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July 15, 2021

Pamela S. Innis Topock Remedial Project Manager U.S. Department of the Interior Office of Environmental Policy and Compliance P.O. Box 2507 (D-108) Denver Federal Center, Building 56 Denver, CO 80225-0007

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 Combined Second Quarter 2021 Monitoring, Semiannual January – June 2021 Operation and Maintenance Report PG&E Topock Compressor Station, Needles, California Interim Measure No. 3 Groundwater Treatment System

Dear Ms. Innis and Mr. Stormo:

Enclosed is the Second Quarter 2021 Monitoring, Semiannual January – June 2021 Operation and Maintenance 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.

Sustainable remediation is a corporate commitment internally monitored by PG&E. IM-3 is operated in a manner that has resulted in sustainable reductions in electrical use, greenhouse gas (GHG) emissions, and generation of solid and liquid waste. Examples include: (1) reduced electricity use and associated GHG emissions due to use of photocells to manage outdoor lighting at IM-3 and use of solar power for the injection area wellhead data collection system; (2) process optimization initiatives (within constraints of the injection permit) have reduced brine production, treatment sludge production, and treatment chemical use, and (3) these efforts also reduce the fuel consumption and GHG emissions from chemical deliveries and waste disposal.

Pamela S. Innis Scot Stormo July 15, 2021 Page 2

The IM-3 groundwater extraction and treatment system has extracted and treated approximately 1,053,288,931 gallons of water and removed approximately 8,230 pounds of total chromium from August 1, 2005 through June 30, 2021.

Temporary piping to connect the Final Groundwater Remedy TW-01 aquifer testing well was installed connecting to IM-3 at the MW-20 Bench. The TW-01 aquifer testing began June 15, 2021 and is scheduled to continue for 3 months. Extraction well TW-3D was turned off and well TW-2D was turned on to supplement the flow from TW-01.

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 Combined Second Quarter 2021 Monitoring, Semiannual January – June 2021 Operation and Maintenance Report

cc: Aaron Yue, California Department of Toxic Substances Control

Topock Project Executive Abstract

Document Title:	Date of Document: July 15, 2021
Topock IM-3 Second Quarter 2021 Monitoring, Semiannual January - June 2021 Operation and Maintenance Report	Who Created this Document?: (i.e. PG&E, DTSC, DOI, Other)
Final Document? X Yes No	PG&E
Priority Status:HIGHMED X_LOW	Is this time critical? Yes <u>X</u> No
Type of Document: Draft <u>X</u> Report Letter Memo Other / Explain:	Action Required: X Information Only Other / Explain:
 What does this information pertain to? Resource Conservation and Recovery Act (RCRA) Facility Assessment (RFA)/Preliminary Assessment (PA) RCRA Facility Investigation (RFI)/Remedial Investigation (RI) (including Risk Assessment) Corrective Measures Study (CMS)/Feasibility Study (FS) Corrective Measures Implementation (CMI)/ Remedial Action (RA) California Environmental Quality Act (CEQA)/ Environmental Impact Report (EIR) Interim Measures Other / Explain: 	Is this a Regulatory Requirement? <u>X</u> Yes <u>No</u> If no, why is the document needed?
What is the consequence of NOT doing this item? What is the consequence of DOING this item? 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.	Other Justification/s: Permit Other / Explain:
Brief Summary of attached document: This report covers the Interim Measure No. 3 (IM-3) groundwater tro 2021 period, and the operation and maintenance activities during th groundwater monitoring results for wells OW 1S/M/D, OW 2S/M/D, will be submitted under separate cover as part of the Compliance M Written by: Pacific Gas and Electric Company	eatment system monitoring activities during the Second Quarter ne January 1, 2021 to June 30, 2021 semiannual period. The OW 5S/M/D, CW 1M/D, CW 2M/D, CW 3M/D, and CW 4M/D Ionitoring Program.
Recommendations: This report is for your information only.	
How is this information related to the Final Remedy or Regulatory F	Requirements?
The Topock IM-3 Second Quarter 2021 Monitoring, Semiannual Ja to the Interim Measure. PG&E is currently operating the IM-3 groun of the Interior (DOI) Waste Discharge ARARs as documented in Att the Colorado River Basin Regional Water Quality Control Board (Re Concurrence issued August 18, 2011 from DOI to the Regional Wa	nuary - June 2021 Operation and Maintenance Report is related idwater treatment system as authorized by the U.S. Department tachment A to the Letter Agreement issued July 26, 2011 from egional Water Board) to DOI, and the subsequent Letter of ter Board.
Other requirements of this information? None.	



PG&E Topock Compressor Station Needles, California

Combined Second Quarter 2021 Monitoring, Semiannual January – June 2021 Operation and Maintenance Report Interim Measure No. 3 Groundwater Treatment System

July 15, 2021

Prepared for

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

On behalf of Pacific Gas and Electric Company





Combined Second Quarter 2021 Monitoring, Semiannual January - June 2021 Operation and Maintenance Report Interim Measure No. 3 Groundwater Treatment System

PG&E Topock Compressor Station Needles, California

Prepared for

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July 15, 2021

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

Joula

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
IM	Interim Measure
IM-3	Interim Measure No. 3
IW	injection well
MRP	Monitoring and Reporting Program
PG&E	Pacific Gas and Electric Company
PST	Pacific Standard Time
RCRA	Resource Conservations and Recovery Act
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 Second Quarter 2021 and the operation and maintenance activities during the January 1, 2021 to June 30, 2021 semiannual 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-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

This report describes Second Quarter 2021 monitoring activities and the January 1, 2021 through June 30, 2021 (First and Second Quarters) operation and maintenance activities related to the IM-3 groundwater treatment system. IM-3 monitoring activities from January 1, 2021 through March 31, 2021 (First Quarter) were presented in the First Quarter 2021 Monitoring Report for IM-3 submitted to the DOI and Regional Water Board April 15, 2021.

This report, therefore, serves as the Semiannual January – June 2021 Operation and Maintenance Report for IM-3.

3.1 Groundwater Treatment System

The treatment system was initially operated between July 25 and July 28, 2005 for the Waste Discharge Requirements (WDR)-mandated startup phase. Discharge to the injection wells was initiated July 31, 2005 after successfully completing the startup phase in accordance with Order 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 the following:

- 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

Operation of the groundwater treatment system results in the following three effluent streams:

- 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, which occurs either when a sludge waste storage bin reaches capacity, or within 90 days of the start date for accumulation in the storage container, whichever occurs first

3.2 Groundwater Treatment System Flow Rates for Second Quarter 2021

Downtime is defined as any periods when all extraction wells are not operating so that no groundwater is being extracted and piped into IM-3 as influent. Periods of planned and unplanned extraction system downtime are summarized in the Semiannual Operations and Maintenance Log provided in Appendix A. The times shown are in Pacific Standard Time to be consistent with other data collected (e.g., water level data) at the site. Periods of planned and unplanned extraction system downtime during the months January 2021 through March 2021 were originally reported in the First Quarter 2021 Monitoring Report for IM-3 submitted to the DOI and Regional Water Board on April 15, 2021, and are also included in Appendix A of this report.

Data regarding daily volumes of groundwater treated and discharged are provided in Appendix B. The IM-3 groundwater treatment system flowmeter calibration records are included in Appendix C.

3.2.1 Treatment System Influent

During the Second Quarter 2021, extraction wells TW-3D and TW-2D operated with 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 Second Quarter 2021. The operational run time for the IM groundwater extraction system (combined or individual pumping), by month, was approximately:



- 87.1 percent during April 2021
- 86.9 percent during May 2021
- 93.2 percent during June 2021

The Second 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 flowmeters at groundwater extraction wells TW-2S, TW-2D, TW-3D, and PE-1 (Figure TP-PR-10-10-03). Other sources contributing to the influent, specifically groundwater remedy construction water and injection well backwash water will be considered as part of the total influent stream for percent flow difference calculations shown in Appendix B.

The IM-3 facility treated approximately 15,246,027 gallons of extracted groundwater during Second Quarter 2021.

Temporary piping to connect the Final Groundwater Remedy TW-01 aquifer testing well was installed, connecting to IM-3 at the MW-20 Bench. The test is designed to have approximately 90 gpm flow from TW-01, supplemented by approximately 28 gpm flow from TW-2D. The TW-01 aquifer testing began June 15, 2021 and is scheduled to continue for at least 3 months. From June 15, 2021, the start of the aquifer test, through the end of the Second Quarter 2012, IM-3 processed 2,011,620 gallons of water from TW-01 and 553,396 gallons from TW-2D. The total treated groundwater injection rate remained within the limits of the ARARs.

Also in addition to extracted groundwater, during Second Quarter 2021 the IM-3 facility treated 0 gallons of Final Groundwater Remedy wastewater, 2,000 gallons of water generated from the groundwater monitoring program, and 32,000 gallons of injection well development water.

3.2.2 Effluent Streams

The treatment system effluent flow rate was measured by flowmeters in the piping leading to injection wells IW-2 and IW-3 (Figure TP-PR-10-10-11) and in the piping running from the treated water tank T-700 to the injection wells (Figure TP-PR-10-10-04). The IM-3 facility injected 15,317,532 gallons of treatment system effluent during Second Quarter 2021. The monthly average flow rate to injection wells is shown in Table 2.

The RO concentrate flow rate was measured by a flowmeter 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 (provided in Appendix D). The monthly average RO concentrate flow rate measured by flowmeter is shown in Table 2. Due to Final Groundwater Remedy construction activities at the MW-20 Bench adjacent to the IM-3 RO concentrate storage tank, 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. The additional RO concentrate shipped from the process collection tank was transported to Liquid Environmental Solutions in Phoenix, Arizona for disposal. According to the non-hazardous waste manifests provided by Liquid Environmental Solutions, in Appendix D, approximately 41,400 gallons of RO concentrate was shipped off-site.

The sludge flow rate is measured by the size and weight of containers shipped offsite. Six sludge containers were shipped offsite from the IM-3 facility during Second Quarter 2021. The shipment dates and approximate weights are provided in Section 5.3.

3.3 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.

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. The Second Quarter 2021 sample collection schedule is shown in Table 3.

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 Measure 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.



4. Analytical Results

The analytical results and laboratory reports for the IM-3 groundwater treatment system monitoring program were previously reported for the First Quarter of 2020 in the First Quarter 2021 Monitoring Report submitted to the DOI and Regional Water Board on April 15, 2021.

Laboratory reports for samples collected in Second Quarter 2021 were prepared by certified analytical laboratories and are presented in Appendix E. The Second Quarter 2021 analytical results are presented in Tables 4, 5, 6, and 7:

- Influent analytical results are presented in Table 4.
- Effluent analytical results are presented in Table 5. There were no exceedances of effluent limitations during the reporting period.
- RO concentrate analytical results are presented in Table 6.
- Sludge analytical results are presented in Table 7.

The sludge is required to have an aquatic bioassay test annually. The most recent aquatic bioassay test was conducted on a Third Quarter 2019 sample. The next sludge aquatic bioassay test is scheduled for the Third Quarter 2021 sampling event.

Table 8 identifies the following information for each analysis:

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



5. Semiannual Operation and Maintenance

This section includes the Semiannual Operation and Maintenance Report for the IM-3 groundwater treatment system for the period January 1, 2021 through June 30, 2021.

All operation and maintenance records are maintained at the facility, including site inspection forms, process monitoring records, hazardous waste generator records (i.e., waste manifests), and self-monitoring reports. These records will be maintained onsite for a period of at least 5 years. Operational programmable logic controller data (flow rates, system alarms, process monitoring data, etc.) are maintained electronically via data historian software. Operation and maintenance records are also archived using maintenance software. The subsections below summarize the operation and maintenance activities during this semiannual reporting period.

5.1 Flowmeter Calibration Records

The IM-3 groundwater treatment system flowmeter calibration records are included in Appendix C. Flowmeter calibrations are performed in a timely manner consistent with the use, flow, material, and manufacturer recommendations. The following flowmeters are used at the facility to measure groundwater flow:

Location	Location ID Where Flowmeter is Installed	Current Flowmeter Serial No.	Date of Calibration	Date of Installation
Extraction well PE-1	FIT-103	6C037116000	9/17/2015	1/6/2016
Extraction well TW-3D	FIT-102	6C036F16000	2/7/2020	5/27/2020
Extraction well TW-2D	FIT-101	7700F216000	8/19/2020	6/12/2021
Extraction well TW-2S	FIT-100	6A021F16000	12/5/2018	8/22/2019
Injection well IW-03	FIT-1203	N6004E16000	6/13/2018	5/1/2019
Injection well IW-02	FIT-1202	6C037316000	2/7/2020	7/8/2020
Combined IW-02 and IW-03	FIT-700	L200E016000	5/28/2019	7/7/2020
Reverse osmosis concentrate	FIT-701	N6004F16000	6/13/2018	11/17/2018

Percent flow difference calculations are made monthly to assess the performance of the IM-3 system flowmeters and included in the footnotes for Table 2 and Appendix B. These calculations are done to determine whether the flowmeters may need re-calibration.

Due to changes in influent sources and the flow path for RO concentrate, the percent flow difference calculations will be changed in this report to include RO concentrate as discussed in Section 5.4 and to include the intermittent streams of groundwater remedy construction water and injection well backwash water (per Section 3.2.1). This change will be made for the months of January through June 2021 as reported in Appendix B. While groundwater monitoring purge water is generated regularly and treated at IM-3, the volume is less than 1,000 gallons per month and is not included in the calculation.

During the groundwater remedy construction, PG&E may decide to do additional monitoring of the flowmeters and the recorded data beyond that required for the quarterly reports, PG&E will also perform other investigation of the system and the flowmeters as appropriate.

5.2 Volumes of Groundwater Treated

Data regarding daily volumes of groundwater treated between January 1, 2021 through June 30, 2021 are provided in Appendix B.



Approximately 31,054,091 gallons of groundwater were extracted and treated between January 1, 2021 and June 30, 2021. Treatment of this water at the IM-3 facility is being performed in accordance with the conditions of ARARs.

Additionally, approximately 2,011,620 gallons pumped from TW-01 for the aquifer test, 0 gallons of Final Groundwater Remedy wastewater, 2,650 gallons of well purge water, and 32,000 gallons of injection well re-development water from Groundwater Partners was treated at the IM-3 facility during the January 1, 2021 through June 30, 2021 semiannual period.

A total of approximately 30,984,429 gallons of treated groundwater were injected back into the Alluvial Aquifer between January 1, 2021 and June 30, 2021.

5.3 Residual Solids Generated (Sludge)

During the January 1, 2021 through June 30, 2021 reporting period, 10 containers of sludge were shipped offsite for disposal. The sludge was shipped to U.S. Ecology in Beatty, Nevada for disposal. A listing of each shipment during the reporting period is provided below.

Date Sludge Bin Removed from Site	Approximate Quantity from Waste Manifests (cubic yards)	Type of Shipment
2/17/21	8	Non-RCRA hazardous waste
2/17/21	8	Non-RCRA hazardous waste
3/10/21	8	Non-RCRA hazardous waste
3/10/21	8	Non-RCRA hazardous waste
5/24/21	8	Non-RCRA hazardous waste
5/24/21	8	Non-RCRA hazardous waste
6/17/21	8	Non-RCRA hazardous waste
6/17/21	8	Non-RCRA hazardous waste
6/29/21	8	Non-RCRA hazardous waste
6/29/21	8	Non-RCRA hazardous waste

Note:

RCRA = Resource Conservation and Recovery Act

5.4 Reverse Osmosis Concentrate Generated

Data regarding daily volumes of RO concentrate generated are provided in Appendix B, as measured by flowmeter FIT-701 (Figures PR-10-03 and PR-10-04) or from Liquid Environmental Solutions non-hazardous waste manifests (provided in Appendix D).

As noted in Section 3, due to Final Groundwater Remedy construction activities at the MW-20 Bench adjacent to the IM-3 RO concentrate storage tank, 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. The additional RO concentrate shipped from the process collection tank was transported to Liquid Environmental Solutions in Phoenix, Arizona for disposal. According to the non-hazardous waste manifests provided by Liquid Environmental Solutions, in Appendix D, approximately 82,400 gallons of RO concentrate was shipped off-site from January 1, 2021 through June 30, 2021.



5.5 Summary of ARARs Compliance

No ARAR violations were identified during the January 1, 2021 through June 30, 2021 semiannual reporting period.

5.6 **Operation and Maintenance – Required Shutdowns**

Records of routine maintenance are kept onsite.

Appendix A contains a summary of the operation or maintenance issues that required the groundwater extraction system to be shut down during the January 1, 2021 through June 30, 2021 semiannual reporting period.

5.7 Treatment Facility Modifications

No modifications were made to the IM-3 treatment facility that resulted in a material change in the quality or quantity of wastewater treated or discharged, nor resulted in a material change in the location of discharge, during the January 1, 2021 through June 30, 2021 semiannual period. However, temporary piping to connect the Final Remedy TW-1 aquifer testing well was installed, connecting to IM-3 at the MW-20 Bench, as described in Section 3.2.1 of this Report.



6. 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, and no new releases of hazardous waste or hazardous waste constituents, or new solid waste management units, were identified during the reporting period.



7. 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: _	Pacific Gas and Electric Company
Title:	Topock Project Manager
Date:	July 15, 2021

Tables



Table 1. Sampling Station Descriptions

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

Sample Station	Sample ID ^a	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).

Notes:

= Sequential sample identification number at each sample station

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



Table 2. Flow Monitoring Results

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

Parameter	System Influent ^{a,b} (gpm)	System Effluent ^ь (gpm)	Reverse Osmosis Concentrate ^{b, c} (gpm)
April 2021 Average Monthly Flowrate	116.7	117.1	0.4
May 2021 Average Monthly Flowrate	114.9	115.9	0.2
June 2021 Average Monthly Flowrate	117.5 ^d	117.7	0.3

Notes:

gpm: gallons per minute

- ^a Extraction wells TW-01 (see note d), TW-2D and TW-3D were operated during the Second Quarter 2021. Extraction wells TW-2S and PE-1 did not operate during Second Quarter 2021.
- ^b 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 Second Quarter 2021 is approximately 0.53 percent.
- ^c 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.
- ^d TW-3D was turned off on June 15, 2021 with the start of the TW-01 aquifer test. Including the 2,011,620 gallons pumped from TW-01 for the aquifer test in the calculated monthly rate would change it from 70.9 gpm to 117.5 gpm.



Table 3. Sample Collection Dates

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

Parameter	Sample Collection Dates	Results
Influent	April 6, 2021	See Table 4
	May 4, 2021	
	June 1, 2021	
Effluent	April 6, 2021	See Table 5
	May 4, 2021	
	June 1, 2021	
Reverse Osmosis Concentrate	April 6, 2021	See Table 6
Sludgeª	April 6, 2021	See Table 7

Notes:

^a 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 aSecond Quarter 2021 Monitoring Report for Interim Measure No.3 Groundwater Treatment System

Anal Un Sampling Freque	ytes T[ts ^b mg IDL 50	DS g/L).0	Turbidity NTU 0.100	Specific Conductance µmhos/cm 0.100 Mo	Field ^c pH pH units nthly	Chromium µg/L 0.180	Hexavalent Chromium µg/L 1.30	Aluminium µg/L 40.0	Ammonia (as N) mg/L 0.0670	Antimony µg/L 0.160	Arsenic µg/L 0.0810	Barium µg/L 0.150	Boron mg/L 0.0740	Copper µg/L 0.550	Fluoride mg/L 0.0480 Qu	Lead μg/L 0.130 μarterly	Manganese µg/L 0.0260	Molybdenum µg/L 0.210	Ν Nickel μg/L 0.260	itrate/Nitrite (as N) mg/L 0.160	e Sulfate mg/L 2.00	lron μg/L 18.0	Zinc µg/L 2.30
Sample ID Date																							
SC-100B-WDR-614 4/6/20	21 45	00	0.270	7200	7.0	400	420	ND (50.0)	ND (0.200)	ND (0.500)	ND (0.100)	31.0	0.910	1.70 J	2.90	ND (1.00)	8.20	21.0	ND (1.00)	2.90	480	ND (20.0)	ND (10.0)
RL	50	0.0	0.100	0.100		5.00	10.0	50.0	0.200	0.500	0.100	1.00	0.100	1.00	0.500	1.00	0.500	0.500	1.00	0.250	25.0	20.0	10.0
SC-100B-WDR-615 5/4/20	21 44	00	0.230	7500	7.0	370	390										5.90					140 J	
RL	50	0.0	0.100	0.100		5.00	10.0										0.500					20.0	
SC-100B-WDR-616 6/1/20	21 44	00	0.250	7500	7.1	360	370										7.00					ND (20.0)	
RL	50	0.0	0.100	0.100		5.00	10.0										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

^a 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).

^b Units reported in this table are those units required in the ARARs.

^c 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

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

	Analytes Units ^C MDL ^d	TDS mg/L 50.0	Turbidity NTU 0.100	Specific Conductance µmhos/cm 0.100	Field ^e pH pH units	Chromium µg/L 0.0350	Hexavalent Chromium µg/L 0.0250	Aluminium µg/L 40.0	Ammonia (as N) mg/L 0.0670	Antimony μg/L 0.160	Arsenic µg/L 0.0500	Barium µg/L 0.0830	Boron mg/L 0.0740	Соррег µg/L 0.0460	Fluoride mg/L 0.0480	Lead µg/L 0.0180	Manganese µg/L 0.0260	Molybdenum µg/L 0.120	Nickel µg/L 0.0340	Nitrate/ (as mg. 0.07	Nitrite N) ′L ′40	Sulfate mg/L 2.00	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
Samp	ling Frequency											Monthly	,											
Sample ID	Date																							
SC-700B-WDR-6	14 4/6/2021	4400	0.170	7100	6.9	ND (1.00)	ND (0.200)	ND (50.0)	ND (0.200)	ND (0.500)	ND (0.100)	20.0	0.900	ND (1.00)	2.90 l	ND (1.00)	5.70	19.0	ND (1.00)	2.70	I	480 N	ID (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	0.25	0	25.0	20.0	10.0
SC-700B-WDR-6	15 5/4/2021	4400	0.350	7500	7.0	ND (1.00)	ND (0.200)	ND (50.0)	ND (0.200)	ND (0.500)	ND (0.100)	21.0	0.950	ND (1.00)	2.80 I	ND (1.00)	9.80	21.0 J	ND (1.00)	2.70	1	490	160	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	0.25	0	25.0	20.0	10.0
SC-700B-WDR-6	16 6/1/2021	4300	0.190	7300	7.3	ND (1.00)	ND (0.200)	ND (50.0)	ND (0.200)	ND (0.500)	0.310	17.0	1.00	5.80	2.40	ND (1.00)	34.0	21.0	2.60	2.30)	460 N	ID (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	0.10	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

^a 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).

^b 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.

^c Units reported in this table are those units required in the ARARs.

^d 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.

^e 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^a

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

Analytes Units ^b MDL	TDS mg/L 500	Specific Conductance µmhos/cm 0.100	Field ^c pH pH units	Chromium mg/L 0.00013	Hexavalen Chromium mg/L 0.00033	t Antimony mg/L 0.00016	Arsenic mg/L 0.000081	Barium mg/L 0.00015	Beryllium mg/L 0.000042	Cadmium mg/L 0.000053	Cobalt mg/L 0.000042	Copper mg/L 0.00055	Fluoride mg/L 0.190	Lead mg/L 0.00013	Molybdenum mg/L 0.00021	Mercury mg/L 0.00013	Nickel mg/L 0.00026	Selenium mg/L 0.00036	Silver mg/L 0.00023	Thallium mg/L 0.00019	Vanadium mg/L 0.00028	Zinc mg/L 0.0023
Sampling Frequency											Quarterly	/										
Sample ID Date																						
SC-701-WDR-614 4/6/2021	31000	43000	7.5	0.00380	0.00240	ND (0.00050)	0.00210	0.140	ND (0.00050)	ND (0.00050)	0.000560	0.00400	21.0	ND (0.001	0) 0.140	ND (0.00020)	0.00910	0.0330	ND (0.0005	0)ND (0.000	50) 0.00420	ND (0.0100)
RL	500	0.100		0.0010	0.0020	0.00050	0.00010	0.0010	0.00050	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

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

^b Units reported in this table are those units required in the ARARs.

^c 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^a

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

Analytes Units ^b	Chromium mg/kg	Hexavalent Chromium mg/kg	Antimony mg/kg	Arsenic mg/kg	Barium mg/kg	Beryllium mg/kg	Cadmium mg/kg	Cobalt mg/kg	Copper mg/kg	Fluoride mg/kg	Lead mg/kg	Molybdenum mg/kg	Mercury mg/kg	Nickel mg/kg	Selenium mg/kg	Silver mg/kg	Thallium mg/kg	Vanadium mg/kg	Zinc mg/kg
MDL	3100	51.0	20.0	22.0	92.0	ND (2.40)	ND (2.40)	5.60	68.0	23.0	ND (2.40)	5.90	ND (0.240)	17.0	ND (2.40)J	ND (2.40)	5.40	71.0	40.0
Sampling Frequency									Q	uarterly									
Sample ID Date																			
Phase Separator-614-Sludge 4/6/2021	3100	51.0	20.0	22.0	92.0	ND (2.40)	ND (2.40)	5.60	68.0	23.0	ND (2.40)	5.90	ND (0.240)	17.0	ND (2.40)J	ND (2.40)	5.40	71.0	40.0
RL	2.40	2.40	4.80	0.590	2.40	2.40	2.40	2.40	4.80	2.40	2.40	2.40	0.240	2.40	2.40	2.40	4.80	2.40	2.40

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

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

^b Units reported in this table are those units required in the ARARs.

^c 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-614	Cameron Stone	4/6/2021	1:50:00 PM	ASSET	EPA 120.1	SC	4/12/2021	Lilia Ramit
					ASSET	EPA 200.7	AL	4/17/2021	Diane Jetajobe
					ASSET	EPA 200.7	В	4/17/2021	Diane Jetajobe
					ASSET	EPA 200.7	FE	4/17/2021	Diane Jetajobe
					ASSET	EPA 200.8	AS	4/15/2021	Claire Ignacio
					ASSET	EPA 200.8	BA	4/8/2021	Claire Ignacio
					ASSET	EPA 200.8	CR	4/8/2021	Claire Ignacio
					ASSET	EPA 200.8	CU	4/8/2021	Claire Ignacio
					ASSET	EPA 200.8	MN	4/8/2021	Claire Ignacio
					ASSET	EPA 200.8	MO	4/8/2021	Claire Ignacio
					ASSET	EPA 200.8	NI	4/8/2021	Claire Ignacio
					ASSET	EPA 200.8	PB	4/8/2021	Claire Ignacio
					ASSET	EPA 200.8	SB	4/8/2021	Claire Ignacio
					ASSET	EPA 200.8	ZN	4/8/2021	Claire Ignacio
					ASSET	EPA 218.6	CR6	4/7/2021	Ria Abes
					ASSET	EPA 300.0	FL	4/7/2021	Ria Abes
					ASSET	EPA 300.0	SO4	4/7/2021	Ria Abes
					Field	HACH	PH	4/6/2021	Cameron Stone
					ASSET	SM 2540C	TDS	4/7/2021	Lilia Ramit
					ASSET	SM 4500-NO3F	NO3NO2N	4/14/2021	Julia Bundalian
					ASSET	SM2130B	TRB	4/7/2021	Lilia Ramit
					ASSET	SM4500-HB	PH	4/6/2021	Lilia Ramit
					BCLabs	SM4500NH3G	NH3N	4/16/2021	Marion Cartin
SC-100B	SC-100B-WDR-615	Cameron Stone	5/4/2021	12:50:00 PM	ASSET	EPA 120.1	SC	5/11/2021	Lilia Ramit
					ASSET	EPA 200.7	FE	5/7/2021	Diane Jetajobe
					ASSET	EPA 200.8	CR	5/7/2021	Claire Ignacio
					ASSET	EPA 200.8	MN	5/12/2021	Claire Ignacio
					ASSET	EPA 218.6	CR6	5/6/2021	Ria Abes
					Field	HACH	PH	5/4/2021	Cameron Stone
					ASSET	SM 2540C	TDS	5/5/2021	Lilia Ramit
					ASSET	SM2130B	TRB	5/5/2021	Lilia Ramit
					ASSET	SM4500-HB	PH	5/5/2021	Lilia Ramit
SC-100B	SC-100B-WDR-616	Cameron Stone	6/1/2021	12:15:00 PM	ASSET	EPA 120.1	SC	6/8/2021	Lilia Ramit
					ASSET	EPA 200.7	FE	6/14/2021	Diane Jetajobe
					ASSET	EPA 200.8	CR	6/16/2021	Claire Ignacio
					ASSET	EPA 200.8	MN	6/16/2021	Claire Ignacio
					ASSET	EPA 218.6	CR6	6/2/2021	Ria Abes
					Field	HACH	PH	6/1/2021	Cameron Stone

Location	Sample ID	Sampler Name	Sample Date	Sample Time	Lab	Analysis Method	Parameter	Analysis Date	Lab Technician
SC-100B	SC-100B-WDR-616	Cameron Stone	6/1/2021	12:15:00 PM	ASSET	SM 2540C	TDS	6/3/2021	Lilia Ramit
					ASSET	SM2130B	TRB	6/2/2021	Lilia Ramit
SC-700B	SC-700B-WDR-614	Cameron Stone	4/6/2021	1:55:00 PM	ASSET	EPA 120.1	SC	4/12/2021	Lilia Ramit
					ASSET	EPA 200.7	AL	4/17/2021	Diane Jetajobe
					ASSET	EPA 200.7	В	4/17/2021	Diane Jetajobe
					ASSET	EPA 200.7	FE	4/17/2021	Diane Jetajobe
					ASSET	EPA 200.8	AS	4/15/2021	Claire Ignacio
					ASSET	EPA 200.8	BA	4/8/2021	Claire Ignacio
					ASSET	EPA 200.8	CR	4/8/2021	Claire Ignacio
					ASSET	EPA 200.8	CU	4/8/2021	Claire Ignacio
					ASSET	EPA 200.8	MN	4/8/2021	Claire Ignacio
					ASSET	EPA 200.8	MO	4/8/2021	Claire Ignacio
					ASSET	EPA 200.8	NI	4/8/2021	Claire Ignacio
					ASSET	EPA 200.8	PB	4/8/2021	Claire Ignacio
					ASSET	EPA 200.8	SB	4/8/2021	Claire Ignacio
					ASSET	EPA 200.8	ZN	4/8/2021	Claire Ignacio
					ASSET	EPA 218.6	CR6	4/7/2021	Ria Abes
					ASSET	EPA 300.0	FL	4/7/2021	Ria Abes
					ASSET	EPA 300.0	SO4	4/7/2021	Ria Abes
					Field	HACH	PH	4/6/2021	Cameron Stone
					ASSET	SM 2540C	TDS	4/7/2021	Lilia Ramit
					ASSET	SM 4500-NO3F	NO3NO2N	4/14/2021	Julia Bundalian
					ASSET	SM2130B	TRB	4/7/2021	Lilia Ramit
					ASSET	SM4500-HB	PH	4/6/2021	Lilia Ramit
					BCLabs	SM4500NH3G	NH3N	4/16/2021	Marion Cartin
SC-700B	SC-700B-WDR-615	Cameron Stone	5/4/2021	1:00:00 PM	ASSET	EPA 120.1	SC	5/11/2021	Lilia Ramit
					ASSET	EPA 200.7	AL	5/7/2021	Diane Jetajobe
					ASSET	EPA 200.7	В	5/10/2021	Diane Jetajobe
					ASSET	EPA 200.7	FE	5/7/2021	Diane Jetajobe
					ASSET	EPA 200.8	AS	5/7/2021	Claire Ignacio
					ASSET	EPA 200.8	BA	5/7/2021	Claire Ignacio
					ASSET	EPA 200.8	CR	5/7/2021	Claire Ignacio
					ASSET	EPA 200.8	CU	5/12/2021	Claire Ignacio
					ASSET	EPA 200.8	MN	5/12/2021	Claire Ignacio
					ASSET	EPA 200.8	MO	5/7/2021	Claire Ignacio
					ASSET	EPA 200.8	NI	5/7/2021	Claire Ignacio
					ASSET	EPA 200.8	PB	5/7/2021	Claire Ignacio
					ASSET	EPA 200.8	SB	5/7/2021	Claire Ignacio

Location	Sample ID	Sampler Name	Sample Date	Sample Time	Lab	Analysis Method	Parameter	Analysis Date	Lab Technician
SC-700B	SC-700B-WDR-615	Cameron Stone	5/4/2021	1:00:00 PM	ASSET	EPA 200.8	ZN	5/12/2021	Claire Ignacio
					ASSET	EPA 218.6	CR6	5/6/2021	Ria Abes
					ASSET	EPA 300.0	FL	5/8/2021	Ria Abes
					ASSET	EPA 300.0	SO4	5/8/2021	Ria Abes
					Field	HACH	PH	5/4/2021	Cameron Stone
					ASSET	SM 2540C	TDS	5/5/2021	Lilia Ramit
					ASSET	SM 4500-NO3F	NO3NO2N	5/12/2021	Julia Bundalian
					ASSET	SM2130B	TRB	5/5/2021	Lilia Ramit
					ASSET	SM4500-HB	PH	5/5/2021	Lilia Ramit
					BCLabs	SM4500NH3G	NH3N	5/24/2021	Marion Cartin
SC-700B	SC-700B-WDR-616	Cameron Stone	6/1/2021	12:20:00 PM	ASSET	EPA 120.1	SC	6/8/2021	Lilia Ramit
					ASSET	EPA 200.7	AL	6/14/2021	Diane Jetajobe
					ASSET	EPA 200.7	В	6/14/2021	Diane Jetajobe
					ASSET	EPA 200.7	FE	6/14/2021	Diane Jetajobe
					ASSET	EPA 200.8	AS	6/24/2021	Claire Ignacio
					ASSET	EPA 200.8	BA	6/16/2021	Claire Ignacio
					ASSET	EPA 200.8	CR	6/16/2021	Claire Ignacio
					ASSET	EPA 200.8	CU	6/24/2021	Claire Ignacio
					ASSET	EPA 200.8	MN	6/16/2021	Claire Ignacio
					ASSET	EPA 200.8	MO	6/16/2021	Claire Ignacio
					ASSET	EPA 200.8	NI	6/24/2021	Claire Ignacio
					ASSET	EPA 200.8	PB	6/16/2021	Claire Ignacio
					ASSET	EPA 200.8	SB	6/16/2021	Claire Ignacio
					ASSET	EPA 200.8	ZN	6/16/2021	Claire Ignacio
					ASSET	EPA 218.6	CR6	6/2/2021	Ria Abes
					ASSET	EPA 300.0	FL	6/2/2021	Ria Abes
					ASSET	EPA 300.0	SO4	6/2/2021	Ria Abes
					Field	HACH	PH	6/1/2021	Cameron Stone
					ASSET	SM 2540C	TDS	6/3/2021	Lilia Ramit
					ASSET	SM 4500-NO3F	NO3NO2N	6/8/2021	Julia Bundalian
					ASSET	SM2130B	TRB	6/2/2021	Lilia Ramit
					BCLabs	SM4500NH3G	NH3N	6/9/2021	Marion Cartin
SC-701	SC-701-WDR-614	Cameron Stone	4/6/2021	1:40:00 PM	ASSET	EPA 120.1	SC	4/12/2021	Lilia Ramit
					ASSET	EPA 200.8	AG	4/8/2021	Claire Ignacio
					ASSET	EPA 200.8	AS	4/15/2021	Claire Ignacio
					ASSET	EPA 200.8	BA	4/8/2021	Claire Ignacio
					ASSET	EPA 200.8	BE	4/15/2021	Claire Ignacio
					ASSET	EPA 200.8	CD	4/8/2021	Claire Ignacio

Location	Sample ID	Sampler Name	Sample Date	Sample Time	Lab	Analysis Method	Parameter	Analysis Date	Lab Technician
SC-701	SC-701-WDR-614	Cameron Stone	4/6/2021	1:40:00 PM	ASSET	EPA 200.8	CO	4/8/2021	Claire Ignacio
					ASSET	EPA 200.8	CR	4/8/2021	Claire Ignacio
					ASSET	EPA 200.8	CU	4/8/2021	Claire Ignacio
					ASSET	EPA 200.8	MN	4/8/2021	Claire Ignacio
					ASSET	EPA 200.8	MO	4/8/2021	Claire Ignacio
					ASSET	EPA 200.8	NI	4/8/2021	Claire Ignacio
					ASSET	EPA 200.8	PB	4/8/2021	Claire Ignacio
					ASSET	EPA 200.8	SB	4/8/2021	Claire Ignacio
					ASSET	EPA 200.8	SE	4/15/2021	Claire Ignacio
					ASSET	EPA 200.8	TL	4/8/2021	Claire Ignacio
					ASSET	EPA 200.8	V	4/8/2021	Claire Ignacio
					ASSET	EPA 200.8	ZN	4/8/2021	Claire Ignacio
					ASSET	EPA 218.6	CR6	4/9/2021	Ria Abes
					ASSET	EPA 245.1	HG	4/9/2021	Diane Jetajobe
					ASSET	EPA 300.0	FL	4/7/2021	Ria Abes
					Field	HACH	PH	4/6/2021	Cameron Stone
					ASSET	SM 2540C	TDS	4/7/2021	Lilia Ramit
					ASSET	SM4500-HB	PH	4/6/2021	Lilia Ramit
Phase Separator	Phase Separator-614-Slud	geCameron Stone	4/6/2021	1:45:00 PM	ASSET	EPA 300.0	FL	4/12/2021	Ria Abes
					ASSET	EPA 6010B	AG	4/7/2021	Diane Jetajobe
					ASSET	EPA 6010B	BA	4/7/2021	Diane Jetajobe
					ASSET	EPA 6010B	BE	4/7/2021	Diane Jetajobe
					ASSET	EPA 6010B	CD	4/7/2021	Diane Jetajobe
					ASSET	EPA 6010B	CO	4/7/2021	Diane Jetajobe
					ASSET	EPA 6010B	CR	4/7/2021	Diane Jetajobe
					ASSET	EPA 6010B	CU	4/7/2021	Diane Jetajobe
					ASSET	EPA 6010B	MN	4/7/2021	Diane Jetajobe
					ASSET	EPA 6010B	MO	4/7/2021	Diane Jetajobe
					ASSET	EPA 6010B	NI	4/7/2021	Diane Jetajobe
					ASSET	EPA 6010B	PB	4/7/2021	Diane Jetajobe
					ASSET	EPA 6010B	SB	4/7/2021	Diane Jetajobe
					ASSET	EPA 6010B	SE	4/7/2021	Diane Jetajobe
					ASSET	EPA 6010B	TL	4/7/2021	Diane Jetajobe
					ASSET	EPA 6010B	V	4/7/2021	Diane Jetajobe
					ASSET	EPA 6010B	ZN	4/7/2021	Diane Jetajobe
					ASSET	EPA 7471A	HG	4/7/2021	Diane Jetajobe
					ASSET	SW 6020A	AS	4/9/2021	Claire Ignacio
					ASSET	SW 7199	CR6	4/10/2021	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 =	molybdenum
ALKC =	alkalinity, carb as CaCO3	MOIST =	moisture
AL =	aluminum	NH3N =	ammonia (as N)
Ag =	silver	NI =	nickel
AS =	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 Semiannual Operations and Maintenance Log, January 1, 2021 through June 30, 2021



Appendix A. Semiannual Operations and Maintenance Log, January 1, 2021 through June 30, 2021

Downtime is defined as any period when all extraction wells are not operating, so that no groundwater is being extracted and piped into IM-3 as influent. Periods of planned and unplanned extraction system downtime are summarized here. The times shown are in Pacific Standard Time (PST) to be consistent with other data (e.g., water level data) collected at the site.

January 2021

During January 2021, extraction well TW-3D operated at a target pump rate of 135 gpm excluding periods of planned and unplanned downtime. Extraction wells TW-2S, TW-2D, and PE-01 were not operated during January 2021. A portion of the piping/conduit for PE-01 at the MW-20 Bench was disconnected from the IM-3 system on January 18, 2019 to allow for remedy construction activities without crossing under the PE-01 piping/conduit. The operational run time for the IM-3 groundwater extraction system (combined or individual pumping) was 89.1 percent during the January 2021 reporting period.

The IM-3 facility treated approximately 5,222,128 gallons of extracted groundwater during January 2021. The IM-3 facility also treated zero gallons of Final Groundwater Remedy wastewater, zero gallons of sampling purge water and zero gallons of groundwater from injection well backwashing/re-development during January 2021. No containers of solids from the IM-3 facility were transported offsite during January 2021.

Periods of planned and unplanned extraction system down time (that together resulted in approximately 10.9 percent downtime during January 2021) are summarized below.

- January 1, 2021 (unplanned): The extraction well system was offline from 9:08 a.m. to 11:16 a.m. due to replacing microfilter modules. Extraction system downtime was 2 hours 8 minutes.
- January 2-7, 2021 (unplanned): The extraction well system was offline from 9:10 a.m. to 9:58 a.m. on January 2; from 7:52 a.m. to 9:04 a.m. on January 3; from 3:24 p.m. to 4:20 p.m. on January 4; from 8:00 p.m. to 8:52 p.m. on January 5; and from 1:32 a.m. to 2:26 a.m. on January 7, 2021 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 4 hours 42 minutes.
- January 7, 2021 (unplanned): The extraction well system was offline from 4:46 p.m. to 6:40 p.m. due to replacing microfilter modules with clean modules and cleaning-in-place dirty modules. Extraction system downtime was 1 hour 54 minutes.
- January 7, 2021 (unplanned): The extraction well system was offline from 10:18 p.m. to 11:50 p.m. due to TW-3D failing due to an electrical power imbalance. Extraction system downtime was 1 hour 32 minutes.
- January 8-11, 2021 (unplanned): The extraction well system was offline from 2:50 p.m. to 5:16 p.m. on January 8; from 10:48 a.m. to 11:46 a.m. on January 9; from 10:42 p.m. on January 9 to 12:10 a.m. on January 10; from 10:42 a.m. to 11:42 a.m. on January 10; from 7:48 p.m. to 9:38 p.m. on January 10; and from 8:38 a.m. to 12:08 p.m. on January 11 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 11 hours 12 minutes.
- January 11, 2021 (unplanned): The extraction well system was offline from 12:20 p.m. to 1:16 p.m. to allow for cleaning of the piping between the Chemical Loop Reactor to Chrome Reduction Reactor. Extraction system downtime was 56 minutes.



- January 11-13, 2021 (unplanned): The extraction well system was offline from 8:56 p.m. to 10:04 p.m. on January 11; from 9:06 a.m. to 10:34 a.m. on January 12; from 10:28 p.m. to 11:44 p.m. on January 12; and from 9:12 a.m. to 9:58 a.m. on January 13, 2021 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 4 hours 38 minutes.
- January 13, 2021 (unplanned): The extraction well system was offline from 6:18 p.m. to 8:12 p.m. due to TW-3D failing due to an electrical power imbalance. Extraction system downtime was 1 hour 54 minutes.
- January 14, 2021 (unplanned): The extraction well system was offline from 12:04 a.m. to 1:54 a.m. due to a high-water level in T-100. The operator shut down extraction so the tank could drain below the high-level alarm setpoint. Extraction system downtime was 1 hour 50 minutes.
- January 14, 2021 (unplanned): The extraction well system was offline from 5:02 a.m. to 7:14 p.m. due to a high-water level in T-100 and due to cleaning the piping of the 301 tanks. Operators had to dismantle all the piping between Chromium Reduction Reactor Tank 300 (T-300), Iron Oxidation Reactor Tank #1 (T-301A), and Iron Oxidation Reactor Tank #2 (T-301C) to remove the buildup of mineral scale inside the piping. Extraction system downtime was 14 hours 12 minutes.
- January 15-17, 2021 (unplanned): The extraction well system was offline from 2:58 a.m. to 3:52 a.m. on January 15; from 10:54 p.m. to 11:56 p.m. on January 15; and from 7:02 a.m. to 8:24 a.m. on January 17, 2021 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 3 hours 18 minutes.
- January 18, 2021 (unplanned): The extraction well system was offline from 1:42 p.m. to 2:32 p.m. due to TW-3D failing due to an electrical power imbalance. Extraction system downtime was 50 minutes.
- January 18, 2021 (unplanned): The extraction well system was offline from 2:42 p.m. to 4:58 p.m. to troubleshoot Flow Valve (FV-100). FV-100 was not responding to the control system "open" command. Operators were eventually able to open the valve manually. Extraction system downtime was 2 hours 16 minutes.
- January 20, 2021 (unplanned): The extraction well system was offline from 1:34 a.m. to 2:46 a.m. due to a high-water level in T-100. The operator shut down extraction so the tank could drain below the high-level alarm setpoint. Extraction system downtime was 1 hour 12 minutes.
- January 20, 2021 (unplanned): The extraction well system was offline from 10:22 a.m. to 2:34 p.m. due to having a contractor onsite to clean off the mineral scale buildup inside of T-301C. Extraction system downtime was 4 hours 12 minutes.
- January 21, 2021 (unplanned): The extraction well system was offline from 8:54 a.m. to 10:38 a.m. due to replacing microfilter modules. Extraction system downtime was 1 hour 44 minutes.
- January 21, 2021 (unplanned): The extraction well system was offline from 6:38 p.m. to 8:52 p.m. due to a high-water level in T-100 and T-301C. The operator shut down extraction so the tanks could drain below the high-level alarm setpoint. Extraction system downtime was 2 hours 14 minutes.
- January 22, 2021 (unplanned): The extraction well system was offline from 7:56 a.m. to 9:42 a.m. due to replacing Clarifier Feed Pump (P-400) and cleaning off mineral scale buildup on the static mixer in the piping between P-400 and the clarifier. Extraction system downtime was 1 hour 46 minutes.
- January 23-27, 2021 (unplanned): The extraction well system was offline from 12:26 a.m. to 1:34 a.m. on January 23; from 5:08 p.m. to 6:30 p.m. on January 23; from 8:16 a.m. to 9:30 a.m. on January 24; from 1:08 a.m. to 2:52 a.m. on January 25; from 5:10 p.m. to 6:30 p.m. on January 25; from 2:12 p.m. to 3:22 p.m. on January 26; and from 11:00 a.m. to 12:46 p.m. on January 27, 2021



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 9 hours 44 minutes.

- January 28, 2021 (unplanned): The extraction well system was offline from 9:38 a.m. to 4:22 p.m. to inspect the P-400 discharge piping and change the microfilter modules. The piping between P-400 and the clarifier had become plugged with mineral scale causing restricted flow. Once the extent of the blockage was determined, the decision was made to install temporary piping (permanent piping was installed in February 2021). Extraction system downtime was 6 hours 44 minutes.
- January 28, 2021 (unplanned): The extraction well system was offline from 4:40 p.m. to 5:32 p.m. due to a high water level in Pretreated Water Tank (T-500) from an airlock in the microfilter modules. Extraction system downtime was 52 minutes.
- January 30, 2021 (unplanned): The extraction well system was offline from 3:30 a.m. to 4:38 a.m. due to mineral scaling in the piping between the clarifier and T-500 which caused a high-water level in T-100. The operator shut down extraction so the tank could drain below the high-level alarm setpoint. Extraction system downtime was 1 hour 8 minutes.
- January 31, 2021 (unplanned): The extraction well system was offline from 2:24 p.m. to 2:36 p.m. due to a plugged microfilter strainer. The strainer was replaced with a clean unit and the plant put back into operation. Extraction system downtime was 12 minutes.

February 2021

During February 2021, extraction well TW-3D operated at a target pump rate of 135 gpm excluding periods of planned and unplanned downtime. Extraction wells TW-2S, TW-2D, and PE-01 were not operated during February 2021. The operational run time for the IM-3 groundwater extraction system (combined or individual pumping) was 91.4 percent during the February 2021 reporting period.

The IM-3 facility treated approximately 4,857,852 gallons of extracted groundwater during February 2021. The IM-3 facility also treated zero gallons of Final Groundwater Remedy wastewater, 650 gallons of sampling purge water, and zero gallons of groundwater from injection well backwashing/re-development during February 2021. Two containers of solids from the IM-3 facility were transported offsite during February 2021.

Periods of planned and unplanned extraction system down time (that together resulted in approximately 8.6 percent downtime during February 2021) are summarized below.

- February 1, 2021 (planned): The extraction well system was offline from 11:44 a.m. to 12:26 p.m. due to testing of the pipeline critical alarms and leak detection system. Extraction system downtime was 42 minutes.
- **February 2, 2021 (unplanned):** The extraction well system was offline from 2:42 a.m. to 4:16 a.m. due to high-water levels in 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 34 minutes.
- **February 2, 2021 (unplanned):** The extraction well system was offline from 5:48 a.m. to 10:26 a.m. due to replacing microfilter modules. Extraction system downtime was 4 hours 38 minutes.
- February 2, 2021 (unplanned): The extraction well system was offline from 11:34 a.m. to 1:22 p.m. due to higher turbidity. After just changing the microfilter modules (previous downtime), clarifier effluent turbidity was too high to feed through the microfilter. The contents of the Pre-Treated Water Tank (T-500) were sent back to T-100 until the turbidity was low enough to pass through the microfilter. Extraction system downtime was 1 hour 48 minutes.
- February 3, 2021 (unplanned): The extraction well system was offline from 2:54 a.m. to 3:58 a.m.; and from 4:00 a.m. to 4:28 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 1 hour 32 minutes.

- February 3, 2021 (planned): The extraction well system was offline from 7:24 a.m. to 4:46 p.m. due to plant maintenance. The operator shut down extraction to drain the T-100 tank and then the temporary piping from Clarifier Feed Pump (P-400) to the clarifier was replaced with permanent piping. Extraction system downtime was 9 hours 22 minutes.
- **February 4, 2021 (unplanned):** The extraction well system was offline from 2:38 a.m. to 3:44 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 1 hour 6 minutes.
- **February 5, 2021 (unplanned):** The extraction well system was offline from 10:20 a.m. to 11:52 a.m. due to replacing microfilter modules. Extraction system downtime was 1 hour 32 minutes.
- February 6, 2021 (unplanned): The extraction well system was offline from 9:46 a.m. to 9:56 a.m. to allow the motor control center (MCC) control wire connection points to be tightened in an attempt to find the root cause for the TW-3D electrical trips. Extraction system downtime was 10 minutes.
- **February 8, 2021 (unplanned):** The extraction well system was offline from 11:50 a.m. to 12:38 p.m. due to cleaning out the microfilter basket strainer. Extraction system downtime was 48 minutes.
- February 8, 2021 (unplanned): The extraction well system was offline from 1:42 p.m. to 3:04 p.m.; and from 10:08 p.m. to 10:50 p.m. due to TW-3D tripping its circuit breaker without an alarm sounding. The circuit breaker was reset as soon as the fault was discovered. Extraction system downtime was 2 hours 4 minutes.
- **February 9, 2021 (unplanned):** The extraction well system was offline from 4:34 a.m. to 6:36 a.m. due to replacing microfilter modules. Extraction system downtime was 2 hours 2 minutes.
- **February 10, 2021 (unplanned):** The extraction well system was offline from 1:12 p.m. to 1:38 p.m. due to TW-3D tripping its circuit breaker without an alarm sounding. The circuit breaker was reset as soon as the fault was discovered. Extraction system downtime was 26 minutes.
- February 10, 2021 (unplanned): The extraction well system was offline from 3:42 p.m. to 7:04 p.m. due to cleaning the clogged air lines for the microfilter scrub air hoses. Extraction system downtime was 3 hours 22 minutes.
- February 11, 2021 (unplanned): The extraction well system was offline from 12:28 p.m. to 1:42 p.m. due to replacing the air valve on the microfilter air flow filtration module. Extraction system downtime was 1 hour 14 minutes.
- **February 11, 2021 (unplanned):** The extraction well system was offline from 7:38 p.m. to 9:08 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 1 hour 30 minutes.
- February 12-13, 2021 (unplanned): The extraction well system was offline from 4:22 a.m. to 5:30 a.m. on February 12, 2021; and from 2:02 a.m. to 3:24 a.m. on February 13, 2021 due to a high-water level in the process drain tank (T-900). T-900 had a buildup of solid material that was inhibiting the performance of the pump (P-900). Extraction was halted to unplug P-900. Extraction system downtime was 2 hours 30 minutes.
- **February 13, 2021 (unplanned):** The extraction well system was offline from 2:06 p.m. to 7:20 p.m. to change pressure transmitters in the microfilter. Extraction system downtime was 5 hours 14 minutes.
- **February 17, 2021 (unplanned):** The extraction well system was offline from 5:04 a.m. to 6:26 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 1 hour 22 minutes.

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- February 17, 2021 (planned): The extraction well system was offline from 9:20 a.m. to 6:54 p.m. to allow a tank cleaning services vendor to clean out tank T-900. Extraction system downtime was 9 hours 34 minutes.
- February 23-25, 2021 (unplanned): The extraction well system was offline from 3:18 a.m. to 3:40 a.m. on February 23, 2021; from 4:46 a.m. to 5:06 a.m. on February 23, 2021; and from 11:24 p.m. to 11:34 p.m. on February 25, 2021 due to TW-3D tripping its circuit breaker without an alarm sounding. The circuit breaker was reset as soon as the fault was discovered. Extraction system downtime was 52 minutes.
- **February 26, 2021 (unplanned):** The extraction well system was offline from 8:30 a.m. to 8:32 a.m. and from 8:36 a.m. to 8:38 a.m. due to the operator switching TW-3D motor control from "auto" to "manual" while troubleshooting the random shutdown. Extraction system downtime was 4 minutes.
- February 26, 2021 (unplanned): The extraction well system was offline from 10:30 a.m. to 11:44 a.m. to change the Reverse Filtration Pump (P-502). The pump seal failed so the pump was replaced. Extraction system downtime was 1 hour 14 minutes.
- February 27, 2021 (unplanned): The extraction well system was offline from 5:30 a.m. to 7:46 a.m. due to replacing the Pretreated Water Transfer Pump (P-500) which failed. Extraction system downtime was 2 hours 16 minutes.
- **February 27, 2021 (unplanned):** The extraction well system was offline from 11:58 a.m. to 12:44 p.m. due to replacing microfilter modules. Extraction system downtime was 46 minutes.

March 2021

During March 2021, extraction well TW-3D operated at a target pump rate of 135 gpm excluding periods of planned and unplanned downtime. Extraction wells TW-2S, TW-2D, and PE-01 were not operated during March 2021. The operational run time for the IM-3 groundwater extraction system (combined or individual pumping) was 95.8 percent during the March 2021 reporting period.

The IM-3 facility treated approximately 5,728,083 gallons of extracted groundwater during March 2021. The IM-3 facility also treated zero gallons of Final Groundwater Remedy wastewater, zero gallons of sampling purge water, and zero gallons of groundwater from injection well backwashing/re-development during March 2021. Two containers of solids from the IM-3 facility were transported offsite during March 2021.

Periods of planned and unplanned extraction system down time (that together resulted in approximately 4.2 percent downtime during March 2021) are summarized below.

- March 1, 2021 (unplanned): The extraction well system was offline from 11:06 a.m. to 1:00 p.m. due to replacing microfilter modules. Extraction system downtime was 1 hour 54 minutes.
- March 4, 2021 (unplanned): The extraction well system was offline from 6:48 p.m. to 11:18 p.m.to figure out the microfilter system. The piping between P-501 (the microfilter feed pump) and the filtration modules had become so fouled by mineral scale that P-501 could no longer force enough water through the pipes to keep up with plant flow. The piping was removed and temporary piping installed. Extraction system downtime was 4 hours 30 minutes.
- March 9, 2021 (unplanned): The extraction well system was offline from 2:48 a.m. to 3:56 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 1 hour 8 minutes.
- March 9, 2021 (unplanned): The extraction well system was offline from 7:48 p.m. to 9:42 p.m. due to replacing microfilter modules. Extraction system downtime was 1 hour 54 minutes.



- March 10, 2021 (unplanned): The extraction well system was offline from 9:00 a.m. to 9:52 a.m. due to the microfilter shutting down. Particles of mineral scale were plugging the microfilter basket strainer. The source of the particles was from the Pre-treated Water Tank (T-500). Extraction system downtime was 52 minutes.
- March 10, 2021 (unplanned): The extraction well system was offline from 11:26 a.m. to 5:06 p.m. due to the microfilter shutting down (previous downtime). Tank (T-500) was cleaned out to remove scale that was clogging the microfilter. Extraction system downtime was 5 hours 40 minutes.
- March 17, 2021 (planned): The extraction well system was offline from 11:46 a.m. to 12:16 p.m. due to testing of the pipeline critical alarms and leak detection system. Extraction system downtime was 30 minutes.
- March 19, 2021 (unplanned): The extraction well system was offline from 8:02 p.m. to 8:10 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 8 minutes.
- March 21, 2021 (unplanned): The extraction well system was offline from 2:02 p.m. to 3:12 p.m. because the microfilter basket strainer failed. A completely new strainer assembly was installed. Extraction system downtime was 1 hour 10 minutes.
- March 24, 2021 (unplanned): The extraction well system was offline from 3:24 a.m. to 3:32 a.m. due to cleaning out the microfilter basket strainer. Extraction system downtime was 8 minutes.
- March 28, 2021 (unplanned): The extraction well system was offline from 2:36 p.m. to 4:46 p.m. due to replacing microfilter modules. Extraction system downtime was 2 hours 10 minutes.
- March 28, 2021 (unplanned): The extraction well system was offline from 6:00 p.m. to 6:32 p.m. due to the microfilter leaking. After changing the filter modules, leaks were discovered at the module end caps. New O-rings were installed to stop the leaks. Extraction system downtime was 32 minutes.
- March 29, 2020 (unplanned): The extraction well system was offline from 8:32 p.m. to 8:42 p.m. due to a City of Needles power outage. Extraction system downtime was 10 minutes.
- March 30, 2021 (unplanned): The extraction well system was offline from 2:00 a.m. to 2:34 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 34 minutes.
- March 31, 2021 (planned): The extraction well system was offline from 6:34 a.m. to 4:40 p.m. for scheduled plant maintenance (part of the semiannual maintenance). Extraction system downtime was 10 hours 6 minutes.

April 2021

During April 2021, extraction well TW-3D operated at a target pump rate of 135 gpm excluding periods of planned and unplanned downtime. Extraction wells TW-2S, TW-2D, and PE-01 were not operated during April 2021. A portion of the piping/conduit for PE-01 at the MW-20 Bench was disconnected from the IM-3 system on January 18, 2019 to allow for remedy construction activities without crossing under the PE-01 piping/conduit. The operational run time for the IM-3 groundwater extraction system (combined or individual pumping) was 87.1 percent during the April 2021 reporting period.

The IM-3 facility treated approximately 5,040,680 gallons of extracted groundwater during April 2021. The IM-3 facility also treated zero gallons of Final Groundwater Remedy wastewater, 100 gallons of sampling purge water and 16,000 gallons of groundwater from injection well backwashing/re-development during April 2021. Zero containers of solids from the IM-3 facility were transported offsite during April 2021.

Periods of planned and unplanned extraction system down time (that together resulted in approximately 12.9 percent downtime during April 2021) are summarized below.

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- April 2, 2021 (unplanned): The extraction well system was offline from 6:18 a.m. to 6:30 a.m. to clean the microfilter prefilter. The microfilter basket strainer "prefilter" was plugged with mineral scale and required removal from the system for cleaning. Extraction system downtime was 12 minutes.
- April 6, 2021 (unplanned): The extraction well system was offline from 4:36 p.m. to 4:52 p.m. due to troubleshooting the Raw Water Storage Tank (T-100). The water level meter (LIT-200) in T-100 did not appear to correspond with the flow meter from the extraction well. All flow into T-100 was halted to allow for re-spanning calibration of LIT-200. Extraction system downtime was 16 minutes.
- April 11, 2021 (unplanned): The extraction well system was offline from 8:36 a.m. to 12:20 p.m. due to filtering and filling an acid tote. The plant received a 250 gallon tote of hydrochloric acid that was contaminated with a solid material that looked like plastic shavings. Due to inadequate supply on site, plant personnel strained a portion of the tote contents so the dosing pumps would not plug up. Extraction system downtime was 3 hours 44 minutes.
- April 11, 2021 (unplanned): The extraction well system was offline from 1:38 p.m. to 1:42 p.m. due to TW-3D shutting off on its own. An electrical subcontractor has been hired to troubleshoot why the pump shut off on its own. Extraction system downtime was 4 minutes.
- April 14-15, 2021 (unplanned): The extraction well system was offline from 7:06 a.m. on April 14, 2021 to 10:02 a.m. on April 15, 2021 due to replacing about half of the piping between the Pre-treated Water Tank (T-500) and the microfilter which was plugged with mineral scale. Extraction system downtime was 1 day 2 hours 56 minutes.
- April 15, 2021 (unplanned): The extraction well system was offline from 11:30 a.m. to 12:42 p.m. due TW-3D shutting off on its own. Extraction system downtime was 1 hour 12 minutes.
- April 16, 2021 (unplanned): The extraction well system was offline from 11:18 a.m. to 1:24 p.m. due to a plug in the inline static mixer between the Clarifier Feed Pump (P-400) and the Clarifier. The plant flow was shut off to remove scale and clean the mixer. Also, a new tote for ferrous chloride was plumbed to the chemical feed pump. Extraction system downtime was 2 hours 6 minutes.
- April 18, 2020 (unplanned): The extraction well system was offline from 3:58 a.m. to 4:58 a.m. due to a City of Needles power outage. Extraction system downtime was 1 hour.
- April 18, 2021 (unplanned): The extraction well system was offline from 5:18 a.m. to 9:00 a.m. to repair the Microfilter Feed Pump (P-501), which had seized due to mineral scale build-up. Extraction system downtime was 3 hours 42 minutes.
- April 18, 2021 (unplanned): The extraction well system was offline from 9:18 a.m. to 11:04 a.m. to repair the Primary Reverse Osmosis (RO) variable frequency drive (VFD). The VFD that runs the high pressure pump for the Primary RO failed completely. The plant had to be reconfigured to bypass the Primary RO until it could be fixed (see April 28 below). Extraction system downtime was 1 hour 46 minutes.
- April 18, 2021 (unplanned): The extraction well system was offline from 11:08 a.m. to 3:24 p.m. due to replacing microfilter modules. Extraction system downtime was 4 hours 16 minutes.
- April 18-19, 2021 (unplanned): The extraction well system was offline from 10:34 p.m. on April 18, 2021 to 8:22 a.m. on April 19, 2021; from 10:32 a.m. to 4:00 p.m. on April 19, 2021; and from 4:32 p.m. to 10:20 p.m. on April 19, 2021 due to a pH imbalance in the plant. The pH of the water was too high to inject into the aquifer. The issue was tracked to a tote of sodium hydroxide that was mislabeled as 25% but was really 50% by weight in water. Also, the feed pipe for the Secondary RO was reconfigured to operate by itself. Extraction system downtime was 21 hours 4 minutes.
- April 21, 2021 (unplanned): The extraction well system was offline from 3:08 a.m. on to 12:14 p.m. due to elevated electrical conductivity (EC) and out of spec pH values in the plant. Because the Primary RO was out of service for the failed VFD, the EC in the Treated Water Storage Tank (T-700) was trending upward. The plant had to be taken offline to allow the secondary RO to catch up with the EC trend. The operating conditions also affected the pH of the water. Extraction system downtime was 9 hours 6 minutes.



- **April 27, 2021 (unplanned):** The extraction well system was offline from 6:44 p.m. to 6:50 p.m. due TW-3D shutting off on its own with no alarm. Extraction system downtime was 6 minutes.
- April 28, 2021 (unplanned): The extraction well system was offline from 7:02 a.m. to 1:48 p.m. and from 2:16 p.m. to 7:04 p.m. to descale the Clarifier Feed Pump (P-400) and replace the Primary RO VFD. Extraction system downtime was 11 hours 34 minutes.
- April 29, 2021 (unplanned): The extraction well system was offline from 3:42 a.m. to 3:46 a.m. due to TW-3D shutting off on its own with no alarm. Extraction system downtime was 4 minutes.
- April 29, 2021 (unplanned): The extraction well system was offline from 6:58 a.m. to 11:28 a.m. to check flow problems for P-400. The inline static mixer between P-400 and the clarifier was removed, and a pipe spool put in its place. Extraction system downtime was 4 hours 30 minutes.
- April 29, 2021 (unplanned): The extraction well system was offline from 11:56 a.m. to 12:04 p.m. to check flow problems for P-400. A leaking flange connection at P-400 was tightened. Extraction system downtime was 8 minutes.
- April 29, 2021 (unplanned): The extraction well system was offline from 8:16 p.m. to 9:06 p.m. and from 9:36 p.m. to 9:42 p.m. due TW-3D shutting off on its own with no alarm. Extraction system downtime was 56 minutes.

May 2021

During May 2021, extraction well TW-3D operated at a target pump rate of 135 gpm excluding periods of planned and unplanned downtime. Extraction wells TW-2S, TW-2D, and PE-01 were not operated during May 2021. A portion of the piping/conduit for PE-01 at the MW-20 Bench was disconnected from the IM-3 system on January 18, 2019 to allow for remedy construction activities without crossing under the PE-01 piping/conduit. The operational run time for the IM-3 groundwater extraction system (combined or individual pumping) was 86.9 percent during the May 2021 reporting period.

The IM-3 facility treated approximately 5,130,346 gallons of extracted groundwater during May 2021. The IM-3 facility also treated zero gallons of Final Groundwater Remedy wastewater, 1,000 gallons of sampling purge water and 16,000 gallons of groundwater from injection well backwashing/re-development during May 2021. Two containers of solids from the IM-3 facility were transported offsite during May 2021.

Periods of planned and unplanned extraction system down time (that together resulted in approximately 13.1 percent downtime during May 2021) are summarized below.

- May 5-6, 2021 (unplanned): The extraction well system was offline from 6:56 a.m. to 8:46 a.m. on May 5, 2021 and from 9:02 a.m. on May 5, 2021 to 11:50 a.m. on May 6, 2021 to replace the Microfilter Feed Tank (T-501) which was leaking. The tank was removed and a new tank and associated piping were installed. Extraction system downtime was 1 day 4 hours 38 minutes.
- May 7, 2021 (unplanned): The extraction well system was offline from 12:18 p.m. to 12:44 p.m. due to TW-3D shutting off on its own. Extraction system downtime was 26 minutes.
- May 12, 2020 (unplanned): The extraction well system was offline from 7:28 p.m. to 8:14 p.m. and from 10:56 p.m. to 11:02 p.m. due to a City of Needles power outage. Extraction system downtime was 52 minutes.
- May 15, 2021 (unplanned): The extraction well system was offline from 3:24 a.m. to 4:34 a.m. due to an RO system failure. The control system for the RO low-pressure feed pump (P-601A) shut the pump off and it would not reset. After troubleshooting, the control system accepted a reset command and allowed P-601A to restart. Extraction system downtime was 1 hour 10 minutes.
- May 15, 2021 (unplanned): The extraction well system was offline from 5:42 a.m. to 7:04 a.m.; from 7:52 a.m. to 7:56 a.m.; and from 8:02 a.m. to 8:28 a.m. due to TW-3D shutting off on its own. Extraction system downtime was 1 hour 52 minutes.

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- May 18, 2021 (unplanned): The extraction well system was offline from 3:50 p.m. to 7:12 p.m. due to both plant air compressors overheating and shutting down. Portable air conditioners were used to cool down one of the plant compressors and it was restarted. Extraction system downtime was 3 hours 22 minutes.
- May 19-21, 2021 (unplanned): The extraction well system was offline from 6:30 a.m. on May 19, 2021 to 11:54 a.m. on May 21, 2021 due to the plant been taken offline to clean and replace piping in the chemical loop section of the plug flow reactor. Extraction system downtime was 2 days 5 hours 24 minutes.
- May 23, 2021 (unplanned): The extraction well system was offline from 7:14 a.m. to 10:20 a.m. due to a failure in P-601A. The control system for the RO shut pump P-601A off. An electrical relay in the control circuit was replaced and the plant returned to normal operation. Extraction system downtime was 3 hours 6 minutes.
- May 27-31, 2021 (unplanned): The extraction well system was offline from 9:54 a.m. to 11:00 a.m. on May 27, 2021; from 3:58 a.m. to 4:28 a.m. on May 29, 2021; from 9:34 p.m. to 10:38 p.m. on May 29, 2021; from 9:20 p.m. to 10: 30 p.m. on May 30, 2021; and from 12:40 p.m. to 1:42 p.m. on May 31, 2021 due to high-water levels in 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 4 hours 52 minutes.
- May 31, 2020 (unplanned): The extraction well system was offline from 3:44 p.m. to 3:46 p.m. due to a City of Needles power outage. Extraction system downtime was 2 minutes.

June 2021

From June 1, 2021 through June 14, 2021, extraction wells TW-2D and TW-3D operated at a target pump rate of 135 gpm, excluding periods of planned and unplanned downtime. The TW-01 aquifer test started on June 15, 2021, with TW-01 operated at a target rate of 90 gpm for the rest of June. Extraction well TW-2D, was also operated in combination with TW-01 at a target rate of 28 gpm, for a combined rate of 118 gpm. Extraction wells TW-2S and PE-01 were not operated during June 2021. A portion of the piping/conduit for PE-01 at the MW-20 Bench was disconnected from the IM-3 system on January 18, 2019 to allow for remedy construction activities without crossing under the PE-01 piping/conduit, and that portion of pipeline was still disconnected in June 2021. The operational run time for the IM-3 groundwater extraction system (combined or individual pumping) was 93.2 percent during the June 2021 reporting period.

The IM-3 facility treated approximately 5,075,000 gallons of extracted groundwater during June 2021, including 2,011,620 gallons pumped from TW-01 for the aquifer test. The IM-3 facility also treated zero gallons of Final Groundwater Remedy wastewater, 900 gallons of sampling purge water, and 0 gallons of groundwater from injection well backwashing/re-development during June 2021. Four containers of solids from the IM-3 facility were transported offsite during June 2021.

Periods of planned and unplanned extraction system down time (that together resulted in approximately 6.8 percent downtime during June 2021) are summarized below.

- June 1, 2021 (unplanned): The extraction well system was offline from 1:56 a.m. to 3:42 a.m.; from 1:22 p.m. to 1:52 p.m.; from 1:54 p.m. to 2:04 p.m.; from 2:06 p.m. to 2:18 p.m.; from 2:20 p.m. to 2:30 p.m.; from 2:32 p.m. to 2:44 p.m.; from 2:46 p.m. to 2:56 p.m.; from 7:24 p.m. to 7:42 p.m.; from 7:44 p.m. to 7:52 p.m.; from 7:54 p.m. to 8:02 p.m.; and from 8:04 p.m. to 9:30 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 5 hours 10 minutes.
- June 2, 2021 (unplanned): The extraction well system was offline from 2:40 a.m. to 2:48 a.m.; from 2:50 a.m. to 2:56 a.m.; from 2:58 a.m. to 3:30 a.m.; from 3:34 a.m. to 3:36 a.m.; from 3:38 a.m. to 4:12 a.m.; from 6:26 a.m. to 6:38 a.m.; from 6:40 a.m. to 6:42 a.m.; and from 6:46 a.m. to 5:20 pm due to high-water levels in T-100 that was caused by mineral scale in the piping around Iron



Oxidation Reactor #3 (T-301C) and the Clarifier Feed Pump (P-400). The scale restricted plant flow so the groundwater extraction rate had to be reduced. The operator shut down extraction so the tank could drain below the high-level alarm setpoint. Piping between T-301B and T-301C was also replaced. Extraction system downtime was 12 hours 6 minutes.

- June 5-6, 2021 (unplanned): The extraction well system was offline from 1:20 p.m. on June 5, 2021 to 2:30 a.m. on June 6, 2021 to allow for replacement of Clarifier Feed Pump (P-400) and temporary piping to be installed between P-400 and the Clarifier. Extraction system downtime was 13 hours 10 minutes.
- June 9, 2021 (unplanned): The extraction well system was offline from 8:52 a.m. to 12:44 p.m.; from 3:44 p.m. to 3:46 p.m.; from 3:48 p.m. to 3:54 p.m.; 4:08 p.m. to 4:10 p.m.; from 4:14 p.m. to 4:16 p.m.; from 4:18 p.m. to 4:20 p.m.; from 4:24 p.m. to 4:26 p.m.; from 4:32 p.m. to 4:34 p.m.; from 4:36 p.m. to 4:38 p.m.; and from 4:42 p.m. to 4:44 p.m. to change out the Reverse Osmosis membranes. Extraction system downtime was 4 hours 14 minutes.
- June 9, 2021 (unplanned): The extraction well system was offline from 4:46 p.m. to 4:48 p.m.; from 4:52 p.m. to 4:54 p.m.; and from 4:56 p.m. to 5:02 p.m. due to performing a rotation test on the TW-2D well pump. Extraction system downtime was 10 minutes.
- June 10, 2021 (unplanned): The extraction well system was offline from 7:48 a.m. to 7:50 a.m.; from 8:06 a.m. to 8:08 a.m.; and from 9:00 a.m. to 9:02 a.m. due to high-water levels in T-100 because TW-2D was also running. The operator shut down extraction so the tank could drain below the high-level alarm setpoint. Extraction system downtime was 6 minutes.
- June 13, 2021 (unplanned): The extraction well system was offline from 9:54 a.m. to 8:00 p.m. because the IM-3 human machine interface (HMI) system had to be updated to support the TW-01 pump test. Extraction system downtime was 10 hours 6 minutes.
- June 14, 2021 (planned): The extraction well system was offline from 2:02 p.m. to 2:14 p.m. and from 2:34 p.m. to 4:40 p.m. to test TW-01 for the upcoming aquifer test. Extraction system downtime was 2 hours 18 minutes.
- June 15, 2021 (unplanned): The extraction well system was offline from 7:30 a.m. to 8:44 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 1 hour 14 minutes.
- June 15, 2021 (planned): The extraction well system was offline from 11:50 a.m. to 12:10 p.m. in preparation for the upcoming TW-01 aquifer test. Extraction system downtime was 20 minutes.
- June 15, 2021 (planned): The extraction well system was offline from 12:36 p.m. to 12:38 p.m. to begin the TW-01 aquifer test. Extraction system downtime was 2 minutes.

Appendix B Daily Volumes of Groundwater Treated

January 2021 Operational Data IM-3 Groundwater Extraction and Treatment System PG&E Topock Compressor Station, Needles, California

				Extrac	tion Well Sys	tem		Inje	ection Well Sy	stem	RO Brine
			TW-2S	TW-2D	TW-3D	PE-1	Total	IW-02	IW-03	Total	
Month	Day	Year	(gallons)	(gallons)	(gallons)	(gallons)	(gallons)	(gallons)	(gallons)	(gallons)	(gallons)
January	1	2021			174,009	0	174,009	171,399	0	171,399	0
January	2	2021			184,410	0	184,410	182,548	0	182,548	0
January	3	2021			181,117	0	181,117	182,410	0	182,410	0
January	4	2021			183,095	0	183,095	182,548	0	182,548	0
January	5	2021			183,520	0	183,520	182,466	0	182,466	0
January	6	2021			190,203	0	190,203	180,980	0	180,980	0
January	7	2021			155,498	0	155,498	161,963	0	161,963	0
January	8	2021			170,741	0	170,741	170,869	0	170,869	0
January	9	2021			171,959	0	171,959	167,190	0	167,190	0
January	10	2021			165,979	0	165,979	164,658	0	164,658	0
January	11	2021			145,720	0	145,720	137,487	0	137,487	0
January	12	2021			168,036	0	168,036	163,831	0	163,831	5,000
January	13	2021			166,406	0	166,406	163,832	0	163,832	0
January	14	2021			62,835	0	62,835	56,950	0	56,950	0
January	15	2021			174,382	0	174,382	171,916	0	171,916	0
January	16	2021			189,324	0	189,324	182,566	0	182,566	0
January	17	2021			178,546	0	178,546	178,426	0	178,426	0
January	18	2021			164,862	0	164,862	164,660	0	164,660	0
January	19	2021			189,466	0	189,466	178,930	0	178,930	0
January	20	2021			146,398	0	146,398	150,686	0	150,686	0
January	21	2021			157,565	0	157,565	167,865	0	167,865	0
January	22	2021			174,689	0	174,689	150,855	0	150,855	0
January	23	2021			168,455	0	168,455	171,611	0	171,611	0
January	24	2021			178,451	0	178,451	170,430	0	170,430	0
January	25	2021			163,832	0	163,832	170,363	0	170,363	0
January	26	2021			178,560	0	178,560	171,087	0	171,087	0
January	27	2021			173,816	0	173,816	170,811	0	170,811	0
January	28	2021			128,095	0	128,095	70,869	54,129	124,998	5,300
January	29	2021			187,794	0	187,794	0	191,857	191,857	0
January	30	2021			178,572	0	178,572	0	181,651	181,651	0
January	31	2021			185,795	0	185,795	0	185,185	185,185	0
Total Monthl	y Volume	s (gallons)	0	0	5,222,128	0	5,222,128	4,540,206	612,823	5,153,029	10,300
Average Pun	np/Injectic	on Rates (gpn	n) 0.0	0.0	117.0	0.0	117.0	101.7	13.7	115.4	0.2

NOTES: gpm: gallons per minute RO: Reverse Osmosis

a. Extraction well TW-3D was operated during January 2021 at a target pump rate of 135 gpm excluding periods of planned and unplanned downtime. Extraction wells PE-01, TW-2S and TW-2D were not operated during January 2021.

b. Effluent was discharged into injection wells IW-02 and IW-03.

c. The difference between influent flow rate and the sum of the effluent and reverse osmosis concentrate flow rates during January 2021 is approximately 1.13 percent and includes 0 gallons of groundwater remedy construction water. A well is considered to be offline if the daily reported flow is 140 gallons per day or less.

February 2021 Operational Data IM-3 Groundwater Extraction and Treatment System PG&E Topock Compressor Station, Needles, California

				Extrac	tion Well Sys	tem		Inj	ection Well Sys	stem	RO Brine
Month	Day	Year	TW-2S (gallons)	TW-2D (gallons)	TW-3D (gallons)	PE-1 (gallons)	Total (gallons)	IW-02 (gallons)	IW-03 (gallons)	Total (gallons)	(gallons)
February	1	2021			181,712	0	181,712	0	186,321	186,321	0
February	2	2021			124,612	0	124,612	0	124,072	124,072	0
February	3	2021			102,043	0	102,043	0	101,969	101,969	0
February	4	2021			178,472	0	178,472	0	181,196	181,196	0
February	5	2021			174,849	0	174,849	0	174,486	174,486	0
February	6	2021			185,555	0	185,555	0	185,996	185,996	0
February	7	2021			186,963	0	186,963	0	186,315	186,315	0
February	8	2021			164,564	0	164,564	0	172,067	172,067	0
February	9	2021			171,661	0	171,661	0	169,647	169,647	0
February	10	2021			157,591	0	157,591	0	153,500	153,500	0
February	11	2021			165,913	0	165,913	0	170,858	170,858	5,500
February	12	2021			178,280	0	178,280	0	170,593	170,593	0
February	13	2021			135,445	0	135,445	0	136,776	136,776	0
February	14	2021			187,052	0	187,052	0	184,893	184,893	0
February	15	2021			186,810	0	186,810	0	186,003	186,003	0
February	16	2021			186,655	0	186,655	0	183,002	183,002	0
February	17	2021			101,286	0	101,286	0	112,278	112,278	0
February	18	2021			192,066	0	192,066	0	189,542	189,542	0
February	19	2021			194,368	0	194,368	0	189,397	189,397	0
February	20	2021			194,103	0	194,103	0	189,498	189,498	0
February	21	2021			193,940	0	193,940	0	191,442	191,442	0
February	22	2021			193,811	0	193,811	0	192,637	192,637	0
February	23	2021			187,995	0	187,995	0	189,453	189,453	6,000
February	24	2021			193,766	0	193,766	0	190,710	190,710	0
February	25	2021			192,084	0	192,084	0	192,814	192,814	0
February	26	2021			183,063	0	183,063	0	171,048	171,048	0
February	27	2021			169,400	0	169,400	0	176,544	176,544	0
February	28	2021			193,795	0	193,795	0	190,050	190,050	0
Total Monthly	Volume	s (gallons)	0	0	4,857,853	0	4,857,853	0	4,843,108	4,843,108	11,500
Average Pum	p/Injectic	on Rates (gr	om) 0.0	0.0	120.5	0.0	120.5	0.0	120.1	120.1	0.3

NOTES: gpm: gallons per minute RO: Reverse Osmosis

a. Extraction well TW-3D was operated during February 2021 at a target pump rate of 135 gpm excluding periods of planned and unplanned downtime. Extraction wells PE-01, TW-2S and TW-2D were not operated during February 2021.

b. Effluent was discharged into injection well IW-03.

c. The difference between influent flow rate and the sum of the effluent and reverse osmosis concentrate flow rates during February 2021 is approximately 0.07 percent and includes 0 gallons of groundwater remedy construction water. A well is considered to be offline if the daily reported flow is 140 gallons per day or less.

March 2021 Operational Data IM-3 Groundwater Extraction and Treatment System PG&E Topock Compressor Station, Needles, California

				Extrac	tion Well Sys	tem		Inj	ection Well Sys	stem	RO Brine
			TW-2S	TW-2D	TW-3D	PE-1	Total	IW-02	IW-03	Total	
Month	Day	Year	(gallons)	(gallons)	(gallons)	(gallons)	(gallons)	(gallons)	(gallons)	(gallons)	(gallons)
March	1	2021			178,294	0	178,294	0	174,703	174,703	0
March	2	2021			193,684	0	193,684	0	190,240	190,240	0
March	3	2021			193,457	0	193,457	0	190,710	190,710	0
March	4	2021			156,972	0	156,972	0	154,851	154,851	5,200
March	5	2021			193,524	0	193,524	0	189,718	189,718	0
March	6	2021			193,151	0	193,151	0	190,703	190,703	0
March	7	2021			192,909	0	192,909	0	193,542	193,542	0
March	8	2021			192,753	0	192,753	0	188,400	188,400	0
March	9	2021			168,421	0	168,421	0	177,761	177,761	0
March	10	2021			140,344	0	140,344	0	130,401	130,401	0
March	11	2021			193,012	0	193,012	0	189,445	189,445	5,000
March	12	2021			192,690	0	192,690	0	189,137	189,137	0
March	13	2021			192,597	0	192,597	0	191,450	191,450	0
March	14	2021			192,542	0	192,542	0	193,471	193,471	0
March	15	2021			192,547	0	192,547	0	193,049	193,049	0
March	16	2021			192,518	0	192,518	0	192,954	192,954	0
March	17	2021			188,401	0	188,401	0	193,025	193,025	0
March	18	2021			192,329	0	192,329	0	186,789	186,789	0
March	19	2021			191,050	0	191,050	0	188,525	188,525	0
March	20	2021			192,075	0	192,075	0	188,329	188,329	0
March	21	2021			182,734	0	182,734	0	181,790	181,790	0
March	22	2021			192,132	0	192,132	0	190,393	190,393	5,000
March	23	2021			192,000	0	192,000	0	190,354	190,354	0
March	24	2021			190,732	0	190,732	0	190,183	190,183	0
March	25	2021			191,730	0	191,730	0	190,438	190,438	4,000
March	26	2021			191,529	0	191,529	0	190,655	190,655	0
March	27	2021			192,882	0	192,882	0	190,539	190,539	0
March	28	2021			172,149	0	172,149	0	168,806	168,806	0
March	29	2021			193,049	0	193,049	0	190,193	190,193	0
March	30	2021			191,997	0	191,997	0	185,575	185,575	0
March	31	2021			113,879	0	113,879	0	114,635	114,635	0
Total Month	ly Volume	s (gallons)	0	0	5,728,083	0	5,728,083	0	5,670,761	5,670,761	19,200
Average Pur	mp/Injectio	on Rates (gpm	n) 0.0	0.0	128.3	0.0	128.3	0.0	127.0	127.0	0.4

NOTES: gpm: gallons per minute RO: Reverse Osmosis

a. Extraction well TW-3D was operated during March 2021 at a target pump rate of 135 gpm excluding periods of planned and unplanned downtime. Extraction wells PE-01, TW-2S and TW-2D were not operated during March 2021.

b. Effluent was discharged into injection well IW-03.

c. The difference between influent flow rate and the sum of the effluent and reverse osmosis concentrate flow rates during March 2021 is approximately 0.67 percent and includes 0 gallons of groundwater remedy construction water. A well is considered to be offline if the daily reported flow is 140 gallons per day or less.

April 2021 Operational Data IM-3 Groundwater Extraction and Treatment System PG&E Topock Compressor Station, Needles, California

				Extrac	tion Well Sys	tem		Inje	ection Well Sys	stem	RO Brine
			TW-2S	TW-2D	TW-3D	PE-1	Total	IW-02	IW-03	Total	
Month	Day	Year	(gallons)	(gallons)	(gallons)	(gallons)	(gallons)	(gallons)	(gallons)	(gallons)	(gallons)
April	1	2021			196,664	0	196,664	0	193,516	193,516	0
April	2	2021			194,620	0	194,620	0	194,149	194,149	0
April	3	2021			193,329	0	193,329	0	195,882	195,882	0
April	4	2021			192,206	0	192,206	0	196,117	196,117	0
April	5	2021			195,352	0	195,352	0	198,018	198,018	0
April	6	2021			192,672	0	192,672	0	190,539	190,539	5,000
April	7	2021			194,541	0	194,541	0	190,635	190,635	0
April	8	2021			194,384	0	194,384	0	190,763	190,763	0
April	9	2021			194,359	0	194,359	0	195,926	195,926	0
April	10	2021			194,227	0	194,227	0	195,840	195,840	0
April	11	2021			163,679	0	163,679	0	164,598	164,598	0
April	12	2021			194,697	0	194,697	0	186,201	186,201	0
April	13	2021			192,697	0	192,697	0	191,282	191,282	0
April	14	2021			56,564	0	56,564	0	64,279	64,279	0
April	15	2021			101,724	0	101,724	0	85,021	85,021	0
April	16	2021			174,878	0	174,878	0	177,539	177,539	5,000
April	17	2021			191,647	0	191,647	0	190,290	190,290	0
April	18	2021			94,499	0	94,499	0	95,281	95,281	0
April	19	2021			34,707	0	34,707	0	33,576	33,576	0
April	20	2021			191,905	0	191,905	0	185,570	185,570	0
April	21	2021			118,972	0	118,972	0	111,243	111,243	0
April	22	2021			191,736	0	191,736	88,740	111,322	200,063	0
April	23	2021			191,326	0	191,326	196,214	0	196,214	5,000
April	24	2021			191,019	0	191,019	200,201	0	200,201	0
April	25	2021			191,053	0	191,053	196,692	0	196,692	0
April	26	2021			191,162	0	191,162	196,313	0	196,313	2,400
April	27	2021			190,281	0	190,281	186,396	0	186,396	0
April	28	2021			98,939	0	98,939	107,136	0	107,136	0
April	29	2021			145,846	0	145,846	155,317	0	155,317	0
April	30	2021			190,996	0	190,996	195,236	0	195,236	0
Total Monthl	v Volume:	s (gallons)	0	0	5,040,680	0	5,040,680	1,522,244	3,537,585	5,059,829	17,400
Average Pun	np/Injectio	on Rates (gpm	n) 0.0	0.0	116.7	0.0	116.7	35.2	81.9	117.1	0.4

NOTES: gpm: gallons per minute RO: Reverse Osmosis

a. Extraction well TW-3D was operated during April 2021 at a target pump rate of 135 gpm excluding periods of planned and unplanned downtime. Extraction wells PE-01, TW-2S and TW-2D were not operated during April 2021.

b. Effluent was discharged into injection wells IW-02 and IW-03.

c. The difference between influent flow rate and the sum of the effluent and reverse osmosis concentrate flow rates during April 2021 is approximately 0.41 percent and includes 0 gallons of groundwater remedy construction water and 16,000 gallons of injection well backwash water. A well is considered to be offline if the daily reported flow is 140 gallons per day or less.

May 2021 Operational Data IM-3 Groundwater Extraction and Treatment System

PG&E Topock Compressor Station, Needles, California

				Extrac	tion Well Sys	stem		Inje	ection Well Sys	stem	RO Brine
Month	Day	Year	TW-2S (gallons)	TW-2D (gallons)	TW-3D (gallons)	PE-1 (gallons)	Total (gallons)	IW-02 (gallons)	IW-03 (gallons)	Total (gallons)	(gallons)
May	1	2021			190,573	0	190,573	195,144	0	195,144	0
May	2	2021			190,675	0	190,675	195,247	0	195,247	0
May	3	2021			190,639	0	190,639	192,924	0	192,924	0
May	4	2021			190,437	0	190,437	195,263	0	195,263	0
May	5	2021			57,140	0	57,140	56,711	0	56,711	0
May	6	2021			96,210	0	96,210	93,547	0	93,547	0
May	7	2021			186,781	0	186,781	189,904	0	189,904	0
May	8	2021			190,079	0	190,079	190,770	0	190,770	0
May	9	2021			190,140	0	190,140	195,202	0	195,202	0
May	10	2021			190,039	0	190,039	194,894	0	194,894	0
May	11	2021			189,967	0	189,967	195,007	0	195,007	0
May	12	2021			182,989	0	182,989	192,199	0	192,199	0
May	13	2021			189,709	0	189,709	100,615	90,374	190,990	0
May	14	2021			189,435	0	189,435	0	189,396	189,396	0
May	15	2021			165,167	0	165,167	0	172,660	172,660	0
May	16	2021			189,577	0	189,577	0	189,312	189,312	0
May	17	2021			189,412	0	189,412	0	189,056	189,056	5,000
May	18	2021			162,582	0	162,582	0	164,707	164,707	0
May	19	2021			51,331	0	51,331	0	51,140	51,140	0
May	20	2021			0	0	0	0	0	0	0
May	21	2021			95,410	0	95,410	0	101,618	101,618	0
May	22	2021			191,664	0	191,664	0	183,676	183,676	0
May	23	2021			169,022	0	169,022	0	165,007	165,007	0
May	24	2021			193,824	0	193,824	0	187,557	187,557	0
May	25	2021			193,581	0	193,581	0	196,589	196,589	0
May	26	2021			193,512	0	193,512	0	190,078	190,078	0
May	27	2021			182,275	0	182,275	0	186,970	186,970	0
May	28	2021			189,658	0	189,658	0	184,861	184,861	5,000
May	29	2021			177,025	0	177,025	0	184,898	184,898	0
May	30	2021			180,103	0	180,103	0	182,936	182,936	0
May	31	2021			181,390	0	181,390	0	175,515	175,515	0
Total Monthl	y Volumes	s (gallons)	0	0	5,130,346	0	5,130,346	2,187,426	2,986,349	5,173,775	10,000
Average Pun	np/Injectio	on Rates (gpm) 0.0	0.0	114.9	0.0	114.9	49.0	66.9	115.9	0.2

NOTES: gpm: gallons per minute RO: Reverse Osmosis

a. Extraction well TW-3D was operated during May 2021 at a target pump rate of 135 gpm excluding periods of planned and unplanned downtime. Extraction wells PE-01, 2S and TW-2D were not operated during May 2021.

b. Effluent was discharged into injection wells IW-02 and IW-03.

c. The difference between influent flow rate and the sum of the effluent and reverse osmosis concentrate flow rates during May 2021 is approximately 0.73 percent and inclu 0 gallons of groundwater remedy construction water and 16,000 gallons of injection well backwash water. A well is considered to be offline if the daily reported flow is 14 gallons per day or less.

June 2021 Operational Data IM-3 Groundwater Extraction and Treatment System PG&E Topock Compressor Station, Needles, California

				Extractio	on Well Syst	em			Injection	Well System		RO Brine
			TW-1	TW-2S	TW-2D	TW-3D	PE-1	Total	IW-02	IW-03	Total	
Month	Day	Year	(gallons)	(gallons)	(gallons)	(gallons)	(gallons)	(gallons)	(gallons)	(gallons)	(gallons)	(gallons)
June	1	2021			13,394	147,095	0	160,489	0	161,516	161,516	0
June	2	2021			7,633	92,181	0	99,814	0	92,194	92,194	0
June	3	2021			213	190,283	0	190,496	0	188,146	188,146	0
June	4	2021			3,679	193,356	0	197,035	0	189,840	189,840	5,000
June	5	2021			7,829	108,736	0	116,566	0	109,066	109,066	0
June	6	2021			15,849	175,602	0	191,451	0	175,997	175,997	0
June	7	2021			18,953	196,294	0	215,247	0	190,640	190,640	0
June	8	2021			3,349	196,115	0	199,463	0	191,509	191,509	0
June	9	2021			31,165	126,042	0	157,207	0	138,617	138,617	0
June	10	2021			27,636	181,370	0	209,006	0	190,405	190,405	0
June	11	2021			10,377	196,433	0	206,810	0	189,512	189,512	5,000
June	12	2021			6,125	183,319	0	189,444	0	193,660	193,660	0
June	13	2021			14,649	107,500	0	122,149	0	139,542	139,542	0
June	14	2021			17,409	146,378	0	163,787	0	169,624	169,624	0
June	15	2021	62,157		16,976	91,021	0	170,153	0	181,425	181,425	0
June	16	2021	129,902		36,008	0	0	165,910	0	170,719	170,719	0
June	17	2021	129,973		36,052	0	0	166,024	0	178,694	178,694	0
June	18	2021	130,077		36,018	0	0	166,095	0	168,907	168,907	0
June	19	2021	130,067		36,092	0	0	166,159	0	172,125	172,125	0
June	20	2021	130,047		36,069	0	0	166,116	0	167,105	167,105	0
June	21	2021	130,047		36,185	0	0	166,232	0	173,452	173,452	0
June	22	2021	129,556		35,959	0	0	165,515	0	173,760	173,760	0
June	23	2021	129,787		35,777	0	0	165,564	0	173,774	173,774	0
June	24	2021	129,937		35,624	0	0	165,561	0	174,363	174,363	0
June	25	2021	129,977		35,384	0	0	165,360	0	175,955	175,955	4,000
June	26	2021	130,017		35,364	0	0	165,381	0	169,524	169,524	0
June	27	2021	130,037		35,446	0	0	165,483	0	169,266	169,266	0
June	28	2021	130,027		35,494	0	0	165,521	0	171,810	171,810	0
June	29	2021	130,017		35,456	0	0	165,472	0	171,518	171,518	0
June	30	2021	129,997		35,492	0	0	165,489	0	171,261	171,261	0
Total Monthl	y Volume	s (gallons)	2,011,620	0	731,656	2,331,724	0	5,075,000	0	5,083,927	5,083,927	14,000
Average Pun	np/Injectic	on Rates (gpm)	46.6	0.0	16.9	54.0	0.0	117.5	0.0	117.7	117.7	0.3

NOTES: gpm: gallons per minute RO: Reverse Osmosis

a. Extraction wells TW-1, TW-2D and TW-3D were operated during June 2021 at a target pump rate of 135 gpm excluding periods of planned and unplanned downtime. Extraction well TW-2S was not operated during June 2021. An aquifer test was conducted at TW-01 (Note c). This groundwater was pumped to IM-3 for treatment.

b. Effluent was discharged into injection well IW-03.

c. The difference between influent flow rate and the sum of the effluent and reverse osmosis concentrate flow rates during June 2021 is approximately 0.45 percent and includes an estimated volume of 2,011,620 gallons of groundwater from TW-1 during the aquifer test that started on June 15, 2021. A well is considered to be offline if the daily reported flow is 140 gallons per day or less.

Appendix C Flowmeter Calibration Records

	A01711	эг						
Purchase	order numb	2F er	····				FGP-8.2 US	
US-36	015327	57-200	/ Endress	5+Hauser	Inc.		156 us.gal/min	(4 100%)
Order Nº	/Manufactur	er				•	Calibrated full scale	
23P50	-ALIA1	AA022	AW				Current 4 - 20 mA	
Order cod	ie						Calibrated output	
PROM	IAG 23 I	' 2"					0.9164	
raasa)):tt ເ	er/ Sensor						Calibration factor	
erial №		· 				<u>^_</u>	5 Zem point	
							77 °F	
ag N°				······································			Water temperature	
How [%]	How jus.gat/minj	Duration [sec]	V tanget us.galj	V meas. [us.gal]	∆ o.n.* [%]	Outp.**	Measured error % o.r.	
10.0	15.575	60.1	15.590	15.620	0.19	5.60	1.5-	
40.0 40.0	02.448 62.468	60,1 60,0	62.513	62.585	0.11	10.41	1 - Tolerance li nit : ±0.5% o* ± :	2.5.*
100.4	156.636	60.1	156.798	156.474	-0.21	20.03	0.5-	
-	-	-	-	- 1	-	-		
-	-	-	-		-	-	-c.s_	
-		-	-	-	-	-		
-	-	-	-	-	-	-	-1.5-	
.1.: of rate				t l		1		1 ! 60 70 80 90 Fla
vr.detnilo	d data conco		r en e el Frantia a				"z.s.: Zero stability	
aceability	y to the natio	nal standar	ri for all test in	s of the tinit tin strutnents used	ider test, see I for the cal	e Technical Inf ibration is guar	ormation (TI), chapter Performance character anteed.	istics,
						0		

Date of calibration

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Endress+Hauser Inc. 10057 Porter Road La Porte, Texas 77571

Page 171

Operator

Flow Calibration with Adjustment

92020932-1304705

WWRA	12397						FCP-8.2 US
Purchase of	order number	r					Calibration rig
US-36	0154888	37-200	/ Endress	+Hauser	Inc.		156 us.gal/min
Order Nº/	Manufacture	:Г					Calibrated full scale
23P50	-ALIAIA	AA022A	W				Current 4 – 20 mA
Order cod	e						Calibrated output
PROM	AG 23 P	2"					0.9146
Transmitte	er/Sensor						Calibration factor
6C036	F16000						-34
Serial N°			-				Zero point
FIT-12	01						73.2 °F
Tag N°							Water temperature
Flow [%]	Flow [us.gal/min]	Duration	V target (us.gal)	V meas. (us.gal)	Δ o.r.*	Outp.**	Measured error % o.r.
10.0	15.520	60.1	15.536	15.608	0.47	5.60	1.5-
40.1	62.731	60.1	62.796	62.882	0.12	10.42	1 - Tolerance limit : ±0,5% o.r.* ± 2.5.*
100.4	156.663	60.1	156.815	156.776	-0.02	20.06	0.5-
-	-	-	-	-	-	-	•
-	-	-	÷	1.8	-	1.3	
•		~	-	-	-	10401	-0.5 -
40		-	-	÷		1 Sec 1	-1-
-			1.2	-	1.8		
-	-	~	-		1.5	-	-1.5-

*o.r.: of reading **Calculated value (4 - 20 mA)

For detailed data concerning output specifications of the unit under test, see Technical Information (TI), chapter Performance characteristics. Traceability to the national standard for all test instruments used for the calibration is guaranteed.

Endress+Hauser Flowtec operates ISO/IEC 17025 accredited calibration facilities in Reinach (CH), Cernay (FR), Greenwood (USA), Aurangabad (IN), Suzhou [CN] and Itatiba (BR).

02-07-2020

Date of calibration

Endress+Hauser Inc. 10057 Porter Road La Porte, Texas 77571 Endress+Hauser 1!

People for Process Automation

Calibration rig	
156 us.gal/min	(≙ 100%)
Calibrated full scale	
Current 4 - 20 mA	
Calibrated output	
0.9146	
Calibration factor	
-34	
Zero point	
73.2 °F	



them

J. Reasoner Operator

Endress+Hauser

People for Process Automation

Flow Calibration with Adjustment

92022156-1385272

Calibration rig 156 us.gal/min (\triangleq 100%) Calibrated full scale Current 4 - 20 mA Calibrated output 0.9224 Calibration factor					
$\begin{array}{c} 156 \text{ us.gal/min} \qquad (\triangleq 100\%) \\ \hline \text{Calibrated full scale} \\ \hline \text{Current} \qquad 4 - 20 \text{ mA} \\ \hline \text{Calibrated output} \\ \hline 0.9224 \\ \hline \text{Calibration factor} \\ \hline 0 \end{array}$					
Calibrated full scale Current 4 - 20 mA Calibrated output 0.9224 Calibration factor					
Current 4 – 20 mA Calibrated output 0.9224 Calibration factor					
Calibrated output O.9224 Calibration factor					
0.9224 Calibration factor					
Calibration factor					
Calibration factor					
0					
0					
Zero point					
75 3 °F					
Water temperature					
Measured error % o.r.					
1.5-					
Tolerance limit : ±0.5% 0.1.* ± 2.5.*					
0.5-					
•					
-0.5 -					
1-					
-1.5_					

For detailed data concerning output specifications of the unit under test, see Technical Information (TI), chapter Performance characteristics. Traceability to the national standard for all test instruments used for the calibration is guaranteed.

Endress+Hauser Flowtec operates ISO/IEC 17025 accredited calibration facilities in Reinach (CH), Cernay (FR), Greenwood (USA), Aurangabad (IN), Suzhou (CN) and Itatiba (BR).

08-19-2020 Date of calibration

Endress+Hauser Inc. 2350 Endress Place Greenwood, IN 46143

Davis

John Davis Operator

Endress + Hauser

People for Process Automation

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Flow [%]

Flow Calibration with Adjustment

92018011-1275190

WWR	A7737						FCP-7.1.6 US				
Purchase	order numbe	r					Calibration rig				
US-36	0154478	87-100	/ Endress	+Hauser	Inc.		155 us.gal/min $(\triangleq 100\%)$				
Order Nº,	/Manufacture	er					Calibrated full scale				
23P50	-ALIAI	RA0224	W				Current 4 - 20 mA				
Order cod	le						Callbrated output				
PROM	AG 23 F	2"					0.9035				
Fransmitt	et/Sensor						Calibration factor				
6A021	F16000						-17				
erial Nº						+	Zero point				
FIT-16	Tw	20					70.6 °F				
Tag №							Water temperature				
Dow	Down	Dumbian				0					
110	[us.gal/min]	(sec)	v target jus.galj	v meas. [us.gal]	Δ e.r.*	bucp.**	Measured error % o.r.				
10.0	15.541	60.2	15.592	15.618	0.16	5.61	1.5-				
40.2	62.279	60.2	62.481	62.510	0.05	10.43	Tolerance timil : ±0.5% o.r.* = 2.s.*				
40,2	62.297	60.2	62.511	62.477	-0.05	10.43					
100.2	155.312	60.2	155.827	155.705	-0.08	20.02	0.5-				
	-	-		-	-	-					
-	1	7	+	-	-	-					
-	-	-				-	-0.5-				
÷.	-		1 (2)	-	-	-					
-	-	-		-	-	-					
-	-	- 1		-	-		-1.5-				

*o.r.: of reading **Calculated value (4 - 20 mA)

> 10 "2.s.: Zero stability

25 30 40

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For detailed data concerning output specifications of the unit under test, see Technical Information (TI), chapter Performance characteristics. Traceability to the national standard for all test instruments used for the calibration is guaranteed.

Endress+Hauser Flowtec operates ISO/IEC 17025 accredited calibration facilities in Reinach (CH), Cernay (FR), Greenwood (USA), Aurangabad (IN), Suzhou (CN) and Itatiba (BR).

12-05-2018 Date of calibration

Endress+Hauser Inc. 2350 Endress Place Greenwood, IN 46143

Davis

John Davis Operator

Endress+Hauser II!

People for Process Automation

Flow Calibration with Adjustment

30437052-4458240

20	nn7	227	110
30	000	020	140

Purchase order number

US-3005992023-10 / Endress+Hauser Flowtec

Order Nº/Manufacturer

5P2B50-79W4/0

Order code

Promag P 200 2"

Sensor/Transmitter

N6004E16000

Serial Nº

Tag N°

Calibration rig	
155.6102 us.gal/min	(≙ 100%)
Calibrated full scale	
Service interface	
Calibrated output	
0.92223	
Calibration factor	
3	
Zero point	
75.9 °F	

100 [%]

Flow

20 30 40 50 60 70 80 90

Flow [%]	Flow [us.gal/min]	Duration	V target [us.gal]	V meas. [us.gal]	∆ o.r.* [%]	Outp.** [mA]	Measured error % o.r. Tolerance limit: ±0.5% o.r.* ± Zero stability
40.3 40.3 99.7	62.762 62.776 155.211	65.0 65.0 65.0	68.035 68.051 168.253	68.036 68.049 168.149	0.00 0.00 -0.06	10.45 10.45 19.95	1.5-
-			-	-			0.5-
1	-	5		- ê	-		0
-		-		-		-	-1-
-	1	-	-	2	2	2	-1.5-
	Flow [%] 40.3 40.3 99.7 - - - - - - - - - - - -	Flow Flow [%] [us.gal/min] 40.3 62.762 40.3 62.776 99.7 155.211 - - - - - - - - - - - - - - - - - - - - - - - - - - - -	Flow Flow Duration [%] [us.gal/min] [%] 40.3 62.762 65.0 40.3 62.776 65.0 99.7 155.211 65.0 - - - <t< td=""><td>Flow Flow Duration V target [%] [us.gal/min] [s] [us.gal] 40.3 62.762 65.0 68.035 40.3 62.776 65.0 68.051 99.7 155.211 65.0 168.253 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -</td><td>Flow Flow Duration V target V meas. [%] [us.gal/min] [s] [us.gal] [us.gal] 40.3 62.762 65.0 68.035 68.036 40.3 62.776 65.0 68.051 68.049 99.7 155.211 65.0 168.253 168.149 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -<</td><td>Flow Flow Duration V target V meas. Δ o.r.* [%] [us.gal/min] [s] [us.gal] [us.gal] [%] 40.3 62.762 65.0 68.035 68.036 0.00 40.3 62.776 65.0 68.051 68.049 0.00 99.7 155.211 65.0 168.253 168.149 -0.06 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -<</td><td>Flow Flow Duration V target V meas. Δ o.r.* Outp.** [%] [us.gal/min] [%] [us.gal] [%] [mA] 40.3 62.762 65.0 68.035 68.036 0.00 10.45 40.3 62.776 65.0 68.051 68.049 0.00 10.45 99.7 155.211 65.0 168.253 168.149 -0.06 19.95 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -</td></t<>	Flow Flow Duration V target [%] [us.gal/min] [s] [us.gal] 40.3 62.762 65.0 68.035 40.3 62.776 65.0 68.051 99.7 155.211 65.0 168.253 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -	Flow Flow Duration V target V meas. [%] [us.gal/min] [s] [us.gal] [us.gal] 40.3 62.762 65.0 68.035 68.036 40.3 62.776 65.0 68.051 68.049 99.7 155.211 65.0 168.253 168.149 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -<	Flow Flow Duration V target V meas. Δ o.r.* [%] [us.gal/min] [s] [us.gal] [us.gal] [%] 40.3 62.762 65.0 68.035 68.036 0.00 40.3 62.776 65.0 68.051 68.049 0.00 99.7 155.211 65.0 168.253 168.149 -0.06 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -<	Flow Flow Duration V target V meas. Δ o.r.* Outp.** [%] [us.gal/min] [%] [us.gal] [%] [mA] 40.3 62.762 65.0 68.035 68.036 0.00 10.45 40.3 62.776 65.0 68.051 68.049 0.00 10.45 99.7 155.211 65.0 168.253 168.149 -0.06 19.95 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

**Calculated value (4 - 20 mA)

For detailed data concerning output specifications of the unit under test, see Technical Information (TI), chapter Performance characteristics.

The calibration is traceable to the N.I.S.T. through standards certified at preset intervals.

Endress+Hauser Flowtec operates ISO/IEC 17025 accredited calibration facilities in Reinach (CH), Cernay (FR), Greenwood (USA), Aurangabad (IN), Suzhou (CN) and Itatiba (BR).

06-13-2018

Date of calibration

Endress+Hauser Flowtec, Division USA 2330 Endress Place Greenwood, IN 46143

Robert g Kizzer

Joe Kizzee Operator

Certified acc. to ISO 9001, Reg.-Nº 030502.2 ISO 14001, Reg.-Nº EMS561046

Endress + Hauser

Flow Calibration without Adjustment

US-3601548887-100 / Endress+Hauser Inc.

92020933-1304700

WWRA12397 Purchase order number

Order Nº/Manufacturer

PROMAG 23 P 2" Transmitter/Sensor 6C037316000

Flow

[us.gal/min]

15.472

62.742

62.739

156.178

4

2

2

Duration

(sec)

60.1

60.1

60.1

60.0

-

-

2

-

Order code

Serial N° FIT-1205 Tag N°

Flow

[%]

9.9

40.2

40.2

100.1

-

_

-

-

23P50-AL1A1AA022AW

Calibration rig	
156 us.gal/min	(≙ 100%
Calibrated full scale	
Current 4 - 20 mA	
Calibrated output	
0.9189	
Calibration factor	
0	
Zero point	
73.2 °F	

Measured error % o.r.



*o.r= of reading **Calculated value (4-20 mA)

For detailed data concerning output specifications of the unit under test, see Technical Information (TI), chapter Performance characteristics, Traceability to the national standard for all test instruments used for the calibration is guaranteed.

Outp.**

[mA]

5,58

10.43

10.43

20.04

-

4

-

-

2

A os.*

[%]

-0.12

-0.01

-0.04

0.11

-

-

Endress+Hauser Flowtec operates ISO/IEC 17025 accredited calibration facilities in Reinach (CH), Cernay (FR), Greenwood (USA), Aurangabad (IN), Suzhou (CN) and Itatiba (BR).

V meas.

us.gal]

15.468

62.801

62.779

156.462

-

V target

(us.gal)

15.487

62.804

62.803

156.287

-

02-07-2020 Date of calibration

Endress+Hauser Inc. 10057 Porter Road La Porte, Texas 77571

nathken

J. Reasoner Operator



Flow Calibration without Adjustment

92019262-3757980

WWRA9505 ^{Purchase order number} US-3601546580–100 / Endress+Hauser Inc.					FCP-7.1.6 US Calibration rig 398.3621 us.gal/min (≙ 100%)														
									Order Nº/	Manufacture	r.					Calibrated full scale			
									SP2B8	P2B80-1CX9/0					Current 4 – 20 mA				
Order cod	le						Calibrated output												
Proma	g P 200	3"					1.1823												
ensor/Ti	ransmitter						Calibration factor												
L200E	016000						1.0												
Serial Nº							Zero point												
FIT 7	00						72.6 °F												
ag N°							Water temperature												
Flow	Flow	Duration	V target	V meas.	Δ o.r.*	Outp.**	Measured error % o.r.												
10.1		(sec)	103.gai	1 40.004	-0.19	5 61	īs-												
40.2	160.047	60.2	160.572	160.060	-0.32	10.41	Tolerance limit : ±0.5% o.r. * ± z.s.*												
40.2	160.116	60.2	160.669	160.306	-0.23	10.42													
99.9	398.117	60.2	399.474	399.035	-0.11	19.97	0.5-												
1	-	-	-	1.10	*		0												
-	-	÷	6	-	-	-	* * *												
-	-	-	1.5		1	-	-0.5												
-	-	1		~	-		-1-												
~	1	2	1		-	1													
-			-	-	-	-	1.00												

*o.r.: of reading **Calculated value (4 - 20 mA)

For detailed data concerning output specifications of the unit under test, see Technical Information (TI), chapter Performance characteristics. Traceability to the national standard for all test instruments used for the calibration is guaranteed.

Endress+Hauser Flowtec operates ISO/IEC 17025 accredited calibration facilities in Reinach (CH), Cernay (FR), Greenwood (USA), Aurangabad (IN), Suzhou (CN) and Itatiba (BR).

05-28-2019 Date of calibration

Endress+Hauser Inc. 2350 Endress Place Greenwood, IN 46143

Acci

A. Geminden Operator

"z.s., Zero stability

Endress+Hauser

People for Process Automation

Flow Calibration with Adjustment

30437059-4458241

3800382048

Purchase order number

US-3005992023-10 / Endress+Hauser Flowtec

Order Nº/Manufacturer

5P2B50-79W4/0

Order code

Promag P 200 2"

Sensor/Transmitter

N6004F16000 Serial Nº

Donaria

-

Tag N

FCP-8.B	
Calibration rig	

155.6102 us.gal/min $(\triangleq 100\%)$ Calibrated full scale

80 00

100 [1]

Flow

Service interface

Calibrated output

0.92113

Calibration factor

-4

Zero point

76 °F

Water temperature



**Calculated value (4 - 20 mA)

For detailed data concerning output specifications of the unit under test, see Technical Information (TI), chapter Performance characteristics.

The calibration is traceable to the N.I.S.T. through standards certified at preset intervals.

Endress+Hauser Flowtec operates ISO/IEC 17025 accredited calibration facilities in Reinach (CH), Cernay (FR), Greenwood (USA), Aurangabad (IN), Suzhou (CN) and Itatiba (BR).

Robert g Kizze

Joe Kizzee Operator

Certified acc. to ISO 9001, Reg.-N° 030502.2 ISO 14001, Reg.-N° EMS561046

06–13–2018 Date of calibration

Endress+Hauser Flowtec, Division USA 2330 Endress Place Greenwood, IN 46143



Appendix D RO Concentrate Non-hazardous Waste Manifests



LIQUID ENVIRONMENTAL SOLUTIONS P 5480

NON-HAZARDOUS WASTE MANIFEST

soruri	UNS						Profile Number
							15713
Generator Name	PG&E T E Phone Emerger	Popock Groundwa Extraction Site e: (760) 326-3326 ncy: (800) 833-76	ter 02	Generator Address		15 Mi Southw Hwy I40 & P: Needles, 0 EPA ID#: CA	est of Needles ark Moabi Rd. CA 92363 AR000151118
Waste Type		Non Hazard	dous Waste,	Liquid (Brine Wa	ater)		
I certify that the material ("Exc solvent or oil a: Compensation rule, whether e any costs incur expressly agree resulting from	he waste material remo- luded Waste"). The to s defined in or pusuan and Liability Act, the existing as of the date of red by the Transporte es to defend, indemnify or arising out of any s	eved from the abov erm "hazardous ma t to the Resource C Federal Clean Wat of this agreement or er or Disposal Facility and hold harmless uch hazardous was	e premises doe aterial" is defi- conservation and ter Act, or any r subsequently ity in handling s the Transpor- ite.	s not contain any ra ned as any one or m nd Recovery Act, the other federal, state enacted. I also ackr or proper disposal ter from and agains	dioactive ore pollu- e Compror local or local nowledge of any has t any an	e, flammable, exp itant, toxic substr chensive Environ environmental la e that the Genera azardous waste a d all damages, co	alosive, toxic or hazardou ance, hazardous substance imental Response w, regulation, ordinance, itor shall be responsible f nd that the Generator osts, fines and liabilities
Generator Rep. Name (please print)	T AVID	U. TAR		Generator Rep. Signature	dai.	set ill	l.v.
Transporter Name	MP Envi	MP Environmental Services		Transporter Address		3045 S. Phoenix,	51st Ave. AZ 85043
			Vahiala In	formation			
Truck #	75-	Tank#	ventere in	Iormation	I	nspection Pape	rwork Verified By:
Waste Removed (Gallons)	is in	Totalizer Readings (Gallons)	Start	Finis	sh	Date	Time
I certify that the servicing	the information abo vehicle. I am aware	ve is accurate, an that falsification	d that only the of this mani	he waste certified f fest may result in j	for rem prosecu	oval by the Ger tion.	nerator is contained in
Driver mus	t comply with prope	er PPE requireme	ents. Includin	ng; gloves, safety v	est, har	d hat, steel toes	s shoes & safety glasses
Driver Name (please print)	dia -	- CAL.	. 4	Driver Signature		11	
Disposal Facility	Liquid Environn	nental Solutions	of Arizona	Address		5159 West Va Phoenix,	an Buren Street AZ 85043
Waste				Date		Tin	ie
Received (Gallons)							

5159 West Van Buren Street

Phoenix, AZ 85043 (602) 278-3442

www.liquidenviro.com



LIQUID ENVIRONMENTAL SOLUTIONS

P 5482

NON-HAZARDOUS WASTE MANIFEST

SOLUTIONS **Profile Number** 15713 PG&E Topock Groundwater 15 Mi Southwest of Needles Generator Generator Extraction Site Hwy I40 & Park Moabi Rd. Name Phone: (760) 326-3326 Address Needles, CA 92363 Emergency: (800) 833-7602 EPA 1D#: CAR000151118 Waste Non Hazardous Waste, Liquid (Brine Water) Type I certify that the waste material removed from the above premises does not contain any radioactive, flammable, explosive, toxic or hazardous material ("Excluded Waste"). The term "hazardous material" is defined as any one or more pollutant, toxic substance, hazardous substance, solvent or oil as defined in or pusuant to the Resource Conservation and Recovery Act, the Comprehensive Environmental Response Compensation and Liability Act, the Federal Clean Water Act, or any other federal, state or local environmental law, regulation, ordinance, or rule, whether existing as of the date of this agreement or subsequently enacted. I also acknowledge that the Generator shall be responsible for any costs incurred by the Transporter or Disposal Facility in handling or proper disposal of any hazardous waste and that the Generator expressly agrees to defend, indemnify and hold harmless the Transporter from and against any and all damages, costs, fines and liabilities resulting from or arising out of any such hazardous waste. Generator Generator Rep. Name Rep. (please print) Signature Transporter Transporter 3045 S. 51st Ave. MP Environmental Services Name Address Phoenix, AZ 85043

		V	chicle Inform	nation		
Truck #		Tank#		- 34	Inspection Paperwo	ork Verified By:
Waste		Totalizer	Start	Finish	Date	Time
(Gallons)	5500	(Gallons)			2-11-21	0900
I certify that the servicing Driver must	the information above vehicle. I am aware the t comply with proper P	is accurate, and at falsification PE requirement	that only the wa of this manifest n its. Including; gl	ste certified for re nay result in prose oves, safety vest, h	moval by the Genera cution. ard hat, steel toes sho	ntor is contained in
					and a second of the second sec	

Disposal Facility	Liquid Environmental Solutions of Arizona	Address	5159 West Van Buren Street Phoenix, AZ 85043
Waste Received (Gallons)		Date	Time
Facility Rep. Name (please print)		Facility Rep. Signature	

WHITE - Transporter YELLOW - Second Generator GOLDENROD - Disposal Facility PINK - Generator Liquid Environmental Solutions of Arizona 5159 West Van Buren Street Phoenix, AZ 85043 (602) 278-3442 www.liquidenviro.com



LIQUID ENVIRONMENTAL SOLUTIONS

P 5481

NON-HAZARDOUS WASTE MANIFEST

Profile Number 15713 PG&E Topock Groundwater 15 Mi Southwest of Needles Generator Generator Extraction Site Hwy 140 & Park Moabi Rd. Name Phone: (760) 326-3326 Address Needles, CA 92363 Emergency: (800) 833-7602 EPA ID#: CAR000151118 Waste Non Hazardous Waste, Liquid (Brine Water) Type I certify that the waste material removed from the above premises does not contain any radioactive, flammable, explosive, toxic or hazardous material ("Excluded Waste"). The term "hazardous material" is defined as any one or more pollutant, toxic substance, hazardous substance, solvent or oil as defined in or pusuant to the Resource Conservation and Recovery Act, the Comprehensive Environmental Response Compensation and Liability Act, the Federal Clean Water Act, or any other federal, state or local environmental law, regulation, ordinance, or rule, whether existing as of the date of this agreement or subsequently enacted. I also acknowledge that the Generator shall be responsible for any costs incurred by the Transporter or Disposal Facility in handling or proper disposal of any hazardous waste and that the Generator expressly agrees to defend, indemnify and hold harmless the Transporter from and against any and all damages, costs, fines and liabilities resulting from or arising out of any such hazardous waste. Generator Generator Rep. Name Rep. (please print) Signature Transporter Transporter 3045 S. 51st Ave. MP Environmental Services Name Address Phoenix, AZ 85043 Vehicle Information Truck # Tank# Inspection Paperwork Verified By: Waste Totalizer Start Finish Date Time Removed Readings (Gallons) 0845 (Gallons) 2-23-21

I certify that the information above is accurate, and that only the waste certified for removal by the Generator is contained in the servicing vehicle. I am aware that falsification of this manifest may result in prosecution.

Driver mus	t comply with proper PPE requirements. Including	g; gloves, safety vest, hi	ard hat, steel toes shoes & safety glasses
Driver Name (please print)	March II	Driver Signature	and and

Disposal Facility	Liquid Environmental Solutions of Arizona	Address	5159 West Van Buren Street Phoenix, AZ 85043
Waste Received (Gallons)		Date	Time
Facility Rep. Name (please print)		Facility Rep. Signature	

WHITE - Transporter YELLOW - Second Generator GOLDENROD - Disposal Facility PINK - Generator Liquid Environmental Solutions of Arizona 5159 West Van Buren Street Phoenix, AZ 85043 (602) 278-3442 www.liquidenviro.com



LIQUID ENVIRONMENTAL SOLUTIONS

P 5483

NON-HAZARDOUS WASTE MANIFEST

Profile Number 15713 PG&E Topock Groundwater 15 Mi Southwest of Needles Generator Generator Extraction Site Hwy I40 & Park Moabi Rd. Name Phone: (760) 326-3326 Address Needles, CA 92363 Emergency: (800) 833-7602 EPA ID#: CAR000151118 Waste Non Hazardous Waste, Liquid (Brine Water) Type I certify that the waste material removed from the above premises does not contain any radioactive, flammable, explosive, toxic or hazardous material ("Excluded Waste"). The term "hazardous material" is defined as any one or more pollutant, toxic substance, hazardous substance, solvent or oil as defined in or pusuant to the Resource Conservation and Recovery Act, the Comprehensive Environmental Response Compensation and Liability Act, the Federal Clean Water Act, or any other federal, state or local environmental law, regulation, ordinance, or rule, whether existing as of the date of this agreement or subsequently enacted. I also acknowledge that the Generator shall be responsible for any costs incurred by the Transporter or Disposal Facility in handling or proper disposal of any hazardous waste and that the Generator expressly agrees to defend, indemnify and hold harmless the Transporter from and against any and all damages, costs, fines and liabilities resulting from or arising out of any such hazardous waste. Generator Generator Rep. Name Rep. 1 martin (please print) INID AL DIAZ Signature Transporter Transporter 3045 S. 51st Ave. MP Environmental Services Name Address Phoenix, AZ 85043 17. 1 · · · ·

I FUCK #	82	Tank#	3346		Inspection Paper	work Verified By:
Waste	-	Totalizer Readings	Start	Finish	Date	Time
Gallons)	5200	(Gallons)			3/4/-	0800
certify that the he servicing ve	e information abov hicle. I am aware (e is accurate, and that falsification	I that only the was of this manifest ma	te certified for re by result in prose	moval by the Gen cution.	erator is contained in
Driver must e		If he has a strategy and the strategy an			the second se	
Driver must c	ompry with proper	PPF. requiremen	its. Including; glo	ves, safety vest, h	ard hat, steel toes	shoes & safety glasse

Disposal Facility	Liquid Environmental Solutions of Arizona	Address	5159 West Van Buren Street Phoenix, AZ 85043
Waste Received (Gallons)		Date	Time
Facility Rep. Name (please print)		Facility Rep. Signature	

WHITE - Transporter YELLOW - Second Generator GOLDENROD - Disposal Facility PINK - Generator Liquid Environmental Solutions of Arizona 5159 West Van Buren Street Phoenix, AZ 85043 (602) 278-3442 www.liquidenviro.com


P 5484

NON-HAZARDOUS WASTE MANIFEST

						Profile Number	
_						15713	
Generator Name	PG&E Topock Ground Extraction Site Phone: (760) 326-33 Emergency: (800) 833-	water 26 -7602	Generator Address		15 Mi Southw Hwy I40 & Pa Needles, 0 EPA ID#: CA	est of Needles ark Moabi Rd. CA 92363 R000151118	
Waste Type	Non Haz	zardous Waste	, Liquid (Brine	Water)			
I certify that i material ("Ex solvent or oil Compensation rule, whether any costs incu expressly agree resulting from	the waste material removed from the ab cluded Waste"). The term "hazardous as defined in or pusuant to the Resource and Liability Act, the Federal Clean V existing as of the date of this agreemen rred by the Transporter or Disposal Fa sets to defend, indemnify and hold harm to rarising out of any such hazardous v	bove premises do material" is def e Conservation a Water Act, or an t or subsequently cellity in handlin dess the Transpo- vaste.	bes not contain any fined as any one o and Recovery Act, y other federal, st y enacted. I also a g or proper dispo- orter from and ag	y radioa r more p , the Cor ate or lo acknowle sal of an ainst any	ctive, flammable, exp collutant, toxic substa nprehensive Environ cal environmental la- edge that the Genera y hazardous waste an and all damages, co	olosive, toxic or hazardous ance, hazardous substance, mental Response w, regulation, ordinance, or tor shall be responsible for ad that the Generator sts, fines and liabilities	
Rep. Name (please print)	DAVID OF DINZ		Generator Rep. Signature	10	we to a		
Transporter Name	Transporter Name MP Environmental Services				3045 S. 51st Ave. Phoenix, AZ 85043		
5		Vehicle In	formation				
Fruck #	782 Tank	k# 3.3	46		Inspection Paper	work Verified By:	
Waste Removed (Gallons)	Soloo Totalizer Readings (Gallons)	Start	Fi	inish	Date	Time	
I certify that the servicing	the information above is accurate, a vehicle. I am aware that falsification	and that only t on of this mani	he waste certifie fest may result i	d for ro n prose	moval by the Gene	erator is contained in	
Driver mus	t comply with proper PPE requirer	nents. Includi	ng; gloves, safet	vest, h	ard hat, steel toes	shoes & safety glasses	
Driver Name (please print)	Man- 1 Au	ir.a	Driver Signature	1	11/2		
Disposal Facility	Liquid Environmental Solution:	s of Arizona	Address		5159 West Var Phoenix, A	a Buren Street AZ 85043	
Waste Received			Date		Time		
(Gallons)							
Facility Rep. Name ,please print)		_	Facility Rep. Signature				

WHITE - Transporter YELLOW - Second Generator GOLDENROD - Disposal Facility PINK - Generator Liquid Environmental Solutions of Arizona 5159 West Van Buren Street Phoenix, AZ 85043 (602) 278-3442 www.liquidenviro.com



P 5485

NON-HAZARDOUS WASTE MANIFEST

							Profile Number
							15713
Generator Name	PG&E Tope Extra Phone: (7 Emergency	ock Groundy action Site 760) 326-332 : (800) 833-	vater 26 7602	Generator Address		15 Mi Southwe Hwy 140 & Par Needles, C EPA ID#: CAJ	est of Needles rk Moabi Rd. A 92363 R000151118
Waste Type		Non Haza	ardous Waste.	Liquid (Brine W	/ater)		
I certify that the material ("Exc solvent or oil a Compensation rule, whether of any costs incur expressly agree resulting from	he waste material removed cluded Waste"). The term as defined in or pusuant to and Liability Act, the Fed existing as of the date of the rred by the Transporter or es to defend, indemnify and or arising out of any such	l from the ab "hazardous the Resource eral Clean W is agreement Disposal Fac d hold harml hazardous w	ove premises do material" is def Conservation a fater Act, or any or subsequently cility in handlin less the Transpo raste.	es not contain any r ined as any one or p and Recovery Act, th y other federal, state y enacted. I also acl g or proper disposal rter from and again	radioactiv nore poll he Comp e or local knowledg l of any h ist any an	ve, flammable, expl utant, toxic substa rehensive Environ environmental law ge that the Generat azardous waste an od all damages, cos	losive, toxic or hazardou nce, hazardous substand mental Response v, regulation, ordinance or shall be responsible i d that the Generator ts, fines and liabilities
Generator Rep. Name please print)	DAND W	Diffiz		Generator Rep. Signature	See	www.	_
Fransporter Name	MP Environ	mental Serv	al Services Transporter Address Phoenin		3045 S. 5 Phoenix, A	51st Ave. AZ 85043	
			Vehicle Ir	formation			
Fruck #	782	Tank	# 73	31	1	nspection Papers	work Verified By:
Waste Removed Gallons)	5000	Totalizer Readings (Gallons)	Start	Fini	ish	Date 3-22-2	Time 1 0845
certify that the servicing	the information above is vehicle. I am aware that	s accurate, a t falsificatio	and that only t on of this mani	he waste certified fest may result in	for rem prosecu	oval by the Gene	rator is contained in
Driver must	t comply with proper PI	PE requiren	nents. Includin	ng; gloves, safety v	vest, har	d hat, steel toes s	hoes & safety glasses
Driver Name please print)	Manue	(A.	15 MG	Driver Signature	1	11/	
Disposal Facility	Liquid Environmenta	al Solutions	s of Arizona	Address		5159 West Van Phoenix, A	Buren Street Z 85043
Vaste				Date		Time	
eceived Gallons)							



(please print)

LIQUID ENVIRONMENTAL SOLUTIONS

P 5486

NON-HAZARDOUS WASTE MANIFEST

1						Profile Number
						15713
Generator Name	PG&E Topock C Extraction Phone: (760) 2 Emergency: (800	roundwater Site 226-3326)) 833-7602	Generator Address		15 Mi Southwes Hwy I40 & Park Needles, CA EPA ID#: CAR	t of Needles Moabi Rd. 92363 000151118
Waste Type	No	n Hazardous Waste	e, Liquid (Brine	Water)		
I certify that th material ("Exc solvent or oil a Compensation rule, whether e any costs incur expressly agree resulting from	te waste material removed from luded Waste"). The term "haz s defined in or pusuant to the R and Liability Act, the Federal C existing as of the date of this agr red by the Transporter or Disp es to defend, indemnify and hold or arising out of any such hazar	the above premises d ardous material" is de esource Conservation Tean Water Act, or an ecment or subsequent osal Facility in handlin I harmless the Transpo dous waste.	oes not contain any fined as any one o and Recovery Act, by other federal, st ly enacted. I also a ag or proper dispo- orter from and aga	r radioac r more p the Con ate or loc acknowle sal of any inst any	tive, flammable, explo- ollutant, toxic substance prehensive Environm cal environmental law, dge that the Generator hazardous waste and and all damages, costs	sive, toxic or hazardous ce, hazardous substance, ental Response regulation, ordinance, o r shall be responsible for that the Generator , fines and liabilities
Generator Rep. Name (please print)	MELISA J.	JOLAHA	Generator Rep. Signature	1	128	1
Transporter Name	MP Environment	al Services	Transporter Address		3045 S. 51 Phoenix, A	st Ave. Z 85043
-		Vehicle I	nformation			
Fruck #	782	Tank#	31		Inspection Paperwo	ork Verified By:
Waste Removed Gallons)	Tota Read (Gall	lizer <u>Start</u> lings ons)	F	inish	Date	Time
certify that t he servicing v	he information above is accuvehicle. I am aware that fals	rate, and that only ification of this man	the waste certifie ifest may result i	d for re n prose	moval by the Genera	ator is contained in
Driver must	comply with proper PPE re	quirements. Includi	ing; gloves, safet	v vest, h	ard hat, steel toes sh	oes & safety glasses
Driver Name please print)	Alance!	Avere	Driver Signature	A	W/L	
Disposal Facility	Liquid Environmental So	lutions of Arizona	Address		5159 West Van H Phoenix, AZ	Buren Street 2 85043
Vaste teceived Gallons)			Date		Time	
acility Rep.	-		Facility Ren.			

WHITE - Transporter YELLOW - Second Generator GOLDENROD - Disposal Facility PINK - Generator Liquid Environmental Solutions of Arizona 5159 West Van Buren Street Phoenix, AZ 85043 (602) 278-3442 www.liquidenviro.com

Signature



P 5487

NON-HAZARDOUS WASTE MANIFEST

SOLUTI	ONS						Profile Number
							15713
Generator Name	PG&E Topocl Extract Phone: (76) Emergency: (k Groundwate tion Site 0) 326-3326 800) 833-7602	т 2	Generator Address		15 Mi Southwest Hwy I40 & Park I Needles, CA EPA ID#: CAR0	of Needles Moabi Rd. 92363 00151118
Waste Type		Non Hazardo	ous Waste, I	iquid (Brine	Water)		
solvent or oil as Compensation rule, whether e any costs incur expressly agree resulting from	s defined in or pusuant to the and Liability Act, the Feder xisting as of the date of this red by the Transporter or D s to defend, indemnify and I or arising out of any such he	e Resource Co al Clean Water agreement or s bisposal Facility hold harmless t azardous waste	nservation an r Act, or any o subsequently y in handling the Transport	d Recovery Act, other federal, sta enacted. I also a or proper dispos er from and aga	the Comp te or loca cknowled al of any inst any a	the substance of the su	, hazardous substance ntal Response egulation, ordinance, o shall be responsible fo hat the Generator fines and liabilities
Generator Rep. Name (please print)	MELISSA	53	AND	Generator Rep. Signature	1 to	1.18	
Transporter Name	MP Environm	ental Service	28	Transporter Address	2	3045 S. 51s Phoenix, AZ	st Ave. 2.85043
		V	chicle Inf	ormation			
Truck #	フラミ	Tank#	333	/		Inspection Paperwo	rk Verified By:
Waste	Т	otalizer	Start	Fi	nish	Date	Time
(Gallons)	5000 0	Gallons)				46-2021	@940
l certify that t the servicing v	he information above is a chicle. I am aware that i	accurate, and falsification o	that only the f this manife	e waste certifie est may result i	d for rei n prosec	noval by the Genera ution.	tor is contained in
Driver must	comply with proper PPE	e requirement	ts. Including	; gloves, safety	vest, ha	ard hat, steel toes sho	es & safety glasses
Driver				1 Martine 1	1		

Name (please print) Driver Signature

Disposal Facility	Liquid Environmental Solutions of Arizona	Address	5159 West Van Buren Street Phoenix, AZ 85043
Waste Received (Gallons)		Date	Time
Facility Rep. Name (please print)		Facility Rep. Signature	

WHITE - Transporter YELLOW - Second Generator GOLDENROD - Disposal Facility PINK - Generator Liquid Environmental Solutions of Arizona 5159 West Van Buren Street Phoenix, AZ 85043 (602) 278-3442 www.liquidenviro.com



NON-HAZARDOUS WASTE MANIFEST

						P	rofile Number	
							15713	
Generator Name	PG&E Topoc Extract Phone: (76 Emergency: (k Groundwater tion Site 0) 326-3326 800) 833-7602	Generator Address		15 Mi S Hwy I- Ne EPA I	Southwest of 40 & Park Mo edles, CA 92 D#: CAR000	Needles oabi Rd. 363 151118	
Waste Type		Non Hazardous	Waste, Liquid (Brine	Water)				
certify that th naterial ("Exc olvent or oil as Compensation ule, whether e ny costs incur xpressly agree esulting from	e waste material removed fi luded Waste"). The term "l s defined in or pusuant to th and Liability Act, the Feder xisting as of the date of this red by the Transporter or D is to defend, indemnify and l or arising out of any such ha	rom the above pren hazardous materia e Resource Conser al Clean Water Ac agreement or subs bisposal Facility in hold harmless the azardous waste.	nises does not contain any l" is defined as any one or vation and Recovery Act, t, or any other federal, sta equently enacted. I also a handling or proper dispo- fransporter from and aga	radioa more p the Cor ate or lo ecknowle sal of an inst any	ctive, flamma pollutant, toxi mprehensive cal environm edge that the by hazardous y and all dam	ble, explosive c substance, h Environmenta ental law, reg Generator sha waste and tha ages, costs, fin	toxic or hazardou azardous substand l Response ulation, ordinance all be responsible f t the Generator es and liabilities	
Generator Rep. Name please print)	M KIVAG	DIAZ	Generator Rep. Signature	G	Jurel 14	Du		
Fransporter Name	MP Environm	ental Services	Transporter Address	Transporter 3045 S. 51st Ave Address Phoenix, AZ 8504			5 S. 51st Ave. mix, AZ 85043	
ruck #	79/2	Tank#	cle Information		Inspection	Paperwork	Verified By:	
Vaste temoved Gallons)	5000 R	otalizer S eadings Gallons)	Start Fi	inish	Date	16/21	Time 1000	
certify that t he servicing v	he information above is a vehicle. I am aware that i	ecurate, and tha falsification of th	t only the waste certific is manifest may result i	d for ro	emoval by the	ne Generato	is contained in	
Driver must	comply with proper PPE	requirements.	Including; gloves, safet	y vest, l	hard hat, ste	el toes shoes	& safety glasses	
priver fame please print)	Mainel	Avera	Driver Signature	11.	14	6		
isposal acility	Liquid Environmental	Solutions of Ar	izona Address		5159 W Pho	est Van Bur enix, AZ 85	en Street 043	
aste eceived Gallons)			Date			Time		
acility Rep.	-		Facility Rep.					

5159 West Van Buren Street Phoenix, AZ 85043

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ix, AZ 85043 (602) 278-3442



NON-HAZARDOUS WASTE MANIFEST

Profile Number 15713 PG&E Topock Groundwater 15 Mi Southwest of Needles Generator Generator Extraction Site Hwy I40 & Park Moabi Rd. Name Phone: (760) 326-3326 Address Needles, CA 92363 Emergency: (800) 833-7602 EPA ID#: CAR000151118 Waste Non Hazardous Waste, Liquid (Brine Water) Type I certify that the waste material removed from the above premises does not contain any radioactive, flammable, explosive, toxic or hazardous material ("Excluded Waste"). The term "hazardous material" is defined as any one or more pollutant, toxic substance, hazardous substance, solvent or oil as defined in or pusuant to the Resource Conservation and Recovery Act, the Comprehensive Environmental Response Compensation and Liability Act, the Federal Clean Water Act, or any other federal, state or local environmental law, regulation, ordinance, or rule, whether existing as of the date of this agreement or subsequently enacted. I also acknowledge that the Generator shall be responsible for any costs incurred by the Transporter or Disposal Facility in handling or proper disposal of any hazardous waste and that the Generator expressly agrees to defend, indemnify and hold harmless the Transporter from and against any and all damages, costs, fines and liabilities resulting from or arising out of any such hazardous waste. Generator Generator Rep. Name Rep. Weer Part Sugar (please print) ALVAS Signature Transporter Transporter 3045 S. 51st Ave. MP Environmental Services Name Address Phoenix, AZ 85043 Vehicle Information Truck # Tank# **Inspection Paperwork Verified By:** Waste Totalizer Start Finish Date Time Removed Readings (Gallons) (Gallons) 04-23-21 0930 I certify that the information above is accurate, and that only the waste certified for removal by the Generator is contained in the servicing vehicle. I am aware that falsification of this manifest may result in prosecution. Driver must comply with proper PPE requirements. Including; gloves, safety vest, hard hat, steel toes shoes & safety glasses Driver Driver Name Signature - 11 (please print) Disnosal

Facility	Liquid Environmental Solutions of Arizona	Address	Phoenix, AZ 85043
Waste Received (Gallons)		Date	Time
Facility Rep. Name (please print)		Facility Rep. Signature	

WHITE - Transporter YELLOW - Second Generator **GOLDENROD** - Disposal Facility PINK - Generator Liquid Environmental Solutions of Arizona 5159 West Van Buren Street Phoenix, AZ 85043 (602) 278-3442

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ame

(please print)

LIQUID ENVIRONMENTAL SOLUTIONS

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NON-HAZARDOUS WASTE MANIFEST

						Profile Number
						15713
Generator Name	PG&E Topock Gro Extraction S Phone: (760) 32 Emergency: (800)	oundwater Site 6-3326 833-7602	Generator Address		15 Mi Southwest Hwy I40 & Park Needles, CA EPA ID#: CARC	of Needles Moabi Rd. 92363 00151118
Waste Type	Non	Hazardous Waste	, Liquid (Brine V	Water)	16	
I certify that the material ("Exc solvent or oil a: Compensation rule, whether e any costs incur expressly agreed resulting from	te waste material removed from t luded Waste"). The term "hazar s defined in or pusuant to the Res and Liability Act, the Federal Cla xisting as of the date of this agree red by the Transporter or Dispos to defend, indemnify and hold I or arising out of any such hazard	he above premises de dous material" is de ource Conservation a ean Water Act, or an ement or subsequentl al Facility in handlin narmless the Transpo ous waste.	bes not contain any fined as any one or and Recovery Act, y other federal, sta y enacted. I also av g or proper dispos orter from and again	radioac more p the Con te or loc cknowle al of any nst any	ctive, flammable, explose ollutant, toxic substance aprehensive Environme cal environmental law, s edge that the Generator y hazardous waste and and all damages, costs,	ive, toxic or hazardous e, hazardous substance, ntal Response regulation, ordinance, o shall be responsible for that the Generator fines and liabilities
Generator Rep. Name (please print)	DAVID W.D	1AZ	Generator Rep. Signature	J	berl ut da	
Transporter Name	MP Environmenta	l Services	Transporter Address		3045 S. 51 Phoenix, A2	st Ave. Z 85043
1		Val.tal. I				
Fruck #	782	Tank#	alormation		Inspection Paperwo	ork Verified By:
Waste Removed (Gallons)	ZYOO (Gallo	zer <u>Start</u> ngs ns)	Fi	nish	Date 1/26/2	Time 09.50
I certify that t the servicing	the information above is accur whicle. I am aware that falsif	ate, and that only lication of this man	the waste certifie ifest may result i	d for re 1 prose	emoval by the Genera	tor is contained in
Driver must	comply with proper PPE req	uirements. Includi	ing; gloves, safety	vest, h	ard hat, steel toes sh	oes & safety plasses
Driver Name (please print)	Madres 1 X	lucia	Driver Signature	211	11/1/2	
Disposal Facility	Liquid Environmental Solu	tions of Arizona	Address		5159 West Van E Phoenix, AZ	Buren Street 85043
Waste			Date		Time	
Received (Gallons)						
				_		

WHITE - Transporter YELLOW - Second Generator GOLDENROD - Disposal Facility PINK - Generator Liquid Environmental Solutions of Arizona 5159 West Van Buren Street Phoenix, AZ 85043 (602) 278-3442 www.liquidenviro.com

Facility Rep.

Signature



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NON-HAZARDOUS WASTE MANIFEST

Profile Number 15713 15 Mi Southwest of Needles PG&E Topock Groundwater Generator Generator Extraction Site Hwy I40 & Park Moabi Rd. Address Needles, CA 92363 Name Phone: (760) 326-3326 Emergency: (800) 833-7602 EPA ID#: CAR000151118 Waste Non Hazardous Waste, Liquid (Brine Water) Type I certify that the waste material removed from the above premises does not contain any radioactive, flammable, explosive, toxic or hazardous material ("Excluded Waste"). The term "hazardous material" is defined as any one or more pollutant, toxic substance, hazardous substance, solvent or oil as defined in or pusuant to the Resource Conservation and Recovery Act, the Comprehensive Environmental Response Compensation and Liability Act, the Federal Clean Water Act, or any other federal, state or local environmental law, regulation, ordinance, or rule, whether existing as of the date of this agreement or subsequently enacted. I also acknowledge that the Generator shall be responsible for any costs incurred by the Transporter or Disposal Facility in handling or proper disposal of any hazardous waste and that the Generator expressly agrees to defend, indemnify and hold harmless the Transporter from and against any and all damages, costs, fines and liabilities resulting from or arising out of any such hazardous waste. Generator Generator Rep. Name Rep. Signature (please print) Transporter Transporter 3045 S. 51st Ave. MP Environmental Services Name Address Phoenix, AZ 85043

		V	ehicle Inform	nation				
Truck #	Truck # 78 Tank#		3331			Inspection Paperwork Verified By:		
Waste		Totalizer	Start	Finis	sh	Date	Time	
Removed (Gallons)	5000	Readings (Gallons)				5/17/3	1 9145	
I certify that the servicing	the information above vehicle. I am aware t	e is accurate, and hat falsification	d that only the wa of this manifest n	ste certified f ay result in p	for remov prosecutio	al by the Gene on.	rator is contained in	
Driver mus	at comply with proper	PPE requiremen	nts. Including; gl	oves, safety v	est, hard	hat, steel toes s	hoes & safety glasses	
Driver Name (please print)	Manuel	Ave	Dr Sig	iver gnature	110	ul e	~	

Disposal Facility	Liquid Environmental Solutions of Arizona	Address	5159 West Van Buren Street Phoenix, AZ 85043
Waste Received (Gallons)		Date	Time
Facility Rep. Name (please print)		Facility Rep. Signature	

WHITE - Transporter YELLOW - Second Generator GOLDENROD - Disposal Facility PINK - Generator Liquid Environmental Solutions of Arizona 5159 West Van Buren Street Phoenix, AZ 85043 (602) 278-3442 www.liquidenviro.com



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NON-HAZARDOUS WASTE MANIFEST

SOLUTI	ONS		Profile Number
			15713
Generator Name	PG&E Topock Groundwater Extraction Site Phone: (760) 326-3326 Emergency: (800) 833-7602	Generator Address	15 Mi Southwest of Needles Hwy 140 & Park Moabi Rd. Needles, CA 92363 EPA ID#: CAR000151118
Waste Type	Non Hazardous Was	te, Liquid (Brine W	/ater)
I certify that the material ("Exc solvent or oil a Compensation rule, whether e any costs incur expressly agree resulting from	the waste material removed from the above premises huded Waste"). The term "hazardous material" is of s defined in or pusuant to the Resource Conservatio and Liability Act, the Federal Clean Water Act, or a existing as of the date of this agreement or subsequen- red by the Transporter or Disposal Facility in hand es to defend, indemnify and hold harmless the Trans- or arising out of any such hazardous waste.	does not contain any r defined as any one or r n and Recovery Act, th any other federal, state atly enacted. I also ach ling or proper disposa sporter from and again	radioactive, flammable, explosive, toxic or hazardous nore pollutant, toxic substance, hazardous substance, he Comprehensive Environmental Response e or local environmental law, regulation, ordinance, or knowledge that the Generator shall be responsible for l of any hazardous waste and that the Generator nst any and all damages, costs, fines and liabilities
Generator Rep. Name (please print)	DAVID ALDIAZ	Generator Rep. Signature	Dour NOw
Transporter Name	MP Environmental Services	Transporter Address	3045 S. 51st Ave. Phoenix, AZ 85043

		1	ehicle Inform	nation		
Truck #	782	Tank#	3331		Inspection Pape	rwork Verified By:
Waste Removed (Gallons)	5000	Totalizer Readings (Gallons)	Start	Finish	Date	Time
I certify that the servicing Driver mus	the information above vehicle. I am aware t st comply with proper	e is accurate, and hat falsification PPE requirement	d that only the was of this manifest m nts. Including; glo	ste certified for ren ay result in prosec wes, safety vest, ha	moval by the Gen cution. ard hat, steel toes	erator is contained in
Driver Name (please print)	Maria	Ave	Dri Sig	ver nature	111	

Disposal Facility	Liquid Environmental Solutions of Arizona	Address	5159 West Van Buren Street Phoenix, AZ 85043
Waste Received (Gallons)		Date	Time
Facility Rep. Name (please print)		Facility Rep. Signature	

 WHITE - Transporter
 YELLOW - Second Generator
 GOLDENROD - Disposal Facility
 PINK - Generator

 Liquid Environmental Solutions of Arizona

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NON-HAZARDOUS WASTE MANIFEST

		Profile Number	
		15713	
Generator Address	15 Mi Southy Hwy 140 & P Needles, EPA ID#: C	vest of Needles ark Moabi Rd. CA 92363	
aste, Liquid (Brine Wate	r)	11000131118	
dling or proper disposal of a asporter from and against ar Generator Rep.	ocal environmental la ledge that the Genera ny hazardous waste a ly and all damages, co	w, regulation, ordinance, o ttor shall be responsible for nd that the Generator sts, fines and liabilities	
Transporter Address	3045 S. 51st Ave. Phoenix, AZ 85043		
Information			
	Inspection Paper	work Verified By:	
t Finish	Date	Time	
	16/4		
ly the waste certified for a anifest may result in pros	emoval by the Gene	erator is contained in	
1	lly the waste certified for r ranifest may result in pros	ly the waste certified for removal by the Generation anifest may result in prosecution.	

Driver must comply with proper PPE requirements. Including; gloves, safety yest, hard bat steal toos about 2						
Driver			y rost, mild mat, steel toes shoes & safety glasses			
Name	Martin C. A.	Driver				
(please print)		Signature				
			11			

Disposal Facility	Liquid Environmental Solutions of Arizona	Address	5159 West Van Buren Street Phoenix, AZ 85043
Waste Received (Gallons)		Date	Time
Facility Rep. Name (please print)		Facility Rep. Signature	

 WHITE - Transporter
 YELLOW - Second Generator
 GOLDENROD - Disposal Facility
 PINK - Generator

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 West Van Buren Street
 Phoenix, AZ 85043
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NON-HAZARDOUS WASTE MANIFEST

					Profile Number		
					15713		
Generator Name	PG&E Topock (Extractio Phone: (760) Emergency: (80	Groundwater n Site 326-3326 0) 833-7602	Generator Address	15 Mi Southw Hwy I40 & Pa Needles, C	est of Needles rk Moabi Rd. 7A 92363 R000151118		
Waste Type	N	Non Hazardous Waste, Liquid (Brine Water)					
sulting from or Generator Rep. Name	to defend, indemnify and hole r arising out of any such haza	reement or subseque losal Facility in hand d harmless the Trans rdous waste.	ntly enacted. I also ackno ling or proper disposal of porter from and against a Generator Rep. Signature	wledge that the Generat any hazardous waste an ny and all damages, cos	or shall be responsible for d that the Generator ts, fines and liabilities		
please print)	The second	A PAR A		1 10 1 01	N. A		
ransporter Vame	MP Environmen	tal Services	Transporter Address	3045 S. 5 Phoenix,	i1st Ave. AZ 85043		
Fransporter Name	MP Environmen	tal Services	Transporter Address	3045 S. 5 Phoenix, 7	ilst Ave. AZ 85043		
Transporter Name	MP Environmen	tal Services Vehicle	Transporter Address Information	3045 S. 5 Phoenix, 2	ilst Ave. AZ 85043		
Fransporter Name	MP Environmen	tal Services Vehicle Tank#	Transporter Address Information	3045 S. 5 Phoenix, A	vork Verified By:		
Transporter Name	MP Environmen	tal Services Vehicle Tank# Ilizer Start	Transporter Address Information Finish	3045 S. 5 Phoenix, A	ilst Ave. AZ 85043 vork Verified By: Time		
Transporter Name Yame Yaste emoved Gallons)	MP Environmen Tota Reac (Gal	tal Services Vehicle Tank# Ilizer Start Jings Jons)	Transporter Address Information Finish	3045 S. 5 Phoenix, A	vork Verified By:		
Fransporter Name Fruck # Vaste temoved Gallons) certify that the te servicing veh	MP Environmen Tota Read (Gall e information above is accu- hicle. I am aware that fals	tal Services Vehicle Tank# dizer Start dings lons) arate, and that only ification of this ma	Transporter Address Information Finish the waste certified for nifest may result in pro	An and a security of the secur	vork Verified By:		

Driver Driver Name AVENCE Signature (please print)

Disposal Facility	Liquid Environmental Solutions of Arizona	Address	5159 West Van Buren Street Phoenix, AZ 85043
Waste Received (Gallons)		Date	Time
Facility Rep. Vame (please print)		Facility Rep. Signature	

WHITE - Transporter YELLOW - Second Generator GOLDENROD - Disposal Facility PINK - Generator Liquid Environmental Solutions of Arizona 5159 West Van Buren Street Phoenix, AZ 85043 (602) 278-3442

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NON-HAZARDOUS WASTE MANIFEST

1 20101	10 11 3					1	Profile Number	
				_			15713	
Generator Name	PG&E Topock Groundwater Extraction Site Phone: (760) 326-3326 Emergency: (800) 833-7602			Generator Address	1	15 Mi Southwest of Needles Hwy I40 & Park Moabi Rd. Needles, CA 92363		
Waste Type		Non Hazardous Waste, Liquid (Brine Water)						
I certify that i material ("Ex solvent or oil a Compensation rule, whether any costs incu expressly agre resulting from	he waste material remove cluded Waste"). The ter- as defined in or pusuant to and Liability Act, the Fo existing as of the date of to rred by the Transporter of es to defend, indemnify a or arising out of any suc-	ed from the n "hazard o the Resor- deral Clea his agreen or Disposal nd hold ha	e above premises de ous material" is de urce Conservation a n Water Act, or an ient or subsequenti l Facility in handlin rmless the Transpe	bes not contain any ra- fined as any one or m and Recovery Act, th y other federal, state y enacted. I also ack g or proper disposal orter from and against	adioactive, fl nore pollutar e Comprehe or local env nowledge th of any hazar st any and al	ammable, explo at, toxic substan nsive Environm ironmental law at the Generato dous waste and l damages, cost	osive, toxic or hazardous ice, hazardous substance, iental Response , regulation, ordinance, o or shall be responsible for l that the Generator s, fines and liabilities	
Generator Rep. Name please print)	NGAE (11)		is waste,	Generator Rep. Signature	1	Xal		
Fransporter Name	MP Environmental Services			Transporter Address	- my	3045 S. 51st Ave. Phoenix, AZ 85043		
			Vahiala	P 14				
ruck #	78	Ti	ink#	IIOF mation	Inspe	ection Paperw	ork Verified By:	
Vaste temoved	in the	Totalize Reading	r <u>Start</u>	Finis	h I	Date	Time	
Gallons)	4000	(Gallons)			6.50		
certify that the servicing	the information above wehicle. I am aware th	is accurat at falsifica	e, and that only t ation of this mani	he waste certified f fest may result in r	or removal	by the Gener	ator is contained in	
Driver must	comply with proper P	PE requir	rements. Includin	19: gloves, safety v	est hard he	t start to so at		
river ame lease print)	Aland	p.	10	Driver Signature	or, natu ha	u, steel toes sn	loes & safety glasses	
isposal acility	Liquid Environment	al Solutio	ons of Arizona	Address	515	9 West Van I	Buren Street	

raciity	Address	Phoenix, AZ 85043
Waste Received	Date	Time
(Gallons)		
Facility Rep. Name (please print)	Facility Rep. Signature	

WHITE - Transporter YELLOW - Second Generator GOLDENROD - Disposal Facility PINK - Generator 5159 West Van Buren Street Phoenix, AZ 85043 (602) 278-3442 www.liquidenviro.com Appendix E Second Quarter 2021 Laboratory Analytical Reports