraction system downtime was 2 minutes.
- September 8, 2021 (unplanned): The extraction well system was offline from 8:04 a.m. to 3:44 p.m. due to changing microfilter modules and to replace a tank level sensor. Extraction system downtime was 7 hours 40 minutes.
- September 9, 2021 (unplanned): The extraction well system was offline from 6:36 a.m. to 8:34 a.m. due to repairing a leak in the microfilter piping. Extraction system downtime was 1 hour 58 minutes.
- September 9, 2021 (unplanned): The extraction well system was offline from 11:34 a.m. to 12:58 p.m. due to lowering water levels in T-100 to allow delivery of injection well IW-2 backwash water. Extraction system downtime was 1 hour 24 minutes.
- September 13, 2021 (unplanned): The extraction well system was offline from 8:32 a.m. to 11:36 a.m. due to high-water levels in T-100. Extraction system downtime was 3 hours 4 minutes.
- **September 14, 2021 (unplanned)**: The extraction well system was offline from 2:28 a.m. to 5:14 a.m. due to high-water levels in T-100. Extraction system downtime was 2 hours 46 minutes.
- **September 15, 2021 (unplanned**): The extraction well system was offline from 7:34 p.m. to 9:16 p.m. due to high-water levels in T-100. Extraction system downtime was 1 hours 42 minutes.
- September 19, 2021 (unplanned): The extraction well system was offline from 11:14 a.m. to 12:06 p.m. due to replacing the flow control valve in extraction well TW-3D. Extraction system downtime was 52 minutes.
- September 22, 2021 (unplanned): The extraction well system was offline from 6:26 a.m. to 7:14 p.m. due to replacing the Clarifier Feed Pump (P-400) and associated piping. Extraction system downtime was 12 hours 48 minutes.
- September 29, 2021 (unplanned): The extraction well system was offline from 6:42 a.m. to 9:10 a.m. due to lowering water levels in T-100 to allow delivery of injection well IW-3 backwash water and maintain plant pH control system. Extraction system downtime was 2 hours 28 minutes.



### 5. Sampling and Analytical Procedures

With the exception of pH, all samples were collected at the designated sampling locations and placed directly into containers provided by ASSET Laboratories (ASSET) and Truesdail Laboratories, Inc. (Truesdail). Sample containers were labeled and packaged according to standard sampling procedures.

The samples were stored in a sealed container chilled with ice and transported to ASSET or Truesdail via courier under chain-of-custody documentation. The laboratories confirmed the samples were received in chilled condition upon arrival.

ASSET is certified by the California Department of Health Services (Certification No. 2676) under the State of California's Environmental Laboratory Accreditation Program. Truesdail is certified by the California Department of Health Services (Certification No. 1237) under the State of California's Environmental Laboratory Accreditation Program. California-certified laboratory analyses were performed in accordance with the latest edition of the *Guidelines Establishing Test Procedures for Analysis of Pollutants* (40 Code of Federal Regulations Part 136), promulgated by the U.S. Environmental Protection Agency.

During the Third Quarter 2021, analysis of pH was conducted by field method pursuant to the Regional Water Board letter dated October 16, 2007 (subject: Clarification of Monitoring and Reporting Program Requirements), authorizing pH measurements to be conducted in the field. The field method pH samples were collected at the designated sampling locations and field tested within 15 minutes of sampling.

As required by the MRP, the analytical method selected for total chromium has a method detection limit of 1 part per billion, and the analytical method selected for hexavalent chromium has a method detection limit of 0.2 part per billion.

Influent, effluent, RO concentrate, and sludge sampling frequency were in accordance with the MRP.

Groundwater quality is being monitored in observation and compliance wells according to Attachment A, Waste Discharge ARARs, to the Letter Agreement issued July 26, 2011, and the procedures and schedules approved in the *Groundwater Compliance Monitoring Plan for Interim Measures No. 3 Injection Area* submitted to the Regional Water Board on June 17, 2005. Quarterly groundwater monitoring analytical results for the injection area (wells OW-1S/M/D, OW-2S/M/D, OW-5S/M/D, CW-1M/D, CW-2M/D, CW-3M/D, and CW-4M/D) are reported in a separate document, in conjunction with groundwater level maps of the same monitoring wells.



### 6. Analytical Results

Laboratory reports for samples collected in the Third Quarter 2021 were prepared by certified analytical laboratories, and are presented in Appendix A.

Samples were collected in accordance with the ARARs sampling frequency requirements. See Table 3 for sample collection dates.

The influent sampling analytical results are presented in Table 4. The effluent sampling analytical results are presented in Table 5. The RO concentrate sampling analytical results are presented in Table 6. The sludge sampling analytical results are presented in Table 7.

Table 8 identifies the laboratory that performed each analysis and lists the following required information:

- Sample location
- Sample identification number
- Sampler name
- Sample date
- Sample time
- Laboratory performing analysis
- Analysis method
- Analysis date
- Laboratory technician



## 7. Conclusions

There were no exceedances of effluent limitations during the reporting period.

In addition, no incidents of non-compliance were identified during the reporting period. No events that caused an immediate or potential threat to human health or the environment, or new releases of hazardous waste or hazardous waste constituents, or new solid waste management units were identified during the reporting period.



### 8. Certification

#### Certification Statement:

I declare under the penalty of law that I have personally examined and am familiar with the information submitted in this document, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of a fine and imprisonment for knowing violations.

Signature:	behumn
Name:	Curt Russell
Company <u>:</u>	Pacific Gas and Electric Company
Title:	Topock Project Manager
Date:	October 15, 2021

**Tables** 

### Table 1. Sampling Station Descriptions

Third Quarter 2021 Monitoring Report for Interim Measure No. 3 Groundwater Treatment System

Sample Station	Sample ID <sup>a</sup>	Location
Sampling Station A: Groundwater Treatment System Influent	SC-100B-WDR-###	Sample collected from tap on pipe into T-100 (see Figure TP-RP-10-10-04).
Sampling Station B: Groundwater Treatment System Effluent	SC-700B-WDR-###	Sample collected from tap on pipe downstream from T-700 (see Figure TP-RP-10-10-04).
Sampling Station D: Groundwater Treatment System Reverse Osmosis Concentrate	SC-701-WDR-###	Sample collected from tap on pipe into T-701 (see Figure PR-10-03 and PR-10-04).
Sampling Station E: Groundwater Treatment System Sludge	SC-SLUDGE-WDR-###	Sample collected from sludge accumulated in the phase separator used this quarter (see Figure TP-RP-10-10-06).

#### Note:

### = Sequential sample identification number at each sample station.

<sup>a</sup> The sample event number is included at the end of the sample ID (e.g., SC-100B-WDR-015).

#### **Table 2. Flow Monitoring Results**

Third Quarter 2021 Monitoring Report for Interim Measure No. 3 Groundwater Treatment System

Parameter	System Influent <sup>a,b</sup> (gpm)	System Effluent <sup>ь</sup> (gpm)	Reverse Osmosis Concentrate <sup>ь, c</sup> (gpm)
July 2021 Average Monthly Flowrate	111.3	116.1	0
August 2021 Average Monthly Flowrate	117.4	122.3	0
September 2021 Average Monthly Flowrate	126.1	129.1	0

#### Notes:

gpm: gallons per minute

<sup>&</sup>lt;sup>a</sup> Extraction wells TW-01, TW-2D and TW-3D were operated during the Third Quarter 2021. Extraction wells TW-2S and PE-1 did not operate during Third Quarter 2021.

<sup>&</sup>lt;sup>b</sup> The difference between influent flow rate (including groundwater remedy wastewater and injection well backwash water) and the sum of the effluent and reverse osmosis concentrate flow rates during the Third Quarter 2021 is approximately 3.56 percent.

<sup>&</sup>lt;sup>c</sup> Due to Final Groundwater Remedy construction activities at the MW-20 bench, brine (RO) concentrate was no longer sent to the brine tanks since May 8, 2019. The total gallons removed from IM-3 since that date are an estimate from the Liquid Environmental Systems non-hazardous waste manifests. Zero shipments of RO concentrate were shipped off-site during the Third Quarter 2021.

#### Table 3. Sample Collection Dates

Third Quarter 2021 Monitoring Report for Interim Measure No. 3 Groundwater Treatment System

Parameter	Sample Collection Dates	Results
Influent	July 6, 2021	See Table 4
	August 3, 2021	
	September 7, 2021	
Effluent	July 6, 2021	See Table 5
	August 3, 2021	
	September 7, 2021	
Reverse Osmosis Concentrate	July 6, 2021	See Table 6
Sludge <sup>a</sup>	July 6, 2021	See Table 7

Notes:

<sup>a</sup> Sludge samples analysis is required quarterly by composite; sludge samples were collected from each container prior to shipment off-site, and combined for the composite sample of the preceding quarter.

### Table 4. Influent Monitoring Results<sup>a</sup>

Third Quarter 2021 Monitoring Report for Interim Measure No.3 Groundwater Treatment System

Analyte Units MD Sampling Frequenc	5 TDS mg/L 50.0	Turbidity NTU 0.100	Specific Conductance µmhos/cm 0.100 <b>Mo</b>	Field <sup>c</sup> pH pH units  nthly	Chromium µg/L 0.350	Hexavalent Chromium µg/L 5.00	Aluminium µg/L 40.0	Ammonia (as N) mg/L 0.0670	Antimony µg/L 0.220	Arsenic µg/L 0.0500	Barium µg/L 0.0830	Boron mg/L 0.0740	Copper µg/L 0.0460	Fluoride mg/L 0.0640	Lead μg/L 0.0180 μarterly	Manganese µg/L 0.0260	Molybdenum µg/L 0.120	Νickel μg/L 0.0340	litrate/Nitrit (as N) mg/L 0.740	e Sulfate mg/L 3.00	lron μg/L 18.0	Zinc μg/L 0.260
Sample ID Date																						
SC-100B-WDR-617 7/6/2021	3800	0.100	5900	7.3	1500	1200	ND (50.0)	ND (0.200)	ND (0.500)	ND (0.100)	35.0	1.40	ND (1.00)	3.70	ND (1.00)	3.40	31.0	ND (1.00)	12.0	510	ND (20.0)	ND (10.0)
RL	50.0	0.100	0.100		25.0	40.0	50.0	0.200	0.500	0.100	1.00	0.100	1.00	0.500	1.00	0.500	0.500	1.00	1.00	25.0	20.0	10.0
SC-100B-WDR-618 8/3/2021	4000	0.150	6300	7.3	1300	1100										1.60					ND (20.0)	
RL	50.0	0.100	0.100		25.0	40.0										0.500					20.0	
SC-100B-WDR-619 9/7/2021	4300	0.240	6800	6.7	1100	950										ND (0.500)					ND (20.0)	
RL	50.0	0.100	0.100		10.0	40.0										0.500					20.0	

Notes:

(---) = not required by the ARARs Monitoring and Reporting Program

J = concentration or reporting limits estimated by laboratory or validation

MDL = method detection limit

mg/L = milligrams per liter

N = nitrogen

ND = parameter not detected at the listed value

NTU = nephelometric turbidity units

RL = project reporting limit

µg/L = micrograms per liter

µmhos/cm = micromhos per centimeter

<sup>a</sup> Sampling Location for all influent samples is tap on pipe from extraction wells into tank T-100 (see attached P&ID TP-PR-10-10-04).

<sup>b</sup> Units reported in this table are those units required in the ARARs.

<sup>c</sup> Starting 11/20/2007, analysis of pH was switched from California certified laboratory analysis to field method pursuant to the Water Board letter dated October 16, 2007 – Clarification of Monitoring and Reporting Program Requirements, stating that pH measurements may be conducted in the field.

# Table 5. Effluent Monitoring Results

Third Quarter 2021 Monitoring Report for Interim Measure No.3 Groundwater Treatment System

	Analytes Units <sup>C</sup> MDL <sup>d</sup>	TDS mg/L 50.0	Turbidity NTU 0.100	Specific Conductance µmhos/cm 0.100	Field <sup>e</sup> pH pH units 	Chromium µg/L 0.0350	Hexavalent Chromium µg/L 0.0250	Aluminiur µg/L 40.0	Ammonia (as N) mg/L 0.0670	Antimony µg/L 0.220	Arsenic μg/L 0.0500	Barium µg/L 0.0830	Boron mg/L 0.0740	Copper µg/L 0.0460	Fluoride mg/L 0.0640	Lead μg/L 0.0180	Manganese µg/L 0.0260	Molybdenum µg/L 0.120	Nickel µg/L 0.0340	Nitrate/ (as mg, 0.1	Nitrite N) ′L 70	Sulfate mg/L 3.00	lron µg/L 18.0	Zinc μg/L 0.260
Effluent	Ave. Monthly	NA	NA	NA	6.5-8.4	25	8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Limits	Max Daily	NA	NA	NA	6.5-8.4	50	16	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sampli	ing Frequency											Monthly	,											
Sample ID	Date																							
SC-700B-WDR-61	7 7/6/2021	3700	0.170	5900	7.4	ND (1.00)	ND (0.200)	ND (50.0)	ND (0.200)	ND (0.500) I	ND (0.100)	18.0	1.40	1.20	3.30	ND (1.00)	3.40	27.0	ND (1.00)	12.0		520	ND (20.0)	ND (10.0)
RL		50.0	0.100	0.100		1.00	0.200	50.0	0.200	0.500	0.100	1.00	0.100	1.00	0.500	1.00	0.500	0.500	1.00	0.50	0	25.0	20.0	10.0
SC-700B-WDR-61	8 8/3/2021	3900	0.230	6300	7.3	ND (1.00)	ND (0.200)	ND (50.0)	ND (0.200)	ND (0.500)	ND (0.100)	20.0	1.40	ND (1.00)	3.20	ND (1.00)	19.0	24.0 N	ND (5.00)J	11.0		500	ND (20.0)	ND (10.0)
RL		50.0	0.100	0.100		1.00	0.200	50.0	0.200	0.500	0.100	1.00	0.100	1.00	0.500	1.00	0.500	0.500	5.00	0.50	0	25.0	20.0	10.0
SC-700B-WDR-61	9 9/7/2021	4200	0.150	7000	6.9	ND (1.00)	ND (0.200)	ND (50.0)	ND (0.200)	ND (0.500)	ND (0.100)	28.0	1.20	ND (1.00)	3.00	ND (1.00)	16.0	31.0 N	ND (5.00)J	9.20		500	ND (20.0)	ND (10.0)
RL		50.0	0.100	0.100		1.00	0.200	50.0	0.200	0.500	0.100	1.00	0.100	1.00	0.500	1.00	0.500	0.500	5.00	0.50	0	25.0	20.0	10.0

Notes:

(---) = not required by the ARARs Monitoring and Reporting Program J = concentration or reporting limits estimated by laboratory or validation

MDL = method detection limit

mg/L = milligrams per liter

N = nitrogen

NA = not applicable

ND = parameter not detected at the listed value NTU = nephelometric turbidity units

RL = project reporting limit

µg/L = micrograms per liter

µmhos/cm = micromhos per centimeter

<sup>a</sup> Sampling location for all effluent samples is tap on pipe downstream from tank T-700 to injection wells (see attached P&ID TP-PR-10-10-04).

<sup>b</sup> In addition to the listed effluent limits, the ARARs state that the effluent shall not contain heavy metals, chemicals, pesticides or other constituents in concentrations toxic to human health.

<sup>c</sup> Units reported in this table are those units required in the ARARs.

<sup>d</sup> MDL listed is the target MDL by analysis method; however, the MDL may change for each sample analysis due to the dilution required by the matrix to meet the method QC requirements. The target MDL for each method/analyte combination is calculated annually.

<sup>e</sup> Starting 11/20/2007, analysis of pH was switched from California certified laboratory analysis to field method pursuant to the Water Board letter dated October 16, 2007 – Clarification of Monitoring and Reporting Program Requirements, stating that pH measurements may be conducted in the field.

### Table 6. Reverse Osmosis Concentrate Monitoring Results<sup>a</sup>

Third Quarter 2021 Monitoring Report for Interim Measure No.3 Groundwater Treatment System

Analytes Units <sup>b</sup>	TDS mg/L	Specific Conductance µmhos/cm	Field <sup>C</sup> pH pH units	: Chromium ma/L	Hexavalent Chromium mɑ/L	Antimony mg/L	Arsenic mg/L	Barium mɑ/L	Beryllium mg/L	Cadmium mg/L	Cobalt mg/L	Copper mg/L	Fluoride ma/L	Lead mg/L	Molybdenum mg/L	Mercury mg/L	Nickel ma/L	Selenium mg/L	Silver mg/L	Thallium mg/L	Vanadium mg/L	Zinc mg/L
MDL	500	0.100	·	0.000035	5 0.00013	0.00022	0.000050	0.000083	0.00015	0.000045	0.000017	0.000046	0.250	0.000018	0.00012	0.00012	0.000034	0.000044	0.000028	0.00012	0.000067	0.00026
Sampling Frequency											Quarterl	у										
Sample ID Date																						
SC-701-WDR-617 7/6/2021	20000	28000	7.7	0.00180	ND (0.0010) N	D (0.00050)N	ID (0.00010)	) 0.100	ND (0.0025)	ND (0.00050)	0.00120	0.0170	14.0	ND (0.001	0) 0.110	ND (0.00020)	ND (0.0010	) 0.0210	ND (0.00050	)ND (0.0005	0) 0.00490	ND (0.0100)
RL	500	0.100		0.0010	0.0010	0.00050	0.00010	0.0010	0.0025	0.00050	0.00050	0.0010	2.00	0.0010	0.00050	0.00020	0.0010	0.00050	0.00050	0.00050	0.0010	0.0100

#### Notes:

(---) = not required by the ARARs Monitoring and Reporting Program MDL = method detection limit

mg/L = milligrams per liter

ND = parameter not detected at the listed value

RL = project reporting limit

µg/L = micrograms per liter

µmhos/cm = micromhos per centimeter

<sup>a</sup> Sampling location for all reverse osmosis samples is tap on pipe T-701 (see attached P&ID PR-10-04).

<sup>b</sup> Units reported in this table are those units required in the ARARs.

<sup>c</sup> Starting 11/20/2007, analysis of pH was switched from California certified laboratory analysis to field method pursuant to the Water Board letter dated October 16, 2007 – Clarification of Monitoring and Reporting Program Requirements, stating that pH measurements may be conducted in the field.

### Table 7. Sludge Monitoring Results

Third Quarter 2021 Monitoring Report for Interim Measure No.3 Groundwater Treatment System

Ana	alytes Units <sup>b</sup> MDL	Chromium mg/kg 0.700	Hexavalent Chromium mg/kg 0.350	Antimony mg/kg 0.720	Arsenic mg/kg 0.0670	Barium mg/kg 0.680	Beryllium mg/kg 0.470	Cadmium mg/kg 0.580	Cobalt mg/kg 0.620	Copper mg/kg 1.90	Fluoride mg/kg 0.550	Lead mg/kg 0.640	Molybdenum mg/kg 0.650	Mercury mg/kg 0.0220	Nickel mg/kg 0.740	Selenium mg/kg 1.30	Silver mg/kg 1.40	Thallium mg/kg 0.770	Vanadium mg/kg 0.480	Zinc mg/kg 0.650	Bioassay % Survival at 750 mg/L <sup>C</sup>
Sampling Freque	ency									Q	uarterly										Annually
Sample ID Dat	ate																				
	ļ																				100
Phase Separator-617-Sludge 7/	7/6/2021	2600	97.0	21.0	6.10	67.0	ND (2.20)	3.40	4.90	91.0	33.0	ND (2.20)	ND (2.20)	ND (0.220)	16.0	ND (2.20)J	ND (2.20)	10.0	63.0	40.0	100
RL		2.20	2.20	4.30	0.540	2.20	2.20	2.20	2.20	4.30	4.30	2.20	2.20	0.220	2.20	2.20	2.20	4.30	2.20	2.20	100

Notes:

(---) = not required by the ARARs Monitoring and Reporting Program

J = concentration or reporting limits estimated by laboratory or validation

mg/kg = milligrams per killogram mg/L = milligrams per liter

MDL = method detection limit

ND = parameter not detected at the listed reporting limit

RL = project reporting limit

<sup>a</sup> Sampling location for all sludge samples is the sludge collection bin (see attached P&ID TP-PR-10-10-06).

<sup>b</sup> Units reported in this table are those units required in the ARARs.

<sup>c</sup> Sludge samples analysis is required quarterly by composite; sludge samples were collected from each container prior to shipment off-site, and combined for the composite sample of the preceding quarter.

Location	Sample ID	Sampler Name	Sample Date	Sample Time	Lab	Analysis Method	Parameter	Analysis Date	Lab Technician
SC-100B	SC-100B-WDR-617	Cameron Stone	7/6/2021	11:35:00 AM	Field	HACH	PH	7/6/2021	Cameron Stone
				11:39:00 AM	ASSET	EPA 120.1	SC	7/12/2021	Lilia Ramit
					ASSET	EPA 200.7	AL	7/15/2021	Diane Jetajobe
					ASSET	EPA 200.7	В	7/15/2021	Diane Jetajobe
					ASSET	EPA 200.7	FE	7/15/2021	Diane Jetajobe
					ASSET	EPA 200.8	AS	7/10/2021	Claire Ignacio
					ASSET	EPA 200.8	BA	7/10/2021	Claire Ignacio
					ASSET	EPA 200.8	CR	7/12/2021	Claire Ignacio
					ASSET	EPA 200.8	CU	7/10/2021	Claire Ignacio
					ASSET	EPA 200.8	MN	7/10/2021	Claire Ignacio
					ASSET	EPA 200.8	MO	7/10/2021	Claire Ignacio
					ASSET	EPA 200.8	NI	7/10/2021	Claire Ignacio
					ASSET	EPA 200.8	PB	7/10/2021	Claire Ignacio
					ASSET	EPA 200.8	SB	7/12/2021	Claire Ignacio
					ASSET	EPA 200.8	ZN	7/10/2021	Claire Ignacio
					ASSET	EPA 218.6	CR6	7/7/2021	Ria Abes
					ASSET	EPA 300.0	FL	7/7/2021	Ria Abes
					ASSET	EPA 300.0	SO4	7/7/2021	Ria Abes
					ASSET	SM 2540C	TDS	7/7/2021	Lilia Ramit
					ASSET	SM 4500-NO3F	NO3NO2N	7/14/2021	Julia Bundalian
					ASSET	SM2130B	TRB	7/7/2021	Lilia Ramit
					BCLabs	SM4500NH3G	NH3N	7/12/2021	JMH2
SC-100B	SC-100B-WDR-618	Kevin Mullin	8/3/2021	1:15:00 PM	ASSET	EPA 120.1	SC	8/6/2021	Lilia Ramit
					ASSET	EPA 200.7	FE	8/13/2021	Diane Jetajobe
					ASSET	EPA 200.8	CR	8/16/2021	Claire Ignacio
					ASSET	EPA 200.8	MN	8/15/2021	Claire Ignacio
					ASSET	EPA 218.6	CR6	8/4/2021	Ria Abes
					Field	HACH	PH	8/3/2021	Kevin Mullin
					ASSET	SM 2540C	TDS	8/4/2021	Lilia Ramit
					ASSET	SM2130B	TRB	8/4/2021	Lilia Ramit
					ASSET	SM4500-HB	PH	8/4/2021	Lilia Ramit
SC-100B	SC-100B-WDR-619	Cameron Stone	9/7/2021	12:15:00 PM	Field	HACH	PH	9/7/2021	Cameron Stone
				1:20:00 PM	ASSET	EPA 120.1	SC	9/8/2021	Lilia Ramit
					ASSET	EPA 200.7	FE	9/20/2021	Diane Jetajobe
					ASSET	EPA 200.8	CR	9/18/2021	Claire Ignacio
					ASSET	EPA 200.8	MN	9/18/2021	Claire Ignacio
					ASSET	EPA 218.6	CR6	9/8/2021	Ria Abes
					ASSET	SM 2540C	TDS	9/8/2021	Lilia Ramit

Location	Sample ID	Sampler Name	Sample Date	Sample Time	Lab	Analysis Method	Parameter	Analysis Date	Lab Technician
SC-100B	SC-100B-WDR-619	Cameron Stone	9/7/2021	1:20:00 PM	ASSET	SM2130B	TRB	9/8/2021	Lilia Ramit
SC-700B	SC-700B-WDR-617	Cameron Stone	7/6/2021	11:30:00 AM	ASSET	EPA 120.1	SC	7/12/2021	Lilia Ramit
					ASSET	EPA 200.7	AL	7/15/2021	Diane Jetajobe
					ASSET	EPA 200.7	В	7/15/2021	Diane Jetajobe
					ASSET	EPA 200.7	FE	7/15/2021	Diane Jetajobe
					ASSET	EPA 200.8	AS	7/10/2021	Claire Ignacio
					ASSET	EPA 200.8	BA	7/10/2021	Claire Ignacio
					ASSET	EPA 200.8	CR	7/10/2021	Claire Ignacio
					ASSET	EPA 200.8	CU	7/10/2021	Claire Ignacio
					ASSET	EPA 200.8	MN	7/10/2021	Claire Ignacio
					ASSET	EPA 200.8	MO	7/10/2021	Claire Ignacio
					ASSET	EPA 200.8	NI	7/10/2021	Claire Ignacio
					ASSET	EPA 200.8	PB	7/10/2021	Claire Ignacio
					ASSET	EPA 200.8	SB	7/12/2021	Claire Ignacio
					ASSET	EPA 200.8	ZN	7/10/2021	Claire Ignacio
					ASSET	EPA 218.6	CR6	7/7/2021	Ria Abes
					ASSET	EPA 300.0	FL	7/7/2021	Ria Abes
					ASSET	EPA 300.0	SO4	7/7/2021	Ria Abes
					Field	HACH	PH	7/6/2021	Cameron Stone
					ASSET	SM 2540C	TDS	7/7/2021	Lilia Ramit
					ASSET	SM 4500-NO3F	NO3NO2N	7/14/2021	Julia Bundalian
					ASSET	SM2130B	TRB	7/7/2021	Lilia Ramit
					BCLabs	SM4500NH3G	NH3N	7/12/2021	JMH2
SC-700B	SC-700B-WDR-618	Kevin Mullin	8/3/2021	1:15:00 PM	ASSET	EPA 120.1	SC	8/6/2021	Lilia Ramit
					ASSET	EPA 200.7	AL	8/13/2021	Diane Jetajobe
					ASSET	EPA 200.7	В	8/13/2021	Diane Jetajobe
					ASSET	EPA 200.7	FE	8/13/2021	Diane Jetajobe
					ASSET	EPA 200.8	AS	8/15/2021	Claire Ignacio
					ASSET	EPA 200.8	BA	8/15/2021	Claire Ignacio
					ASSET	EPA 200.8	CR	8/15/2021	Claire Ignacio
					ASSET	EPA 200.8	CU	8/15/2021	Claire Ignacio
					ASSET	EPA 200.8	MN	8/15/2021	Claire Ignacio
					ASSET	EPA 200.8	MO	8/15/2021	Claire Ignacio
					ASSET	EPA 200.8	NI	8/18/2021	Claire Ignacio
					ASSET	EPA 200.8	PB	8/15/2021	Claire Ignacio
					ASSET	EPA 200.8	SB	8/15/2021	Claire Ignacio
					ASSET	EPA 200.8	ZN	8/15/2021	Claire Ignacio
					ASSET	EPA 218.6	CR6	8/4/2021	Ria Abes

Location	Sample ID	Sampler Name	Sample Date	Sample Time	Lab	Analysis Method	Parameter	Analysis Date	Lab Technician
SC-700B	SC-700B-WDR-618	Kevin Mullin	8/3/2021	1:15:00 PM	ASSET	EPA 300.0	FL	8/6/2021	Ria Abes
					ASSET	EPA 300.0	SO4	8/5/2021	Ria Abes
					Field	HACH	PH	8/3/2021	Kevin Mullin
					ASSET	SM 2540C	TDS	8/4/2021	Lilia Ramit
					ASSET	SM2130B	TRB	8/4/2021	Lilia Ramit
					ASSET	SM4500-HB	PH	8/4/2021	Lilia Ramit
					BCLabs	SM4500NH3G	NH3N	8/10/2021	JMH2
					BCLabs	SM4500NO3-E	NO3NO2N	8/11/2021	JMH2
SC-700B	SC-700B-WDR-619	Cameron Stone	9/7/2021	12:25:00 PM	Field	HACH	PH	9/7/2021	Cameron Stone
				1:27:00 PM	ASSET	EPA 120.1	SC	9/8/2021	Lilia Ramit
					ASSET	EPA 200.7	AL	9/20/2021	Diane Jetajobe
					ASSET	EPA 200.7	В	9/20/2021	Diane Jetajobe
					ASSET	EPA 200.7	FE	9/20/2021	Diane Jetajobe
					ASSET	EPA 200.8	AS	9/18/2021	Claire Ignacio
					ASSET	EPA 200.8	BA	9/22/2021	Claire Ignacio
					ASSET	EPA 200.8	CR	9/18/2021	Claire Ignacio
					ASSET	EPA 200.8	CU	9/18/2021	Claire Ignacio
					ASSET	EPA 200.8	MN	9/18/2021	Claire Ignacio
					ASSET	EPA 200.8	MO	9/18/2021	Claire Ignacio
					ASSET	EPA 200.8	NI	9/26/2021	Claire Ignacio
					ASSET	EPA 200.8	PB	9/18/2021	Claire Ignacio
					ASSET	EPA 200.8	SB	9/18/2021	Claire Ignacio
					ASSET	EPA 200.8	ZN	9/18/2021	Claire Ignacio
					ASSET	EPA 218.6	CR6	9/8/2021	Ria Abes
					ASSET	EPA 300.0	FL	9/8/2021	Ria Abes
					ASSET	EPA 300.0	SO4	9/8/2021	Ria Abes
					ASSET	SM 2540C	TDS	9/8/2021	Lilia Ramit
					ASSET	SM2130B	TRB	9/8/2021	Lilia Ramit
					BCLabs	SM4500NH3G	NH3N	9/21/2021	JMH2
					BCLabs	SM4500NO3-E	NO3NO2N	9/28/2021	JMH2
SC-701	SC-701-WDR-617	Cameron Stone	7/6/2021	11:25:00 AM	Field	HACH	PH	7/6/2021	Cameron Stone
				11:29:00 AM	ASSET	EPA 120.1	SC	7/12/2021	Lilia Ramit
					ASSET	EPA 200.8	AG	7/10/2021	Claire Ignacio
					ASSET	EPA 200.8	AS	7/10/2021	Claire Ignacio
					ASSET	EPA 200.8	BA	7/10/2021	Claire Ignacio
					ASSET	EPA 200.8	BE	7/10/2021	Claire Ignacio
					ASSET	EPA 200.8	CD	7/10/2021	Claire Ignacio
					ASSET	EPA 200.8	CO	7/10/2021	Claire Ignacio

Location	Sample ID	Sampler Name	Sample Date	Sample Time	Lab	Analysis Method	Parameter	Analysis Date	Lab Technician
SC-701	SC-701-WDR-617	Cameron Stone	7/6/2021	11:29:00 AM	ASSET	EPA 200.8	CR	7/10/2021	Claire Ignacio
					ASSET	EPA 200.8	CU	7/10/2021	Claire Ignacio
					ASSET	EPA 200.8	MN	7/10/2021	Claire Ignacio
					ASSET	EPA 200.8	MO	7/10/2021	Claire Ignacio
					ASSET	EPA 200.8	NI	7/10/2021	Claire Ignacio
					ASSET	EPA 200.8	PB	7/10/2021	Claire Ignacio
					ASSET	EPA 200.8	SB	7/12/2021	Claire Ignacio
					ASSET	EPA 200.8	SE	7/10/2021	Claire Ignacio
					ASSET	EPA 200.8	TL	7/10/2021	Claire Ignacio
					ASSET	EPA 200.8	V	7/10/2021	Claire Ignacio
					ASSET	EPA 200.8	ZN	7/10/2021	Claire Ignacio
					ASSET	EPA 218.6	CR6	7/7/2021	Ria Abes
					ASSET	EPA 245.1	HG	7/9/2021	Diane Jetajobe
					ASSET	EPA 300.0	FL	7/7/2021	Ria Abes
					ASSET	SM 2540C	TDS	7/8/2021	Lilia Ramit
Phase Separator P	hase Separator-617-Slud	ge Cameron Stone	7/6/2021	11:20:00 AM	ASSET	EPA 300.0	FL	7/12/2021	Ria Abes
					ASSET	EPA 6010B	AG	7/9/2021	Diane Jetajobe
					ASSET	EPA 6010B	BA	7/9/2021	Diane Jetajobe
					ASSET	EPA 6010B	BE	7/9/2021	Diane Jetajobe
					ASSET	EPA 6010B	CD	7/9/2021	Diane Jetajobe
					ASSET	EPA 6010B	CO	7/9/2021	Diane Jetajobe
					ASSET	EPA 6010B	CR	7/9/2021	Diane Jetajobe
					ASSET	EPA 6010B	CRTTCLP	7/9/2021	Diane Jetajobe
					ASSET	EPA 6010B	CU	7/9/2021	Diane Jetajobe
					ASSET	EPA 6010B	MN	7/9/2021	Diane Jetajobe
					ASSET	EPA 6010B	MO	7/9/2021	Diane Jetajobe
					ASSET	EPA 6010B	NI	7/9/2021	Diane Jetajobe
					ASSET	EPA 6010B	PB	7/9/2021	Diane Jetajobe
					ASSET	EPA 6010B	SB	7/9/2021	Diane Jetajobe
					ASSET	EPA 6010B	SE	7/9/2021	Diane Jetajobe
					ASSET	EPA 6010B	TL	7/9/2021	Diane Jetajobe
					ASSET	EPA 6010B	V	7/9/2021	Diane Jetajobe
					ASSET	EPA 6010B	ZN	7/9/2021	Diane Jetajobe
					ASSET	EPA 7471A	HG	7/9/2021	Diane Jetajobe
					ASSET	SW 6020A	AS	7/10/2021	Claire Ignacio
					ASSET	SW 7199	CR6	7/16/2021	Ria Abes

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#### Notes:

SC-700B = Sampling location for all effluent samples is tap on pipe downstream from tank T-700 to injection well IW-2 (see attached P&ID TP-PR-10-10-04).

SC-100B = Sampling location for all influent samples is tap on pipe from extraction wells into tank T-100 (see attached P&ID TP-PR-10-10-04).

SC-701 = Sampling location for all reverse osmosis samples is tap on pipe T-701 (see attached P&ID PR-10-04).

Prior to April 11, 2007 the analytical methods listed in the 40 CFR Part 136 for pH and TDS were E150.1 and E160.1, respectively. Per EPA and Department of Health Services guidelines, the analytical methods listed in the current 40 CFR Part 136 have changed to SM4500-H B and SM2540C as shown on the table.

ALKB =	alkalinity, bicarb as CaCO3	MO = MOIST =	molybdenum moisture
AL =	aluminum	NH3N =	ammonia (as N)
Ag =	silver	NI =	nickel
AŠ =	arsenic	NO3NO2N =	nitrate/nitrite (as N)
B =	boron	PB =	lead
BA =	barium	PH =	pH
BE =	beryllium	SB =	antimony
CD =	cadmium	SC =	specific conductance
CO =	cobalt	SE =	selenium
CR =	chromium	SO4 =	sulfate
CR6 =	hexavalent chromium	TDS =	total dissolved solids
CU =	copper	TL =	thallium
FE =	iron	TRB =	turbidity
FETD =	iron, dissolved	V =	vanadium
FL =	fluoride	ZN =	zinc
HG =	mercury		
MN =	manganese		
MND =	manganese, dissolved		

Figures



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Appendix A Third Quarter 2021 Laboratory Analytical Reports