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June 27, 2025

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**Subject:** *First Quarter 2025 Well Performance Report, PG&E Topock Compressor Station, Needles, California* (PGE20180115A)

Dear Christopher Ioan:

Enclosed is the First Quarter 2025 Well Performance Report for the Pacific Gas and Electric Company Topock Compressor Station located in Needles, California. In December 2021, startup began for Phase 1 of the groundwater remedy system including the start of National Trails Highway In Situ Reactive Zone system operation, maintenance, and monitoring to address hexavalent chromium in groundwater. Operation of the In Situ Reactive Zone injection and extraction wells continued in First Quarter 2025.

In accordance with the reporting requirements outlined in the Basis of Design Report/Final (100%) Design Submittal, this well performance report presents an overview of the groundwater remedy and well maintenance objectives; a summary of First Quarter 2025 well operations, maintenance, and performance monitoring activities; and recommendations and planned activities for the next reporting period.

Please contact me at (925) 302-3659 if you have any questions about the well performance report.

Sincerely,

Veen Chee Foong
Pacific Gas and Electric Co
Technical Remediation Cslt, Principal

Cc: Chris Guerre/DTSC
Greg Neal/DTSC
Veronica Dickerson/DOI
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# *Topock Project Executive Abstract*

| | |
|---|---|
| **Document Title:** | First Quarter 2025 Well Performance Report, PG&E Topock Compressor Station, Needles CA |
| **Submitting Agency:** | DTSC and DOI |
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| **Date of Document:** | June 27, 2025 |
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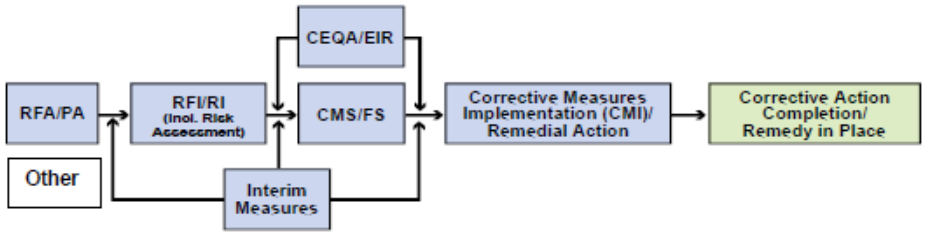
| **Action Required:** | ☒ Information Only ☐ Review & Comment<br>Return to: _____ By Date: _____<br>☐ Other / Explain: |
| **What does this information pertain to?** | ☐ Resource Conservation and Recovery Act (RCRA) Facility Assessment (RFA)/Preliminary Assessment (PA)<br>☐ RCRA Facility Investigation (RFI)/Remedial Investigation (RI) (including Risk Assessment)<br>☐ Corrective Measures Study (CMS)/Feasibility Study (FS)<br>☒ Corrective Measures Implementation (CMI)/Remedial Action<br>☐ California Environmental Quality Act (CEQA)/Environmental Impact Report (EIR)<br>☐ Interim Measures<br>☐ Other / Explain: |
| **Is this a regulatory requirement?** | ☒ Yes ☐ No<br><br>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 under DTSC and DOI requirements. |
| **Other Justification/s:** | ☐ Permit ☐ Other / Explain: |
| **Brief Summary of Attached Document:** | In December 2021, startup began for Phase 1 of the groundwater remedy system including start of National Trails Highway In Situ Reactive Zone system operation, maintenance, and monitoring to address hexavalent chromium in groundwater. Operation of the In Situ Reactive Zone injection and extraction wells continued in First Quarter 2025. In accordance with the reporting requirements outlined in the Basis of Design Report/Final (100%) Design Submittal, this well performance report presents an overview of the groundwater remedy and well maintenance objectives; a summary of First Quarter 2025 well operations, maintenance, and performance monitoring activities; and recommendations and planned activities for the next reporting period.<br>Written by: PG&E |

| | |
|---|---|
| **Recommendations:** | None. |
| **How is this information related to the Final Remedy or Regulatory Requirements?:** | This report is required by DTSC and DOI as part of the Basis of Design Report/Final (100%) Design Submittal for the Final Groundwater Remedy. |
| **Other requirements of this information?:** | None. |
| **Related Reports and Documents:** | Click any boxes in the Regulatory Road Map (below) to be linked to the Documents Library on the DTSC Topock Web Site (www.dtsc-topock.com).<br>  <br><br>**Legend**<br>RFA/PA – RCRA Facility Assessment/Preliminary Assessment<br>RFI/RI – RCRA Facility Investigation/CERCLA Remedial Investigation (including Risk Assessment)<br>CMS/FS – RCRA Corrective Measure Study/CERCLA Feasibility Study<br>CEQA/EIR – California Environmental Quality Act/Environmental Impact Report |

**Version 9**

Pacific Gas and Electric Company

# First Quarter 2025 Well Performance Report

## Topock Compressor Station

## Needles, California

June 27, 2025

# First Quarter 2025 Well Performance Report

**Topock Compressor Station**

**Needles, California**

June 27, 2025

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# Acronyms and Abbreviations

| | |
|---|---|
| CH2M Hill | CH2M Hill, Inc. |
| Cr6 | hexavalent chromium |
| DOI | U.S. Department of the Interior |
| DTSC | California Department of Toxic Substances Control |
| Final BOD | Basis of Design Report/Final (100%) Design Submittal |
| gpm | gallon per minute |
| IRZ | In Situ Reactive Zone |
| mg/L | milligram per liter |
| NTH | National Trails Highway |
| NTU | nephelometric turbidity unit |
| O&M | operation and maintenance |
| PG&E | Pacific Gas and Electric Company |
| Site | Pacific Gas and Electric Company Topock Compressor Station, located in eastern San Bernardino County, 15 miles southeast of the City of Needles, California |
| TOC | total organic carbon |

# 1 Introduction

Pacific Gas and Electric Company (PG&E) is implementing a final groundwater remedy to address hexavalent chromium (Cr6) in groundwater near the PG&E Topock Compressor Station located in eastern San Bernardino County, 15 miles southeast of the City of Needles, California (the Site). PG&E is implementing the groundwater remedy at the Topock Compressor Station in conformance with the requirements of the Resource Conservation and Recovery Act and the Comprehensive Environmental Response, Compensation, and Liability Act. The U.S. Department of the Interior (DOI) and the California Department of Toxic Substances Control (DTSC) executed a Memorandum of Understanding on November 22, 2011, which established coordination guidelines for overseeing implementation of a groundwater response action at the Site (DTSC and DOI 2011). In a coordinated effort, DOI and DTSC selected the final groundwater remedy to address Cr6 in groundwater, which is presented in the Record of Decision (DOI 2010).

In November 2015, PG&E submitted a Basis of Design Report/Final (100%) Design Submittal (Final BOD), which presents the design basis, design criteria, drawings, specifications, and operation and maintenance (O&M) requirements for the groundwater remedy (CH2M Hill, Inc. [CH2M Hill] 2015a). The infrastructure for the groundwater remedy is being constructed following the plans and procedures documented in the Construction/Remedial Action Work Plan (CH2M Hill 2015b). Construction and startup of the groundwater remedy is proceeding in phases.

Construction of Phase 1 began in October 2018 and was completed sufficiently in December 2021 for initial system startup. Design modifications were incorporated during construction to accommodate actual conditions encountered, including a plume footprint smaller than that documented in the Final BOD (CH2M Hill 2015a). As a result, the National Trails Highway (NTH) In Situ Reactive Zone (IRZ) system was installed with 10 fewer wells than planned in the Final BOD, with these 10 wells being deferred from Phase 1 of construction.

The NTH IRZ is a recirculation system in which water is extracted from up to five NTH IRZ extraction wells, amended with carbon substrate, and injected into up to 25 NTH IRZ injection intervals. In triple-screened wells (IRZ-25 and IRZ-27), two of the three well screens are combined into a single interval using a packer. The NTH IRZ extraction wells include IRZ-9, IRZ-13S, IRZ-13D, IRZ-23, and pilot test well PTI-1D.

Injection well intervals include IRZ-15 (upper), IRZ-15 (lower), IRZ-16 (upper), IRZ-16 (lower), IRZ-17 (upper), IRZ-17 (lower), IRZ-18 (upper), IRZ-18 (lower), IRZ-20 (upper), IRZ-20 (lower), IRZ-21 (upper), IRZ-21 (lower), IRZ-25 (upper/upper middle), IRZ-25 (lower), IRZ-27 (upper/middle)[1], IRZ-27 (lower), IRZ-29 (upper), IRZ-29 (lower), IRZ-31 (upper), IRZ-31 (lower), IRZ-33 (upper), IRZ-33 (lower), IRZ-35, IRZ-37, and IRZ-39.

A site layout, including locations of the extraction wells, the remedy-produced water conditioning system, and the carbon amendment system, is shown on Figure 1.1.

In December 2021, startup began for Phase 1 of the groundwater remedy system including operation, maintenance, and monitoring of the NTH IRZ system. O&M is being performed in accordance with the O&M Manual (Appendix L, Volume 1 of the Final BOD; CH2M Hill 2015a). This report documents well maintenance and well performance from January 1 to March 31, 2025 (First Quarter 2025), in accordance with the O&M Manual

[1] Injection well IRZ-27 is a triple-screened well and is separated into two injection intervals using a packer. The packer was previously installed between the upper screen and the middle screen, subdividing the well into an upper screen interval and a middle/lower screen interval. The packer was reinstalled to subdivide the well into an upper/middle interval and a lower interval on January 30, 2025, to prioritize Cr6 treatment in the lowest interval.

(Appendix L, Volume 1 of the Final BOD; CH2M Hill 2015a). The remainder of this report is organized into the following sections:

- Section 2 provides an overview of the well maintenance program.
- Section 3 summarizes the well performance and maintenance of the NTH IRZ remediation wells.
- Section 4 summarizes the well performance and maintenance of the monitoring wells.
- Section 5 provides recommendations for modifications to the well maintenance program and planned activities for the next quarterly reporting period.
- Section 6 provides the references for the documents cited throughout this report.

# 2 NTH IRZ Well Maintenance Program

The well maintenance program consists of routine maintenance and performance tracking, including tracking well performance over time, collecting analytical data, and inspecting wells to evaluate well integrity over time. This section summarizes these activities.

## 2.1 Routine Maintenance

Well maintenance is incorporated into the routine operations of the NTH IRZ. Exhibit 2.1 in this section summarizes estimated maintenance activity frequencies for the NTH IRZ wells as presented in the O&M Manual (Appendix L, Volume 1 of the Final BOD; CH2M Hill 2015a). Injection wells are prone to fouling as the injection of organic carbon stimulates the growth of bacteria, generation of gases such as carbon dioxide, and formation of mineral precipitates. To mitigate fouling resulting from these processes, the routine maintenance plan includes backwashing and mechanical and chemical rehabilitation. Injection wells are backwashed by extracting groundwater for a short period using a downhole pump to loosen and remove sediments and deposits present on the well screen or in the filter pack. Backwashing of injection wells was initially anticipated to occur weekly during operations (Exhibit 2.1). Mechanical rehabilitation of wells involves physical agitation and subsequent removal of dislodged and detached deposits. Chemical rehabilitation uses additives to remove deposits (for example, by increasing solubility). Mechanical and chemical rehabilitation were planned to occur after periods of extended injection well operation and before planned extended downtime (approximately every 6 months to 1.5 years; see Exhibit 2.1). However, as discussed in the O&M Manual (Appendix L, Volume 1 of the Final BOD; CH2M Hill 2015a), the frequency and manner of injection well rehabilitation are subject to change in response to well performance monitoring data, which are detailed in Section 2.2. Currently, maintenance is performed more frequently than what was planned in the initial schedule that was presented in the O&M Manual (Appendix L, Volume 1 of the Final BOD; CH2M Hill 2015a), as summarized in Exhibit 2.1.

Extraction wells are less prone to fouling and, as such, the frequency of routine rehabilitation for extraction wells is significantly lower than that for the injection wells. The O&M Manual (Appendix L, Volume 1 of the Final BOD; CH2M Hill 2015a) recommended mechanical rehabilitation (i.e., pumping and surging) for as-needed maintenance of the extraction wells. Chemical rehabilitation may be warranted in some cases.

*Exhibit 2.1 Routine Maintenance Matrix for Injection and Extraction Wells*

| | **Injection Well Backwashing Frequency** | **Injection Well Chemical/Mechanical Rehabilitation Frequency** | **Extraction Well Mechanical Rehabilitation Frequency** |
|---|---|---|---|
| Initial frequency | Weekly | 6 months to 1.5 years | As needed |
| Current frequency | Three times per week | 3 to 5 months | As needed |

# 2.2 Long-Term Performance Tracking

Well performance is tracked to establish well performance trends, identify potential performance declines within the NTH IRZ system, and inform the frequency and methods used for routine well maintenance (see Section 2.1). Long-term performance tracking consists of specific capacity monitoring, water quality monitoring, and wellhead inspection. Exhibit 2.2 in this section presents the minimum planned frequency of these activities, and specific capacity and water quality monitoring are detailed in the following subsections.

*Exhibit 2.2. Performance Monitoring Frequencies*

| Performance Monitoring Activity | Injection Wells | Extraction Wells |
|---|---|---|
| Specific capacity evaluation | Monthly | Monthly |
| Water quality monitoring | Baseline, then as needed | Baseline as well as the following:<br>Monthly TOC, manganese, iron, and field parameter screening in 2022 and First and Second Quarters 2023, then quarterly for the remainder of 2023, then annually or as needed thereafter.<br>Annual or as-needed biological and geochemical sampling.<br>Annual or as-needed biological activity tests, sand content tests, and modified fouling index tests. |
| Wellhead inspection | Quarterly | Quarterly |

**Notes:**
1. Field parameters include temperature, pH, specific conductance, turbidity, dissolved oxygen, and oxidation–reduction potential.
2. Biological and geochemical sampling parameters for extraction wells include TOC, total dissolved solids, iron and manganese (total and dissolved), cations (calcium, potassium, magnesium, and sodium; total), anions (chloride, fluoride, bromide, nitrate, nitrite, and sulfate), alkalinity (total, carbonate, and bicarbonate), and hardness as calcium carbonate. Parameters measured only at baseline include Title 22 metals (total and dissolved), sulfide, phosphate, total phosphorus, silica, ammonia as nitrogen, total Kjeldahl nitrogen, and biochemical oxygen demand.
3. Baseline sampling included parameters listed in Notes 1 and 2.
TOC = total organic carbon

### 2.2.1 Specific Capacity Monitoring

One measure that is used to assess well performance is a specific capacity evaluation. The specific capacity for each extraction or injection well is determined by the rate of extraction or injection per unit of drawdown or draw-up in the well. Mathematically, this is calculated using the following equation.

$$Specific\ Capacity\ \left(\frac{gpm}{ft}\right) = \frac{discharge\ rate\ (gpm)}{operating\ water\ level\ (ft) - static\ water\ level\ (ft)}$$

where:
ft = foot/feet
gpm = gallon per minute

As discussed in the First Quarter 2022 Well Performance Report (Arcadis 2022a), baseline specific capacities are determined for each extraction and injection well once the wells are operating consistently and the flowrates and water levels stabilize. Baseline capacities were established in Second Quarter 2022 for wells that operated continuously for most of the quarter including IRZ-13S, IRZ-13D, IRZ-16, IRZ-17, IRZ-18, IRZ-20, IRZ-23, IRZ-27, IRZ-29, IRZ-31, IRZ-33, IRZ-35, and IRZ-37 (Arcadis 2022b, 2022c). Baseline capacities were modified in Third Quarter 2022 for extraction wells IRZ-13S, IRZ-13D, and IRZ-23 as explained in the Third Quarter 2022 Well Performance Report (Arcadis 2022d). Baseline capacities were established for IRZ-15 (upper), IRZ-15 (lower), and IRZ-39 in Second Quarter 2023, Third Quarter 2023, and First Quarter 2025, respectively, following continuous injection into these intervals at their target flowrates for an extended period of time. Extraction well PTI-1D began operation in Fourth Quarter 2023, and a baseline capacity was established in December 2023 following approximately 2 months of operation. Extraction well IRZ-9 and injection wells IRZ-21 and IRZ-25 have not operated continuously since NTH IRZ operations began; therefore, sufficient data are not available to establish baseline specific capacities for these wells. Baseline specific capacities for extraction well IRZ-9 and injection wells IRZ-21 and IRZ-25 will be established once these wells are operating continuously and conditions have stabilized.

Static water levels were collected for each injection and extraction well during well development. Static water levels vary naturally depending on the time of year. To account for this natural variation and to use the most conservative static water level, the static water levels collected before system operation were all adjusted to be representative of a low river stage condition (i.e., conditions in January) at the Site. This was done by reviewing historical water-level data and calculating an adjustment factor based on that historical data. Specific capacity values may be affected by planned operational changes to the NTH IRZ wells such as the setting of a new target flowrate. When this occurs, baseline specific capacity values may be adjusted.

Starting in Third Quarter 2022, specific capacities for each well have been calculated and compared to the baseline values to assess well performance decline over time. In accordance with the O&M Manual (Appendix L, Volume 1 of the Final BOD; CH2M Hill 2015a), well performance has previously been classified as “good” (specific capacity greater than or equal to 90 percent of baseline), “fair” (specific capacity between 80 and 90 percent of baseline), or “poor” (specific capacity less than 80 percent of baseline) based on the monthly average specific capacity. This initial classification system is oversimplified and no longer practical for identifying and prioritizing NTH IRZ wells for maintenance. Since startup of the NTH IRZ system in December 2021, the frequencies of routine injection well maintenance activities have been increased (see Exhibit 2.1) and well rehabilitation procedures have been enhanced (e.g., increased surging time, added jetting) for the injection wells.

Starting in Fourth Quarter 2024, the “good,” “fair,” and “poor” designations are no longer presented as a metric for evaluating performance of the NTH IRZ wells or effectiveness of the well maintenance procedures at each well. Instead, specific capacities are reviewed in tandem with well flowrate and water-level trends over time with the overarching goal of maintaining overall NTH IRZ injection system performance.

### 2.2.2 Water Quality Monitoring

Water quality monitoring, including field parameter screening and sample collection for laboratory analysis, provides data to help diagnose well clogging issues and determine corrective measures. Baseline water quality sampling included biological, geochemical, and field parameters as specified in Exhibits 4.1-1 and 4.1-2 of the O&M Manual (Appendix L, Volume 1 of the Final BOD; CH2M Hill 2015a). Extraction wells are sampled annually or as needed, as summarized in Exhibit 2.2 and in alignment with the O&M Manual (Appendix L, Volumes 1 and 2 of the Final BOD; CH2M Hill 2015a), for extraction of constituents associated with the in situ injections including TOC and dissolved metals. Samples were collected during First Quarter 2025 and analyzed for select parameters according to standard operating procedures presented in Appendix B of the Groundwater Remedy Phase 1 Interim Monitoring Plan (Arcadis 2021) and the Final PG&E Program Quality Assurance Project Plan and addendum (CH2M Hill 2014; Critigen 2020). Sample results are discussed in Section 3.2.3 of this report.

# 3 NTH IRZ Well Performance

This section summarizes NTH IRZ system operational changes, well specific capacities, and water quality monitoring that occurred during First Quarter 2025.

## 3.1 System Operation Summary

Throughout First Quarter 2025, routine operation of the NTH IRZ system continued with extraction wells IRZ-23, IRZ-13S, and IRZ-13D; pilot test well PTI-1D; and injection wells IRZ-15, IRZ-16, IRZ-17, IRZ-18, IRZ-20, IRZ-27, IRZ-29, IRZ-31, IRZ-33, IRZ-35, IRZ-37, and IRZ-39 operating with periodic well rehabilitation.

Operation during First Quarter 2025 prioritized maximizing extraction rates at IRZ-23 and PTI-1D for plume control, and NTH IRZ injection wells were operated at their target flowrates, when possible, to accommodate the extracted water[2]. The total recirculation flowrate varied throughout the quarter because maintenance requiring operational downtime was performed at select NTH IRZ injection wells. This maintenance consisted of full chemical and mechanical well rehabilitation (1 to 2 weeks of downtime per well).

In accordance with the PTI-1D Floodplain Extraction Test Workplan (Arcadis 2023a), IRZ-23 and PTI-1D were operated at a target combined extraction rate of 95 gpm. During First Quarter 2025, the average extraction rate at PTI-1D was 21 gpm due to variations in forcemain backpressure as flow varied over time to operating injection wells. Injection flowrates were increased, when possible, to alleviate backpressure and increase the PTI-1D extraction rate. Extraction wells IRZ-13S and IRZ-13D operated intermittently in First Quarter 2025 and generally when only one injection well was down for rehabilitation at a time and when the total extraction rate at IRZ-23 and PTI-1D exceeded 105 gpm[3].

The ethanol dosing frequency in First Quarter 2025 remained at once weekly for the northern and southern NTH IRZ injection wells until February 19, 2025. During this time, the amount of ethanol dosed per week into the northern and southern NTH IRZ wells was at a time-weighted target average concentration of 26 milligrams per liter (mg/L) TOC, which is approximately 30 percent of the nominal design dosing specified in the Final BOD (CH2M Hill 2015a). Starting on February 19, 2025, the dosing schedule for the southern NTH IRZ injection wells remained at once weekly; however, the northern NTH IRZ injection well dosing schedule was adjusted to once every other week to help maintain injection flowrates by reducing the potential for well fouling. A total of 673 gallons of ethanol were injected in First Quarter 2025. System run time, ethanol and recirculated groundwater injection volumes, and average flowrates are summarized in Table 3.1. An NTH IRZ system operations and non-routine maintenance log is presented in Table 3.2.

[2] In First Quarter 2025, target flowrates for the northern NTH IRZ injection wells were based on the nominal design flowrates specified in the Final BOD (CH2M Hill 2015a). Target flowrates for the southern NTH IRZ injection wells were based on 150 percent of the nominal design flowrates specified in the Final BOD.
[3] The optimal extraction rate for IRZ-13D is 10 gpm or higher; therefore, when the total injection capacity was at least 10 gpm higher than the target combined flowrate of 95 gpm for IRZ-23 and PTI-1D, extraction well IRZ-13D was turned on. If the total injection capacity was 115 gpm (i.e., 20 gpm higher than 95 gpm), extraction well IRZ-13S was also turned on, and the excess flow greater than 95 gpm was split evenly between IRZ-13S and IRZ-13D.

Chemical and mechanical well rehabilitation occurred at the following NTH IRZ injection wells in First Quarter 2025: IRZ-15, IRZ-16, IRZ-17, IRZ-18, IRZ-27, IRZ-31, IRZ-33, IRZ-35, and IRZ-37. Average systemwide uptime was 96 percent in First Quarter 2025[4]. The following notable events occurred in First Quarter 2025:

- To meet the extraction flowrate objectives, operating injection wells remained online throughout First Quarter 2025, except when a well was offline for rehabilitation.
- Pilot test well PTI-1D operated intermittently between January 1 and January 9 and between January 14 and 21 due to a system controls communication loss and associated troubleshooting. Extraction well IRZ-23 was operated at a flowrate exceeding 100 gpm during this time to offset the loss of extraction from PTI-1D. The extraction pump at PTI-1D was replaced on January 10 as part of the troubleshooting. The source of the communication loss was ultimately identified to be a faulty outlet, which was affecting the Wi-Fi device responsible for communication. The Wi-Fi device was plugged into an alternate outlet, and normal operation of PTI-1D was resumed.
- From February 27 through February 28, 2025, the system was offline for approximately 22 hours to complete a repair on the ethanol line.
- Rain infiltration during multiple storm events caused systemwide shutdowns on the following dates:
  - February 14 (7.5 hours);
  - March 11 through 12 (15 hours); and
  - March 13 through 14 (20 hours).
- Power loss at the Topock Compressor Station caused systemwide shutdowns on the following dates:
  - January 19 (7.6 hours);
  - March 27 (2.4 hours); and
  - March 28 (3.6 hours).

# 3.2 NTH IRZ Extraction Well Performance

Extraction wells operated as part of Phase 1 of the groundwater remedy include IRZ-9, IRZ-13S, IRZ-13D, IRZ-23, and pilot test well PTI-1D. Extraction well run time, volume of extracted groundwater, and average extraction well flowrate (per month) are documented in Table 3.1. A discussion of observed extraction well performance in First Quarter 2025 is provided in the following subsections.

## 3.2.1 Extraction Well O&M and Specific Capacity Summary

As described in Section 2.2.1 of this report, average specific capacities from July 2022 were established as the baseline specific capacities for extraction wells IRZ-23, IRZ-13S, and IRZ-13D. A baseline specific capacity was established for PTI-1D in Fourth Quarter 2023. A baseline specific capacity has not yet been established for extraction well IRZ-9 due to limited and inconsistent operation of this well since NTH IRZ system operations began.

Graphs of average daily specific capacity over time for extraction wells IRZ-13S, IRZ-13D, IRZ-23, and pilot test well PTI-1D are presented on Figure 3.1 (Third Quarter 2022 through First Quarter 2025). Average daily specific capacities are presented as percentages of the baseline specific capacities for each well. To date, changes in

[4] Systemwide uptime is calculated using total run time hours (run time in hours is calculated from extraction well operating hours) divided by total possible run time hours in First Quarter 2025.

extraction well specific capacity have been a function of variations in target flow and river stage, as detailed below, rather than an indicator of well fouling:

- **IRZ-23** operated throughout First Quarter 2025 with a monthly average flowrate of 72 to 81 gpm. The specific capacity in January exceeded baseline, driven by an increase in the target flowrate to compensate for PTI-1D being offline for troubleshooting. Once PTI-1D was back online and flowrates at IRZ-23 could be reduced accordingly, the specific capacity declined to less than 100 percent of baseline.
- **IRZ-13S** operated minimally in First Quarter 2025, with average flowrates between 11 and 15 gpm. The relatively low specific capacities calculated for this well in First Quarter 2025 are due to the low target flowrates.
- **IRZ-13D** operated intermittently in First Quarter 2025, with average flowrates between 13 and 14 gpm. The specific capacity exceeded 100 percent of baseline for most of the quarter. Specific capacities less than 100 percent of baseline occurred when IRZ-13D operated at lower target flowrates.
- **PTI-1D** operated at greater than 80 percent of the baseline specific capacity throughout First Quarter 2025, with a monthly average flowrate of 21 gpm each month.

In accordance with the Final BOD (CH2M Hill 2015a), routine maintenance of extraction wells could include pump-and-surge redevelopment as needed. No routine maintenance was performed on the extraction wells in First Quarter 2025.

### 3.2.2 Extraction Well Inspections

Extraction wells are inspected quarterly (at a minimum) for visible leaks and damage. Any notable damage or equipment needing replacement is identified in Table 3.2. Leak detection switches within the vaults are also used to identify maintenance needs in a timely manner.

Non-routine extraction well maintenance during First Quarter 2025 included replacing the existing extraction pump at PTI-1D on January 10, 2025, as part of troubleshooting communication loss at the well. The source of the communication loss was ultimately identified to be a faulty outlet, which was affecting the Wi-Fi device responsible for communication. The Wi-Fi device was plugged into an alternate outlet and normal operation of PTI-1D was resumed. No other notable extraction well maintenance needs were identified during First Quarter 2025.

The filters at PTI-1D were replaced once weekly, at a minimum. In First Quarter 2025, 13 spent bag filters were generated from PTI-1D.

### 3.2.3 Extraction Well Water Quality

The potential for increased well fouling, resulting from the extraction of groundwater with residual carbon substrate and/or reduced metals from the nearby carbon injection activity, is monitored during system operations. This monitoring includes measuring TOC and metal byproduct concentrations at the extraction wells. The First Quarter 2025 Quarterly Progress Report (Arcadis 2025b) provides the extraction well monitoring analytical results; however, the results are also summarized and discussed herein.

Baseline analytical data for extraction wells are provided in Table 3.4 of the First Quarter 2022 Well Performance Report (Arcadis 2022a) and in Exhibit 3.1 in this section (key indicator parameters only). Baseline analytical data

were collected during December 2021, January 2022, March 2022, and November 2023, when extraction wells were brought online (Exhibit 3.1).

Exhibit 3.1 in this section presents the First Quarter 2025 analytical results from extraction wells IRZ-9, IRZ-23, IRZ-13S, IRZ-13D, and PTI-1D. Extraction wells IRZ-9, IRZ-23, IRZ-13S, and IRZ-13D were sampled in February 2025 (quarterly), and PTI-1D was sampled in January, February, and March 2025 (monthly). Extraction well IRZ-9 was not operated in First Quarter 2025 except for routine sampling conducted in February 2025.

At the extraction wells, total iron, dissolved iron, and dissolved manganese concentrations were generally lower than the reporting limits or baseline concentrations, except for low concentrations of dissolved iron and dissolved manganese at IRZ-13S. These dissolved iron and dissolved manganese results are not indicative of fouling because IRZ-13S was only operated intermittently prior to the sampling event. Although baseline TOC concentrations are not available for the extraction wells, TOC concentrations remained relatively low in First Quarter 2025 (ranging from less than 1 to 3.4 mg/L). Overall, the periodic detections do not reflect trends that may be indicative of well fouling. Therefore, no adjustments to operations of the extraction wells were needed in First Quarter 2025 based on the water quality results. The iron and manganese results for PTI-1D are further discussed in Section 3.2.4.

*Exhibit 3.1. First Quarter 2025 NTH IRZ Extraction Well Analytical Results*

| Extraction Well | Sample Date | Active Time Operating (percent) | TOC: Method 5310B (mg/L) | Total Iron (mg/L) | Dissolved Iron (mg/L) | Dissolved Manganese (mg/L) |
|---|---|---|---|---|---|---|
| IRZ-9 | Baseline: January 2022 | 9 | -- | Less than 0.02 | Less than 0.02 | 0.0027 |
| IRZ-9 | February 2025 | 0.33 | Less than 1 | Less than 0.02 | Less than 0.02 | 0.0018 |
| IRZ-23 | Baseline: December 2021 | 8 | -- | 0.69 | 0.091 J | Less than 0.0005 |
| IRZ-23 | February 2025 | 95 | 3.4 | Less than 0.02 | Less than 0.02 | Less than 0.0005 |
| IRZ-13S | Baseline: March 2022 | 53 | -- | 0.060 | Less than 0.02 J | Less than 0.0005 |
| IRZ-13S | February 2025 | 0.27 | 2.1 | 0.038 | 0.033 | 0.0023 |
| IRZ-13D | Baseline: March 2022 | 53 | -- | Less than 0.02 | 0.059 J | 0.062 |
| IRZ-13D | February 2025 | 6.5 | 3.0 | Less than 0.02 | Less than 0.02 | 0.0046 |
| PTI-1D | Baseline: November 2023 | 94 | -- | 1.3 | 1.1 | 4.2 J |
| PTI-1D | January 2025 | 47 | -- | 0.190 J | 0.10 | 0.66 |
| PTI-1D | February 2025 | 95 | -- | 0.084 | 0.087 | 0.69 |
| PTI-1D | March 2025 | 94 | -- | 0.10 | 0.086 | 0.59 |

**Notes:**
-- = not analyzed
J = estimated concentration

Table 3.3 includes field parameter data (temperature, pH, specific conductance, turbidity, dissolved oxygen, and redox potential) for extraction wells IRZ-13S, IRZ-13D, IRZ-23, and PTI-1D collected during First Quarter 2025.

### 3.2.4 PTI-1D Operations

Starting on November 2, 2023, PG&E began extracting groundwater from pilot test extraction well PTI-1D, in accordance with the PTI-1D Floodplain Extraction Test Workplan (Arcadis 2023a), to improve hydraulic control of the Cr6 plume. Since PTI-1D was turned on, PTI-1D and IRZ-23 have been extracting groundwater at flowrates of approximately 21 to 30 gpm and 60 to 81 gpm, respectively, for a target combined flowrate of approximately 95 gpm.

The PTI-1D Floodplain Extraction Test Workplan (Arcadis 2023a) outlines the metrics that will be used to evaluate PTI-1D performance and provides indicators that will help determine if operational changes are needed and/or when the PTI-1D test is complete. On September 20, 2024, PG&E requested continuation of the PTI-1D extraction test (PG&E 2024). The DTSC and DOI conditionally approved a 1-year extension of the PTI-1D extraction test (DTSC 2024; DOI 2024). The conditions included in the DTSC's September 24, 2023 conditional approval letter (DTSC 2023) remain in effect. In First Quarter 2025, hydrogeologic and analytical data were collected and evaluated against the metrics, as described in the First Quarter 2025 Quarterly Progress Report (Arcadis 2025b). Results relevant to PTI-1D well operations, maintenance, and performance are described in the text that follows.

Sustainable extraction at PTI-1D is evaluated based on maintaining the specific capacity of the extraction well and low extracted iron and manganese concentrations. PTI-1D began operation in November 2023, and baseline specific capacity for this well was established using December 2023 data once water levels had stabilized following 2 months of sustained operation. In First Quarter 2025, the average extraction rate at PTI-1D was 21 gpm due to variations in forcemain backpressure as flow varied over time to operating injection wells. Injection flowrates at select injection wells were increased when possible to alleviate backpressure in the main to increase the PTI-1D extraction rate. Specific capacity at PTI-1D was maintained throughout First Quarter 2025 as presented on Figure 3.1. PTI-1D was sampled for dissolved manganese and dissolved iron in January, February, and March 2025 to evaluate concentrations during active extraction at this well. Dissolved manganese and dissolved iron concentrations in PTI1D decreased from November 2023 to December 2023 and remained consistently low through First Quarter 2025, with dissolved manganese concentrations ranging from 0.59 to 0.69 mg/L and dissolved iron concentrations ranging from 0.086 to 0.1 mg/L (Exhibit 3.1). In First Quarter 2025, PTI-1D bag filters were checked and replaced once weekly, at a minimum, to monitor for microbial growth. Bag filter replacements are noted in Table 3.2. The specific capacity results, analytical results, and bag filter observations indicate that operation of PTI-1D is sustainable.

## 3.3 NTH IRZ Injection Well Performance

Phase 1 of the groundwater remedy includes NTH IRZ injection wells IRZ-15, IRZ-16, IRZ-17, IRZ-18, IRZ-20, IRZ-21, IRZ-25, IRZ-27, IRZ-29, IRZ-31, IRZ-33, IRZ-35, IRZ-37, and IRZ-39. Injection well run time, including average flowrates, is documented in Table 3.1. A discussion of observed injection well performance in First Quarter 2025 is provided in the following subsections.

### 3.3.1 Well Maintenance Procedures

In the Fourth Quarter 2023 Well Performance Report (Arcadis 2024a), the following adjustments to the well rehabilitation program were planned:

- Complete quarterly mechanical and chemical rehabilitation at injection wells IRZ-18, IRZ-27, IRZ-31, and IRZ-37 using the updated rehabilitation procedure described in Section 3.3.1.1.
- Complete mechanical and chemical rehabilitation approximately every 4 to 5 months at injection wells IRZ-15, IRZ-16, IRZ-17, IRZ-20, IRZ-29, IRZ-33, and IRZ-35 using the updated rehabilitation procedure described in Section 3.3.1.1.
- Implement routine wellhead chemical application (wellhead dosing) using an updated method at injection wells to prolong well performance between rehabilitation events.

The injection well rehabilitation frequency schedule outlined in the Fourth Quarter 2023 Well Performance Report (Arcadis 2024a) is reviewed each quarter and adjusted as needed based on observed well performance and/or treatment objectives. In the Second Quarter 2024 Well Performance Report (Arcadis 2024b), the well rehabilitation program was updated to include IRZ-29 in the quarterly mechanical and chemical rehabilitation schedule. In the Third Quarter 2024 Well Performance Report (Arcadis 2024c), the well rehabilitation program was updated to include IRZ-33 in the quarterly mechanical and chemical rehabilitation schedule and to remove IRZ-37 from the quarterly mechanical and chemical rehabilitation schedule based on overall well performance. Instead of quarterly rehabilitation, IRZ-37 is now rehabilitated approximately every 4 to 5 months. In the Fourth Quarter 2024 Well Performance Report (Arcadis 2025a), the well rehabilitation program was updated to include IRZ-17 in the quarterly mechanical and chemical rehabilitation schedule. In addition, in that same report, it was noted that wellhead dosing was not implemented as an additional maintenance strategy in First Quarter 2025 due to its limited effectiveness at improving well performance over a sustained period. No notable rehabilitation schedule adjustments occurred in First Quarter 2025. However, due to scheduling constraints, some wells were rehabilitated at frequencies different from their planned frequency.

As discussed in the Fourth Quarter 2024 Well Performance Report (Arcadis 2025a), the rehabilitation procedure was updated in First Quarter 2025 because a subset of injection wells were unable to sustain target flowrates for a prolonged period of time following rehabilitation. Camera surveys indicated that the previous rehabilitation procedure continued to be effective in removing fouling from within the well screens. Thus, the decline in the performance of certain wells is likely due to fouling in the filter packs and/or surrounding formation, which is not visible via a camera survey. The updated rehabilitation procedure included the addition of new chemicals, as described in Section 3.3.1.1, and a new jetting tool with nozzle inserts that allow for jetting at velocities of 208 and 324 feet per second.

#### 3.3.1.1 Well Rehabilitation Procedure

Rehabilitation for each well involves the following process.

- Confirm the injection well is offline and confirm the affiliated well water and electrical lines have been locked out and tagged out by appropriate personnel.
- Open the well vault and begin continuous air monitoring.
- Remove the downhole equipment, including the packer (if applicable), drop pipe, and pump(s), from injection well. During its removal, inspect the equipment for corrosion, damage, deposits, and/or odor. Brush, clean, and/or pressure-wash the equipment if needed.

- Mechanically clean the well casing and screen section(s) using a double-surge block.
- Jet the mixed well chemical solution down the well using a jetting tool, first into the lower well screen, then the upper screen, and surge the screen intervals.
- Following jetting, install a dual-swab block brush and swab the screen intervals.
- If using a packer, reinstall the packer following jetting and swabbing of the chemicals in all screens.
- Allow the chemicals to sit in the well overnight. The following day, check the pH of the screen intervals.
- Once the pH is greater than 3, remove the packer (if applicable) and conduct mechanical rehabilitation. Add fresh water as needed to adjust the pH.
- Pump the purge water into backwash piping.
- Reinstall the downhole well equipment and restart the well.

The well chemical solution used for each injection well through Fourth Quarter 2024 included fresh water, NuWell phosphoric acid, and a NuWell biodispersant. Starting in First Quarter 2025, a NuWell surfactant was added to that well chemical solution due to its ability to lower surface tension and, thereby, more effectively address biofouling. Jetting was added to the well rehabilitation procedure starting in Third Quarter 2023 to distribute the chemical solution further into the filter pack and reduce fouling in the filter pack.

In First Quarter 2025, a NuWell hydrochloric acid was used instead of the NuWell phosphoric acid at select injection wells that were identified as unable to sustain target flowrates for an extended period after rehabilitation (IRZ-17, IRZ-18, and IRZ-31). Initial results regarding the relative effectiveness of the hydrochloric acid have been mixed, and further monitoring of post-rehabilitation well performance will continue into Second Quarter 2025. Future use of hydrochloric acid for chemical rehabilitation will be limited to cases where wells are heavily fouled and unable to maintain target flowrates post-rehabilitation.

### 3.3.2 Injection Well O&M and Specific Capacity Summary

Injection wells operating during First Quarter 2025 included IRZ-15, IRZ-16, IRZ-17, IRZ-18, IRZ-20, IRZ-27, IRZ-29, IRZ-31, IRZ-33, IRZ-35, IRZ-37, and IRZ-39. Injection wells were taken offline as needed throughout the quarter for well rehabilitation. Injection wells IRZ-21 and IRZ-25 remained offline throughout the quarter to avoid fouling of the adjacent IRZ-23 extraction well.

Routine injection well maintenance during First Quarter 2025 included backwashing of injection wells during system operation as detailed in Table 3.2. Each operating injection well was backwashed to remove solids that may have accumulated in the well screen and gravel pack during injections. Backwashing occurred three times weekly, an increase from the estimated once weekly backwash described in Section 2.1, to proactively manage well health and water levels at injection wells.

Routine operation for injection wells includes daily monitoring of injection flowrates and water levels. Graphs of average daily specific capacity over time for operating injection wells with an established baseline specific capacity are plotted on Figures 3.2 through 3.4 (Third Quarter 2022 through First Quarter 2025). Average daily specific capacities are plotted as percentages of the baseline specific capacities established in 2022, 2023, and 2025.

Injection wells rehabilitated in First Quarter 2025 included IRZ-15, IRZ-16, IRZ-17, IRZ-18, IRZ-27, IRZ-31, IRZ-33, IRZ-35, and IRZ-37. The procedures used for well rehabilitation are provided in Section 3.3.1.1.

Rehabilitation resulted in increased injection well specific capacities in First Quarter 2025, as shown on Figures 3.2 through 3.4 and described below:

- Specific capacities for injection wells IRZ-15 (upper), IRZ-16 (upper), IRZ-18 (upper), IRZ-31 (upper), IRZ-33 (upper), IRZ-35, and IRZ-37 returned to greater than 80 percent of baseline following rehabilitation, although, for a majority of these wells, specific capacities then declined over time with continued operation.
- Specific capacities for injection wells IRZ-16 (lower) and IRZ-31 (lower) increased following rehabilitation (and flowrates also increased compared to pre-rehabilitation rates); however, specific capacities did not return to greater than 80 percent of baseline.

Specific capacities for injection wells IRZ-15 (lower), IRZ-18 (lower), and IRZ-33 (lower) did not significantly improve following rehabilitation in First Quarter 2025. The post-rehabilitation decrease in specific capacity shown for IRZ-15 (lower) on Figure 3.2 is due to a reduction in the flowrate setting for this well. After bringing IRZ-15 online following rehabilitation, the pressure transducer in the lower interval was found to be recording inaccurate readings when compared to manual water-level measurements (i.e., water levels recorded by the pressure transducer were lower than actual water levels). To account for this, the flowrate at IRZ-15 (lower) was reduced, resulting in the lower specific capacity, and the pressure transducer settings were adjusted so that readings were consistent with manual water-level measurements..

Rehabilitation at IRZ-17 and IRZ-27 continued into Second Quarter 2025 and will therefore be discussed in the Second Quarter 2025 Well Performance Report. The upper interval of IRZ-17 was offline starting on February 5, 2025, and will remain offline until the completion of rehabilitation in Second Quarter 2025 due to elevated water levels.

A baseline specific capacity was established for IRZ-39 using February 2025 data once the well had been operating consistently for multiple months. Specific capacity data collected prior to the baseline being established were excluded from Figure 3.4. The specific capacity at IRZ-39 generally remained above 80 percent of baseline in February 2025, then declined through March 2025 with continued operation and rising water levels.

### 3.3.3 Injection Well Inspections

Injection wells are inspected quarterly (at a minimum) for visible leaks and damage. Any notable damage or equipment needing replacement is identified in Table 3.2. Leak detection switches within the vaults are also used to identify maintenance needs in a timely manner.

Notable non-routine maintenance performed on the injection wells during First Quarter 2025 included the following:

- From January 29 through February 2, 2025, the downhole piping at IRZ-27 was reconfigured and the packer was relocated from between the upper and middle screens to between the middle and lower screens to target injection into the lower interval.
- On March 18, 2025, the pressure transducer at IRZ-31 (lower) was replaced due to inaccurate water-level data. Manual water-level measurements taken after the pressure transducer installation confirmed that the new pressure transducer was taking accurate readings.

### 3.3.4 Injection Well Water Quality

Injection well water quality monitoring includes the collection of baseline data followed by as-needed sampling for biological, geochemical, and/or field parameters. Baseline analytical results for each injection well are provided in the First Quarter 2022 Well Performance Report (Arcadis 2022a). Baseline analytical data were collected during December 2021 and January 2022. Future analytical results will be collected as needed for fouling troubleshooting purposes.

# 4 Monitoring Well Performance

Monitoring wells are inspected to determine whether monitoring well maintenance, such as wellhead repair or well screen redevelopment, is needed. Monitoring well inspections include the following:

- Wellhead condition is assessed to determine if well protection features, including the well seal, well vault/protective casing, and concrete pad, are in place and functioning as designed.
- Turbidity is measured as an indicator of whether the monitoring well screen and filter pack are intact and functioning.
- Depth to bottom of the well is measured as an indicator of infill (siltation).
- Specific capacity is evaluated to confirm consistency with sampling standard operating procedures.

This section provides a summary of each of these parameters.

## 4.1 Wellhead Condition

Wellheads are inspected routinely during sampling, and observations are documented. The inspection results for First Quarter 2025 are presented in Table 4.1. Overall, the wellheads were in good condition in First Quarter 2025.

## 4.2 Turbidity

In accordance with Section 4.2.4 of the O&M Manual (Appendix L, Volume 1 of the Final BOD; CH2M Hill 2015a), wells that consistently yield turbidity greater than the range of 20 to 30 nephelometric turbidity units (NTU) undergo additional evaluation to determine if redevelopment is warranted. The additional evaluation can include evaluation of previous purge data, specific capacity, and longer-term pressure transducer data. Turbidity data collected from monitoring wells in First Quarter 2025 are included in Table 3.3. A summary of the monitoring wells that exhibited turbidity greater than 30 NTU during consecutive monitoring events is provided in the text that follows.

Monitoring wells MW-69-195 and MW-72-080 yielded turbidity readings greater than 30 NTU for consecutive sampling events, as noted in Table 4.2. These wells are not recommended for redevelopment at this time because the wellhead condition, depth to well bottom, and specific capacity assessments for these wells indicate that well integrity is intact and siltation is not sufficient to warrant redevelopment.

## 4.3 Depth to Well Bottom

Depth to well bottom is measured manually during sampling using a water-level meter and compared to the as-constructed well depth and bottom of the screened interval to assess siltation, integrity of the well screen, and integrity of the well casing. Monitoring well depth-to-bottom data are presented in Table 4.2. If the measured well depths for consecutive sampling events suggest that at least 20 percent of the screened interval is silted in, the well will be flagged for further evaluation to determine if redevelopment is necessary.

Monitoring wells MW-27-020, MW-30-050, MW-32-020, MW-36-040, MW-39-040, and MW-45-095a met this well depth criterion in First Quarter 2025 but are not recommended for redevelopment. MW-39-040 is not

recommended for redevelopment because previous redevelopment of this well did not improve performance, as discussed in the Third Quarter 2023 Well Performance Report (Arcadis 2023b). The remaining wells that met the well depth criterion are not recommended for redevelopment because they are screened in fluvial sediments, and redevelopment in these sediments would increase the potential for sediment infiltration.

Monitoring well MW-77-046 also met the well depth criterion in First Quarter 2025. This well was redeveloped following the October 2024 sampling event (Arcadis 2025a). The specific capacities and turbidity readings measured at MW-77-046 during the First Quarter 2025 sampling events indicate good yield and low suspended solids. Therefore, additional redevelopment or maintenance of MW-77-046 is not recommended at this time.

## 4.4 Specific Capacity

Monitoring well purging is generally conducted at rates between 100 and 500 milliliters per minute, and drawdown at these rates typically ranges from a few hundredths to a few tenths of a foot. Wells with casing diameters greater than 4 inches may be purged at rates higher than 500 milliliters per minute because a larger submersible pump is used in these cases. If drawdown of greater than 1 foot is observed for a fluvial or alluvial well during purging, the well will be flagged for further evaluation to determine if it needs rehabilitation. Bedrock wells are excluded from this evaluation method due to the potential for larger drawdown during purging. Purging data, including purge rate, drawdown, and calculated specific capacity, are presented in Table 4.2. Specific capacity is calculated using the equation provided in Section 2.2.1.

Drawdown of greater than 1 foot was not observed during purging of monitoring wells in First Quarter 2025 (Table 4.2).

## 4.5 Response to Monitoring Well Performance Evaluation

The locations of the monitoring wells inspected are shown on Figure 4.1.

Based on experience redeveloping MW-28-025, MW-30-030, and MW-39-040 and as discussed in the Third Quarter 2023 Well Performance Report (Arcadis 2023b), the following adjustments have been implemented since Third Quarter 2023:

- Wells are redeveloped using a smaller-diameter surge block to reduce the risk of the surge block being lodged between sediment and the well casing.
- Wells located in fluvial sediments (see Well Screen Lithology column in Table 4.2), where sediment infiltration is likely given the screen slot size and/or filter pack combination, are not redeveloped. Redevelopment of these wells is expected to have a detrimental effect on well performance due to increased potential for sediment infiltration.
- Wells in which significant sediment infiltration occurs during redevelopment are not considered for future redevelopment.

Monitoring well redevelopment did not occur in First Quarter 2025.

# 5 Recommendations and Planned Activities for Next Reporting Period

Phase 1 groundwater remedy operations and the Phase 1 monitoring program will continue in Second Quarter 2025 (April through June 2025) in accordance with the O&M Manual (Appendix L, Volume 1 of the Final BOD; CH2M Hill 2015a) and Groundwater Remedy Phase 1 Interim Monitoring Plan (Arcadis 2021). It is recommended that adjustments to the well maintenance program discussed in the Fourth Quarter 2023 Well Performance Report (Arcadis 2024a) continue to be implemented with the following modifications:

- Quarterly mechanical and chemical rehabilitation will be completed at injection wells IRZ-17, IRZ-18, IRZ-27, IRZ-29, IRZ-31, and IRZ-33.
- Mechanical and chemical rehabilitation will be completed approximately every 4 to 5 months at injection wells IRZ-15, IRZ-16, IRZ-20, IRZ-35, and IRZ-37.

In addition to routine groundwater remedy operations and monitoring, the following activities related to well performance are planned for Second Quarter 2025:

- Continue operating target NTH IRZ extraction and injection wells.
- Continue monitoring the NTH IRZ extraction and injection wells for potential well fouling.
- Continue backwashing injection wells three times weekly during operation.
- Monitor average specific capacities for NTH IRZ extraction/injection wells and monitoring wells to determine if additional maintenance is needed.
- Continue inspections of monitoring wells as part of scheduled routine sampling.

Well performance monitoring and well maintenance activities will be reported in the Second Quarter 2025 Well Performance Report. The Second Quarter 2025 Quarterly Progress Report will also be submitted to document operations and monitoring results in accordance with the O&M Manual (Appendix L, Volume 2 of the Final BOD; CH2M Hill 2015a).

# 6 References

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# Tables

**Table 3.1**
**Summary of NTH IRZ Well Operations**
**First Quarter 2025 Well Performance Report**
**Pacific Gas and Electric Company, Topock Compressor Station, Needles, California**

| Well ID | Aquifer Interval | Well Type | Operating Period | Recirculated Groundwater Volume (gal) | Ethanol Volume (gal) | Total Hours Operating (hours) | Active Time Operating (percent) | Average Flow Rate When Operating (gpm) |
|---|---|---|---|---|---|---|---|---|
| IRZ-15 | Upper | Injection | Apr-24 | 72,921 | 5.3 | 468 | 65 | 2.6 |
| IRZ-15 | Upper | Injection | May-24 | 293,667 | 17 | 737 | 99 | 6.6 |
| IRZ-15 | Upper | Injection | Jun-24 | 263,697 | 16 | 705 | 98 | 6.2 |
| IRZ-15 | Upper | Injection | Jul-24 | 242,046 | 14 | 691 | 93 | 5.8 |
| IRZ-15 | Upper | Injection | Aug-24 | 122,389 | 7.1 | 559 | 75 | 3.6 |
| IRZ-15 | Upper | Injection | Sep-24 | 189,024 | 12 | 469 | 65 | 6.7 |
| IRZ-15 | Upper | Injection | Oct-24 | 282,415 | 22 | 721 | 97 | 6.5 |
| IRZ-15 | Upper | Injection | Nov-24 | 261,058 | 18 | 681 | 95 | 6.4 |
| IRZ-15 | Upper | Injection | Dec-24 | 207,119 | 15 | 733 | 99 | 4.7 |
| **IRZ-15** | **Upper** | **Injection** | **Jan-25** | **191,582** | **11** | **547** | **74** | **5.8** |
| **IRZ-15** | **Upper** | **Injection** | **Feb-25** | **152,161** | **4.6** | **370** | **55** | **6.9** |
| **IRZ-15** | **Upper** | **Injection** | **Mar-25** | **297,478** | **9.0** | **702** | **94** | **7.1** |
| IRZ-15 | Lower | Injection | Apr-24 | 306,104 | 21 | 469 | 65 | 11 |
| IRZ-15 | Lower | Injection | May-24 | 756,475 | 44 | 737 | 99 | 17 |
| IRZ-15 | Lower | Injection | Jun-24 | 730,615 | 43 | 708 | 98 | 17 |
| IRZ-15 | Lower | Injection | Jul-24 | 581,523 | 43 | 722 | 97 | 13 |
| IRZ-15 | Lower | Injection | Aug-24 | 496,045 | 26 | 609 | 82 | 14 |
| IRZ-15 | Lower | Injection | Sep-24 | 502,939 | 29 | 473 | 66 | 18 |
| IRZ-15 | Lower | Injection | Oct-24 | 690,625 | 53 | 722 | 97 | 16 |
| IRZ-15 | Lower | Injection | Nov-24 | 609,219 | 41 | 684 | 95 | 15 |
| IRZ-15 | Lower | Injection | Dec-24 | 612,129 | 44 | 734 | 99 | 14 |
| **IRZ-15** | **Lower** | **Injection** | **Jan-25** | **446,523** | **24** | **555** | **75** | **13** |
| **IRZ-15** | **Lower** | **Injection** | **Feb-25** | **217,502** | **6.0** | **370** | **55** | **10** |
| **IRZ-15** | **Lower** | **Injection** | **Mar-25** | **308,875** | **10.0** | **702** | **94** | **7.3** |
| IRZ-16 | Upper | Injection | Apr-24 | 146,202 | 11 | 708 | 98 | 3.4 |
| IRZ-16 | Upper | Injection | May-24 | 139,026 | 8.0 | 490 | 66 | 4.7 |
| IRZ-16 | Upper | Injection | Jun-24 | 266,990 | 16 | 708 | 98 | 6.3 |
| IRZ-16 | Upper | Injection | Jul-24 | 210,265 | 15 | 723 | 97 | 4.8 |
| IRZ-16 | Upper | Injection | Aug-24 | 213,487 | 13 | 725 | 97 | 4.9 |
| IRZ-16 | Upper | Injection | Sep-24 | 101,553 | 6.1 | 360 | 50 | 4.7 |
| IRZ-16 | Upper | Injection | Oct-24 | 220,664 | 17 | 724 | 97 | 5.1 |
| IRZ-16 | Upper | Injection | Nov-24 | 241,553 | 16 | 685 | 95 | 5.9 |
| IRZ-16 | Upper | Injection | Dec-24 | 232,129 | 17 | 736 | 99 | 5.3 |
| **IRZ-16** | **Upper** | **Injection** | **Jan-25** | **96,680** | **6.2** | **310** | **42** | **5.2** |
| **IRZ-16** | **Upper** | **Injection** | **Feb-25** | **280,012** | **13** | **641** | **95** | **7.3** |
| **IRZ-16** | **Upper** | **Injection** | **Mar-25** | **296,228** | **9.1** | **699** | **94** | **7.1** |
| IRZ-16 | Lower | Injection | Apr-24 | 493,037 | 35 | 708 | 98 | 12 |
| IRZ-16 | Lower | Injection | May-24 | 379,102 | 16 | 490 | 66 | 13 |

**Table 3.1**
**Summary of NTH IRZ Well Operations**
**First Quarter 2025 Well Performance Report**
**Pacific Gas and Electric Company, Topock Compressor Station, Needles, California**

| Well ID | Aquifer Interval | Well Type | Operating Period | Recirculated Groundwater Volume (gal) | Ethanol Volume (gal) | Total Hours Operating (hours) | Active Time Operating (percent) | Average Flow Rate When Operating (gpm) |
|---|---|---|---|---|---|---|---|---|
| IRZ-16 | Lower | Injection | Jun-24 | 457,050 | 27 | 709 | 98 | 11 |
| IRZ-16 | Lower | Injection | Jul-24 | 408,848 | 25 | 701 | 94 | 9.7 |
| IRZ-16 | Lower | Injection | Aug-24 | 428,887 | 25 | 725 | 97 | 9.9 |
| IRZ-16 | Lower | Injection | Sep-24 | 194,473 | 12 | 360 | 50 | 9.0 |
| IRZ-16 | Lower | Injection | Oct-24 | 447,217 | 35 | 723 | 97 | 10 |
| IRZ-16 | Lower | Injection | Nov-24 | 405,293 | 26 | 684 | 95 | 9.9 |
| IRZ-16 | Lower | Injection | Dec-24 | 384,922 | 26 | 735 | 99 | 8.7 |
| **IRZ-16** | **Lower** | **Injection** | **Jan-25** | **154,639** | **10** | **330** | **44** | **7.8** |
| **IRZ-16** | **Lower** | **Injection** | **Feb-25** | **382,299** | **19** | **640** | **95** | **10** |
| **IRZ-16** | **Lower** | **Injection** | **Mar-25** | **409,752** | **13** | **698** | **94** | **9.8** |
| IRZ-17 | Upper | Injection | Apr-24 | 246,846 | 19 | 709 | 98 | 5.8 |
| IRZ-17 | Upper | Injection | May-24 | 241,963 | 10 | 737 | 99 | 5.5 |
| IRZ-17 | Upper | Injection | Jun-24 | 217,803 | 13 | 709 | 98 | 5.1 |
| IRZ-17 | Upper | Injection | Jul-24 | 112,979 | 10 | 479 | 64 | 3.9 |
| IRZ-17 | Upper | Injection | Aug-24 | 210,039 | 12 | 549 | 74 | 6.4 |
| IRZ-17 | Upper | Injection | Sep-24 | 223,760 | 14 | 655 | 91 | 5.7 |
| IRZ-17 | Upper | Injection | Oct-24 | 180,898 | 13 | 725 | 97 | 4.2 |
| IRZ-17 | Upper | Injection | Nov-24 | 104,561 | 7.9 | 356 | 49 | 4.9 |
| IRZ-17 | Upper | Injection | Dec-24 | 181,328 | 13 | 729 | 98 | 4.1 |
| **IRZ-17** | **Upper** | **Injection** | **Jan-25** | **100,459** | **5.3** | **691** | **93** | **2.4** |
| **IRZ-17** | **Upper** | **Injection** | **Feb-25** | **8,574** | **0.35** | **84** | **13** | **1.7** |
| **IRZ-17** | **Upper** | **Injection** | **Mar-25** | -- | -- | -- | **--** | **--** |
| IRZ-17 | Lower | Injection | Apr-24 | 262,871 | 19 | 708 | 98 | 6.2 |
| IRZ-17 | Lower | Injection | May-24 | 236,513 | 13 | 737 | 99 | 5.3 |
| IRZ-17 | Lower | Injection | Jun-24 | 212,676 | 12 | 708 | 98 | 5.0 |
| IRZ-17 | Lower | Injection | Jul-24 | 182,314 | 10 | 532 | 72 | 5.7 |
| IRZ-17 | Lower | Injection | Aug-24 | 216,650 | 12 | 566 | 76 | 6.4 |
| IRZ-17 | Lower | Injection | Sep-24 | 171,768 | 11 | 638 | 89 | 4.5 |
| IRZ-17 | Lower | Injection | Oct-24 | 127,354 | 10 | 723 | 97 | 2.9 |
| IRZ-17 | Lower | Injection | Nov-24 | 64,043 | 4.0 | 359 | 50 | 3.0 |
| IRZ-17 | Lower | Injection | Dec-24 | 152,793 | 11 | 728 | 98 | 3.5 |
| **IRZ-17** | **Lower** | **Injection** | **Jan-25** | **258,613** | **14** | **732** | **98** | **5.9** |
| **IRZ-17** | **Lower** | **Injection** | **Feb-25** | **270,933** | **14** | **641** | **95** | **7.0** |
| **IRZ-17** | **Lower** | **Injection** | **Mar-25** | **204,370** | **4.6** | **549** | **74** | **6.2** |
| IRZ-18 | Upper | Injection | Apr-24 | 13,233 | 0.97 | 169 | 23 | 1.3 |
| IRZ-18 | Upper | Injection | May-24 | 206,972 | 13 | 544 | 73 | 6.3 |
| IRZ-18 | Upper | Injection | Jun-24 | 253,277 | 16 | 660 | 92 | 6.4 |
| IRZ-18 | Upper | Injection | Jul-24 | 235,089 | 17 | 721 | 97 | 5.4 |

**Table 3.1**
**Summary of NTH IRZ Well Operations**
**First Quarter 2025 Well Performance Report**
**Pacific Gas and Electric Company, Topock Compressor Station, Needles, California**

| Well ID | Aquifer Interval | Well Type | Operating Period | Recirculated Groundwater Volume (gal) | Ethanol Volume (gal) | Total Hours Operating (hours) | Active Time Operating (percent) | Average Flow Rate When Operating (gpm) |
|---|---|---|---|---|---|---|---|---|
| IRZ-18 | Upper | Injection | Aug-24 | 96,784 | 6.0 | 330 | 44 | 4.9 |
| IRZ-18 | Upper | Injection | Sep-24 | 59,218 | 3.9 | 280 | 39 | 3.5 |
| IRZ-18 | Upper | Injection | Oct-24 | 192,518 | 11 | 711 | 96 | 4.5 |
| IRZ-18 | Upper | Injection | Nov-24 | 143,670 | 7.6 | 359 | 50 | 6.7 |
| IRZ-18 | Upper | Injection | Dec-24 | 257,531 | 18 | 694 | 93 | 6.2 |
| **IRZ-18** | **Upper** | **Injection** | **Jan-25** | **99,097** | **5.3** | **697** | **94** | **2.4** |
| **IRZ-18** | **Upper** | **Injection** | **Feb-25** | **63,304** | **5.5** | **332** | **49** | **3.2** |
| **IRZ-18** | **Upper** | **Injection** | **Mar-25** | **275,457** | **8.8** | **697** | **94** | **6.6** |
| IRZ-18 | Lower | Injection | Apr-24 | 48,447 | 2.8 | 169 | 23 | 4.8 |
| IRZ-18 | Lower | Injection | May-24 | 161,858 | 9.0 | 542 | 73 | 5.0 |
| IRZ-18 | Lower | Injection | Jun-24 | 178,744 | 11 | 708 | 98 | 4.2 |
| IRZ-18 | Lower | Injection | Jul-24 | 168,344 | 12 | 722 | 97 | 3.9 |
| IRZ-18 | Lower | Injection | Aug-24 | 119,667 | 6.9 | 330 | 44 | 6.0 |
| IRZ-18 | Lower | Injection | Sep-24 | 273,527 | 18 | 443 | 62 | 10 |
| IRZ-18 | Lower | Injection | Oct-24 | 117,294 | 6.1 | 712 | 96 | 2.7 |
| IRZ-18 | Lower | Injection | Nov-24 | 68,737 | 3.7 | 342 | 48 | 3.3 |
| IRZ-18 | Lower | Injection | Dec-24 | 135,562 | 9.9 | 726 | 98 | 3.1 |
| **IRZ-18** | **Lower** | **Injection** | **Jan-25** | **111,349** | **6.2** | **727** | **98** | **2.6** |
| **IRZ-18** | **Lower** | **Injection** | **Feb-25** | **54,786** | **4.2** | **333** | **50** | **2.7** |
| **IRZ-18** | **Lower** | **Injection** | **Mar-25** | **129,244** | **3.8** | **693** | **93** | **3.1** |
| IRZ-20 | Upper | Injection | Apr-24 | 312,435 | 23 | 707 | 98 | 7.4 |
| IRZ-20 | Upper | Injection | May-24 | 265,069 | 15 | 736 | 99 | 6.0 |
| IRZ-20 | Upper | Injection | Jun-24 | 237,932 | 11 | 686 | 95 | 5.8 |
| IRZ-20 | Upper | Injection | Jul-24 | 156,543 | 11 | 570 | 77 | 4.6 |
| IRZ-20 | Upper | Injection | Aug-24 | 148,685 | 10 | 452 | 61 | 5.5 |
| IRZ-20 | Upper | Injection | Sep-24 | 132,479 | 11 | 383 | 53 | 5.8 |
| IRZ-20 | Upper | Injection | Oct-24 | 228,113 | 13 | 716 | 96 | 5.3 |
| IRZ-20 | Upper | Injection | Nov-24 | 211,406 | 14 | 683 | 95 | 5.2 |
| IRZ-20 | Upper | Injection | Dec-24 | 125,092 | 10 | 407 | 55 | 5.1 |
| **IRZ-20** | **Upper** | **Injection** | **Jan-25** | **243,427** | **14** | **731** | **98** | **5.6** |
| **IRZ-20** | **Upper** | **Injection** | **Feb-25** | **268,898** | **13** | **640** | **95** | **7.0** |
| **IRZ-20** | **Upper** | **Injection** | **Mar-25** | **306,874** | **9.4** | **696** | **94** | **7.3** |
| IRZ-20 | Lower | Injection | Apr-24 | 504,904 | 37 | 707 | 98 | 12 |
| IRZ-20 | Lower | Injection | May-24 | 411,604 | 26 | 737 | 99 | 9.3 |
| IRZ-20 | Lower | Injection | Jun-24 | 385,146 | 18 | 686 | 95 | 9.4 |
| IRZ-20 | Lower | Injection | Jul-24 | 326,680 | 23 | 590 | 79 | 9.2 |
| IRZ-20 | Lower | Injection | Aug-24 | 264,658 | 19 | 451 | 61 | 9.8 |
| IRZ-20 | Lower | Injection | Sep-24 | 183,867 | 16 | 366 | 51 | 8.4 |

**Table 3.1**
**Summary of NTH IRZ Well Operations**
**First Quarter 2025 Well Performance Report**
**Pacific Gas and Electric Company, Topock Compressor Station, Needles, California**

| Well ID | Aquifer Interval | Well Type | Operating Period | Recirculated Groundwater Volume (gal) | Ethanol Volume (gal) | Total Hours Operating (hours) | Active Time Operating (percent) | Average Flow Rate When Operating (gpm) |
|---|---|---|---|---|---|---|---|---|
| IRZ-20 | Lower | Injection | Oct-24 | 306,230 | 18 | 715 | 96 | 7.1 |
| IRZ-20 | Lower | Injection | Nov-24 | 289,131 | 20 | 683 | 95 | 7.1 |
| IRZ-20 | Lower | Injection | Dec-24 | 210,713 | 15 | 407 | 55 | 8.6 |
| **IRZ-20** | **Lower** | **Injection** | **Jan-25** | **249,893** | **14** | **730** | **98** | **5.7** |
| **IRZ-20** | **Lower** | **Injection** | **Feb-25** | **197,738** | **10** | **639** | **95** | **5.2** |
| **IRZ-20** | **Lower** | **Injection** | **Mar-25** | **202,741** | **6.3** | **695** | **93** | **4.9** |
| IRZ-21 | Upper | Injection | Apr-24 | -- | -- | -- | -- | -- |
| IRZ-21 | Upper | Injection | May-24 | -- | -- | -- | -- | -- |
| IRZ-21 | Upper | Injection | Jun-24 | -- | -- | -- | -- | -- |
| IRZ-21 | Upper | Injection | Jul-24 | -- | -- | -- | -- | -- |
| IRZ-21 | Upper | Injection | Aug-24 | -- | -- | -- | -- | -- |
| IRZ-21 | Upper | Injection | Sep-24 | -- | -- | -- | -- | -- |
| IRZ-21 | Upper | Injection | Oct-24 | -- | -- | -- | -- | -- |
| IRZ-21 | Upper | Injection | Nov-24 | -- | -- | -- | -- | -- |
| IRZ-21 | Upper | Injection | Dec-24 | -- | -- | -- | -- | -- |
| **IRZ-21** | **Upper** | **Injection** | **Jan-25** | **--** | **--** | **--** | **--** | **--** |
| **IRZ-21** | **Upper** | **Injection** | **Feb-25** | **--** | **--** | **--** | **--** | **--** |
| **IRZ-21** | **Upper** | **Injection** | **Mar-25** | **--** | **--** | **--** | **--** | **--** |
| IRZ-21 | Lower | Injection | Apr-24 | -- | -- | -- | -- | -- |
| IRZ-21 | Lower | Injection | May-24 | -- | -- | -- | -- | -- |
| IRZ-21 | Lower | Injection | Jun-24 | -- | -- | -- | -- | -- |
| IRZ-21 | Lower | Injection | Jul-24 | -- | -- | -- | -- | -- |
| IRZ-21 | Lower | Injection | Aug-24 | -- | -- | -- | -- | -- |
| IRZ-21 | Lower | Injection | Sep-24 | -- | -- | -- | -- | -- |
| IRZ-21 | Lower | Injection | Oct-24 | -- | -- | -- | -- | -- |
| IRZ-21 | Lower | Injection | Nov-24 | -- | -- | -- | -- | -- |
| IRZ-21 | Lower | Injection | Dec-24 | -- | -- | -- | -- | -- |
| **IRZ-21** | **Lower** | **Injection** | **Jan-25** | **--** | **--** | **--** | **--** | **--** |
| **IRZ-21** | **Lower** | **Injection** | **Feb-25** | **--** | **--** | **--** | **--** | **--** |
| **IRZ-21** | **Lower** | **Injection** | **Mar-25** | **--** | **--** | **--** | **--** | **--** |
| IRZ-25 | Upper / Upper Middle | Injection | Apr-24 | -- | -- | -- | -- | -- |
| IRZ-25 | Upper / Upper Middle | Injection | May-24 | -- | -- | -- | -- | -- |
| IRZ-25 | Upper / Upper Middle | Injection | Jun-24 | -- | -- | -- | -- | -- |
| IRZ-25 | Upper / Upper Middle | Injection | Jul-24 | -- | -- | -- | -- | -- |
| IRZ-25 | Upper / Upper Middle | Injection | Aug-24 | -- | -- | -- | -- | -- |
| IRZ-25 | Upper / Upper Middle | Injection | Sep-24 | -- | -- | -- | -- | -- |
| IRZ-25 | Upper / Upper Middle | Injection | Oct-24 | -- | -- | -- | -- | -- |
| IRZ-25 | Upper / Upper Middle | Injection | Nov-24 | -- | -- | -- | -- | -- |

**Table 3.1**
**Summary of NTH IRZ Well Operations**
**First Quarter 2025 Well Performance Report**
**Pacific Gas and Electric Company, Topock Compressor Station, Needles, California**

| Well ID | Aquifer Interval | Well Type | Operating Period | Recirculated Groundwater Volume (gal) | Ethanol Volume (gal) | Total Hours Operating (hours) | Active Time Operating (percent) | Average Flow Rate When Operating (gpm) |
|---|---|---|---|---|---|---|---|---|
| IRZ-25 | Upper / Upper Middle | Injection | Dec-24 | -- | -- | -- | -- | -- |
| **IRZ-25** | **Upper / Upper Middle** | **Injection** | **Jan-25** | **--** | **--** | **--** | **--** | **--** |
| **IRZ-25** | **Upper / Upper Middle** | **Injection** | **Feb-25** | **--** | **--** | **--** | **--** | **--** |
| **IRZ-25** | **Upper / Upper Middle** | **Injection** | **Mar-25** | **--** | **--** | **--** | **--** | **--** |
| IRZ-25 | Lower | Injection | Apr-24 | -- | -- | -- | -- | -- |
| IRZ-25 | Lower | Injection | May-24 | -- | -- | -- | -- | -- |
| IRZ-25 | Lower | Injection | Jun-24 | -- | -- | -- | -- | -- |
| IRZ-25 | Lower | Injection | Jul-24 | -- | -- | -- | -- | -- |
| IRZ-25 | Lower | Injection | Aug-24 | -- | -- | -- | -- | -- |
| IRZ-25 | Lower | Injection | Sep-24 | -- | -- | -- | -- | -- |
| IRZ-25 | Lower | Injection | Oct-24 | -- | -- | -- | -- | -- |
| IRZ-25 | Lower | Injection | Nov-24 | -- | -- | -- | -- | -- |
| IRZ-25 | Lower | Injection | Dec-24 | -- | -- | -- | -- | -- |
| **IRZ-25** | **Lower** | **Injection** | **Jan-25** | **--** | **--** | **--** | **--** | **--** |
| **IRZ-25** | **Lower** | **Injection** | **Feb-25** | **--** | **--** | **--** | **--** | **--** |
| **IRZ-25** | **Lower** | **Injection** | **Mar-25** | **--** | **--** | **--** | **--** | **--** |
| IRZ-27 | Upper / Upper Middle | Injection | Apr-24 | 116,944 | 16 | 708 | 98 | 2.8 |
| IRZ-27 | Upper / Upper Middle | Injection | May-24 | 64,753 | 5.8 | 247 | 33 | 4.4 |
| IRZ-27 | Upper / Upper Middle | Injection | Jun-24 | 168,334 | 11 | 641 | 89 | 4.4 |
| IRZ-27 | Upper / Upper Middle | Injection | Jul-24 | 176,092 | 13 | 723 | 97 | 4.1 |
| IRZ-27 | Upper / Upper Middle | Injection | Aug-24 | 82,460 | 1.7 | 390 | 52 | 3.5 |
| IRZ-27 | Upper / Upper Middle | Injection | Sep-24 | 156,523 | 11 | 638 | 89 | 4.1 |
| IRZ-27 | Upper / Upper Middle | Injection | Oct-24 | 128,365 | 9.9 | 705 | 95 | 3.0 |
| IRZ-27 | Upper / Upper Middle | Injection | Nov-24 | 79,458 | 5.6 | 651 | 90 | 2.0 |
| IRZ-27 | Upper / Upper Middle | Injection | Dec-24 | 117,685 | 7.6 | 510 | 69 | 3.8 |
| **IRZ-27** | **Upper / Upper Middle** | **Injection** | **Jan-25** | **144,121** | **9.1** | **628** | **84** | **3.8** |
| **IRZ-27** | **Upper / Upper Middle** | **Injection** | **Feb-25** | **221,809** | **17** | **569** | **85** | **6.5** |
| **IRZ-27** | **Upper / Upper Middle** | **Injection** | **Mar-25** | **247,099** | **22** | **634** | **85** | **6.5** |
| IRZ-27 | Lower | Injection | Apr-24 | 223,568 | 33 | 708 | 98 | 5.3 |
| IRZ-27 | Lower | Injection | May-24 | 114,782 | 11 | 255 | 34 | 7.5 |
| IRZ-27 | Lower | Injection | Jun-24 | 336,869 | 20 | 705 | 98 | 8.0 |
| IRZ-27 | Lower | Injection | Jul-24 | 386,727 | 24 | 701 | 94 | 9.2 |
| IRZ-27 | Lower | Injection | Aug-24 | 182,788 | 5.4 | 377 | 51 | 8.1 |
| IRZ-27 | Lower | Injection | Sep-24 | 329,401 | 22 | 649 | 90 | 8.5 |
| IRZ-27 | Lower | Injection | Oct-24 | 353,574 | 27 | 697 | 94 | 8.5 |
| IRZ-27 | Lower | Injection | Nov-24 | 297,676 | 22 | 684 | 95 | 7.3 |
| IRZ-27 | Lower | Injection | Dec-24 | 247,666 | 17 | 495 | 67 | 8.3 |
| **IRZ-27** | **Lower** | **Injection** | **Jan-25** | **361,367** | **24** | **669** | **90** | **9.0** |

**Table 3.1**
**Summary of NTH IRZ Well Operations**
**First Quarter 2025 Well Performance Report**
**Pacific Gas and Electric Company, Topock Compressor Station, Needles, California**

| Well ID | Aquifer Interval | Well Type | Operating Period | Recirculated Groundwater Volume (gal) | Ethanol Volume (gal) | Total Hours Operating (hours) | Active Time Operating (percent) | Average Flow Rate When Operating (gpm) |
|---|---|---|---|---|---|---|---|---|
| **IRZ-27** | **Lower** | **Injection** | **Feb-25** | **400** | **0.07** | **6.2** | **0.92** | **1.1** |
| **IRZ-27** | **Lower** | **Injection** | **Mar-25** | -- | -- | -- | **--** | **--** |
| IRZ-29 | Upper | Injection | Apr-24 | 206,761 | 28 | 531 | 74 | 6.5 |
| IRZ-29 | Upper | Injection | May-24 | 164,691 | 17 | 712 | 96 | 3.9 |
| IRZ-29 | Upper | Injection | Jun-24 | 135,092 | 8.0 | 708 | 98 | 3.2 |
| IRZ-29 | Upper | Injection | Jul-24 | 87,295 | 8.0 | 415 | 56 | 3.5 |
| IRZ-29 | Upper | Injection | Aug-24 | 224,909 | 9.7 | 499 | 67 | 7.5 |
| IRZ-29 | Upper | Injection | Sep-24 | 301,034 | 20 | 627 | 87 | 8.0 |
| IRZ-29 | Upper | Injection | Oct-24 | 77,125 | 6.6 | 163 | 22 | 7.9 |
| IRZ-29 | Upper | Injection | Nov-24 | 292,205 | 21 | 673 | 93 | 7.2 |
| IRZ-29 | Upper | Injection | Dec-24 | 309,932 | 24 | 730 | 98 | 7.1 |
| **IRZ-29** | **Upper** | **Injection** | **Jan-25** | **312,885** | **19** | **731** | **98** | **7.1** |
| **IRZ-29** | **Upper** | **Injection** | **Feb-25** | **333,651** | **22** | **639** | **95** | **8.7** |
| **IRZ-29** | **Upper** | **Injection** | **Mar-25** | **342,225** | **27** | **698** | **94** | **8.2** |
| IRZ-29 | Lower | Injection | Apr-24 | 146,803 | 21 | 532 | 74 | 4.6 |
| IRZ-29 | Lower | Injection | May-24 | 150,147 | 16 | 714 | 96 | 3.5 |
| IRZ-29 | Lower | Injection | Jun-24 | 94,732 | 4.0 | 685 | 95 | 2.3 |
| IRZ-29 | Lower | Injection | Jul-24 | 63,021 | 5.4 | 409 | 55 | 2.6 |
| IRZ-29 | Lower | Injection | Aug-24 | 176,012 | 6.1 | 503 | 68 | 5.8 |
| IRZ-29 | Lower | Injection | Sep-24 | 35,685 | 2.9 | 194 | 27 | 3.1 |
| IRZ-29 | Lower | Injection | Oct-24 | 52,371 | 3.4 | 234 | 31 | 3.7 |
| IRZ-29 | Lower | Injection | Nov-24 | 132,920 | 11 | 668 | 93 | 3.3 |
| IRZ-29 | Lower | Injection | Dec-24 | 128,385 | 10 | 729 | 98 | 2.9 |
| **IRZ-29** | **Lower** | **Injection** | **Jan-25** | **132,830** | **8.4** | **730** | **98** | **3.0** |
| **IRZ-29** | **Lower** | **Injection** | **Feb-25** | **151,389** | **10** | **638** | **95** | **4.0** |
| **IRZ-29** | **Lower** | **Injection** | **Mar-25** | **240,994** | **19** | **698** | **94** | **5.8** |
| IRZ-31 | Upper | Injection | Apr-24 | 264,918 | 35 | 608 | 84 | 7.3 |
| IRZ-31 | Upper | Injection | May-24 | 181,817 | 18 | 712 | 96 | 4.3 |
| IRZ-31 | Upper | Injection | Jun-24 | 164,621 | 9.9 | 670 | 93 | 4.1 |
| IRZ-31 | Upper | Injection | Jul-24 | 181,767 | 13 | 424 | 57 | 7.1 |
| IRZ-31 | Upper | Injection | Aug-24 | 393,514 | 23 | 722 | 97 | 9.1 |
| IRZ-31 | Upper | Injection | Sep-24 | 309,452 | 22 | 555 | 77 | 9.3 |
| IRZ-31 | Upper | Injection | Oct-24 | 266,020 | 18 | 484 | 65 | 9.2 |
| IRZ-31 | Upper | Injection | Nov-24 | 327,419 | 23 | 594 | 83 | 9.2 |
| IRZ-31 | Upper | Injection | Dec-24 | 399,950 | 30 | 731 | 98 | 9.1 |
| **IRZ-31** | **Upper** | **Injection** | **Jan-25** | **382,513** | **24** | **721** | **97** | **8.8** |
| **IRZ-31** | **Upper** | **Injection** | **Feb-25** | **289,395** | **17** | **551** | **82** | **8.8** |
| **IRZ-31** | **Upper** | **Injection** | **Mar-25** | **234,629** | **12** | **446** | **60** | **8.8** |

**Table 3.1**
**Summary of NTH IRZ Well Operations**
**First Quarter 2025 Well Performance Report**
**Pacific Gas and Electric Company, Topock Compressor Station, Needles, California**

| Well ID | Aquifer Interval | Well Type | Operating Period | Recirculated Groundwater Volume (gal) | Ethanol Volume (gal) | Total Hours Operating (hours) | Active Time Operating (percent) | Average Flow Rate When Operating (gpm) |
|---|---|---|---|---|---|---|---|---|
| IRZ-31 | Lower | Injection | Apr-24 | 147,384 | 19 | 605 | 84 | 4.1 |
| IRZ-31 | Lower | Injection | May-24 | 86,965 | 8.6 | 703 | 94 | 2.1 |
| IRZ-31 | Lower | Injection | Jun-24 | 98,346 | 5.1 | 684 | 95 | 2.4 |
| IRZ-31 | Lower | Injection | Jul-24 | 174,951 | 13 | 424 | 57 | 6.9 |
| IRZ-31 | Lower | Injection | Aug-24 | 341,854 | 19 | 722 | 97 | 7.9 |
| IRZ-31 | Lower | Injection | Sep-24 | 131,038 | 9.2 | 554 | 77 | 3.9 |
| IRZ-31 | Lower | Injection | Oct-24 | 71,950 | 6.5 | 462 | 62 | 2.6 |
| IRZ-31 | Lower | Injection | Nov-24 | 237,522 | 16 | 579 | 80 | 6.8 |
| IRZ-31 | Lower | Injection | Dec-24 | 179,875 | 13 | 725 | 97 | 4.1 |
| **IRZ-31** | **Lower** | **Injection** | **Jan-25** | **176,772** | **10** | **714** | **96** | **4.1** |
| **IRZ-31** | **Lower** | **Injection** | **Feb-25** | **102,310** | **6.2** | **547** | **81** | **3.1** |
| **IRZ-31** | **Lower** | **Injection** | **Mar-25** | **169,565** | **11** | **439** | **59** | **6.4** |
| IRZ-33 | Upper | Injection | Apr-24 | 114,241 | 14 | 670 | 93 | 2.8 |
| IRZ-33 | Upper | Injection | May-24 | 41,201 | 2.1 | 440 | 59 | 1.6 |
| IRZ-33 | Upper | Injection | Jun-24 | 210,955 | 15 | 599 | 83 | 5.9 |
| IRZ-33 | Upper | Injection | Jul-24 | 268,842 | 20 | 737 | 99 | 6.1 |
| IRZ-33 | Upper | Injection | Aug-24 | 283,286 | 16 | 721 | 97 | 6.5 |
| IRZ-33 | Upper | Injection | Sep-24 | 79,117 | 4.0 | 212 | 29 | 6.2 |
| IRZ-33 | Upper | Injection | Oct-24 | 278,782 | 20 | 722 | 97 | 6.4 |
| IRZ-33 | Upper | Injection | Nov-24 | 280,333 | 20 | 671 | 93 | 7.0 |
| IRZ-33 | Upper | Injection | Dec-24 | 251,706 | 17 | 641 | 86 | 6.5 |
| **IRZ-33** | **Upper** | **Injection** | **Jan-25** | **280,243** | **12** | **706** | **95** | **6.6** |
| **IRZ-33** | **Upper** | **Injection** | **Feb-25** | **102,507** | **5.0** | **218** | **32** | **7.8** |
| **IRZ-33** | **Upper** | **Injection** | **Mar-25** | **268,815** | **21** | **698** | **94** | **6.4** |
| IRZ-33 | Lower | Injection | Apr-24 | 124,320 | 16 | 670 | 93 | 3.1 |
| IRZ-33 | Lower | Injection | May-24 | 69,779 | 7.0 | 481 | 65 | 2.4 |
| IRZ-33 | Lower | Injection | Jun-24 | 144,201 | 11 | 599 | 83 | 4.0 |
| IRZ-33 | Lower | Injection | Jul-24 | 173,619 | 13 | 698 | 94 | 4.1 |
| IRZ-33 | Lower | Injection | Aug-24 | 148,615 | 8.4 | 722 | 97 | 3.4 |
| IRZ-33 | Lower | Injection | Sep-24 | 23,603 | 2.0 | 131 | 18 | 3.0 |
| IRZ-33 | Lower | Injection | Oct-24 | 113,091 | 7.9 | 675 | 91 | 2.8 |
| IRZ-33 | Lower | Injection | Nov-24 | 130,047 | 8.0 | 593 | 82 | 3.7 |
| IRZ-33 | Lower | Injection | Dec-24 | 106,364 | 8.0 | 593 | 80 | 3.0 |
| **IRZ-33** | **Lower** | **Injection** | **Jan-25** | **108,976** | **5.2** | **702** | **94** | **2.6** |
| **IRZ-33** | **Lower** | **Injection** | **Feb-25** | **32,057** | **1.7** | **206** | **31** | **2.6** |
| **IRZ-33** | **Lower** | **Injection** | **Mar-25** | **93,315** | **8.6** | **683** | **92** | **2.3** |
| IRZ-35 | Upper | Injection | Apr-24 | 262,316 | 39 | 709 | 98 | 6.2 |
| IRZ-35 | Upper | Injection | May-24 | 286,549 | 26 | 630 | 85 | 7.6 |

**Table 3.1**
**Summary of NTH IRZ Well Operations**
**First Quarter 2025 Well Performance Report**
**Pacific Gas and Electric Company, Topock Compressor Station, Needles, California**

| Well ID | Aquifer Interval | Well Type | Operating Period | Recirculated Groundwater Volume (gal) | Ethanol Volume (gal) | Total Hours Operating (hours) | Active Time Operating (percent) | Average Flow Rate When Operating (gpm) |
|---|---|---|---|---|---|---|---|---|
| IRZ-35 | Upper | Injection | Jun-24 | 250,024 | 14 | 564 | 78 | 7.4 |
| IRZ-35 | Upper | Injection | Jul-24 | 325,728 | 25 | 724 | 97 | 7.5 |
| IRZ-35 | Upper | Injection | Aug-24 | 339,671 | 19 | 724 | 97 | 7.8 |
| IRZ-35 | Upper | Injection | Sep-24 | 285,438 | 19 | 647 | 90 | 7.4 |
| IRZ-35 | Upper | Injection | Oct-24 | 257,843 | 21 | 550 | 74 | 7.8 |
| IRZ-35 | Upper | Injection | Nov-24 | 315,568 | 18 | 678 | 94 | 7.8 |
| IRZ-35 | Upper | Injection | Dec-24 | 342,244 | 26 | 734 | 99 | 7.8 |
| **IRZ-35** | **Upper** | **Injection** | **Jan-25** | **303,390** | **18** | **702** | **94** | **7.2** |
| **IRZ-35** | **Upper** | **Injection** | **Feb-25** | **283,775** | **19** | **639** | **95** | **7.4** |
| **IRZ-35** | **Upper** | **Injection** | **Mar-25** | **147,143** | **4.8** | **342** | **46** | **7.2** |
| IRZ-37 | Upper | Injection | Apr-24 | 38,474 | 2.2 | 598 | 83 | 1.1 |
| IRZ-37 | Upper | Injection | May-24 | 61,864 | 3.7 | 597 | 80 | 1.7 |
| IRZ-37 | Upper | Injection | Jun-24 | 108,576 | 5.5 | 413 | 57 | 4.4 |
| IRZ-37 | Upper | Injection | Jul-24 | 202,798 | 15 | 723 | 97 | 4.7 |
| IRZ-37 | Upper | Injection | Aug-24 | 218,954 | 13 | 722 | 97 | 5.1 |
| IRZ-37 | Upper | Injection | Sep-24 | 116,444 | 8.8 | 467 | 65 | 4.2 |
| IRZ-37 | Upper | Injection | Oct-24 | 156,725 | 11 | 562 | 76 | 4.6 |
| IRZ-37 | Upper | Injection | Nov-24 | 181,647 | 11 | 622 | 86 | 4.9 |
| IRZ-37 | Upper | Injection | Dec-24 | 173,539 | 14 | 667 | 90 | 4.3 |
| **IRZ-37** | **Upper** | **Injection** | **Jan-25** | **60,199** | **1.8** | **287** | **39** | **3.5** |
| **IRZ-37** | **Upper** | **Injection** | **Feb-25** | **284,906** | **18** | **640** | **95** | **7.4** |
| **IRZ-37** | **Upper** | **Injection** | **Mar-25** | **189,107** | **16** | **697** | **94** | **4.5** |
| IRZ-39 | Upper | Injection | Apr-24 | -- | -- | -- | -- | -- |
| IRZ-39 | Upper | Injection | May-24 | -- | -- | -- | -- | -- |
| IRZ-39 | Upper | Injection | Jun-24 | -- | -- | -- | -- | -- |
| IRZ-39 | Upper | Injection | Jul-24 | -- | -- | -- | -- | -- |
| IRZ-39 | Upper | Injection | Aug-24 | -- | -- | -- | -- | -- |
| IRZ-39 | Upper | Injection | Sep-24 | -- | -- | -- | -- | -- |
| IRZ-39 | Upper | Injection | Oct-24 | -- | -- | -- | -- | -- |
| IRZ-39 | Upper | Injection | Nov-24 | -- | -- | -- | -- | -- |
| IRZ-39 | Upper | Injection | Dec-24 | 5,743 | 0.56 | 98 | 13 | 1.0 |
| **IRZ-39** | **Upper** | **Injection** | **Jan-25** | **49,555** | **2.7** | **648** | **87** | **1.3** |
| **IRZ-39** | **Upper** | **Injection** | **Feb-25** | **56,943** | **4.0** | **593** | **88** | **1.6** |
| **IRZ-39** | **Upper** | **Injection** | **Mar-25** | **37,096** | **3.9** | **610** | **82** | **1.0** |
| IRZ-9 | Upper | Extraction | Apr-24 | -- | -- | -- | -- | -- |
| IRZ-9 | Upper | Extraction | May-24 | 3,814 | -- | 1.5 | 0.20 | 42 |
| IRZ-9 | Upper | Extraction | Jun-24 | -- | -- | -- | -- | -- |
| IRZ-9 | Upper | Extraction | Jul-24 | 2,542 | -- | 2.2 | 0.29 | 20 |

**Table 3.1**
**Summary of NTH IRZ Well Operations**
**First Quarter 2025 Well Performance Report**
**Pacific Gas and Electric Company, Topock Compressor Station, Needles, California**

| Well ID | Aquifer Interval | Well Type | Operating Period | Recirculated Groundwater Volume (gal) | Ethanol Volume (gal) | Total Hours Operating (hours) | Active Time Operating (percent) | Average Flow Rate When Operating (gpm) |
|---|---|---|---|---|---|---|---|---|
| IRZ-9 | Upper | Extraction | Aug-24 | -- | -- | -- | -- | -- |
| IRZ-9 | Upper | Extraction | Sep-24 | -- | -- | -- | -- | -- |
| IRZ-9 | Upper | Extraction | Oct-24 | -- | -- | -- | -- | -- |
| IRZ-9 | Upper | Extraction | Nov-24 | 1,992 | -- | 5.8 | 0.80 | 5.8 |
| IRZ-9 | Upper | Extraction | Dec-24 | -- | -- | -- | -- | -- |
| **IRZ-9** | **Upper** | **Extraction** | **Jan-25** | **--** | **--** | **--** | **--** | **--** |
| **IRZ-9** | **Upper** | **Extraction** | **Feb-25** | **4,334** | **--** | **2.2** | **0.33** | **33** |
| **IRZ-9** | **Upper** | **Extraction** | **Mar-25** | -- | -- | -- | **--** | **--** |
| IRZ-13D | Lower | Extraction | Apr-24 | 72,597 | -- | 100 | 14 | 12 |
| IRZ-13D | Lower | Extraction | May-24 | 299,688 | -- | 296 | 40 | 17 |
| IRZ-13D | Lower | Extraction | Jun-24 | 560,996 | -- | 625 | 87 | 15 |
| IRZ-13D | Lower | Extraction | Jul-24 | 406,621 | -- | 574 | 77 | 12 |
| IRZ-13D | Lower | Extraction | Aug-24 | 341,514 | -- | 508 | 68 | 11 |
| IRZ-13D | Lower | Extraction | Sep-24 | 165,371 | -- | 246 | 34 | 11 |
| IRZ-13D | Lower | Extraction | Oct-24 | 387,900 | -- | 542 | 73 | 12 |
| IRZ-13D | Lower | Extraction | Nov-24 | 482,110 | -- | 581 | 81 | 14 |
| IRZ-13D | Lower | Extraction | Dec-24 | 466,875 | -- | 620 | 83 | 13 |
| **IRZ-13D** | **Lower** | **Extraction** | **Jan-25** | **48,135** | **--** | **58** | **7.8** | **14** |
| **IRZ-13D** | **Lower** | **Extraction** | **Feb-25** | **37,002** | **--** | **44** | **6.5** | **14** |
| **IRZ-13D** | **Lower** | **Extraction** | **Mar-25** | **193,604** | **--** | **245** | **33** | **13** |
| IRZ-13S | Upper | Extraction | Apr-24 | 127 | -- | 0.20 | 0.03 | 11 |
| IRZ-13S | Upper | Extraction | May-24 | 20,234 | -- | 21 | 2.8 | 16 |
| IRZ-13S | Upper | Extraction | Jun-24 | 334,336 | -- | 462 | 64 | 12 |
| IRZ-13S | Upper | Extraction | Jul-24 | 136,689 | -- | 151 | 20 | 15 |
| IRZ-13S | Upper | Extraction | Aug-24 | 172,822 | -- | 280 | 38 | 10 |
| IRZ-13S | Upper | Extraction | Sep-24 | 52,969 | -- | 85 | 12 | 10 |
| IRZ-13S | Upper | Extraction | Oct-24 | 381 | -- | 0.75 | 0.10 | 8.5 |
| IRZ-13S | Upper | Extraction | Nov-24 | 249,512 | -- | 306 | 43 | 14 |
| IRZ-13S | Upper | Extraction | Dec-24 | 129,434 | -- | 199 | 27 | 11 |
| **IRZ-13S** | **Upper** | **Extraction** | **Jan-25** | **24,551** | **--** | **32** | **4.2** | **13** |
| **IRZ-13S** | **Upper** | **Extraction** | **Feb-25** | **1,592** | **--** | **1.8** | **0.27** | **15** |
| **IRZ-13S** | **Upper** | **Extraction** | **Mar-25** | **26,152** | **--** | **41** | **5.6** | **11** |
| IRZ-23 | Lower | Extraction | Apr-24 | 2,769,068 | -- | 710 | 99 | 65 |
| IRZ-23 | Lower | Extraction | May-24 | 2,765,486 | -- | 738 | 99 | 62 |
| IRZ-23 | Lower | Extraction | Jun-24 | 2,763,783 | -- | 707 | 98 | 65 |
| IRZ-23 | Lower | Extraction | Jul-24 | 3,113,367 | -- | 723 | 97 | 72 |
| IRZ-23 | Lower | Extraction | Aug-24 | 2,833,943 | -- | 723 | 97 | 65 |
| IRZ-23 | Lower | Extraction | Sep-24 | 2,474,602 | -- | 646 | 90 | 64 |

**Table 3.1**
**Summary of NTH IRZ Well Operations**
**First Quarter 2025 Well Performance Report**
**Pacific Gas and Electric Company, Topock Compressor Station, Needles, California**

| Well ID | Aquifer Interval | Well Type | Operating Period | Recirculated Groundwater Volume (gal) | Ethanol Volume (gal) | Total Hours Operating (hours) | Active Time Operating (percent) | Average Flow Rate When Operating (gpm) |
|---|---|---|---|---|---|---|---|---|
| IRZ-23 | Lower | Extraction | Oct-24 | 2,850,554 | -- | 726 | 98 | 65 |
| IRZ-23 | Lower | Extraction | Nov-24 | 2,677,695 | -- | 679 | 94 | 66 |
| IRZ-23 | Lower | Extraction | Dec-24 | 2,871,965 | -- | 739 | 99 | 65 |
| **IRZ-23** | **Lower** | **Extraction** | **Jan-25** | **3,579,117** | **--** | **733** | **99** | **81** |
| **IRZ-23** | **Lower** | **Extraction** | **Feb-25** | **2,748,931** | **--** | **638** | **95** | **72** |
| **IRZ-23** | **Lower** | **Extraction** | **Mar-25** | **3,081,034** | **--** | **700** | **94** | **73** |
| PTI-1D | Lower | Extraction | Apr-24 | 1,113,849 | -- | 707 | 98 | 26 |
| PTI-1D | Lower | Extraction | May-24 | 1,142,089 | -- | 739 | 99 | 26 |
| PTI-1D | Lower | Extraction | Jun-24 | 1,132,422 | -- | 710 | 99 | 27 |
| PTI-1D | Lower | Extraction | Jul-24 | 867,158 | -- | 548 | 74 | 26 |
| PTI-1D | Lower | Extraction | Aug-24 | 1,167,071 | -- | 721 | 97 | 27 |
| PTI-1D | Lower | Extraction | Sep-24 | 982,480 | -- | 641 | 89 | 26 |
| PTI-1D | Lower | Extraction | Oct-24 | 1,165,830 | -- | 725 | 97 | 27 |
| PTI-1D | Lower | Extraction | Nov-24 | 1,064,531 | -- | 685 | 95 | 26 |
| PTI-1D | Lower | Extraction | Dec-24 | 1,154,600 | -- | 739 | 99 | 26 |
| **PTI-1D** | **Lower** | **Extraction** | **Jan-25** | **446,816** | **--** | **350** | **47** | **21** |
| **PTI-1D** | **Lower** | **Extraction** | **Feb-25** | **808,436** | **--** | **641** | **95** | **21** |
| **PTI-1D** | **Lower** | **Extraction** | **Mar-25** | **901,867** | **--** | **700** | **94** | **21** |

**Note:**
1. Results collected during the reporting period are bolded.

**Acronyms and Abbreviations:**
-- = not applicable
gal = gallon
gpm = gallon per minute
ID = identification
IRZ = In Situ Reactive Zone
NTH = National Trails Highway

**Table 3.2**
**NTH IRZ System Operations and Non-Routine Maintenance Log**
**First Quarter 2025 Well Performance Report**
**Pacific Gas and Electric Company, Topock Compressor Station, Needles, California**

| Date | Approximate IRZ Systemwide Downtime (days) | Operations and Maintenance Log | Notes |
|---|---|---|---|
| 1/1/2025 through 1/10/2025 | -- | PTI-1D offline with periodic operation during troubleshooting. | Well shut off due to communication loss alarm and subsequent PTI-1D extraction pump replacement on 1/10/2025. During this period, extraction well IRZ-23 was operated at a flow rate exceeding 100 gpm. It was returned to operation after the PTI-1D extraction pump was replaced. |
| 1/2/2025 through 1/3/2025 | -- | Reinjected conditioned water into injection wells. | -- |
| 1/3/2025 | -- | Backwashed IRZ injection wells IRZ-15, IRZ-16, IRZ-17, IRZ-18, IRZ-20, IRZ-27, IRZ-29, IRZ-31, IRZ-33, IRZ-35, IRZ-37, and IRZ-39. | -- |
| 1/3/2025 | -- | PTI-1D filter replaced. | -- |
| 1/6/2025 | -- | Backwashed IRZ injection wells IRZ-15, IRZ-16, IRZ-17, IRZ-18, IRZ-20, IRZ-27, IRZ-29, IRZ-31, IRZ-33, IRZ-35, IRZ-37, and IRZ-39. | -- |
| 1/7/2025 | -- | Ethanol dosing occurred. | -- |
| 1/8/2025 | -- | Backwashed IRZ injection wells IRZ-15, IRZ-16, IRZ-17, IRZ-18, IRZ-20, IRZ-27, IRZ-29, IRZ-31, IRZ-33, IRZ-35, IRZ-37, and IRZ-39. | -- |
| 1/8/2025 through 1/10/2025 | -- | Reinjected conditioned water into injection wells. | -- |
| 1/10/2025 | -- | Backwashed IRZ injection wells IRZ-15, IRZ-16, IRZ-17, IRZ-18, IRZ-20, IRZ-27, IRZ-29, IRZ-31, IRZ-33, IRZ-35, IRZ-37, and IRZ-39. | -- |
| 1/10/2025 | -- | PTI-1D filter replaced. | -- |
| 1/11/2025 through 1/26/2025 | -- | IRZ-16 offline for well rehabilitation. | -- |
| 1/11/2025 through 1/28/2025 | -- | IRZ-37 offline for well rehabilitation. | -- |
| 1/13/2025 | -- | Backwashed IRZ injection wells IRZ-15, IRZ-17, IRZ-18, IRZ-20, IRZ-27, IRZ-29, IRZ-31, IRZ-33, IRZ-35, and IRZ-39. | -- |
| 1/14/2025 through 1/21/2025 | -- | PTI-1D offline with periodic operation during troubleshooting. | Well shut off due to communication loss alarm. Upon completion of troubleshooting, the issue was identified as a faulty outlet, which was affecting the Wi-Fi device responsible for communication. |
| 1/14/2025 | -- | Ethanol dosing occurred. | -- |
| 1/15/2025 | -- | Backwashed IRZ injection wells IRZ-15, IRZ-17, IRZ-18, IRZ-20, IRZ-27, IRZ-29, IRZ-31, IRZ-33, IRZ-35, and IRZ-39. | -- |
| 1/15/2025 | -- | Collected manual water level readings at IRZ injection wells IRZ-20 (upper) and IRZ-29 (upper). | -- |
| 1/15/2025 through 1/17/2025 | -- | Reinjected conditioned water into injection wells. | -- |
| 1/17/2025 | -- | Backwashed IRZ injection wells IRZ-15, IRZ-17, IRZ-18, IRZ-20, IRZ-27, IRZ-29, IRZ-31, IRZ-33, IRZ-35, and IRZ-39. | -- |
| 1/17/2025 | -- | PTI-1D filter replaced. | -- |
| 1/19/2025 | 0.3 | IRZ system offline. | TCS power loss. |
| 1/20/2025 | -- | Backwashed IRZ injection wells IRZ-15, IRZ-17, IRZ-18, IRZ-20, IRZ-27, IRZ-29, IRZ-31, IRZ-33, IRZ-35, and IRZ-39. | -- |
| 1/20/2025 through 1/21/2025 | -- | IRZ-33 offline for 26 hours. | Replaced leaking flow control valve in meter vault. |
| 1/21/2025 | -- | Ethanol dosing occurred. | -- |
| 1/24/2025 | -- | Backwashed IRZ injection wells IRZ-15, IRZ-17, IRZ-18, IRZ-20, IRZ-27, IRZ-29, IRZ-31, IRZ-33, IRZ-35, and IRZ-39. | -- |
| 1/24/2025 | -- | PTI-1D filter replaced. | -- |
| 1/25/2025 through 2/9/2025 | -- | IRZ-15 offline for well rehabilitation. | -- |
| 1/27/2025 | -- | Backwashed IRZ injection wells IRZ-17, IRZ-18, IRZ-20, IRZ-27, IRZ-29, IRZ-31, IRZ-33, IRZ-35, and IRZ-39. | -- |
| 1/28/2025 | -- | Ethanol dosing occurred. | -- |
| 1/29/2025 | -- | Backwashed IRZ injection wells IRZ-16, IRZ-17, IRZ-18, IRZ-20, IRZ-27, IRZ-29, IRZ-31, IRZ-33, IRZ-35, and IRZ-39. | -- |
| 1/29/2025 through 1/30/2025 | -- | IRZ-16 (upper) offline for 24 hours. | Replaced cracked fitting under air relief valve. |
| 1/29/2025 through 2/2/2025 | -- | IRZ-27 offline for approximately 123 hours. | Reconfigured downhole piping and relocated packer from between upper and middle screens to between middle and lower screens to target treatment in lower interval. |
| 1/30/2025 through 1/31/2025 | -- | Reinjected conditioned water into injection wells. | -- |
| 1/30/2025 | -- | Collected manual water level readings at IRZ injection wells IRZ-16, IRZ-17, IRZ-18, IRZ-20, IRZ-29, IRZ-31, IRZ-33, IRZ-35, IRZ-37, and IRZ-39. | -- |
| 1/31/2025 | -- | Collected manual water level readings at IRZ injection well IRZ-27. | -- |
| 1/31/2025 | -- | Backwashed IRZ injection wells IRZ-16, IRZ-17, IRZ-18, IRZ-20, IRZ-27, IRZ-29, IRZ-31, IRZ-33, IRZ-35, IRZ-37 and IRZ-39. | -- |
| 1/31/2025 | -- | PTI-1D filter replaced. | -- |
| 2/3/2025 | -- | Backwashed IRZ injection wells IRZ-16, IRZ-17, IRZ-18, IRZ-20, IRZ-27, IRZ-29, IRZ-31, IRZ-33, IRZ-35, IRZ-37 and IRZ-39. | -- |
| 2/4/2025 through following rehabilitation event | -- | IRZ-27 (lower) offline for approximately 2,046 hours. | High water levels following packer reconfiguration. |
| 2/4/2025 | -- | Ethanol dosing occurred. | -- |
| 2/4/2025 through present | -- | IRZ-17 (upper) offline until following rehabilitation event except for few short periods. | High water levels. |

**Table 3.2**
**NTH IRZ System Operations and Non-Routine Maintenance Log**
**First Quarter 2025 Well Performance Report**
**Pacific Gas and Electric Company, Topock Compressor Station, Needles, California**

| Date | Approximate IRZ Systemwide Downtime (days) | Operations and Maintenance Log | Notes |
|---|---|---|---|
| 2/5/2025 | -- | Backwashed IRZ injection wells IRZ-17. | -- |
| 2/6/2025 through 2/7/2025 | -- | Reinjected conditioned water into injection wells. | -- |
| 2/7/2025 | -- | Backwashed IRZ injection wells IRZ-18, IRZ-20, IRZ-27, IRZ-29, IRZ-31, IRZ-33, IRZ-35, IRZ-37 and IRZ-39. | -- |
| 2/7/2025 | -- | PTI-1D filter replaced. | -- |
| 2/7/2025 through 2/24/2025 | -- | IRZ-33 offline for well rehabilitation. | -- |
| 2/10/2025 | -- | Reinjected conditioned water into injection wells. | -- |
| 2/10/2025 | -- | Backwashed IRZ injection wells IRZ-16, IRZ-17, IRZ-18, IRZ-20, IRZ-27, IRZ-29, IRZ-31, IRZ-35, IRZ-37 and IRZ-39. | -- |
| 2/11/2025 | -- | Ethanol dosing occurred. | -- |
| 2/11/2025 through 2/23/2025 | -- | IRZ-18 offline for well rehabilitation. | -- |
| 2/12/2025 through 2/13/2025 | -- | Reinjected conditioned water into injection wells. | -- |
| 2/12/2025 | -- | Backwashed IRZ injection wells IRZ-15, IRZ-16, IRZ-17, IRZ-20, IRZ-27, IRZ-29, IRZ-31, IRZ-35, IRZ-37 and IRZ-39. | -- |
| 2/14/2025 | -- | PTI-1D filter replaced. | -- |
| 2/14/2025 | -- | Backwashed IRZ injection wells IRZ-20 (lower), IRZ-27 (upper), IRZ-29 (lower), and IRZ-31 (lower). | -- |
| 2/14/2025 | 0.3 | IRZ system offline. | Multiple leak detections caused by rain infiltration in multiple well vaults. |
| 2/18/2025 | -- | Backwashed IRZ injection wells IRZ-15, IRZ-16, IRZ-17, IRZ-20, IRZ-27 (upper), IRZ-29, IRZ-31, IRZ-35, IRZ-37 and IRZ-39. | -- |
| 2/18/2025 through 2/19/2025 | -- | Reinjected conditioned water into injection wells. | -- |
| 2/19/2025 | -- | Ethanol dosing occurred in southern IRZ. | Ethanol dosing frequency in the northern IRZ reduced to biweekly to help maintain higher injection flow rates by reducing the risk of well fouling |
| 2/21/2025 | -- | Backwashed IRZ injection wells IRZ-15, IRZ-16, IRZ-17, IRZ-20, IRZ-27 (upper), IRZ-29, IRZ-31, IRZ-35, IRZ-37 and IRZ-39. | -- |
| 2/21/2025 | -- | PTI-1D filter replaced. | -- |
| 2/21/2025 | -- | Collected manual water level readings at IRZ injection wells IRZ-29 (lower). | -- |
| 2/24/2025 through 3/10/2025 | -- | IRZ-31 offline for well rehabilitation. | -- |
| 2/24/2025 | -- | Backwashed IRZ injection wells IRZ-15, IRZ-16, IRZ-17, IRZ-18, IRZ-20, IRZ-27, IRZ-29, IRZ-31, IRZ-35, IRZ-37 and IRZ-39. | -- |
| 2/25/2025 | -- | Ethanol dosing occurred. | -- |
| 2/26/2025 | -- | Backwashed IRZ injection wells IRZ-15, IRZ-16, IRZ-17, IRZ-18, IRZ-20, IRZ-27, IRZ-29, IRZ-33, IRZ-35, IRZ-37 and IRZ-39. | -- |
| 2/26/2025 through 2/27/2025 | -- | Reinjected conditioned water into injection wells. | -- |
| 2/27/2025 through 2/28/2025 | 0.9 | IRZ system offline. | Offline for repairs to the north leg ethanol line. |
| 2/28/2025 | -- | Backwashed IRZ injection wells IRZ-29, IRZ-33, IRZ-35, IRZ-37 and IRZ-39. | -- |
| 2/28/2025 | -- | PTI-1D filter replaced. | -- |
| 2/28/2025 through 3/1/2025 | -- | SCADA data loss from 11:30 a.m. 2/28 to 8 a.m. 3/1. | After troubleshooting the historian data, it was found that the data had not been saving properly and the data was not recoverable. I&C will check that historian data is saving more regularly moving forward. |
| 3/3/2025 | -- | Backwashed IRZ injection wells IRZ-15, IRZ-16, IRZ-17, IRZ-18, IRZ-20, IRZ-27, IRZ-29, IRZ-33, IRZ-35, IRZ-37 and IRZ-39. | -- |
| 3/4/2025 | -- | Ethanol dosing occurred in southern IRZ. | -- |
| 3/4/2025 | -- | Collected manual water level readings at IRZ injection wells IRZ-27 (lower). | -- |
| 3/4/2025 through 3/19/2025 | -- | IRZ-35 offline for well rehabilitation. | -- |
| 3/4/2025 through 3/6/2025 | -- | Reinjected conditioned water into injection wells. | -- |
| 3/5/2025 | -- | Backwashed IRZ injection wells IRZ-15, IRZ-16, IRZ-17, IRZ-18, IRZ-20, IRZ-27, IRZ-29, IRZ-33, IRZ-37 and IRZ-39. | -- |
| 3/6/2025 | -- | Collected manual water level readings at IRZ injection wells IRZ-27 (lower) and IRZ-29 (lower). | -- |
| 3/7/2025 | -- | Backwashed IRZ injection wells IRZ-15, IRZ-16, IRZ-17, IRZ-18, IRZ-20, IRZ-27 (upper), IRZ-29, IRZ-33, IRZ-37 and IRZ-39. | -- |
| 3/7/2025 | -- | PTI-1D filter replaced. | -- |
| 3/10/2025 | -- | Backwashed IRZ injection wells IRZ-15, IRZ-16, IRZ-17, IRZ-18, IRZ-20, IRZ-27, IRZ-29, IRZ-33, IRZ-37 and IRZ-39. | -- |
| 3/11/2025 | -- | Ethanol dosing occurred. | -- |
| 3/11/2025 | -- | Collected manual water level readings at IRZ injection wells IRZ-27 (upper) and IRZ-31. | -- |
| 3/11/2025 through 3/12/2025 | 0.6 | IRZ system offline. | Rain infiltration in IRZ-35 well vault. |

**Table 3.2**
**NTH IRZ System Operations and Non-Routine Maintenance Log**
**First Quarter 2025 Well Performance Report**
**Pacific Gas and Electric Company, Topock Compressor Station, Needles, California**

| Date | Approximate IRZ Systemwide Downtime (days) | Operations and Maintenance Log | Notes |
|---|---|---|---|
| 3/12/2025 | -- | Backwashed IRZ injection wells IRZ-15, IRZ-16, IRZ-17, IRZ-18, IRZ-20, IRZ-27, IRZ-29, IRZ-31, IRZ-33, IRZ-37 and IRZ-39. | -- |
| 3/12/2025 through 3/14/2025 | -- | Reinjected conditioned water into injection wells. | -- |
| 3/13/2025 through 3/14/2025 | 0.9 | IRZ system offline. | Rain infiltration in multiple well vaults. |
| 3/14/2025 | -- | PTI-1D filter replaced. | -- |
| 3/17/2025 | -- | Backwashed IRZ injection wells IRZ-15, IRZ-16, IRZ-17 (lower), IRZ-18, IRZ-20, IRZ-27 (upper), IRZ-29, IRZ-31, IRZ-33, IRZ-37 and IRZ-39. | -- |
| 3/17/2025 through 3/18/2025 | -- | Reinjected conditioned water into injection wells. | -- |
| 3/18/2025 | -- | Replaced transducer at IRZ-31 (lower). | Transducer producing inaccurate water level readings. |
| 3/19/2025 | -- | Ethanol dosing occurred in southern IRZ. | |
| 3/21/2025 | -- | Backwashed IRZ injection wells IRZ-15, IRZ-16, IRZ-17 (lower), IRZ-18, IRZ-20, IRZ-27 (upper), IRZ-29, IRZ-31, IRZ-33, IRZ-35, IRZ-37 and IRZ-39. | -- |
| 3/21/2025 | -- | PTI-1D filter replaced. | -- |
| 3/24/2025 through 4/10/2025 | -- | IRZ-17 offline for well rehabilitation. | -- |
| 3/24/2025 | -- | Backwashed IRZ injection wells IRZ-15, IRZ-16, IRZ-17 (lower), IRZ-18, IRZ-20, IRZ-27 (upper), IRZ-29, IRZ-31, IRZ-33, IRZ-35, IRZ-37 and IRZ-39. | -- |
| 3/25/2025 | -- | Ethanol dosing occurred. | -- |
| 3/25/2025 | -- | Collected manual water level readings at IRZ injection wells IRZ-29 and IRZ-31. | -- |
| 3/26/2025 | -- | Backwashed IRZ injection wells IRZ-15, IRZ-16, IRZ-18, IRZ-20, IRZ-27 (upper), IRZ-29, IRZ-31, IRZ-33, IRZ-35, IRZ-37 and IRZ-39. | -- |
| 3/27/2025 through 3/28/2025 | -- | Reinjected conditioned water into injection wells. | -- |
| 3/27/2025 through 4/13/2025 | -- | IRZ-27 offline for well rehabilitation and packer reconfiguration. | Able to achieve increased total injection flow at IRZ-27 when packer is located between upper screen and middle screen. |
| 3/27/2025 | 0.1 | IRZ system offline. | TCS power loss. |
| 3/28/2025 | 0.2 | IRZ system offline. | TCS power loss. |
| 3/28/2025 | -- | Backwashed IRZ injection wells IRZ-31 (upper), IRZ-33, IRZ-35, IRZ-37 and IRZ-39. | TCS power loss cut backwash time short. Prioritized southern IRZ for backwash. |
| 3/28/2025 | -- | PTI-1D filter replaced. | -- |
| 3/31/2025 | -- | Backwashed IRZ injection wells IRZ-15, IRZ-16, IRZ-18, IRZ-20, IRZ-29, IRZ-31, IRZ-33, IRZ-35, IRZ-37 and IRZ-39. | -- |

**Notes:**
1. Active injection wells in the northern IRZ include IRZ-15, IRZ-16, IRZ-17, IRZ-18, and IRZ-20. Active injection wells in the southern IRZ include IRZ-27, IRZ-29, IRZ-31, IRZ-33, IRZ-35, IRZ-37, and IRZ-39.

**Acronyms and Abbreviations:**
-- = not applicable
gpm = gallon per minute
I&C = Instrumentation and Controls
IRZ = In Situ Reactive Zone
NTH = National Trails Highway
SCADA = supervisory control and data acquisition
TCS = Topock Compressor Station

**Table 3.3**
**First Quarter 2025 Water Quality Field Parameters**
**First Quarter 2025 Well Performance Report**
**Pacific Gas and Electric Company, Topock Compressor Station, Needles, California**

| Well ID | Sample Date | Depth to Water (ft bTOC) | pH | Specific Conductance (µS/cm) | Turbidity (NTU) | Dissolved Oxygen (mg/L) | Temperature (deg C) | Salinity (ppt) | Total Dissolved Solids (mg/L) | ORP (mV) |
|---|---|---|---|---|---|---|---|---|---|---|
| **Extraction Wells** | | | | | | | | | | |
| IRZ-09-100 | 02/20/2025 | nm | 7.29 | 8,672 | 1.80 | 1.54 | 26.2 | nm | nm | 25.6 |
| IRZ-13D-210 | 02/20/2025 | nm | 7.24 | 9,177 | 5.00 | 1.41 | 26.1 | nm | nm | 26.1 |
| IRZ-13S-095 | 02/20/2025 | nm | 7.19 | 7,166 | 1.70 | 19.70 | 26.6 | nm | nm | 27.2 |
| IRZ-23-143 | 02/20/2025 | nm | 6.57 | 4,225 | 2.70 | 19.60 | 26.5 | nm | nm | 73.9 |
| PTI-1D | 01/16/2025 | nm | 6.81 | 7,992 | 4.10 | 0.96 | 20.0 | nm | nm | 118.8 |
| PTI-1D | 02/20/2025 | nm | 7.12 | 8,278 | 4.40 | 0.71 | 27.2 | nm | nm | 29.1 |
| PTI-1D | 03/13/2025 | nm | 6.61 | 9,485 | 3.40 | 1.28 | 20.9 | nm | nm | 71.2 |
| **Monitoring Wells** | | | | | | | | | | |
| IRZ-21-065 | 02/21/2025 | nm | 6.22 | 5,862 | 4.40 | 4.63 | 17.7 | nm | nm | 6.4 |
| IRZ-21-157 | 02/21/2025 | nm | 6.04 | 4,932 | 5.00 | 1.79 | 17.6 | nm | nm | 4.6 |
| IRZ-25-100 | 02/21/2025 | nm | 6.66 | 7,114 | 21.50 | 2.21 | 22.8 | nm | nm | 4.8 |
| IRZ-25-166 | 02/21/2025 | nm | 6.84 | 7,799 | 4.20 | 0.79 | 23.8 | nm | nm | -61.0 |
| MW-09 | 02/27/2025 | 82.18 | 7.85 | 3,705 | 13.00 | 1.22 | 26.2 | 1.88 | 2,345 | 83.6 |
| MW-15 | 02/26/2025 | 187.26 | 7.68 | 2,451 | 4.00 | 3.80 | 27.6 | 1.25 | 1,590 | 74.1 |
| MW-20-070 | 01/16/2025 | 46.82 | 7.11 | 2,180 | 36.00 | 5.56 | 26.6 | 1.11 | 1,410 | 64.3 |
| MW-20-070 | 02/13/2025 | 46.61 | 7.39 | 2,044 | 19.00 | 4.01 | 25.8 | 1.04 | 1,320 | 33.6 |
| MW-20-070 | 03/11/2025 | 45.41 | 7.20 | 2,414 | 9.00 | 4.25 | 27.0 | 1.23 | 1,560 | 69.8 |
| MW-20-100 | 01/16/2025 | 47.14 | 7.10 | 5,552 | 8.00 | 2.99 | 27.0 | 2.99 | 3,600 | 64.6 |
| MW-20-100 | 02/13/2025 | 46.90 | 7.42 | 5,240 | 12.00 | 3.02 | 25.6 | 2.81 | 3,390 | 68.9 |
| MW-20-100 | 03/11/2025 | 45.78 | 7.25 | 4,024 | 9.00 | 2.85 | 27.6 | 2.12 | 2,610 | 74.6 |
| MW-20-130 | 01/16/2025 | 47.57 | 7.11 | 9,717 | 26.00 | 0.54 | 27.2 | 5.45 | 6,320 | 43.2 |
| MW-20-130 | 02/13/2025 | 47.33 | 7.38 | 9,044 | 13.00 | 0.42 | 26.5 | 5.03 | 5,860 | 32.4 |
| MW-20-130 | 03/11/2025 | 46.15 | 7.23 | 9,141 | 11.00 | 0.32 | 26.7 | 5.10 | 5,940 | 50.9 |
| MW-21 | 01/15/2025 | 50.43 | 7.31 | 11,786 | 10.00 | 0.51 | 25.3 | 6.71 | 7,650 | -152.5 |
| MW-21 | 02/13/2025 | 49.56 | 7.22 | 11,162 | 37.00 | 0.69 | 23.4 | 6.35 | 7,260 | -116.4 |
| MW-21 | 03/13/2025 | 50.11 | 7.42 | 11,147 | 12.00 | 1.88 | 25.1 | 6.36 | 7,280 | -101.5 |
| MW-22 | 02/18/2025 | 6.14 | 5.93 | 30,945 | 8.00 | 0.52 | 24.0 | 0.20 | 20,460 | 34.1 |
| MW-26 | 01/16/2025 | 47.30 | 6.98 | 8,372 | 5.00 | 0.45 | 26.1 | 4.64 | 5,430 | 121.5 |
| MW-26 | 02/12/2025 | 48.00 | 6.69 | 9,613 | 10.00 | 0.80 | 24.0 | 5.51 | 6,363 | 45.9 |
| MW-26 | 03/13/2025 | 47.24 | 6.86 | 9,734 | 8.00 | 3.08 | 25.3 | 5.45 | 4,860 | -107.9 |
| MW-27-020 | 02/24/2025 | 6.30 | 7.36 | 1,064 | 10.00 | 0.11 | 19.8 | 0.53 | 690 | -59.0 |

**Table 3.3**
**First Quarter 2025 Water Quality Field Parameters**
**First Quarter 2025 Well Performance Report**
**Pacific Gas and Electric Company, Topock Compressor Station, Needles, California**

| Well ID | Sample Date | Depth to Water (ft bTOC) | pH | Specific Conductance (µS/cm) | Turbidity (NTU) | Dissolved Oxygen (mg/L) | Temperature (deg C) | Salinity (ppt) | Total Dissolved Solids (mg/L) | ORP (mV) |
|---|---|---|---|---|---|---|---|---|---|---|
| MW-27-060 | 02/24/2025 | 6.90 | 7.21 | 5,057 | 7.00 | 0.85 | 20.5 | 2.72 | 3,270 | -106.2 |
| MW-27-085 | 02/24/2025 | 6.76 | 7.30 | 11,881 | 9.00 | 1.90 | 20.7 | 6.80 | 7,720 | -78.2 |
| MW-28-025 | 02/19/2025 | 12.78 | 6.82 | 1,713 | 10.00 | 5.25 | 22.2 | 0.91 | 1,172 | 53.3 |
| MW-28-090 | 02/19/2025 | 13.13 | 7.08 | 9,031 | 18.00 | 5.15 | 23.1 | 5.23 | 6,062 | 49.9 |
| MW-29 | 02/27/2025 | 31.22 | 7.61 | 12,581 | 14.00 | 1.29 | 26.5 | 7.13 | 8,090 | -14.2 |
| MW-30-030R | 02/13/2025 | 13.95 | 6.89 | 3,866 | 10.00 | 0.23 | 21.4 | 2.21 | 2,697 | 12.9 |
| MW-30-050 | 01/15/2025 | 14.02 | 7.27 | 1,317 | 10.00 | 0.52 | 24.6 | 0.66 | 850 | 117.0 |
| MW-30-050 | 02/13/2025 | 13.80 | 6.85 | 1,833 | 15.00 | 0.26 | 20.2 | 1.04 | 1,313 | 32.6 |
| MW-31-060 | 01/15/2025 | 41.63 | 7.22 | 7,923 | 21.00 | 0.25 | 25.7 | 4.38 | 5,150 | -232.3 |
| MW-31-060 | 02/13/2025 | 41.43 | 7.57 | 7,611 | 16.00 | 0.24 | 25.8 | 4.19 | 4,940 | -268.5 |
| MW-31-060 | 03/10/2025 | 39.47 | 7.08 | 9,770 | 12.00 | 1.77 | 26.9 | 5.49 | 4,890 | 142.0 |
| MW-31-135 | 01/15/2025 | 42.82 | 7.31 | 9,839 | 41.00 | 0.42 | 26.4 | 5.53 | 6,400 | -65.4 |
| MW-31-135 | 02/13/2025 | 42.39 | 7.50 | 9,440 | 10.00 | 0.47 | 26.2 | 5.27 | 6,120 | 31.4 |
| MW-31-135 | 03/10/2025 | 40.70 | 7.09 | 11,847 | 9.00 | 0.63 | 28.9 | 6.72 | 5,920 | 148.8 |
| MW-32-020 | 02/27/2025 | 7.70 | 6.55 | 32,242 | 10.00 | 0.33 | 23.6 | 0.21 | 21,393 | 38.3 |
| MW-32-035 | 02/27/2025 | 7.43 | 6.53 | 14,129 | 13.00 | 0.27 | 24.4 | 8.23 | 9,303 | 26.9 |
| MW-33-040 | 02/26/2025 | 32.77 | 7.51 | 11,235 | 9.00 | 2.34 | 27.7 | 6.36 | 7,290 | 51.1 |
| MW-33-090 | 02/26/2025 | 32.67 | 7.57 | 9,391 | 7.00 | 1.47 | 28.2 | 5.12 | 5,970 | 30.5 |
| MW-33-150 | 02/26/2025 | 33.20 | 7.78 | 18,392 | 8.00 | 2.05 | 27.6 | 0.11 | 11,800 | 47.8 |
| MW-33-210 | 02/26/2025 | 32.25 | 7.61 | 9,735 | 7.00 | 0.94 | 27.7 | 5.21 | 6,060 | -14.3 |
| MW-34-055 | 02/12/2025 | 8.08 | 7.16 | 1,199 | 3.00 | 0.090 | 19.9 | 0.60 | 780 | -111.4 |
| MW-34-080 | 01/15/2025 | 8.58 | 6.96 | 9,281 | 7.00 | 0.14 | 20.1 | 5.22 | 6,030 | -95.2 |
| MW-34-080 | 02/12/2025 | 8.21 | 7.13 | 9,033 | 5.00 | 0.10 | 19.9 | 5.07 | 5,870 | -98.5 |
| MW-34-100 | 01/15/2025 | 8.62 | 7.07 | 13,413 | 6.00 | 0.19 | 20.1 | 7.76 | 8,720 | -129.0 |
| MW-34-100 | 02/12/2025 | 8.26 | 7.10 | 13,030 | 6.00 | 0.11 | 20.0 | 7.52 | 8,470 | -109.2 |
| MW-34-100 | 03/12/2025 | 5.90 | 6.89 | 11,848 | 5.00 | 0.090 | 19.8 | 6.79 | 7,710 | -124.1 |
| MW-35-060 | 02/24/2025 | 27.75 | 7.10 | 7,866 | 11.00 | 3.64 | 25.3 | 4.31 | 5,083 | 54.8 |
| MW-35-135 | 02/24/2025 | 27.11 | 7.25 | 14,535 | 13.00 | 0.54 | 29.1 | 7.54 | 8,761 | 46.4 |
| MW-36-020 | 02/18/2025 | 13.00 | 6.57 | 4,145 | 13.00 | 0.15 | 24.0 | 2.22 | 2,757 | 44.9 |
| MW-36-040 | 02/18/2025 | 15.20 | 6.95 | 1,501 | 13.00 | 0.31 | 25.1 | 0.74 | 966 | 40.6 |
| MW-36-050 | 02/18/2025 | 15.70 | 6.73 | 1,454 | 13.00 | 0.25 | 25.2 | 0.73 | 942 | 42.3 |
| MW-36-070 | 02/18/2025 | 15.20 | 6.79 | 2,183 | 13.00 | 0.45 | 25.4 | 1.11 | 1,415 | 45.9 |

**Table 3.3**
**First Quarter 2025 Water Quality Field Parameters**
**First Quarter 2025 Well Performance Report**
**Pacific Gas and Electric Company, Topock Compressor Station, Needles, California**

| Well ID | Sample Date | Depth to Water (ft bTOC) | pH | Specific Conductance (µS/cm) | Turbidity (NTU) | Dissolved Oxygen (mg/L) | Temperature (deg C) | Salinity (ppt) | Total Dissolved Solids (mg/L) | ORP (mV) |
|---|---|---|---|---|---|---|---|---|---|---|
| MW-36-090 | 01/15/2025 | 17.38 | 7.16 | 7,251 | 13.00 | 4.3 | 22.4 | 4.00 | 4,740 | -21.1 |
| MW-36-090 | 02/12/2025 | 16.98 | 7.01 | 7,707 | 6.00 | 0.84 | 21.5 | 4.27 | 5,010 | -54.8 |
| MW-36-100 | 01/15/2025 | 17.43 | 7.04 | 10,290 | 8.00 | 0.15 | 23.1 | 5.81 | 6,680 | -97.8 |
| MW-36-100 | 02/12/2025 | 17.07 | 7.09 | 10,355 | 7.00 | 0.10 | 21.8 | 5.87 | 6,730 | -92.9 |
| MW-36-100 | 03/12/2025 | 14.96 | 6.93 | 9,820 | 6.00 | 0.12 | 21.7 | 5.53 | 6,370 | -99.4 |
| MW-38D | 02/27/2025 | 72.19 | 10.82 | 22,583 | 13.00 | 0.64 | 26.4 | 0.13 | 14,252 | -9.6 |
| MW-38S | 02/27/2025 | 70.70 | 7.36 | 2,357 | 12.00 | 5.68 | 25.4 | 1.17 | 1,511 | 67.3 |
| MW-39-040 | 01/15/2025 | 15.28 | 7.55 | 1,477 | 3.00 | 0.29 | 22.4 | 0.74 | 950 | 108.7 |
| MW-39-040 | 02/13/2025 | 15.40 | 7.19 | 1,342 | 17.00 | 0.20 | 21.1 | 0.73 | 933 | 26.3 |
| MW-39-050 | 01/15/2025 | 15.24 | 7.11 | 2,039 | 4.00 | 0.20 | 22.4 | 1.04 | 1,320 | 135.2 |
| MW-39-050 | 02/13/2025 | 15.11 | 6.75 | 2,016 | 9.00 | 0.33 | 20.5 | 1.13 | 1,431 | 40.2 |
| MW-39-060 | 01/15/2025 | 15.37 | 7.07 | 2,154 | 9.00 | 0.20 | 22.3 | 1.10 | 1,390 | 135.2 |
| MW-39-060 | 02/13/2025 | 15.40 | 6.76 | 2,447 | 13.00 | 1.83 | 21.2 | 1.35 | 1,717 | 47.5 |
| MW-39-070 | 01/15/2025 | 15.44 | 7.07 | 5,203 | 5.00 | 0.47 | 21.7 | 2.81 | 3,380 | 140.7 |
| MW-39-070 | 02/13/2025 | 15.48 | 6.75 | 5,275 | 12.00 | 0.33 | 20.8 | 3.10 | 3,713 | 43.4 |
| MW-39-070 | 03/11/2025 | 13.91 | 7.12 | 4,120 | 8.00 | 0.070 | 23.6 | 2.11 | 2,010 | 141.2 |
| MW-39-080 | 01/15/2025 | 15.52 | 6.97 | 7,793 | 8.00 | 0.28 | 22.0 | 4.33 | 5,070 | 139.6 |
| MW-39-080 | 02/13/2025 | 15.47 | 6.70 | 7,415 | 13.00 | 0.42 | 19.9 | 4.60 | 5,349 | 42.9 |
| MW-39-080 | 03/11/2025 | 13.86 | 7.06 | 7,236 | 9.00 | 0.10 | 23.3 | 3.95 | 3,590 | 137.9 |
| MW-39-100 | 01/15/2025 | 15.53 | 6.63 | 13,986 | 2.00 | 0.38 | 22.9 | 8.11 | 9,110 | 137.0 |
| MW-39-100 | 02/13/2025 | 15.54 | 6.50 | 16,027 | 19.00 | 0.46 | 21.2 | 0.10 | 11,180 | 46.4 |
| MW-39-100 | 03/11/2025 | 13.92 | 6.82 | 17,050 | 8.00 | 0.33 | 23.4 | 0.10 | 8,520 | 137.8 |
| MW-41M | 01/16/2025 | 26.16 | 7.05 | 13,556 | 20.00 | 3.96 | 25.0 | 7.82 | 8,820 | 67.4 |
| MW-41S | 01/16/2025 | 26.64 | 6.94 | 6,944 | 30.00 | 4.67 | 26.8 | 3.80 | 4,510 | 60.4 |
| MW-42-030 | 02/25/2025 | 9.55 | 7.18 | 2,224 | 8.00 | 0.22 | 25.3 | 1.11 | 1,442 | 36.2 |
| MW-42-055 | 02/25/2025 | 9.40 | 7.03 | 2,424 | 13.00 | 0.34 | 23.4 | 1.29 | 1,625 | 37.9 |
| MW-42-065 | 02/25/2025 | 8.90 | 6.78 | 10,973 | 12.00 | 0.39 | 23.5 | 6.44 | 7,354 | 43.8 |
| MW-43-025 | 02/25/2025 | 7.73 | 6.74 | 2,815 | 16.00 | 0.060 | 21.4 | 1.57 | 1,954 | 32.3 |
| MW-43-075 | 02/25/2025 | 8.00 | 6.87 | 14,613 | 11.00 | 0.020 | 20.7 | 9.35 | 10,341 | 41.9 |
| MW-43-090 | 02/25/2025 | 8.34 | 7.09 | 18,058 | 15.00 | 0.010 | 20.1 | 0.12 | 12,941 | 53.5 |
| MW-44-070 | 02/11/2025 | 19.00 | 7.46 | 4,539 | 4.00 | 0.090 | 22.7 | 2.42 | 2,940 | -166.9 |
| MW-44-115 | 01/14/2025 | 19.20 | 7.08 | 16,018 | 13.00 | 0.15 | 21.3 | 9.40 | 10,420 | -12.5 |

**Table 3.3**
**First Quarter 2025 Water Quality Field Parameters**
**First Quarter 2025 Well Performance Report**
**Pacific Gas and Electric Company, Topock Compressor Station, Needles, California**

| Well ID | Sample Date | Depth to Water (ft bTOC) | pH | Specific Conductance (µS/cm) | Turbidity (NTU) | Dissolved Oxygen (mg/L) | Temperature (deg C) | Salinity (ppt) | Total Dissolved Solids (mg/L) | ORP (mV) |
|---|---|---|---|---|---|---|---|---|---|---|
| MW-44-115 | 02/11/2025 | 19.44 | 7.47 | 15,531 | 9.00 | 0.11 | 24.0 | 9.07 | 10,100 | 1.4 |
| MW-44-115 | 03/12/2025 | 17.20 | 7.00 | 15,043 | 8.00 | 0.12 | 21.4 | 8.78 | 9,780 | 51.9 |
| MW-44-125 | 01/14/2025 | 19.01 | 6.97 | 14,956 | 21.00 | 0.28 | 21.5 | 8.72 | 9,720 | -58.2 |
| MW-44-125 | 02/11/2025 | 19.43 | 7.49 | 14,477 | 11.00 | 0.090 | 23.2 | 8.41 | 9,410 | -70.7 |
| MW-44-125 | 03/12/2025 | 17.00 | 6.99 | 13,230 | 5.00 | 0.11 | 21.2 | 7.66 | 8,620 | -174.1 |
| MW-45-095A | 01/14/2025 | 15.37 | 7.34 | 9,021 | 23.00 | 0.10 | 21.0 | 5.05 | 5,850 | -41.3 |
| MW-45-095A | 02/11/2025 | 15.52 | 7.29 | 8,897 | 10.00 | 0.10 | 21.8 | 4.98 | 5,780 | -37.5 |
| MW-46-175 | 01/14/2025 | 29.61 | 7.23 | 17,994 | 20.00 | 0.43 | 18.8 | 0.11 | 11,700 | 36.8 |
| MW-46-175 | 02/12/2025 | 29.56 | 7.23 | 17,392 | 11.00 | 0.43 | 20.6 | 0.10 | 11,310 | 35.2 |
| MW-46-175 | 03/12/2025 | 27.74 | 7.18 | 17,480 | 9.00 | 0.25 | 20.9 | 0.10 | 11,370 | 58.6 |
| MW-46-205 | 02/18/2025 | 29.15 | 8.18 | 21,716 | 3.00 | 1.38 | 23.8 | 0.13 | 14,110 | 68.5 |
| MW-47-055 | 02/17/2025 | 30.44 | 7.11 | 5,615 | 15.00 | 2.11 | 27.0 | 2.92 | 3,530 | 64.9 |
| MW-47-115 | 02/17/2025 | 30.59 | 6.94 | 16,918 | 16.00 | 1.43 | 27.3 | 9.50 | 10,540 | 59.5 |
| MW-49-135 | 02/27/2025 | 29.37 | 8.31 | 14,635 | 9.00 | 1.43 | 25.4 | 8.11 | 9,100 | 58.9 |
| MW-49-275 | 02/27/2025 | 30.41 | 8.15 | 23,839 | 4.00 | 1.13 | 25.4 | 0.14 | 15,130 | 55.1 |
| MW-49-365 | 02/27/2025 | 32.19 | 7.97 | 35,724 | 4.00 | 1.31 | 23.4 | 0.22 | 22,880 | 42.1 |
| MW-51 | 01/16/2025 | 46.91 | 6.85 | 1,390 | 2.00 | 0.27 | 26.7 | 0.69 | 890 | -26.2 |
| MW-51 | 02/12/2025 | 47.40 | 6.54 | 9,067 | 14.00 | 0.53 | 24.3 | 4.86 | 5,965 | -1.9 |
| MW-51 | 03/13/2025 | 46.66 | 7.19 | 4,670 | 9.00 | 0.16 | 25.2 | 2.53 | 3,070 | -290.3 |
| MW-52D | 02/20/2025 | 15.24 | 6.25 | 23,283 | 17.00 | 7.12 | 22.4 | 0.15 | 16,030 | 38.4 |
| MW-52M | 02/20/2025 | 15.03 | 5.96 | 17,679 | 8.00 | 0.020 | 20.2 | 0.12 | 12,651 | 19.4 |
| MW-52S | 02/20/2025 | 12.81 | 6.49 | 14,306 | 15.00 | 6.45 | 24.2 | 8.81 | 8,634 | 45.9 |
| MW-53D | 02/20/2025 | 20.75 | 6.17 | 28,056 | 12.00 | 0.33 | 21.0 | 0.19 | 19,723 | 34.5 |
| MW-53M | 02/20/2025 | 16.80 | 6.46 | 14,053 | 16.00 | 0.47 | 19.4 | 9.52 | 10,470 | 41.9 |
| MW-53S | 02/20/2025 | 17.02 | 6.58 | 1,776 | 13.00 | 3.67 | 18.2 | 1.02 | 1,315 | 29.9 |
| MW-57-070 | 02/24/2025 | 54.55 | 6.93 | 2,568 | 17.00 | 0.41 | 28.0 | 1.20 | 1,593 | 42.9 |
| MW-58BR | 02/25/2025 | 68.48 | 7.92 | 8,202 | 5.00 | 2.03 | 29.4 | 4.51 | 5,310 | 41.7 |
| MW-60-125 | 02/26/2025 | 100.87 | 7.20 | 7,368 | 27.00 | 0.44 | 26.3 | 3.99 | 4,780 | 22.2 |
| MW-62-065 | 02/24/2025 | 49.95 | 7.02 | 7,903 | 15.00 | 1.40 | 28.3 | 4.07 | 4,825 | 51.9 |
| MW-63-065 | 02/27/2025 | 49.50 | 6.72 | 9,222 | 8.00 | 1.23 | 24.4 | 5.18 | 6,017 | 47.6 |
| MW-64BR | 02/26/2025 | 121.15 | 7.27 | 11,847 | 11.00 | 0.19 | 25.3 | 6.76 | 7,710 | -165.3 |
| MW-65-160 | 02/26/2025 | 142.40 | 7.22 | 3,973 | 25.00 | 1.99 | 27.9 | 2.09 | 2,580 | 43.6 |

**Table 3.3**
**First Quarter 2025 Water Quality Field Parameters**
**First Quarter 2025 Well Performance Report**
**Pacific Gas and Electric Company, Topock Compressor Station, Needles, California**

| Well ID | Sample Date | Depth to Water (ft bTOC) | pH | Specific Conductance (µS/cm) | Turbidity (NTU) | Dissolved Oxygen (mg/L) | Temperature (deg C) | Salinity (ppt) | Total Dissolved Solids (mg/L) | ORP (mV) |
|---|---|---|---|---|---|---|---|---|---|---|
| MW-65-225 | 02/26/2025 | 142.20 | 7.97 | 8,615 | 15.00 | 3.35 | 26.4 | 4.78 | 5,590 | 70.9 |
| MW-67-185 | 02/26/2025 | 171.73 | 7.23 | 4,771 | 28.00 | 0.74 | 28.0 | 2.54 | 3,100 | 38.3 |
| MW-68-180 | 02/26/2025 | 166.8 | 7.25 | 4,812 | 15.00 | 2.46 | 28.4 | 2.56 | 3,130 | 68.5 |
| MW-69-195 | 02/26/2025 | 176.56 | 7.56 | 3,113 | 47.00 | 2.69 | 30.4 | 1.51 | 1,900 | 58.3 |
| MW-70BR-225 | 02/25/2025 | 82.01 | 8.07 | 12,321 | 7.00 | 2.08 | 29.3 | 7.00 | 7,990 | 40.9 |
| MW-71-035 | 01/15/2025 | 28.61 | 7.13 | 7,131 | 34.00 | 2.60 | 22.9 | 3.91 | 4,610 | 0.8 |
| MW-71-035 | 02/13/2025 | 28.43 | 7.22 | 6,639 | 30.00 | 2.54 | 26.1 | 3.58 | 4,270 | 10.6 |
| MW-71-035 | 03/13/2025 | 28.50 | 7.46 | 6,497 | 30.00 | 2.46 | 27.0 | 3.46 | 4,140 | 9.7 |
| MW-72-080 | 02/26/2025 | 58.40 | 7.30 | 15,510 | 47.00 | 0.25 | 25.9 | 9.03 | 10,080 | -18.4 |
| MW-75-033 | 02/17/2025 | 20.07 | 7.13 | 3,228 | 6.00 | 1.34 | 27.2 | 1.68 | 2,100 | 5.6 |
| MW-75-117 | 02/17/2025 | 19.92 | 7.11 | 12,093 | 7.00 | 0.13 | 27.2 | 6.89 | 7,860 | -33.8 |
| MW-75-202 | 02/17/2025 | 19.70 | 7.09 | 16,878 | 11.00 | 0.17 | 26.7 | 9.89 | 10,970 | -91.4 |
| MW-75-267 | 02/17/2025 | 19.30 | 7.06 | 21,021 | 9.00 | 1.08 | 26.9 | 0.13 | 13,660 | -102.4 |
| MW-75-337 | 02/17/2025 | 21.85 | 7.13 | 27,383 | 12.00 | 0.44 | 26.8 | 0.17 | 17,800 | -178.9 |
| MW-76-039 | 01/14/2025 | 28.03 | 6.80 | 8,990 | 8.00 | 0.52 | 26.0 | 5.02 | 5,850 | 132.9 |
| MW-76-039 | 02/11/2025 | 28.03 | 6.48 | 10,373 | 12.00 | 0.020 | 22.4 | 6.17 | 7,061 | 5.2 |
| MW-76-039 | 03/12/2025 | 26.35 | 6.92 | 10,090 | 9.00 | 1.40 | 25.1 | 5.69 | 5,050 | -105.3 |
| MW-76-156 | 01/14/2025 | 27.30 | 6.87 | 8,647 | 8.00 | 0.43 | 24.7 | 4.81 | 5,620 | 127.9 |
| MW-76-156 | 02/11/2025 | 27.92 | 6.50 | 9,911 | 8.00 | 0.030 | 23.5 | 5.76 | 6,635 | -3.4 |
| MW-76-156 | 03/12/2025 | 24.56 | 6.93 | 10,020 | 9.00 | 1.05 | 28.1 | 5.64 | 5,000 | -112.3 |
| MW-76-181 | 01/14/2025 | 27.03 | 6.96 | 8,606 | 4.00 | 0.39 | 24.4 | 4.81 | 5,610 | 83.6 |
| MW-76-181 | 02/11/2025 | 27.80 | 6.45 | 9,500 | 14.00 | 0.030 | 20.8 | 5.78 | 6,642 | -16.9 |
| MW-76-181 | 03/12/2025 | 24.72 | 7.28 | 10,090 | 13.00 | 0.65 | 22.2 | 5.70 | 5,060 | -138.7 |
| MW-76-218 | 01/14/2025 | 27.09 | 7.00 | 8,709 | 10.00 | 0.44 | 23.9 | 4.86 | 5,650 | 59.8 |
| MW-76-218 | 02/11/2025 | 27.60 | 6.56 | 8,928 | 13.00 | 2.84 | 18.1 | 5.84 | 6,689 | -14.2 |
| MW-76-218 | 03/12/2025 | 25.83 | 7.10 | 10,220 | 12.00 | 0.72 | 26.0 | 5.76 | 5,120 | -128.4 |
| MW-77-046 | 01/13/2025 | 26.03 | 7.03 | 11,282 | 25.00 | 0.13 | 23.3 | 6.42 | 7,330 | -115.2 |
| MW-77-046 | 02/10/2025 | 25.55 | 6.66 | 10,714 | 9.00 | 0.36 | 24.6 | 6.11 | 7,055 | 43.9 |
| MW-77-102 | 01/13/2025 | 26.43 | 6.84 | 8,940 | 25.00 | 0.65 | 24.8 | 5.00 | 5,810 | 110.9 |

**Table 3.3**
**First Quarter 2025 Water Quality Field Parameters**
**First Quarter 2025 Well Performance Report**
**Pacific Gas and Electric Company, Topock Compressor Station, Needles, California**

| Well ID | Sample Date | Depth to Water (ft bTOC) | pH | Specific Conductance (µS/cm) | Turbidity (NTU) | Dissolved Oxygen (mg/L) | Temperature (deg C) | Salinity (ppt) | Total Dissolved Solids (mg/L) | ORP (mV) |
|---|---|---|---|---|---|---|---|---|---|---|
| MW-77-102 | 02/10/2025 | 25.75 | 6.46 | 10,322 | 14.00 | 0.72 | 23.1 | 6.08 | 6,975 | 30.4 |
| MW-77-158 | 01/13/2025 | 26.02 | 6.93 | 8,508 | 6.00 | 0.98 | 25.4 | 4.74 | 5,530 | 108.2 |
| MW-77-158 | 02/10/2025 | 25.53 | 6.44 | 9,934 | 10.00 | 0.73 | 23.1 | 5.74 | 6,631 | 35.9 |
| MW-77-187 | 01/13/2025 | 25.62 | 7.40 | 1,179 | 12.00 | 1.04 | 24.2 | 6.48 | 7,310 | 108.8 |
| MW-77-187 | 02/10/2025 | 25.10 | 7.15 | 10,102 | 13.00 | 2.23 | 23.3 | 5.95 | 6,825 | 36.5 |
| MW-77-187 | 03/12/2025 | 23.30 | 7.45 | 10,240 | 12.00 | 0.79 | 23.7 | 5.76 | 5,090 | -105.8 |
| MW-78-070 | 01/16/2025 | 48.03 | 6.93 | 8,510 | 15.00 | 0.40 | 26.1 | 4.73 | 5,540 | 135.8 |
| MW-78-070 | 02/12/2025 | 48.15 | 6.56 | 10,214 | 10.00 | 0.65 | 25.1 | 5.70 | 6,651 | 48.9 |
| MW-78-070 | 03/13/2025 | 46.60 | 7.35 | 7,838 | 16.00 | 0.20 | 26.0 | 4.31 | 5,070 | -98.5 |
| MW-78-142 | 01/16/2025 | 48.39 | 7.17 | 9,190 | 6.00 | 0.65 | 25.1 | 5.13 | 5,960 | 134.9 |
| MW-78-142 | 02/12/2025 | 48.20 | 6.69 | 10,175 | 17.00 | 2.42 | 20.8 | 6.31 | 7,188 | 48.3 |
| MW-78-142 | 03/13/2025 | 46.47 | 7.45 | 9,196 | 7.00 | 0.35 | 26.4 | 5.12 | 5,960 | -27.2 |
| MW-79-058 | 01/16/2025 | 46.64 | 6.84 | 8,628 | 11.00 | 0.50 | 26.5 | 4.79 | 5,610 | 135.6 |
| MW-79-058 | 02/12/2025 | 47.00 | 6.46 | 10,213 | 12.00 | 0.72 | 25.4 | 5.72 | 6,603 | 42.5 |
| MW-79-058 | 03/13/2025 | 46.20 | 6.80 | 9,967 | 9.00 | 1.08 | 26.4 | 5.53 | 4,970 | -62.9 |
| MW-79-102 | 01/16/2025 | 46.71 | 6.83 | 8,550 | 4.00 | 0.31 | 25.9 | 4.76 | 5,560 | 120.0 |
| MW-79-102 | 02/12/2025 | 47.08 | 6.49 | 9,466 | 8.00 | 0.74 | 23.0 | 5.54 | 6,386 | 30.5 |
| MW-79-102 | 03/13/2025 | 46.03 | 6.71 | 8,869 | 9.00 | 1.70 | 24.8 | 1.70 | 1,660 | -134.3 |
| MW-80-057 | 01/16/2025 | 48.69 | 7.01 | 8,185 | 42.00 | 0.29 | 28.0 | 4.52 | 5,320 | -41.6 |
| MW-80-057 | 02/12/2025 | 48.55 | 6.56 | 10,175 | 13.00 | 0.56 | 25.4 | 5.68 | 6,556 | 39.9 |
| MW-80-057 | 03/13/2025 | 47.34 | 6.74 | 9,540 | 10.00 | 4.87 | 27.0 | 5.46 | 4,840 | -101.5 |
| MW-80-082 | 01/16/2025 | 48.71 | 6.75 | 8,514 | 25.00 | 0.41 | 27.7 | 4.72 | 5,530 | 109.0 |
| MW-80-082 | 02/12/2025 | 48.40 | 6.54 | 9,975 | 9.00 | 0.64 | 25.4 | 5.59 | 6,465 | 36.9 |
| MW-80-082 | 03/13/2025 | 47.53 | 6.74 | 10,050 | 6.00 | 2.19 | 26.4 | 5.27 | 4,720 | -108.4 |
| MW-81-043 | 01/13/2025 | 25.34 | 7.21 | 8,258 | 15.00 | 0.32 | 26.3 | 4.58 | 5,370 | -1.7 |
| MW-81-043 | 02/10/2025 | 24.84 | 7.15 | 7,970 | 5.00 | 0.37 | 28.0 | 4.39 | 5,180 | 62.5 |
| MW-81-043 | 03/11/2025 | 23.15 | 6.86 | 10,490 | 6.00 | 0.97 | 27.2 | 5.88 | 5,220 | 137.6 |
| MW-81-098 | 01/13/2025 | 25.60 | 7.19 | 8,481 | 7.00 | 0.10 | 26.3 | 4.70 | 5,510 | -21.7 |
| MW-81-098 | 02/10/2025 | 24.98 | 7.16 | 8,133 | 6.00 | 0.57 | 27.8 | 4.49 | 5,290 | -24.0 |

**Table 3.3**
**First Quarter 2025 Water Quality Field Parameters**
**First Quarter 2025 Well Performance Report**
**Pacific Gas and Electric Company, Topock Compressor Station, Needles, California**

| Well ID | Sample Date | Depth to Water (ft bTOC) | pH | Specific Conductance (µS/cm) | Turbidity (NTU) | Dissolved Oxygen (mg/L) | Temperature (deg C) | Salinity (ppt) | Total Dissolved Solids (mg/L) | ORP (mV) |
|---|---|---|---|---|---|---|---|---|---|---|
| MW-81-098 | 03/11/2025 | 23.41 | 6.91 | 10,300 | 6.00 | 1.52 | 26.5 | 5.80 | 5,150 | 138.6 |
| MW-82-046 | 01/14/2025 | 31.2 | 7.36 | 14,604 | 49.00 | 3.48 | 24.0 | 8.46 | 9,480 | 10.0 |
| MW-82-046 | 02/11/2025 | 31.55 | 6.54 | 17,754 | 18.00 | 0.050 | 22.5 | 0.11 | 12,110 | 21.4 |
| MW-82-112 | 02/11/2025 | 31.36 | 6.34 | 10,871 | 11.00 | 0.020 | 23.4 | 6.34 | 7,253 | 16.6 |
| MW-82-168 | 01/14/2025 | 30.15 | 7.36 | 8,223 | 14.00 | 0.45 | 23.7 | 4.55 | 5,330 | -47.4 |
| MW-82-168 | 02/11/2025 | 30.21 | 6.46 | 9,657 | 11.00 | 0.030 | 22.1 | 5.78 | 6,646 | 35.9 |
| MW-82-198 | 01/14/2025 | 29.99 | 7.51 | 8,644 | 11.00 | 0.38 | 24.6 | 4.83 | 5,640 | -167.0 |
| MW-82-198 | 02/11/2025 | 30.10 | 7.03 | 10,374 | 15.00 | 0.030 | 22.6 | 6.16 | 7,057 | 25.9 |
| MW-86-030 | 02/19/2025 | 11.40 | 6.94 | 1,491 | 22.00 | 0.34 | 22.7 | 0.78 | 1,012 | 34.5 |
| MW-86-066 | 02/19/2025 | 13.62 | 6.65 | 9,525 | 7.00 | 0.93 | 21.3 | 5.81 | 6,665 | 31.4 |
| MW-86-120 | 02/19/2025 | 14.53 | 6.71 | 11,486 | 17.00 | 0.52 | 20.6 | 7.21 | 8,137 | -17.5 |
| MW-86-140 | 02/19/2025 | 14.53 | 6.63 | 15,727 | 13.00 | 1.72 | 18.9 | 0.11 | 11,702 | -69.1 |
| MW-90-031 | 02/19/2025 | 5.91 | 6.15 | 19,147 | 16.00 | 0.55 | 23.7 | 0.12 | 12,751 | 19.6 |
| MW-96-045 | 02/20/2025 | 30.22 | 7.61 | 12,755 | 12.00 | 1.57 | 28.3 | 7.13 | 8,100 | 55.2 |
| MW-96-217 | 02/20/2025 | 30.41 | 7.71 | 19,311 | 8.00 | 1.26 | 27.8 | 0.11 | 12,560 | 23.9 |
| MW-97-042 | 02/17/2025 | 28.40 | 6.79 | 4,424 | 13.00 | 2.33 | 27.1 | 2.25 | 2,764 | 59.6 |
| MW-97-202 | 02/17/2025 | 28.40 | 5.93 | 22,955 | 8.00 | 0.43 | 29.6 | 0.13 | 13,700 | 0.5 |
| PT5D | 01/13/2025 | 21.99 | 7.02 | 8,711 | 9.00 | 0.090 | 21.0 | 4.87 | 5,660 | -34.9 |
| PT5D | 02/10/2025 | 21.2 | 6.85 | 7,485 | 5.00 | 0.12 | 22.6 | 4.13 | 4,860 | -30.8 |
| PT5D | 03/10/2025 | 19.37 | 7.02 | 8,309 | 11.00 | 0.12 | 23.4 | 4.63 | 5,410 | -14.1 |
| PT5M | 02/18/2025 | 20.00 | 6.55 | 8,477 | 18.00 | 0.030 | 23.4 | 4.90 | 5,701 | 47.3 |
| PT5S | 02/18/2025 | 19.75 | 7.03 | 1,537 | 12.00 | 0.030 | 22.9 | 0.81 | 1,041 | 42.1 |
| PT6D | 01/13/2025 | 24.60 | 6.94 | 6,352 | 9.00 | 0.13 | 22.8 | 3.47 | 4,120 | -13.7 |
| PT6D | 02/10/2025 | 23.90 | 7.00 | 6,530 | 8.00 | 0.13 | 23.5 | 3.57 | 4,240 | 2.1 |
| PT6D | 03/10/2025 | 21.91 | 7.06 | 6,638 | 15.00 | 0.18 | 23.4 | 3.63 | 4,310 | 46.7 |
| TW-02D | 01/14/2025 | 41.10 | 7.01 | 8,964 | 3.00 | 0.31 | 27.9 | 4.99 | 5,830 | 132.8 |
| TW-02D | 02/11/2025 | 40.78 | 7.62 | 8,238 | 4.00 | 0.060 | 28.1 | 4.55 | 5,350 | 9.9 |
| TW-02D | 03/11/2025 | 39.53 | 7.24 | 8,186 | 7.00 | 0.060 | 28.4 | 4.52 | 5,320 | 14.1 |
| TW-02S | 01/14/2025 | 41.07 | 6.86 | 8,554 | 5.00 | 1.11 | 27.9 | 4.74 | 5,560 | 133.0 |
| TW-02S | 02/11/2025 | 40.72 | 7.41 | 7,947 | 3.00 | 0.65 | 28.2 | 4.38 | 5,170 | 49.7 |

**Table 3.3**
**First Quarter 2025 Water Quality Field Parameters**
**First Quarter 2025 Well Performance Report**
**Pacific Gas and Electric Company, Topock Compressor Station, Needles, California**

| Well ID | Sample Date | Depth to Water (ft bTOC) | pH | Specific Conductance (µS/cm) | Turbidity (NTU) | Dissolved Oxygen (mg/L) | Temperature (deg C) | Salinity (ppt) | Total Dissolved Solids (mg/L) | ORP (mV) |
|---|---|---|---|---|---|---|---|---|---|---|
| TW-02S | 03/11/2025 | 39.51 | 7.17 | 7,944 | 8.00 | 0.54 | 28.3 | 4.38 | 5,160 | 53.7 |
| TW-03D | 01/14/2025 | 40.74 | 6.85 | 8,948 | 7.00 | 0.54 | 28.1 | 4.98 | 5,820 | 132.6 |
| TW-03D | 02/11/2025 | 40.54 | 7.59 | 8,408 | 7.00 | 0.15 | 28.5 | 4.66 | 5,470 | 31.2 |
| TW-03D | 03/11/2025 | 39.30 | 7.15 | 8,222 | 6.00 | 0.21 | 28.5 | 4.54 | 5,350 | 38.4 |
| TW-04 | 02/19/2025 | 30.70 | 7.37 | 21,493 | 5.00 | 1.85 | 28.6 | 0.12 | 13,550 | 46.1 |

**Acronyms and Abbreviations:**
µS/cm = microSiemen per centimeter
deg C = degree Celsius
ft bTOC = feet below the top of casing
ID = identification
mg/L = milligram per liter
mV = millivolt
nm = parameter was not measured
NTU = nephelometric turbidity unit
ORP = oxidation–reduction potential
ppt = part per thousand

**Table 4.1**
**Monitoring Well Inspection Results**
**First Quarter 2025 Well Performance Report**
**Pacific Gas and Electric Company, Topock Compressor Station, Needles, California**

| Location | Date | Well Inspection Completed? | Is the Well Labeled Properly? | Is the Well in Good Condition? | Description of Deficiencies (if noted) | Well Inspection Comments |
|---|---|---|---|---|---|---|
| MW-09 | 02-27-2025 | Yes | Yes | Good | -- | -- |
| MW-15 | 02-26-2025 | Yes | Yes | Good | -- | -- |
| MW-20-070 | 01-16-2025 | Yes | Yes | Good | -- | -- |
| MW-20-070 | 02-13-2025 | Yes | Yes | Good | -- | -- |
| MW-20-070 | 03-11-2025 | Yes | Yes | Good | -- | -- |
| MW-20-100 | 01-16-2025 | Yes | Yes | Good | -- | -- |
| MW-20-100 | 02-13-2025 | Yes | Yes | Good | -- | -- |
| MW-20-100 | 03-11-2025 | Yes | Yes | Good | -- | -- |
| MW-20-130 | 01-16-2025 | Yes | Yes | Good | -- | -- |
| MW-20-130 | 02-13-2025 | Yes | Yes | Good | -- | -- |
| MW-20-130 | 03-11-2025 | Yes | Yes | Good | -- | -- |
| MW-21 | 01-15-2025 | Yes | Yes | Good | -- | -- |
| MW-21 | 02-13-2025 | Yes | Yes | Good | -- | -- |
| MW-21 | 03-13-2025 | Yes | Yes | Good | -- | -- |
| MW-22 | 02-18-2025 | Yes | Yes | Good | -- | -- |
| MW-26 | 01-16-2025 | Yes | Yes | Good | -- | -- |
| MW-26 | 02-12-2025 | Yes | Yes | Good | -- | -- |
| MW-26 | 03-13-2025 | Yes | Yes | Good | -- | -- |
| MW-27-020 | 02-24-2025 | Yes | Yes | Good | -- | -- |
| MW-27-060 | 02-24-2025 | Yes | Yes | Good | -- | -- |
| MW-27-085 | 02-24-2025 | Yes | Yes | Good | -- | -- |
| MW-28-025 | 02-19-2025 | Yes | Yes | Good | -- | -- |
| MW-28-090 | 02-19-2025 | Yes | Yes | Good | -- | -- |
| MW-29 | 02-27-2025 | Yes | Yes | Good | -- | -- |
| MW-30-030R | 02-13-2025 | Yes | Yes | Good | -- | -- |
| MW-30-050 | 01-15-2025 | Yes | Yes | Good | -- | -- |
| MW-30-050 | 02-13-2025 | Yes | Yes | Good | -- | -- |
| MW-31-060 | 01-15-2025 | Yes | Yes | Good | -- | -- |
| MW-31-060 | 02-13-2025 | Yes | Yes | Good | -- | -- |
| MW-31-060 | 03-10-2025 | Yes | Yes | Good | -- | -- |
| MW-31-135 | 01-15-2025 | Yes | Yes | Good | -- | -- |
| MW-31-135 | 02-13-2025 | Yes | Yes | Good | -- | -- |
| MW-31-135 | 03-10-2025 | Yes | Yes | Good | -- | -- |
| MW-32-020 | 02-27-2025 | Yes | Yes | Good | -- | -- |
| MW-32-035 | 02-27-2025 | Yes | Yes | Good | -- | -- |
| MW-33-040 | 02-26-2025 | Yes | Yes | Good | -- | -- |
| MW-33-090 | 02-26-2025 | Yes | Yes | Good | -- | -- |
| MW-33-150 | 02-26-2025 | Yes | Yes | Good | -- | -- |
| MW-33-210 | 02-26-2025 | Yes | Yes | Good | -- | -- |
| MW-34-055 | 02-12-2025 | Yes | Yes | Good | -- | -- |
| MW-34-080 | 01-15-2025 | Yes | Yes | Good | -- | -- |

**Table 4.1**
**Monitoring Well Inspection Results**
**First Quarter 2025 Well Performance Report**
**Pacific Gas and Electric Company, Topock Compressor Station, Needles, California**

| Location | Date | Well Inspection Completed? | Is the Well Labeled Properly? | Is the Well in Good Condition? | Description of Deficiencies (if noted) | Well Inspection Comments |
|---|---|---|---|---|---|---|
| MW-34-080 | 02-12-2025 | Yes | Yes | Good | -- | -- |
| MW-34-100 | 01-15-2025 | Yes | Yes | Good | -- | -- |
| MW-34-100 | 02-12-2025 | Yes | Yes | Good | -- | -- |
| MW-34-100 | 03-12-2025 | Yes | Yes | Good | -- | -- |
| MW-35-060 | 02-24-2025 | Yes | Yes | Good | -- | -- |
| MW-35-135 | 02-24-2025 | Yes | Yes | Good | -- | -- |
| MW-36-020 | 02-18-2025 | Yes | Yes | Good | -- | -- |
| MW-36-040 | 02-18-2025 | Yes | Yes | Good | -- | -- |
| MW-36-050 | 02-18-2025 | Yes | Yes | Good | -- | -- |
| MW-36-070 | 02-18-2025 | Yes | Yes | Good | -- | -- |
| MW-36-090 | 01-15-2025 | Yes | Yes | Good | -- | -- |
| MW-36-090 | 02-12-2025 | Yes | Yes | Good | -- | -- |
| MW-36-100 | 01-15-2025 | Yes | Yes | Good | -- | -- |
| MW-36-100 | 02-12-2025 | Yes | Yes | Good | -- | -- |
| MW-36-100 | 03-12-2025 | Yes | Yes | Good | -- | -- |
| MW-38D | 02-27-2025 | Yes | Yes | Good | -- | -- |
| MW-38S | 02-27-2025 | Yes | Yes | Good | -- | -- |
| MW-39-040 | 01-15-2025 | Yes | Yes | Good | -- | -- |
| MW-39-040 | 02-13-2025 | Yes | Yes | Good | -- | -- |
| MW-39-050 | 01-15-2025 | Yes | Yes | Good | -- | -- |
| MW-39-050 | 02-13-2025 | Yes | Yes | Good | -- | -- |
| MW-39-060 | 01-15-2025 | Yes | Yes | Good | -- | -- |
| MW-39-060 | 02-13-2025 | Yes | Yes | Good | -- | -- |
| MW-39-070 | 01-15-2025 | Yes | Yes | Good | -- | -- |
| MW-39-070 | 02-13-2025 | Yes | Yes | Good | -- | -- |
| MW-39-070 | 03-11-2025 | Yes | Yes | Good | -- | -- |
| MW-39-080 | 01-15-2025 | Yes | Yes | Good | -- | -- |
| MW-39-080 | 02-13-2025 | Yes | Yes | Good | -- | -- |
| MW-39-080 | 03-11-2025 | Yes | Yes | Good | -- | -- |
| MW-39-100 | 01-15-2025 | Yes | Yes | Good | -- | -- |
| MW-39-100 | 02-13-2025 | Yes | Yes | Good | -- | -- |
| MW-39-100 | 03-11-2025 | Yes | Yes | Good | -- | -- |
| MW-41M | 01-16-2025 | Yes | Yes | Good | -- | -- |
| MW-41S | 01-16-2025 | Yes | Yes | Good | -- | -- |
| MW-42-030 | 02-25-2025 | Yes | Yes | Good | -- | -- |
| MW-42-055 | 02-25-2025 | Yes | Yes | Good | -- | -- |
| MW-42-065 | 02-25-2025 | Yes | Yes | Good | -- | -- |
| MW-43-025 | 02-25-2025 | Yes | Yes | Good | -- | -- |
| MW-43-075 | 02-25-2025 | Yes | Yes | Good | -- | -- |
| MW-43-090 | 02-25-2025 | Yes | Yes | Good | -- | -- |
| MW-44-070 | 02-11-2025 | Yes | Yes | Good | -- | -- |

**Table 4.1**
**Monitoring Well Inspection Results**
**First Quarter 2025 Well Performance Report**
**Pacific Gas and Electric Company, Topock Compressor Station, Needles, California**

| Location | Date | Well Inspection Completed? | Is the Well Labeled Properly? | Is the Well in Good Condition? | Description of Deficiencies (if noted) | Well Inspection Comments |
|---|---|---|---|---|---|---|
| MW-44-115 | 01-14-2025 | Yes | Yes | Good | -- | -- |
| MW-44-115 | 02-11-2025 | Yes | Yes | Good | -- | -- |
| MW-44-115 | 03-12-2025 | Yes | Yes | Good | -- | -- |
| MW-44-125 | 01-14-2025 | Yes | Yes | Good | -- | -- |
| MW-44-125 | 02-11-2025 | Yes | Yes | Good | -- | -- |
| MW-44-125 | 03-12-2025 | Yes | Yes | Good | -- | -- |
| MW-45-095a | 01-14-2025 | Yes | Yes | Good | -- | -- |
| MW-45-095a | 02-11-2025 | Yes | Yes | Good | -- | -- |
| MW-46-175 | 01-14-2025 | Yes | Yes | Good | -- | -- |
| MW-46-175 | 02-12-2025 | Yes | Yes | Good | -- | -- |
| MW-46-175 | 03-12-2025 | Yes | Yes | Good | -- | -- |
| MW-46-205 | 02-18-2025 | Yes | Yes | Good | -- | -- |
| MW-47-055 | 02-17-2025 | Yes | Yes | Good | -- | -- |
| MW-47-115 | 02-17-2025 | Yes | Yes | Good | -- | -- |
| MW-49-135 | 02-27-2025 | Yes | Yes | Good | -- | -- |
| MW-49-275 | 02-27-2025 | Yes | Yes | Good | -- | -- |
| MW-49-365 | 02-27-2025 | Yes | Yes | Good | -- | -- |
| MW-51 | 01-16-2025 | Yes | Yes | Good | -- | -- |
| MW-51 | 02-12-2025 | Yes | Yes | Good | -- | -- |
| MW-51 | 03-13-2025 | Yes | Yes | Good | -- | -- |
| MW-52D | 02-20-2025 | Yes | Yes | Good | -- | -- |
| MW-52M | 02-20-2025 | Yes | Yes | Good | -- | -- |
| MW-52S | 02-20-2025 | Yes | Yes | Good | -- | -- |
| MW-53D | 02-20-2025 | Yes | Yes | Good | -- | -- |
| MW-53M | 02-20-2025 | Yes | Yes | Good | -- | -- |
| MW-53S | 02-20-2025 | Yes | Yes | Good | -- | -- |
| MW-57-070 | 02-24-2025 | Yes | Yes | Good | -- | -- |
| MW-58BR | 02-25-2025 | Yes | Yes | Good | -- | -- |
| MW-60-125 | 02-26-2025 | Yes | Yes | Good | -- | -- |
| MW-62-065 | 02-24-2025 | Yes | Yes | Good | -- | -- |
| MW-63-065 | 02-27-2025 | Yes | Yes | Good | -- | -- |
| MW-64BR | 02-26-2025 | Yes | Yes | Good | -- | -- |
| MW-65-160 | 02-26-2025 | Yes | Yes | Good | -- | -- |
| MW-65-225 | 02-26-2025 | Yes | Yes | Good | -- | -- |
| MW-67-185 | 02-26-2025 | Yes | Yes | Good | -- | -- |
| MW-68-180 | 02-26-2025 | Yes | Yes | Good | -- | -- |
| MW-69-195 | 02-26-2025 | Yes | Yes | Good | -- | -- |
| MW-70BR-225 | 02-25-2025 | Yes | Yes | Good | -- | -- |
| MW-71-035 | 01-15-2025 | Yes | Yes | Good | -- | -- |
| MW-71-035 | 02-13-2025 | Yes | Yes | Good | -- | -- |
| MW-71-035 | 03-13-2025 | Yes | Yes | Good | -- | -- |

**Table 4.1**
**Monitoring Well Inspection Results**
**First Quarter 2025 Well Performance Report**
**Pacific Gas and Electric Company, Topock Compressor Station, Needles, California**

| Location | Date | Well Inspection Completed? | Is the Well Labeled Properly? | Is the Well in Good Condition? | Description of Deficiencies (if noted) | Well Inspection Comments |
|---|---|---|---|---|---|---|
| MW-72-080 | 02-26-2025 | Yes | Yes | Good | -- | -- |
| MW-75-033 | 02-17-2025 | Yes | Yes | Good | -- | -- |
| MW-75-117 | 02-17-2025 | Yes | Yes | Good | -- | -- |
| MW-75-202 | 02-17-2025 | Yes | Yes | Good | -- | -- |
| MW-75-267 | 02-17-2025 | Yes | Yes | Good | -- | -- |
| MW-75-337 | 02-17-2025 | Yes | Yes | Good | -- | -- |
| MW-76-039 | 01-14-2025 | Yes | Yes | Good | -- | -- |
| MW-76-039 | 02-11-2025 | Yes | Yes | Good | -- | -- |
| MW-76-039 | 03-12-2025 | Yes | Yes | Good | -- | -- |
| MW-76-156 | 01-14-2025 | Yes | Yes | Good | -- | -- |
| MW-76-156 | 02-11-2025 | Yes | Yes | Good | -- | -- |
| MW-76-156 | 03-12-2025 | Yes | Yes | Good | -- | -- |
| MW-76-181 | 01-14-2025 | Yes | Yes | Good | -- | -- |
| MW-76-181 | 02-11-2025 | Yes | Yes | Good | -- | -- |
| MW-76-181 | 03-12-2025 | Yes | Yes | Good | -- | -- |
| MW-76-218 | 01-14-2025 | Yes | Yes | Good | -- | -- |
| MW-76-218 | 02-11-2025 | Yes | Yes | Good | -- | -- |
| MW-76-218 | 03-12-2025 | Yes | Yes | Good | -- | -- |
| MW-77-046 | 01-13-2025 | Yes | Yes | Good | -- | -- |
| MW-77-046 | 02-10-2025 | Yes | Yes | Good | -- | -- |
| MW-77-102 | 01-13-2025 | Yes | Yes | Good | -- | -- |
| MW-77-102 | 02-10-2025 | Yes | Yes | Good | -- | -- |
| MW-77-158 | 01-13-2025 | Yes | Yes | Good | -- | -- |
| MW-77-158 | 02-10-2025 | Yes | Yes | Good | -- | -- |
| MW-77-187 | 01-13-2025 | Yes | Yes | Good | -- | -- |
| MW-77-187 | 02-10-2025 | Yes | Yes | Good | -- | -- |
| MW-77-187 | 03-12-2025 | Yes | Yes | Good | -- | -- |
| MW-78-070 | 01-16-2025 | Yes | Yes | Good | -- | -- |
| MW-78-070 | 02-12-2025 | Yes | Yes | Good | -- | -- |
| MW-78-070 | 03-13-2025 | Yes | Yes | Good | -- | -- |
| MW-78-142 | 01-16-2025 | Yes | Yes | Good | -- | -- |
| MW-78-142 | 02-12-2025 | Yes | Yes | Good | -- | -- |
| MW-78-142 | 03-13-2025 | Yes | Yes | Good | -- | -- |
| MW-79-058 | 01-16-2025 | Yes | Yes | Good | -- | -- |
| MW-79-058 | 02-12-2025 | Yes | Yes | Good | -- | -- |
| MW-79-058 | 03-13-2025 | Yes | Yes | Good | -- | -- |
| MW-79-102 | 01-16-2025 | Yes | Yes | Good | -- | -- |
| MW-79-102 | 02-12-2025 | Yes | Yes | Good | -- | -- |
| MW-79-102 | 03-13-2025 | Yes | Yes | Good | -- | -- |
| MW-80-057 | 01-16-2025 | Yes | Yes | Good | -- | -- |
| MW-80-057 | 02-12-2025 | Yes | Yes | Good | -- | -- |

**Table 4.1**
**Monitoring Well Inspection Results**
**First Quarter 2025 Well Performance Report**
**Pacific Gas and Electric Company, Topock Compressor Station, Needles, California**

| Location | Date | Well Inspection Completed? | Is the Well Labeled Properly? | Is the Well in Good Condition? | Description of Deficiencies (if noted) | Well Inspection Comments |
|---|---|---|---|---|---|---|
| MW-80-057 | 03-13-2025 | Yes | Yes | Good | -- | -- |
| MW-80-082 | 01-16-2025 | Yes | Yes | Good | -- | -- |
| MW-80-082 | 02-12-2025 | Yes | Yes | Good | -- | -- |
| MW-80-082 | 03-13-2025 | Yes | Yes | Good | -- | -- |
| MW-81-043 | 01-13-2025 | Yes | Yes | Good | -- | -- |
| MW-81-043 | 02-10-2025 | Yes | Yes | Good | -- | -- |
| MW-81-043 | 03-11-2025 | Yes | Yes | Good | -- | -- |
| MW-81-098 | 01-13-2025 | Yes | Yes | Good | -- | -- |
| MW-81-098 | 02-10-2025 | Yes | Yes | Good | -- | -- |
| MW-81-098 | 03-11-2025 | Yes | Yes | Good | -- | -- |
| MW-82-046 | 01-14-2025 | Yes | Yes | Good | -- | -- |
| MW-82-046 | 02-11-2025 | Yes | Yes | Good | -- | -- |
| MW-82-112 | 02-11-2025 | Yes | Yes | Good | -- | -- |
| MW-82-168 | 01-14-2025 | Yes | Yes | Good | -- | -- |
| MW-82-168 | 02-11-2025 | Yes | Yes | Good | -- | -- |
| MW-82-198 | 01-14-2025 | Yes | Yes | Good | -- | -- |
| MW-82-198 | 02-11-2025 | Yes | Yes | Good | -- | -- |
| MW-86-030 | 02-19-2025 | Yes | Yes | Good | -- | -- |
| MW-86-066 | 02-19-2025 | Yes | Yes | Good | -- | -- |
| MW-86-120 | 02-19-2025 | Yes | Yes | Good | -- | -- |
| MW-86-140 | 02-19-2025 | Yes | Yes | Good | -- | -- |
| MW-86-140 | 02-19-2025 | Yes | Yes | Good | -- | -- |
| MW-90-031 | 02-19-2025 | Yes | Yes | Good | -- | -- |
| MW-94-030 | 02-18-2025 | Yes | Yes | Good | -- | -- |
| MW-94-100 | 02-18-2025 | Yes | Yes | Good | -- | -- |
| MW-94-175 | 02-18-2025 | Yes | Yes | Good | -- | -- |
| MW-96-045 | 02-20-2025 | Yes | Yes | Good | -- | -- |
| MW-96-217 | 02-20-2025 | Yes | Yes | Good | -- | -- |
| MW-97-042 | 02-17-2025 | Yes | Yes | Good | -- | -- |
| MW-97-202 | 02-17-2025 | Yes | Yes | Good | -- | -- |
| MW-99-060 | 02-20-2025 | Yes | Yes | Good | -- | -- |
| MW-99-140 | 02-20-2025 | Yes | Yes | Good | -- | -- |
| PGE-09N | 02-20-2025 | Yes | Yes | Good | -- | -- |
| PGE-09S | 02-20-2025 | Yes | Yes | Good | -- | -- |
| PT5D | 01-13-2025 | Yes | Yes | Good | -- | -- |
| PT5D | 02-10-2025 | Yes | Yes | Good | -- | -- |
| PT5D | 03-10-2025 | Yes | Yes | Good | -- | -- |
| PT5M | 02-18-2025 | Yes | Yes | Good | -- | -- |
| PT5S | 02-18-2025 | Yes | Yes | Good | -- | -- |
| PT6D | 01-13-2025 | Yes | Yes | Good | -- | -- |
| PT6D | 02-10-2025 | Yes | Yes | Good | -- | -- |

**Table 4.1**
**Monitoring Well Inspection Results**
**First Quarter 2025 Well Performance Report**
**Pacific Gas and Electric Company, Topock Compressor Station, Needles, California**

| Location | Date | Well Inspection Completed? | Is the Well Labeled Properly? | Is the Well in Good Condition? | Description of Deficiencies (if noted) | Well Inspection Comments |
|---|---|---|---|---|---|---|
| PT6D | 03-10-2025 | Yes | Yes | Good | -- | -- |
| TW-02D | 01-14-2025 | Yes | Yes | Good | -- | -- |
| TW-02D | 02-11-2025 | Yes | Yes | Good | -- | -- |
| TW-02D | 03-11-2025 | Yes | Yes | Good | -- | -- |
| TW-02S | 01-14-2025 | Yes | Yes | Good | -- | -- |
| TW-02S | 02-11-2025 | Yes | Yes | Good | -- | -- |
| TW-02S | 03-11-2025 | Yes | Yes | Good | -- | -- |
| TW-03D | 01-14-2025 | Yes | Yes | Good | -- | -- |
| TW-03D | 02-11-2025 | Yes | Yes | Good | -- | -- |
| TW-03D | 03-11-2025 | Yes | Yes | Good | -- | -- |
| TW-04 | 02-19-2025 | Yes | Yes | Good | -- | -- |

**Acronyms and Abbreviations:**

-- = no comment

**Table 4.2**
**Monitoring Well Water Levels and Specific Capacities**
**First Quarter 2025 Well Performance Report**
**Pacific Gas and Electric Company, Topock Compressor Station, Needles, California**

| Well ID | Well Screen Lithology | Sample Date | Constructed Well Depth (ft bTOC) | Measured Well Depth (ft bTOC) | Difference in Constructed and Measured Well Depth (feet) | Screen Start Depth (ft bTOC) | Screen End Depth (ft bTOC) | Pre-Purge Depth to Water (ft bTOC) | Post-Purge Depth to Water (ft bTOC) | Drawdown During Purging (feet) | Purging Rate (mL/min) | Specific Capacity (gpm/foot) | Measured Depth Covering Greater Than 20% of Screen? | Flagged for Evaluation | Planned for Resurvey | Planned for Redevelopment | Notes | Date of Last Redevelopment |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MW-09 | Alluvial | 02/27/2025 | 88.82 | 89.01 | -0.19 | 77.82 | 87.82 | 82.18 | 82.18 | 0.00 | 300 | N/A | No | No | No | No | N/A | 9/25/2024 |
| MW-15 | Alluvial | 02/26/2025 | 204.90 | 200.50 | 4.40 | 182.40 | 202.40 | 187.26 | 187.31 | 0.05 | 500 | 2.64 | No | No | No | No | N/A | N/A |
| MW-20-070 | Alluvial | 01/16/2025 | 69.69 | 68.38 | 1.31 | 49.69 | 69.69 | 46.82 | 46.84 | 0.02 | 500 | 6.60 | No | Yes | No | No | High turbidity. Turbidity improved in consecutive sampling events. | N/A |
| MW-20-070 | Alluvial | 02/13/2025 | 69.69 | 68.38 | 1.31 | 49.69 | 69.69 | 46.61 | 46.70 | 0.09 | 500 | 1.47 | No | No | No | No | N/A | N/A |
| MW-20-070 | Alluvial | 03/11/2025 | 69.69 | 68.38 | 1.31 | 49.69 | 69.69 | 45.41 | 45.42 | 0.01 | 500 | 13.21 | No | No | No | No | N/A | N/A |
| MW-20-100 | Alluvial | 01/16/2025 | 100.49 | 98.07 | 2.42 | 88.59 | 98.59 | 47.14 | 47.16 | 0.02 | 500 | 6.60 | No | No | No | No | N/A | N/A |
| MW-20-100 | Alluvial | 02/13/2025 | 100.49 | 98.07 | 2.42 | 88.59 | 98.59 | 46.90 | 46.94 | 0.04 | 500 | 3.30 | No | No | No | No | N/A | N/A |
| MW-20-100 | Alluvial | 03/11/2025 | 100.49 | 98.08 | 2.41 | 88.59 | 98.59 | 45.78 | 45.80 | 0.02 | 500 | 6.60 | No | No | No | No | N/A | N/A |
| MW-20-130 | Alluvial | 01/16/2025 | 131.49 | 129.55 | 1.94 | 120.15 | 130.15 | 47.57 | 47.59 | 0.02 | 500 | 6.60 | No | No | No | No | N/A | N/A |
| MW-20-130 | Alluvial | 02/13/2025 | 131.49 | 129.50 | 1.99 | 120.15 | 130.15 | 47.33 | 47.36 | 0.03 | 500 | 4.40 | No | No | No | No | N/A | N/A |
| MW-20-130 | Alluvial | 03/11/2025 | 131.49 | 129.50 | 1.99 | 120.15 | 130.15 | 46.15 | 46.17 | 0.02 | 500 | 6.60 | No | No | No | No | N/A | N/A |
| MW-21 | Alluvial | 01/15/2025 | 58.95 | 58.36 | 0.59 | 38.45 | 58.45 | 50.43 | 51.05 | 0.62 | 100 | 0.04 | No | No | No | No | N/A | N/A |
| MW-21 | Alluvial | 02/13/2025 | 58.95 | 58.33 | 0.62 | 38.45 | 58.45 | 49.56 | 50.12 | 0.56 | 100 | 0.05 | No | Yes | No | No | High turbidity. Turbidity improved in consecutive sampling events. | N/A |
| MW-21 | Alluvial | 03/13/2025 | 58.95 | 58.33 | 0.62 | 38.45 | 58.45 | 50.11 | 50.90 | 0.79 | 100 | 0.03 | No | No | No | No | N/A | N/A |
| MW-22 | Fluvial | 02/18/2025 | 12.05 | 10.98 | 1.07 | 5.15 | 10.15 | 6.14 | 6.14 | 0.00 | 200 | N/A | No | No | No | No | N/A | N/A |
| MW-26 | Alluvial | 01/16/2025 | 70.82 | 68.95 | 1.87 | 50.82 | 70.82 | 47.30 | 47.30 | 0.00 | 500 | N/A | No | No | No | No | N/A | N/A |
| MW-26 | Alluvial | 02/12/2025 | 70.82 | 69.30 | 1.52 | 50.82 | 70.82 | 48.00 | 48.01 | 0.01 | 300 | 7.93 | No | No | No | No | N/A | N/A |
| MW-26 | Alluvial | 03/13/2025 | 70.82 | 69.30 | 1.52 | 50.82 | 70.82 | 47.24 | 47.30 | 0.06 | 500 | 2.20 | No | No | No | No | N/A | N/A |
| MW-27-020 | Fluvial | 02/24/2025 | 18.92 | 13.27 | 5.65 | 8.92 | 18.92 | 6.30 | 6.32 | 0.02 | 500 | 6.60 | Yes | Yes | No | No | Siltation. Not recommended for redevelopment based on location and fluvial sediments. | N/A |
| MW-27-060 | Fluvial | 02/24/2025 | 60.52 | 58.82 | 1.70 | 50.32 | 60.32 | 6.90 | 6.92 | 0.02 | 500 | 6.60 | No | No | No | No | N/A | N/A |
| MW-27-085 | Fluvial | 02/24/2025 | 100.05 | 100.39 | -0.34 | 80.05 | 90.05 | 6.76 | 6.78 | 0.02 | 500 | 6.60 | No | No | No | No | N/A | N/A |
| MW-28-025 | Fluvial | 02/19/2025 | 25.10 | 23.81 | 1.29 | 15.10 | 25.10 | 12.78 | 12.78 | 0.00 | 400 | N/A | No | No | No | No | N/A | 5/16/2023 |
| MW-28-090 | Fluvial | 02/19/2025 | 101.46 | 97.73 | 3.73 | 73.10 | 93.10 | 13.13 | 13.13 | 0.00 | 300 | N/A | No | No | No | No | N/A | N/A |
| MW-29 | Fluvial | 02/27/2025 | 43.73 | 40.71 | 3.02 | 31.71 | 41.71 | 31.22 | 31.22 | 0.00 | 500 | N/A | No | No | No | No | N/A | N/A |
| MW-30-030R | Fluvial | 02/13/2025 | 32.43 | 32.31 | 0.12 | 12.03 | 32.03 | 13.95 | 13.96 | 0.01 | 300 | 7.93 | No | No | No | No | N/A | N/A |
| MW-30-050 | Fluvial | 01/15/2025 | 55.01 | 50.15 | 4.86 | 42.41 | 52.41 | 14.02 | 14.09 | 0.07 | 500 | 1.89 | Yes | Yes | No | No | Siltation. Not recommended for redevelopment based on location and fluvial sediments. | N/A |
| MW-30-050 | Fluvial | 02/13/2025 | 55.01 | 50.00 | 5.01 | 42.41 | 52.41 | 13.95 | 13.80 | -- | 300 | -- | Yes | Yes | No | No | Siltation. Not recommended for redevelopment based on location and fluvial sediments. | N/A |
| MW-31-060 | Alluvial | 01/15/2025 | 65.71 | 61.35 | 4.36 | 43.21 | 63.21 | 41.63 | 41.65 | 0.02 | 500 | 6.60 | No | No | No | No | N/A | N/A |
| MW-31-060 | Alluvial | 02/13/2025 | 65.71 | 61.33 | 4.38 | 43.21 | 63.21 | 41.43 | 41.45 | 0.02 | 500 | 6.60 | No | No | No | No | N/A | N/A |
| MW-31-060 | Alluvial | 03/10/2025 | 65.71 | 61.40 | 4.31 | 43.21 | 63.21 | 39.47 | 39.64 | 0.17 | 500 | 0.78 | No | No | No | No | N/A | N/A |

**Table 4.2**
**Monitoring Well Water Levels and Specific Capacities**
**First Quarter 2025 Well Performance Report**
**Pacific Gas and Electric Company, Topock Compressor Station, Needles, California**

| Well ID | Well Screen Lithology | Sample Date | Constructed Well Depth (ft bTOC) | Measured Well Depth (ft bTOC) | Difference in Constructed and Measured Well Depth (feet) | Screen Start Depth (ft bTOC) | Screen End Depth (ft bTOC) | Pre-Purge Depth to Water (ft bTOC) | Post-Purge Depth to Water (ft bTOC) | Drawdown During Purging (feet) | Purging Rate (mL/min) | Specific Capacity (gpm/foot) | Measured Depth Covering Greater Than 20% of Screen? | Flagged for Evaluation | Planned for Resurvey | Planned for Redevelopment | Notes | Date of Last Redevelopment |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MW-31-135 | Alluvial | 01/15/2025 | 133.16 | 130.10 | 3.06 | 112.86 | 132.86 | 42.82 | 42.85 | 0.03 | 500 | 4.40 | No | Yes | No | No | High turbidity. Turbidity improved in consecutive sampling events. | N/A |
| MW-31-135 | Alluvial | 02/13/2025 | 133.16 | 130.07 | 3.09 | 112.86 | 132.86 | 42.39 | 42.41 | 0.02 | 500 | 6.60 | No | No | No | No | N/A | N/A |
| MW-31-135 | Alluvial | 03/10/2025 | 133.16 | 130.00 | 3.16 | 112.86 | 132.86 | 40.70 | 40.74 | 0.04 | 500 | 3.30 | No | No | No | No | N/A | N/A |
| MW-32-020 | Fluvial | 02/27/2025 | 22.41 | 19.17 | 3.24 | 12.41 | 22.41 | 7.70 | 7.72 | 0.02 | 300 | 3.96 | Yes | Yes | No | No | Siltation. Not recommended for redevelopment based on location and fluvial sediments. Specific capacity indicates good yield because drawdown did not occur during purging. | N/A |
| MW-32-035 | Fluvial | 02/27/2025 | 39.58 | 37.05 | 2.53 | 29.93 | 37.43 | 7.43 | 7.43 | 0.00 | 300 | N/A | No | No | No | No | N/A | N/A |
| MW-33-040 | Fluvial | 02/26/2025 | 44.64 | 40.95 | 3.69 | 31.80 | 41.80 | 32.77 | 32.77 | 0.00 | 500 | N/A | No | No | No | No | N/A | N/A |
| MW-33-090 | Alluvial | 02/26/2025 | 91.83 | 88.12 | 3.71 | 71.83 | 91.11 | 32.67 | 32.72 | 0.05 | 500 | 2.64 | No | No | No | No | N/A | N/A |
| MW-33-150 | Alluvial | 02/26/2025 | 158.15 | 155.04 | 3.11 | 134.77 | 154.77 | 33.20 | 33.29 | 0.09 | 500 | 1.47 | No | No | No | No | N/A | N/A |
| MW-33-210 | Alluvial | 02/26/2025 | 225.64 | 222.13 | 3.51 | 192.64 | 212.64 | 32.25 | 32.25 | 0.00 | 500 | N/A | No | No | No | No | N/A | N/A |
| MW-34-055 | Fluvial | 02/12/2025 | 58.81 | 56.75 | 2.06 | 47.21 | 57.21 | 8.08 | 8.10 | 0.02 | 500 | 6.60 | No | No | No | No | N/A | N/A |
| MW-34-080 | Fluvial | 01/15/2025 | 86.56 | 85.00 | 1.56 | 75.26 | 85.26 | 8.58 | 8.60 | 0.02 | 500 | 6.60 | No | No | No | No | N/A | N/A |
| MW-34-080 | Fluvial | 02/12/2025 | 86.56 | 84.10 | 2.46 | 75.26 | 85.26 | 8.21 | 8.22 | 0.01 | 500 | 13.21 | No | No | No | No | N/A | N/A |
| MW-34-100 | Fluvial | 01/15/2025 | 116.44 | 115.70 | 0.74 | 91.44 | 101.44 | 8.62 | 8.65 | 0.03 | 500 | 4.40 | No | No | No | No | N/A | N/A |
| MW-34-100 | Fluvial | 02/12/2025 | 116.44 | 115.72 | 0.72 | 91.44 | 101.44 | 8.26 | 8.28 | 0.02 | 500 | 6.60 | No | No | No | No | N/A | N/A |
| MW-34-100 | Fluvial | 03/12/2025 | 116.44 | 115.75 | 0.69 | 91.44 | 101.44 | 5.90 | 5.93 | 0.03 | 500 | 4.40 | No | No | No | No | N/A | N/A |
| MW-35-060 | Alluvial | 02/24/2025 | 61.63 | 57.80 | 3.83 | 41.33 | 61.33 | 27.75 | 27.75 | 0.00 | 300 | NA | No | No | No | No | N/A | 5/9/2023 |
| MW-35-135 | Alluvial | 02/24/2025 | 158.98 | 154.48 | 4.50 | 116.28 | 136.28 | 27.11 | 27.35 | 0.24 | 300 | 0.33 | No | No | No | No | N/A | N/A |
| MW-36-020 | Fluvial | 02/18/2025 | 23.08 | 22.28 | 0.80 | 12.78 | 22.78 | 13.00 | 13.00 | 0.00 | 300 | N/A | No | No | No | No | N/A | N/A |
| MW-36-040 | Fluvial | 02/18/2025 | 43.15 | 39.99 | 3.16 | 32.85 | 42.85 | 15.20 | 15.21 | 0.01 | 300 | 7.93 | Yes | Yes | No | No | Siltation. Not recommended for redevelopment based on location and fluvial sediments. Specific capacity indicates good yield because drawdown did not occur during purging. | N/A |
| MW-36-050 | Fluvial | 02/18/2025 | 55.79 | 52.85 | 2.94 | 48.79 | 53.79 | 15.70 | 15.70 | 0.00 | 300 | N/A | No | No | No | No | N/A | N/A |
| MW-36-070 | Fluvial | 02/18/2025 | 73.02 | 72.25 | 0.77 | 62.72 | 72.72 | 15.20 | 15.20 | 0.00 | 300 | N/A | No | No | No | No | N/A | N/A |
| MW-36-090 | Fluvial | 01/15/2025 | 93.34 | 92.33 | 1.01 | 83.04 | 93.04 | 17.38 | 17.40 | 0.02 | 500 | 6.60 | No | No | No | No | N/A | N/A |
| MW-36-090 | Fluvial | 02/12/2025 | 93.34 | 92.33 | 1.01 | 83.04 | 93.04 | 16.98 | 17.00 | 0.02 | 500 | 6.60 | No | No | No | No | N/A | N/A |
| MW-36-100 | Fluvial | 01/15/2025 | 111.36 | 109.72 | 1.64 | 91.36 | 101.36 | 17.43 | 17.45 | 0.02 | 500 | 6.60 | No | No | No | No | N/A | N/A |
| MW-36-100 | Fluvial | 02/12/2025 | 111.36 | 109.77 | 1.59 | 91.36 | 101.36 | 17.07 | 17.10 | 0.03 | 500 | 4.40 | No | No | No | No | N/A | N/A |
| MW-36-100 | Fluvial | 03/12/2025 | 111.36 | 109.75 | 1.61 | 91.36 | 101.36 | 14.96 | 14.97 | 0.01 | 500 | 13.21 | No | No | No | No | N/A | N/A |
| MW-38D | Alluvial | 02/27/2025 | 186.58 | 184.82 | 1.76 | 166.28 | 186.28 | 72.19 | 72.20 | 0.01 | 300 | 7.93 | No | No | No | No | N/A | 8/19/2022 |
| MW-38S | Alluvial | 02/27/2025 | 97.77 | 96.80 | 0.97 | 77.47 | 97.47 | 70.70 | 70.71 | 0.01 | 400 | 10.57 | No | No | No | No | N/A | 7/25/2022 |

**Table 4.2**
**Monitoring Well Water Levels and Specific Capacities**
**First Quarter 2025 Well Performance Report**
**Pacific Gas and Electric Company, Topock Compressor Station, Needles, California**

| Well ID | Well Screen Lithology | Sample Date | Constructed Well Depth (ft bTOC) | Measured Well Depth (ft bTOC) | Difference in Constructed and Measured Well Depth (feet) | Screen Start Depth (ft bTOC) | Screen End Depth (ft bTOC) | Pre-Purge Depth to Water (ft bTOC) | Post-Purge Depth to Water (ft bTOC) | Drawdown During Purging (feet) | Purging Rate (mL/min) | Specific Capacity (gpm/foot) | Measured Depth Covering Greater Than 20% of Screen? | Flagged for Evaluation | Planned for Resurvey | Planned for Redevelopment | Notes | Date of Last Redevelopment |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MW-39-040 | Alluvial | 01/15/2025 | 43.33 | 39.61 | 3.72 | 33.03 | 43.03 | 15.20 | 15.29 | 0.09 | 500 | 1.47 | Yes | Yes | No | No | Second Quarter 2023 redevelopment with Waterra pump did not improve siltation. Well will not be considered for future redevelopment. | 5/14/2023 |
| MW-39-040 | Alluvial | 02/13/2025 | 43.33 | 39.63 | 3.70 | 33.03 | 43.03 | 15.40 | 15.41 | 0.01 | 300 | 7.93 | Yes | Yes | No | No | Second Quarter 2023 redevelopment with Waterra pump did not improve siltation. Well will not be considered for future redevelopment. | 5/14/2023 |
| MW-39-050 | Alluvial | 01/15/2025 | 57.43 | 54.50 | 2.93 | 49.83 | 54.83 | 15.24 | 15.26 | 0.02 | 500 | 6.60 | No | No | No | No | N/A | N/A |
| MW-39-050 | Alluvial | 02/13/2025 | 57.43 | 54.53 | 2.90 | 49.83 | 54.83 | 15.11 | 15.11 | 0.00 | 300 | N/A | No | No | No | No | N/A | N/A |
| MW-39-060 | Alluvial | 01/15/2025 | 69.00 | 60.22 | 8.78 | 51.70 | 61.70 | 15.37 | 15.37 | 0.00 | 500 | N/A | No | No | No | No | N/A | N/A |
| MW-39-060 | Alluvial | 02/13/2025 | 69.00 | 59.81 | 9.19 | 51.70 | 61.70 | 15.40 | 15.41 | 0.01 | 300 | 7.93 | No | No | No | No | N/A | N/A |
| MW-39-070 | Alluvial | 01/15/2025 | 74.51 | 71.19 | 3.32 | 62.82 | 72.82 | 15.44 | 15.46 | 0.02 | 500 | 6.60 | No | No | No | No | N/A | N/A |
| MW-39-070 | Alluvial | 02/13/2025 | 74.51 | 71.22 | 3.29 | 62.82 | 72.82 | 15.48 | 15.48 | 0.00 | 300 | N/A | No | No | No | No | N/A | N/A |
| MW-39-070 | Alluvial | 03/11/2025 | 74.51 | 71.20 | 3.31 | 62.82 | 72.82 | 13.91 | 13.89 | -- | 500 | -- | No | No | No | No | N/A | N/A |
| MW-39-080 | Alluvial | 01/15/2025 | 85.37 | 81.91 | 3.46 | 72.82 | 82.82 | 15.52 | 15.58 | 0.06 | 500 | 2.20 | No | No | No | No | N/A | N/A |
| MW-39-080 | Alluvial | 02/13/2025 | 85.37 | 81.93 | 3.44 | 72.82 | 82.82 | 15.47 | 15.47 | 0.00 | 300 | N/A | No | No | No | No | N/A | N/A |
| MW-39-080 | Alluvial | 03/11/2025 | 85.37 | 81.90 | 3.47 | 72.82 | 82.82 | 13.86 | 14.02 | 0.16 | 500 | 0.83 | No | No | No | No | N/A | N/A |
| MW-39-100 | Alluvial | 01/15/2025 | 120.53 | 116.43 | 4.10 | 82.82 | 102.82 | 15.53 | 15.55 | 0.02 | 500 | 6.60 | No | No | No | No | N/A | N/A |
| MW-39-100 | Alluvial | 02/13/2025 | 120.53 | 116.45 | 4.08 | 82.82 | 102.82 | 15.54 | 15.54 | 0.00 | 300 | N/A | No | No | No | No | N/A | N/A |
| MW-39-100 | Alluvial | 03/11/2025 | 120.53 | 116.40 | 4.13 | 82.82 | 102.82 | 13.92 | 14.23 | 0.31 | 500 | 0.43 | No | No | No | No | N/A | N/A |
| MW-41M | Alluvial | 01/16/2025 | 192.78 | 192.20 | 0.58 | 172.78 | 192.78 | 26.16 | 26.20 | 0.04 | 500 | 3.30 | No | No | No | No | N/A | N/A |
| MW-41S | Alluvial | 01/16/2025 | 62.66 | 61.30 | 1.36 | 42.66 | 62.66 | 26.64 | 26.66 | 0.02 | 500 | 6.60 | No | No | No | No | N/A | N/A |
| MW-42-030 | Fluvial | 02/25/2025 | 32.55 | 30.89 | 1.66 | 12.25 | 32.25 | 9.55 | 9.56 | 0.01 | 300 | 7.93 | No | No | No | No | N/A | N/A |
| MW-42-055 | Fluvial | 02/25/2025 | 55.29 | 55.15 | 0.14 | 44.99 | 54.99 | 9.40 | 9.40 | 0.00 | 400 | N/A | No | No | No | No | N/A | N/A |
| MW-42-065 | Fluvial | 02/25/2025 | 83.47 | 68.11 | 15.36 | 58.47 | 68.47 | 8.90 | 8.91 | 0.01 | 300 | 7.93 | No | No | No | No | N/A | N/A |
| MW-43-025 | Fluvial | 02/25/2025 | 27.52 | 26.53 | 0.99 | 17.52 | 27.52 | 7.73 | 7.74 | 0.01 | 300 | 7.90 | No | No | No | No | N/A | N/A |
| MW-43-075 | Fluvial | 02/25/2025 | 77.79 | 77.53 | 0.26 | 67.79 | 77.79 | 8.00 | 8.01 | 0.01 | 300 | 7.93 | No | No | No | No | N/A | N/A |
| MW-43-090 | Fluvial | 02/25/2025 | 99.82 | 102.47 | -2.65 | 82.82 | 92.82 | 8.34 | 8.35 | 0.01 | 300 | 7.93 | No | No | No | No | N/A | N/A |
| MW-44-070 | Fluvial | 02/11/2025 | 72.10 | 72.30 | -0.20 | 62.10 | 72.10 | 19.00 | 19.03 | 0.03 | 500 | 4.40 | No | No | No | No | N/A | N/A |
| MW-44-115 | Alluvial | 01/14/2025 | 114.52 | 114.29 | 0.23 | 106.52 | 114.52 | 19.20 | 19.22 | 0.02 | 500 | 6.60 | No | No | No | No | N/A | N/A |
| MW-44-115 | Alluvial | 02/11/2025 | 114.52 | 114.23 | 0.29 | 106.52 | 114.52 | 19.44 | 19.46 | 0.02 | 500 | 6.60 | No | No | No | No | N/A | N/A |
| MW-44-115 | Alluvial | 03/12/2025 | 114.52 | 114.40 | 0.12 | 106.52 | 114.52 | 17.20 | 17.21 | 0.01 | 500 | 13.21 | No | No | No | No | N/A | N/A |
| MW-44-125 | Alluvial | 01/14/2025 | 130.35 | 128.55 | 1.80 | 117.55 | 126.55 | 19.01 | 19.03 | 0.02 | 500 | 6.60 | No | No | No | No | N/A | N/A |
| MW-44-125 | Alluvial | 02/11/2025 | 130.35 | 126.83 | 3.52 | 117.55 | 126.55 | 19.43 | 19.45 | 0.02 | 500 | 6.60 | No | No | No | No | N/A | N/A |
| MW-44-125 | Alluvial | 03/12/2025 | 130.35 | 128.80 | 1.55 | 117.55 | 126.55 | 17.00 | 17.01 | 0.01 | 500 | 13.21 | No | No | No | No | N/A | N/A |

**Table 4.2**
**Monitoring Well Water Levels and Specific Capacities**
**First Quarter 2025 Well Performance Report**
**Pacific Gas and Electric Company, Topock Compressor Station, Needles, California**

| Well ID | Well Screen Lithology | Sample Date | Constructed Well Depth (ft bTOC) | Measured Well Depth (ft bTOC) | Difference in Constructed and Measured Well Depth (feet) | Screen Start Depth (ft bTOC) | Screen End Depth (ft bTOC) | Pre-Purge Depth to Water (ft bTOC) | Post-Purge Depth to Water (ft bTOC) | Drawdown During Purging (feet) | Purging Rate (mL/min) | Specific Capacity (gpm/foot) | Measured Depth Covering Greater Than 20% of Screen? | Flagged for Evaluation | Planned for Resurvey | Planned for Redevelopment | Notes | Date of Last Redevelopment |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MW-45-095a | Fluvial | 01/14/2025 | 96.90 | 93.88 | 3.02 | 86.40 | 96.40 | 15.37 | 15.39 | 0.02 | 500 | 6.60 | Yes | Yes | No | No | Siltation. Not recommended for redevelopment based on low turbidity measurement during sampling and based on location and fluvial sediments. | N/A |
| MW-45-095a | Fluvial | 02/11/2025 | 96.90 | 93.88 | 3.02 | 86.40 | 96.40 | 15.52 | 15.55 | 0.03 | 500 | 4.40 | Yes | Yes | No | No | Siltation. Not recommended for redevelopment based on low turbidity measurement during sampling and based on location and fluvial sediments. | N/A |
| MW-46-175 | Alluvial | 01/14/2025 | 176.84 | 176.02 | 0.82 | 166.34 | 176.34 | 29.61 | 29.63 | 0.02 | 500 | 6.60 | No | No | No | No | N/A | N/A |
| MW-46-175 | Alluvial | 02/12/2025 | 176.84 | 176.03 | 0.81 | 166.34 | 176.34 | 29.56 | 29.58 | 0.02 | 500 | 6.60 | No | No | No | No | N/A | N/A |
| MW-46-175 | Alluvial | 03/12/2025 | 176.84 | 176.02 | 0.82 | 166.34 | 176.34 | 27.74 | 27.76 | 0.02 | 500 | 6.60 | No | No | No | No | N/A | N/A |
| MW-46-205 | Alluvial | 02/18/2025 | 209.49 | 218.73 | -9.24 | 199.49 | 209.49 | 29.15 | 29.19 | 0.04 | 500 | 3.30 | No | No | No | No | N/A | N/A |
| MW-47-055 | Alluvial | 02/17/2025 | 56.94 | 56.71 | 0.23 | 46.94 | 56.94 | 30.44 | 30.44 | 0.00 | 400 | N/A | No | No | No | No | N/A | N/A |
| MW-47-115 | Alluvial | 02/17/2025 | 116.58 | 115.58 | 1.00 | 106.58 | 116.58 | 30.59 | 30.59 | 0.00 | 400 | N/A | No | No | No | No | N/A | N/A |
| MW-49-135 | Alluvial | 02/27/2025 | 136.52 | 136.29 | 0.23 | 126.52 | 136.52 | 29.37 | 29.42 | 0.05 | 500 | 2.64 | No | No | No | No | N/A | N/A |
| MW-49-275 | Alluvial | 02/27/2025 | 276.45 | 274.73 | 1.72 | 256.45 | 276.45 | 30.41 | 30.48 | 0.07 | 500 | 1.89 | No | No | No | No | N/A | N/A |
| MW-49-365 | Alluvial | 02/27/2025 | 368.86 | 367.35 | 1.51 | 347.51 | 367.51 | 32.19 | 32.23 | 0.04 | 500 | 3.30 | No | No | No | No | N/A | N/A |
| MW-51 | Alluvial | 01/16/2025 | 112.94 | 113.12 | -0.18 | 96.69 | 111.69 | 46.91 | 46.91 | 0.00 | 500 | N/A | No | No | No | No | N/A | N/A |
| MW-51 | Alluvial | 02/12/2025 | 112.94 | 113.00 | -0.06 | 96.69 | 111.69 | 47.40 | 47.41 | 0.01 | 300 | 7.93 | No | No | No | No | N/A | N/A |
| MW-51 | Alluvial | 03/13/2025 | 112.94 | 113.27 | -0.33 | 96.69 | 111.69 | 46.66 | 46.68 | 0.02 | 500 | 6.60 | No | No | No | No | N/A | N/A |
| MW-52D | Fluvial | 02/20/2025 | N/A | 89.52 | N/A | 85.00 | 87.00 | 15.24 | 15.25 | 0.01 | 300 | 7.93 | No | No | No | No | Slant well. Total depth not recorded. | N/A |
| MW-52M | Fluvial | 02/20/2025 | N/A | 70.52 | N/A | 66.00 | 68.00 | 15.03 | 15.03 | 0.00 | 400 | N/A | No | No | No | No | Slant well. Total depth not recorded. | N/A |
| MW-52S | Fluvial | 02/20/2025 | N/A | 51.53 | N/A | 47.00 | 49.00 | 12.81 | 12.82 | 0.01 | 400 | 10.57 | No | No | No | No | Slant well. Total depth not recorded. | N/A |
| MW-53D | Fluvial | 02/20/2025 | N/A | 125.03 | N/A | 123.50 | 125.00 | 20.75 | 20.75 | 0.00 | 300 | N/A | No | No | No | No | Slant well. Total depth not recorded. | N/A |
| MW-53M | Fluvial | 02/20/2025 | N/A | 100.02 | N/A | 98.50 | 100.00 | 16.80 | 16.81 | 0.01 | 400 | 10.57 | No | No | No | No | Slant well. Total depth not recorded. | N/A |
| MW-53S | Fluvial | 02/20/2025 | N/A | 30.02 | N/A | 28.50 | 30.00 | 17.02 | 17.02 | 0.00 | 300 | N/A | No | No | No | No | Slant well. Total depth not recorded. | N/A |
| MW-57-070 | Bedrock | 02/24/2025 | 70.40 | 68.45 | 1.95 | 55.40 | 70.40 | 54.55 | 54.56 | 0.01 | 300 | 7.93 | No | No | No | No | N/A | N/A |
| MW-58BR | Bedrock | 02/25/2025 | 209.13 | 204.21 | 4.92 | 69.13 | 209.13 | 68.48 | 68.53 | 0.05 | 500 | 2.64 | No | No | No | No | N/A | N/A |
| MW-60-125 | Bedrock | 02/26/2025 | 122.69 | 121.71 | 0.98 | 102.69 | 122.69 | 100.87 | 100.90 | 0.03 | 500 | 4.40 | No | No | No | No | N/A | N/A |
| MW-62-065 | Bedrock | 02/24/2025 | 67.40 | 63.68 | 3.72 | 44.50 | 64.50 | 49.95 | 49.96 | 0.01 | 500 | 13.21 | No | No | No | No | N/A | N/A |
| MW-63-065 | Bedrock | 02/27/2025 | 65.47 | 63.16 | 2.31 | 45.47 | 65.47 | 49.50 | 49.51 | 0.01 | 300 | 7.93 | No | No | No | No | N/A | N/A |
| MW-64BR | Bedrock | 02/26/2025 | 260.02 | 258.00 | 2.02 | 2.02 | 258.02 | 121.15 | 121.16 | 0.01 | 500 | 13.21 | No | No | No | No | N/A | N/A |
| MW-65-160 | Alluvial | 02/26/2025 | 159.70 | 160.44 | -0.74 | 149.60 | 159.60 | 142.40 | 142.42 | 0.02 | 500 | 6.60 | No | No | No | No | N/A | N/A |

**Table 4.2**
**Monitoring Well Water Levels and Specific Capacities**
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**Pacific Gas and Electric Company, Topock Compressor Station, Needles, California**

| Well ID | Well Screen Lithology | Sample Date | Constructed Well Depth (ft bTOC) | Measured Well Depth (ft bTOC) | Difference in Constructed and Measured Well Depth (feet) | Screen Start Depth (ft bTOC) | Screen End Depth (ft bTOC) | Pre-Purge Depth to Water (ft bTOC) | Post-Purge Depth to Water (ft bTOC) | Drawdown During Purging (feet) | Purging Rate (mL/min) | Specific Capacity (gpm/foot) | Measured Depth Covering Greater Than 20% of Screen? | Flagged for Evaluation | Planned for Resurvey | Planned for Redevelopment | Notes | Date of Last Redevelopment |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MW-65-225 | Alluvial | 02/26/2025 | 224.68 | 225.34 | -0.66 | 214.59 | 224.59 | 142.20 | 142.29 | 0.09 | 500 | 1.47 | No | No | No | No | N/A | N/A |
| MW-67-185 | Alluvial | 02/26/2025 | 186.73 | 186.70 | 0.03 | 176.73 | 186.73 | 171.73 | 171.75 | 0.02 | 500 | 6.60 | No | No | No | No | N/A | N/A |
| MW-68-180 | Alluvial | 02/26/2025 | 179.68 | 180.01 | -0.33 | 164.59 | 179.59 | 166.80 | 166.82 | 0.02 | 500 | 6.60 | No | No | No | No | N/A | N/A |
| MW-69-195 | Bedrock | 02/26/2025 | 195.27 | 195.58 | -0.31 | 175.27 | 195.27 | 176.56 | 176.62 | 0.06 | 500 | 2.20 | No | Yes | No | No | Consecutive high turbidity readings. Not recommended for redevelopment given it is a bedrock well that does not have siltation and specific capacity indicates good yield. | N/A |
| MW-70BR-225 | Bedrock | 02/25/2025 | 228.89 | 221.55 | 7.34 | 119.61 | 226.61 | 82.01 | 82.09 | 0.08 | 500 | 1.65 | No | No | No | No | N/A | 5/7/2022 |
| MW-71-035 | Bedrock | 01/15/2025 | 35.90 | 35.50 | 0.40 | 25.70 | 35.70 | 28.61 | 29.15 | 0.54 | 100 | 0.05 | No | Yes | No | No | High turbidity. Turbidity improved in consecutive sampling events. Continue to monitor. | N/A |
| MW-71-035 | Bedrock | 02/13/2025 | 35.90 | 35.13 | 0.77 | 25.70 | 35.70 | 28.43 | 29.12 | 0.69 | 100 | 0.04 | No | No | No | No | N/A | N/A |
| MW-71-035 | Bedrock | 03/13/2025 | 35.90 | 35.10 | 0.80 | 25.70 | 35.70 | 28.50 | 29.15 | 0.65 | 100 | 0.04 | No | No | No | No | N/A | N/A |
| MW-72-080 | Bedrock | 02/26/2025 | 79.88 | 79.05 | 0.83 | 59.79 | 79.79 | 58.40 | 58.42 | 0.02 | 500 | 6.60 | No | Yes | No | No | Consecutive high turbidity readings. Not recommended for redevelopment given it is a bedrock well, has minimal siltation, and specific capacity indicates good yield. | N/A |
| MW-75-033 | Alluvial | 02/17/2025 | 35.48 | 34.79 | 0.69 | 18.08 | 33.08 | 20.07 | 20.10 | 0.03 | 500 | 4.40 | No | No | No | No | N/A | N/A |
| MW-75-117 | Alluvial | 02/17/2025 | 119.45 | 118.11 | 1.34 | 97.15 | 117.15 | 19.92 | 19.95 | 0.03 | 500 | 4.40 | No | No | No | No | N/A | N/A |
| MW-75-202 | Alluvial | 02/17/2025 | 204.49 | 204.31 | 0.18 | 182.49 | 202.49 | 19.70 | 19.71 | 0.01 | 500 | 13.21 | No | No | No | No | N/A | N/A |
| MW-75-267 | Alluvial | 02/17/2025 | 269.50 | 268.50 | 1.00 | 247.20 | 267.20 | 19.30 | 19.33 | 0.03 | 500 | 4.40 | No | No | No | No | N/A | N/A |
| MW-75-337 | Alluvial | 02/17/2025 | 339.79 | 338.40 | 1.39 | 317.49 | 337.49 | 21.85 | 21.87 | 0.02 | 500 | 6.60 | No | No | No | No | N/A | N/A |
| MW-76-039 | Alluvial | 01/14/2025 | 39.10 | 38.56 | 0.54 | 23.60 | 38.60 | 28.03 | 28.05 | 0.02 | 500 | 6.60 | No | No | No | No | N/A | N/A |
| MW-76-039 | Alluvial | 02/11/2025 | 39.10 | 38.58 | 0.52 | 23.60 | 38.60 | 28.03 | 28.03 | 0.00 | 200 | N/A | No | No | No | No | N/A | N/A |
| MW-76-039 | Alluvial | 03/12/2025 | 39.10 | 38.54 | 0.56 | 23.60 | 38.60 | 26.35 | 26.35 | 0.00 | 500 | N/A | No | No | No | No | N/A | N/A |
| MW-76-156 | Alluvial | 01/14/2025 | 158.01 | 155.60 | 2.41 | 135.71 | 155.71 | 27.30 | 27.33 | 0.03 | 500 | 4.40 | No | No | No | No | N/A | N/A |
| MW-76-156 | Alluvial | 02/11/2025 | 158.01 | 155.62 | 2.39 | 135.71 | 155.71 | 27.92 | 27.92 | 0.00 | 300 | N/A | No | No | No | No | N/A | N/A |
| MW-76-156 | Alluvial | 03/12/2025 | 158.01 | 157.00 | 1.01 | 135.71 | 155.71 | 24.56 | 24.56 | 0.00 | 500 | N/A | No | No | No | No | N/A | N/A |
| MW-76-181 | Alluvial | 01/14/2025 | 183.12 | 182.63 | 0.49 | 170.82 | 180.82 | 27.03 | 27.06 | 0.03 | 500 | 4.40 | No | No | No | No | N/A | N/A |
| MW-76-181 | Alluvial | 02/11/2025 | 183.12 | 182.61 | 0.51 | 170.82 | 180.82 | 27.80 | 27.81 | 0.01 | 300 | 7.93 | No | No | No | No | N/A | N/A |
| MW-76-181 | Alluvial | 03/12/2025 | 183.12 | 182.60 | 0.52 | 170.82 | 180.82 | 24.72 | 24.93 | 0.21 | 500 | 0.63 | No | No | No | No | N/A | N/A |
| MW-76-218 | Alluvial | 01/14/2025 | 220.05 | 219.62 | 0.43 | 197.75 | 217.75 | 27.09 | 27.11 | 0.02 | 500 | 6.60 | No | No | No | No | N/A | N/A |
| MW-76-218 | Alluvial | 02/11/2025 | 220.05 | 219.65 | 0.40 | 197.75 | 217.75 | 27.60 | 27.62 | 0.02 | 300 | 3.96 | No | No | No | No | N/A | N/A |
| MW-76-218 | Alluvial | 03/12/2025 | 220.05 | 219.60 | 0.45 | 197.75 | 217.75 | 25.83 | 25.83 | 0.00 | 500 | N/A | No | No | No | No | N/A | N/A |

**Table 4.2**
**Monitoring Well Water Levels and Specific Capacities**
**First Quarter 2025 Well Performance Report**
**Pacific Gas and Electric Company, Topock Compressor Station, Needles, California**

| Well ID | Well Screen Lithology | Sample Date | Constructed Well Depth (ft bTOC) | Measured Well Depth (ft bTOC) | Difference in Constructed and Measured Well Depth (feet) | Screen Start Depth (ft bTOC) | Screen End Depth (ft bTOC) | Pre-Purge Depth to Water (ft bTOC) | Post-Purge Depth to Water (ft bTOC) | Drawdown During Purging (feet) | Purging Rate (mL/min) | Specific Capacity (gpm/foot) | Measured Depth Covering Greater Than 20% of Screen? | Flagged for Evaluation | Planned for Resurvey | Planned for Redevelopment | Notes | Date of Last Redevelopment |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MW-77-046 | Alluvial | 01/13/2025 | 48.15 | 39.47 | 8.68 | 25.85 | 45.85 | 26.03 | 26.08 | 0.05 | 500 | 2.64 | Yes | Yes | No | No | Siltation. Redevelopment occurred in October 2024. Drawdown did not occur during purging, indicating good yield. Continue to monitor. | 10/16/2024 |
| MW-77-046 | Alluvial | 02/10/2025 | 48.15 | 39.43 | 8.72 | 25.85 | 45.85 | 25.55 | 25.55 | 0.00 | 300 | N/A | Yes | Yes | No | No | Siltation. Redevelopment occurred in October 2024. Drawdown did not occur during purging, indicating good yield. Continue to monitor. | 10/16/2024 |
| MW-77-102 | Alluvial | 01/13/2025 | 104.21 | 104.21 | 0.00 | 81.91 | 101.91 | 26.43 | 26.51 | 0.08 | 500 | 1.65 | No | No | No | No | No | N/A | N/A |
| MW-77-102 | Alluvial | 02/10/2025 | 104.21 | 104.19 | 0.02 | 81.91 | 101.91 | 25.75 | 25.76 | 0.01 | 300 | 7.93 | No | No | No | No | No | N/A | N/A |
| MW-77-158 | Alluvial | 01/13/2025 | 160.14 | 159.99 | 0.15 | 137.64 | 157.74 | 26.02 | 26.09 | 0.07 | 500 | 1.89 | No | No | No | No | No | N/A | N/A |
| MW-77-158 | Alluvial | 02/10/2025 | 160.14 | 159.96 | 0.18 | 137.64 | 157.74 | 25.53 | 25.54 | 0.01 | 300 | 7.93 | No | No | No | No | No | N/A | N/A |
| MW-77-187 | Alluvial | 01/13/2025 | 189.21 | 188.90 | 0.31 | 166.71 | 186.81 | 25.62 | 25.66 | 0.04 | 500 | 3.30 | No | No | No | No | No | N/A | N/A |
| MW-77-187 | Alluvial | 02/10/2025 | 189.21 | 188.93 | 0.28 | 166.71 | 186.81 | 25.10 | 25.11 | 0.01 | 300 | 7.93 | No | No | No | No | No | N/A | N/A |
| MW-77-187 | Alluvial | 03/12/2025 | 189.21 | 188.90 | 0.31 | 166.71 | 186.81 | 23.30 | 23.47 | 0.17 | 500 | 0.78 | No | No | No | No | No | N/A | N/A |
| MW-78-070 | Alluvial | 01/16/2025 | 71.85 | 71.74 | 0.11 | 49.55 | 69.55 | 48.03 | 48.05 | 0.02 | 500 | 6.60 | No | No | No | No | No | N/A | N/A |
| MW-78-070 | Alluvial | 02/12/2025 | 71.85 | 71.84 | 0.01 | 49.55 | 69.55 | 48.15 | 48.15 | 0.00 | 300 | N/A | No | No | No | No | No | N/A | N/A |
| MW-78-070 | Alluvial | 03/13/2025 | 71.85 | 72.02 | -0.17 | 49.55 | 69.55 | 46.60 | 46.61 | 0.01 | 500 | 13.21 | No | No | No | No | No | N/A | N/A |
| MW-78-142 | Alluvial | 01/16/2025 | 141.76 | 141.20 | 0.56 | 121.46 | 141.46 | 48.39 | 48.46 | 0.07 | 500 | 1.89 | No | No | No | No | No | N/A | N/A |
| MW-78-142 | Alluvial | 02/12/2025 | 141.76 | 141.50 | 0.26 | 121.46 | 141.46 | 48.20 | 48.21 | 0.01 | 300 | 7.93 | No | No | No | No | No | N/A | N/A |
| MW-78-142 | Alluvial | 03/13/2025 | 141.76 | 142.00 | -0.24 | 121.46 | 141.46 | 46.47 | 46.50 | 0.03 | 500 | 4.40 | No | No | No | No | No | N/A | N/A |
| MW-79-058 | Alluvial | 01/16/2025 | 60.05 | 60.28 | -0.23 | 47.55 | 57.55 | 46.64 | 46.69 | 0.05 | 500 | 2.64 | No | No | No | No | No | N/A | N/A |
| MW-79-058 | Alluvial | 02/12/2025 | 60.05 | 59.90 | 0.15 | 47.55 | 57.55 | 47.00 | 47.00 | 0.00 | 300 | N/A | No | No | No | No | No | N/A | N/A |
| MW-79-058 | Alluvial | 03/13/2025 | 60.05 | 59.90 | 0.15 | 47.55 | 57.55 | 46.20 | 46.27 | 0.07 | 500 | 1.89 | No | No | No | No | No | N/A | N/A |
| MW-79-102 | Alluvial | 01/16/2025 | 104.23 | 104.28 | -0.05 | 91.43 | 101.43 | 46.71 | 46.72 | 0.01 | 500 | 13.21 | No | No | No | No | No | N/A | N/A |
| MW-79-102 | Alluvial | 02/12/2025 | 104.23 | 104.18 | 0.05 | 91.43 | 101.43 | 47.08 | 47.08 | 0.00 | 300 | N/A | No | No | No | No | No | N/A | N/A |
| MW-79-102 | Alluvial | 03/13/2025 | 104.23 | 104.15 | 0.08 | 91.43 | 101.43 | 46.03 | 46.03 | 0.00 | 500 | N/A | No | No | No | No | No | N/A | N/A |
| MW-80-057 | Alluvial | 01/16/2025 | 59.46 | 59.30 | 0.16 | 46.96 | 56.96 | 48.69 | 48.70 | 0.01 | 500 | 13.21 | No | Yes | No | No | High turbidity. Turbidity improved in consecutive sampling events. | N/A |
| MW-80-057 | Alluvial | 02/12/2025 | 59.46 | 59.21 | 0.25 | 46.96 | 56.96 | 48.55 | 48.55 | 0.00 | 300 | N/A | No | No | No | No | No | N/A | N/A |
| MW-80-057 | Alluvial | 03/13/2025 | 59.46 | 59.20 | 0.26 | 46.96 | 56.96 | 47.34 | 47.34 | 0.00 | 500 | N/A | No | No | No | No | No | N/A | N/A |
| MW-80-082 | Alluvial | 01/16/2025 | 84.00 | 83.48 | 0.52 | 66.50 | 81.50 | 48.71 | 48.74 | 0.03 | 500 | 4.40 | No | No | No | No | No | N/A | N/A |
| MW-80-082 | Alluvial | 02/12/2025 | 84.00 | 83.67 | 0.33 | 66.50 | 81.50 | 48.40 | 48.40 | 0.00 | 300 | N/A | No | No | No | No | No | N/A | N/A |
| MW-80-082 | Alluvial | 03/13/2025 | 84.00 | 83.65 | 0.35 | 66.50 | 81.50 | 47.53 | 47.53 | 0.00 | 500 | N/A | No | No | No | No | No | N/A | N/A |
| MW-81-043 | Alluvial | 01/13/2025 | 44.73 | 44.15 | 0.58 | 22.43 | 42.43 | 25.34 | 25.35 | 0.01 | 500 | 13.21 | No | No | No | No | No | N/A | N/A |
| MW-81-043 | Alluvial | 02/10/2025 | 44.73 | 44.16 | 0.57 | 22.43 | 42.43 | 24.84 | 24.88 | 0.04 | 500 | 3.30 | No | No | No | No | No | N/A | N/A |
| MW-81-043 | Alluvial | 03/11/2025 | 44.73 | 44.10 | 0.63 | 22.43 | 42.43 | 23.15 | 23.15 | 0.00 | 500 | N/A | No | No | No | No | No | N/A | N/A |

**Table 4.2**
**Monitoring Well Water Levels and Specific Capacities**
**First Quarter 2025 Well Performance Report**
**Pacific Gas and Electric Company, Topock Compressor Station, Needles, California**

| Well ID | Well Screen Lithology | Sample Date | Constructed Well Depth (ft bTOC) | Measured Well Depth (ft bTOC) | Difference in Constructed and Measured Well Depth (feet) | Screen Start Depth (ft bTOC) | Screen End Depth (ft bTOC) | Pre-Purge Depth to Water (ft bTOC) | Post-Purge Depth to Water (ft bTOC) | Drawdown During Purging (feet) | Purging Rate (mL/min) | Specific Capacity (gpm/foot) | Measured Depth Covering Greater Than 20% of Screen? | Flagged for Evaluation | Planned for Resurvey | Planned for Redevelopment | Notes | Date of Last Redevelopment |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MW-81-098 | Alluvial | 01/13/2025 | 99.82 | 99.38 | 0.44 | 77.52 | 97.52 | 25.60 | 25.60 | 0.00 | 500 | N/A | No | No | No | No | N/A | N/A |
| MW-81-098 | Alluvial | 02/10/2025 | 99.82 | 99.32 | 0.50 | 77.52 | 97.52 | 24.98 | 25.00 | 0.02 | 500 | 6.60 | No | No | No | No | N/A | N/A |
| MW-81-098 | Alluvial | 03/11/2025 | 99.82 | 99.30 | 0.52 | 77.52 | 97.52 | 23.41 | 23.41 | 0.00 | 500 | N/A | No | No | No | No | N/A | N/A |
| MW-82-046 | Alluvial | 01/14/2025 | 48.87 | 47.63 | 1.24 | 26.57 | 46.57 | 31.20 | 31.22 | 0.02 | 500 | 6.60 | No | Yes | No | No | High turbidity. Turbidity improved in consecutive sampling events. | 5/12/2023 |
| MW-82-046 | Alluvial | 02/11/2025 | 48.87 | 46.00 | 2.87 | 26.57 | 46.57 | 31.55 | 31.55 | 0.00 | 200 | N/A | No | No | No | No | N/A | 5/12/2023 |
| MW-82-112 | Alluvial | 02/11/2025 | 114.78 | 114.20 | 0.58 | 92.48 | 112.48 | 31.36 | 31.37 | 0.01 | 300 | 7.93 | No | No | No | No | N/A | N/A |
| MW-82-168 | Alluvial | 01/14/2025 | 170.34 | 169.80 | 0.54 | 148.04 | 168.04 | 30.15 | 30.17 | 0.02 | 500 | 6.60 | No | No | No | No | N/A | N/A |
| MW-82-168 | Alluvial | 02/11/2025 | 170.34 | 169.82 | 0.52 | 148.04 | 168.04 | 30.21 | 30.22 | 0.01 | 300 | 7.93 | No | No | No | No | N/A | N/A |
| MW-82-198 | Alluvial | 01/14/2025 | 200.25 | 199.48 | 0.77 | 177.95 | 197.95 | 29.99 | 30.02 | 0.03 | 500 | 4.40 | No | No | No | No | N/A | N/A |
| MW-82-198 | Alluvial | 02/11/2025 | 200.25 | 199.50 | 0.75 | 177.95 | 197.95 | 30.10 | 30.10 | 0.00 | 300 | N/A | No | No | No | No | N/A | N/A |
| MW-86-030 | Alluvial | 02/19/2025 | 34.51 | 31.65 | 2.86 | 12.21 | 32.21 | 11.40 | 11.40 | 0.00 | 300 | N/A | No | No | No | No | N/A | N/A |
| MW-86-066 | Alluvial | 02/19/2025 | 70.40 | 69.25 | 1.15 | 48.10 | 68.10 | 13.62 | 13.62 | 0.00 | 400 | N/A | No | No | No | No | N/A | N/A |
| MW-86-120 | Alluvial | 02/19/2025 | 124.67 | 123.27 | 1.40 | 102.37 | 122.37 | 14.53 | 14.53 | 0.00 | 300 | N/A | No | No | No | No | N/A | N/A |
| MW-86-140 | Alluvial | 02/19/2025 | 144.53 | 143.20 | 1.33 | 132.23 | 142.23 | 14.83 | 14.83 | 0.00 | 300 | N/A | No | No | No | No | N/A | N/A |
| MW-90-031 | Alluvial | 02/19/2025 | 33.60 | 31.38 | 2.22 | 21.30 | 31.30 | 5.91 | 5.91 | 0.00 | 200 | N/A | No | No | No | No | N/A | N/A |
| MW-96-045 | Alluvial | 02/20/2025 | 47.52 | 46.81 | 0.71 | 25.22 | 45.22 | 30.22 | 30.28 | 0.06 | 500 | 2.20 | No | No | No | No | N/A | N/A |
| MW-96-217 | Alluvial | 02/20/2025 | 219.33 | 218.60 | 0.73 | 197.03 | 217.03 | 30.41 | 30.50 | 0.09 | 500 | 1.47 | No | No | No | No | N/A | N/A |
| MW-97-042 | Alluvial | 02/17/2025 | 42.63 | 41.93 | 0.70 | 22.13 | 42.13 | 28.40 | 28.41 | 0.01 | 300 | 7.93 | No | No | No | No | N/A | N/A |
| MW-97-202 | Alluvial | 02/17/2025 | 201.47 | 200.92 | 0.55 | 190.97 | 200.97 | 28.40 | 28.40 | 0.00 | 500 | N/A | No | No | No | No | N/A | N/A |
| PT5D | Alluvial | 01/13/2025 | 107.37 | 107.20 | 0.17 | 97.37 | 107.37 | 21.99 | 22.00 | 0.01 | 500 | 13.21 | No | No | No | No | N/A | N/A |
| PT5D | Alluvial | 02/10/2025 | 107.37 | 107.17 | 0.20 | 97.37 | 107.37 | 21.20 | 21.22 | 0.02 | 500 | 6.60 | No | No | No | No | N/A | N/A |
| PT5D | Alluvial | 03/10/2025 | 107.37 | 105.14 | 2.23 | 97.37 | 107.37 | 19.37 | 19.40 | 0.03 | 500 | 4.40 | Yes | Yes | No | No | Siltation. Continue to monitor for consecutive sampling events. Specific capacity indicates good yield because minimal drawdown occurred during purging. | N/A |
| PT5M | Alluvial | 02/18/2025 | 72.37 | 72.82 | -0.45 | 62.37 | 72.37 | 20.00 | 20.00 | 0.00 | 400 | N/A | No | No | No | No | N/A | N/A |
| PT5S | Alluvial | 02/18/2025 | 47.35 | 47.69 | -0.34 | 37.35 | 47.35 | 19.75 | 19.75 | 0.00 | 400 | N/A | No | No | No | No | N/A | N/A |
| PT6D | Alluvial | 01/13/2025 | 106.57 | 106.22 | 0.35 | 96.57 | 106.57 | 24.60 | 24.62 | 0.02 | 500 | 6.60 | No | No | No | No | N/A | N/A |
| PT6D | Alluvial | 02/10/2025 | 106.57 | 106.15 | 0.42 | 96.57 | 106.57 | 23.90 | 23.95 | 0.05 | 500 | 2.64 | No | No | No | No | N/A | N/A |
| PT6D | Alluvial | 03/10/2025 | 106.57 | 106.09 | 0.48 | 96.57 | 106.57 | 21.91 | 21.93 | 0.02 | 500 | 6.60 | No | No | No | No | N/A | N/A |
| TW-02D | Alluvial | 01/14/2025 | 148.96 | 149.60 | -0.64 | 108.96 | 143.96 | 41.10 | 41.12 | 0.02 | 3,785 | 50.00 | No | No | No | No | N/A | N/A |
| TW-02D | Alluvial | 02/11/2025 | 148.96 | 149.61 | -0.65 | 108.96 | 143.96 | 40.78 | 40.80 | 0.02 | 3,785 | 50.00 | No | No | No | No | N/A | N/A |
| TW-02D | Alluvial | 03/11/2025 | 148.96 | 149.61 | -0.65 | 108.96 | 143.96 | 39.53 | 39.55 | 0.02 | 3,785 | 50.00 | No | No | No | No | N/A | N/A |
| TW-02S | Alluvial | 01/14/2025 | 94.39 | 96.32 | -1.93 | 39.39 | 89.39 | 41.07 | 41.09 | 0.02 | 3,785 | 50.00 | No | No | No | No | N/A | N/A |
| TW-02S | Alluvial | 02/11/2025 | 94.39 | 96.27 | -1.88 | 39.39 | 89.39 | 40.72 | 40.73 | 0.01 | 3,785 | 100.00 | No | No | No | No | N/A | N/A |
| TW-02S | Alluvial | 03/11/2025 | 94.39 | 96.27 | -1.88 | 39.39 | 89.39 | 39.51 | 39.53 | 0.02 | 3,785 | 50.00 | No | No | No | No | N/A | N/A |
| TW-03D | Alluvial | 01/14/2025 | 151.22 | 152.38 | -1.16 | 106.22 | 151.22 | 40.74 | 40.77 | 0.03 | 3,785 | 33.33 | No | No | No | No | N/A | N/A |

**Table 4.2**
**Monitoring Well Water Levels and Specific Capacities**
**First Quarter 2025 Well Performance Report**
**Pacific Gas and Electric Company, Topock Compressor Station, Needles, California**

| Well ID | Well Screen Lithology | Sample Date | Constructed Well Depth (ft bTOC) | Measured Well Depth (ft bTOC) | Difference in Constructed and Measured Well Depth (feet) | Screen Start Depth (ft bTOC) | Screen End Depth (ft bTOC) | Pre-Purge Depth to Water (ft bTOC) | Post-Purge Depth to Water (ft bTOC) | Drawdown During Purging (feet) | Purging Rate (mL/min) | Specific Capacity (gpm/foot) | Measured Depth Covering Greater Than 20% of Screen? | Flagged for Evaluation | Planned for Resurvey | Planned for Redevelopment | Notes | Date of Last Redevelopment |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TW-03D | Alluvial | 02/11/2025 | 151.22 | 152.32 | -1.10 | 106.22 | 151.22 | 40.54 | 40.55 | 0.01 | 3,785 | 100.00 | No | No | No | No | N/A | N/A |
| TW-03D | Alluvial | 03/11/2025 | 151.22 | 152.32 | -1.10 | 106.22 | 151.22 | 39.30 | 39.32 | 0.02 | 3,785 | 50.00 | No | No | No | No | N/A | N/A |
| TW-04 | Alluvial | 02/19/2025 | 256.49 | 253.94 | 2.55 | 211.49 | 251.49 | 30.70 | 30.78 | 0.08 | 500 | 1.65 | No | No | No | No | N/A | N/A |

**Notes:**
1. Specific capacity is evaluated for alluvial and fluvial wells. Bedrock wells and slant wells are not included in this evaluation.
2. Monitoring wells MW-09 and MW-47-055 were resurveyed on December 3, 2024. The updated constructed well depths are reflected herein.

**Acronyms and Abbreviations:**
-- = No drawdown during purging. Specific capacity is good.
ft bTOC = feet below top of casing
gpm/foot = gallon per minute per foot
ID = identification
mL/min = milliliter per minute
N/A = not applicable

# Figures


**LEGEND**

- REMEDIATION WELL (EXTRACTION)
- REMEDIATION WELL (INJECTION)
- REMEDIATION WELL (NOT PLUMBED INTO SYSTEM CURRENTLY)
- PILOT TEST WELL (EXTRACTION)
- BAT CAVE WASH
- PIPELINE
- REMEDY STRUCTURE

**Notes:**
1. NTH = National Trails Highway
2. PG&E = Pacific Gas and Electric Company

0 625 1,250
Feet

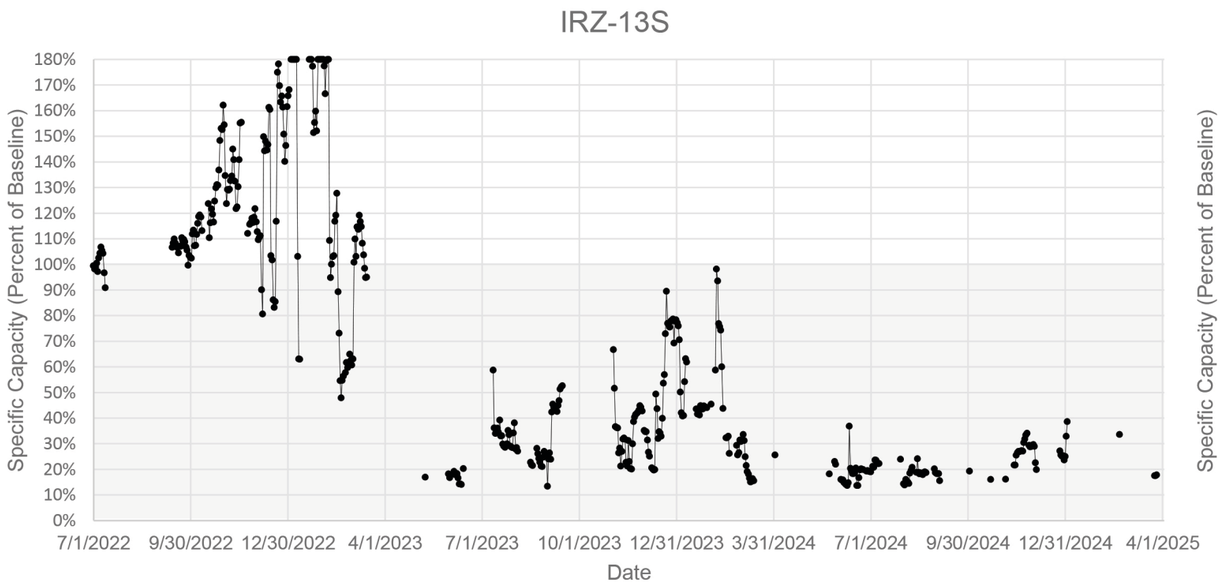
FIRST QUARTER 2025
WELL PERFORMANCE REPORT
PG&E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA

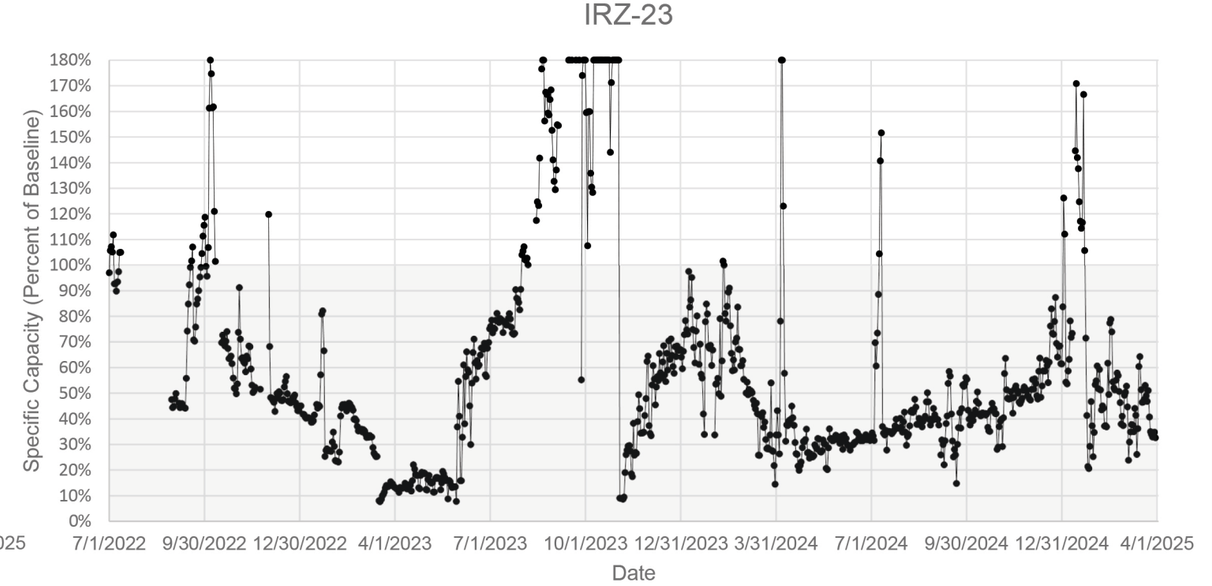
# PARTIAL REMEDY SYSTEM LAYOUT

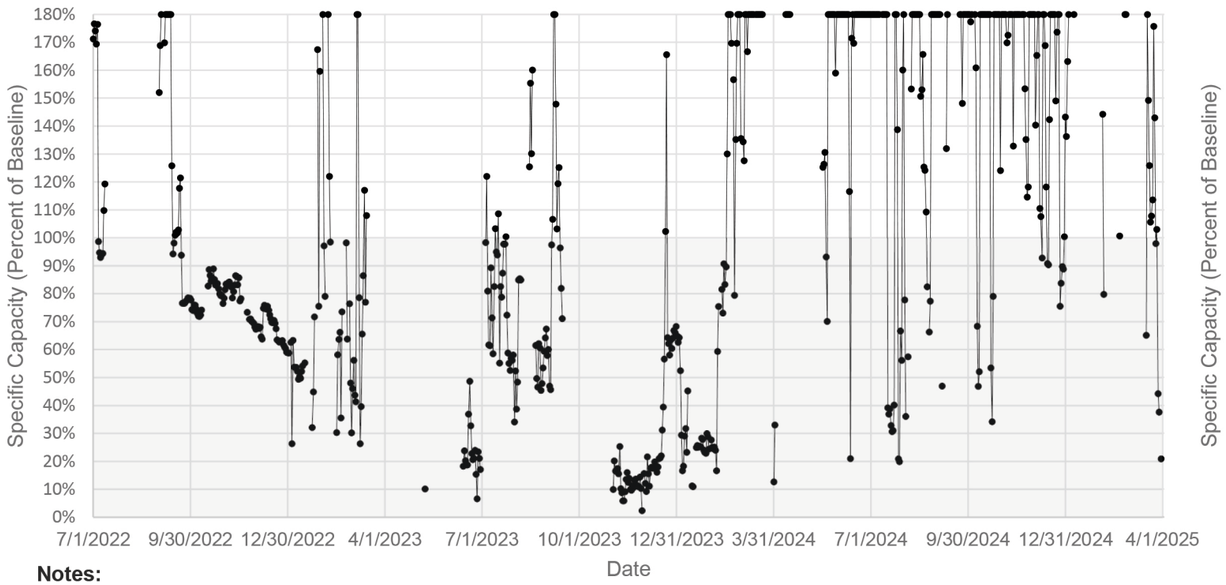
ARCADIS

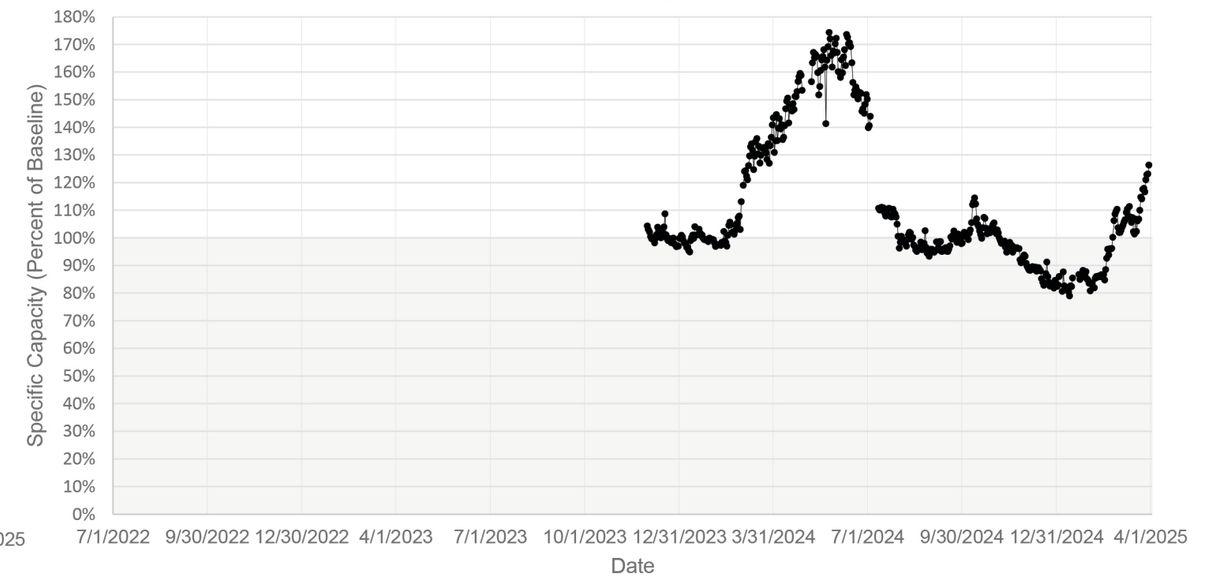
FIGURE
1.1

\\ARCADIS-US.COM\APP\GIS\PROCESSING_ENV\PGE_TOPOCK\GEC\ARC_PRO\GMP\1Q25\FIGURE1_1_PARTIAL REMEDY SYSTEM LAYOUT.APRX 6/9/2025 11:19 AM




**Notes:**

1. % = percent
2. SCADA = supervisory control and data acquisition
3. Baseline specific capacity for each screen interval is represented as 100% on the y-axis. Values greater than 100% indicate performance exceeding baseline. Values less than 100% are shaded gray.
4. IRZ-13D, IRZ-13S, and IRZ-23 operated 10/11/22-10/15/22, 11/17/22-11/20/22, and 11/21/22-11/23/22. Water-level data were not collected during these timeframes due to a SCADA error, and therefore specific capacities were not calculated.
5. Baseline specific capacity has not been established for IRZ-9 due to limited operation. Therefore, a graph of IRZ-9 is not included.
6. Specific capacities greater than or equal to 180% are shown as 180% to indicate well was operational at a high specific capacity.
7. PTI-1D began operation in November 2023. A baseline specific capacity was established for this well in December 2023. The graph excludes data collected prior to the baseline specific capacity being established.
8. Limited water level and flowrate data were collected between 4/30/24 and 5/8/24 due to a SCADA error. Extraction well IRZ-23 and pilot test well PTI-1D operated during this timeframe. Specific capacities during these dates were included in the graphs if sufficient data existed.

FIRST QUARTER 2025
WELL PERFORMANCE REPORT

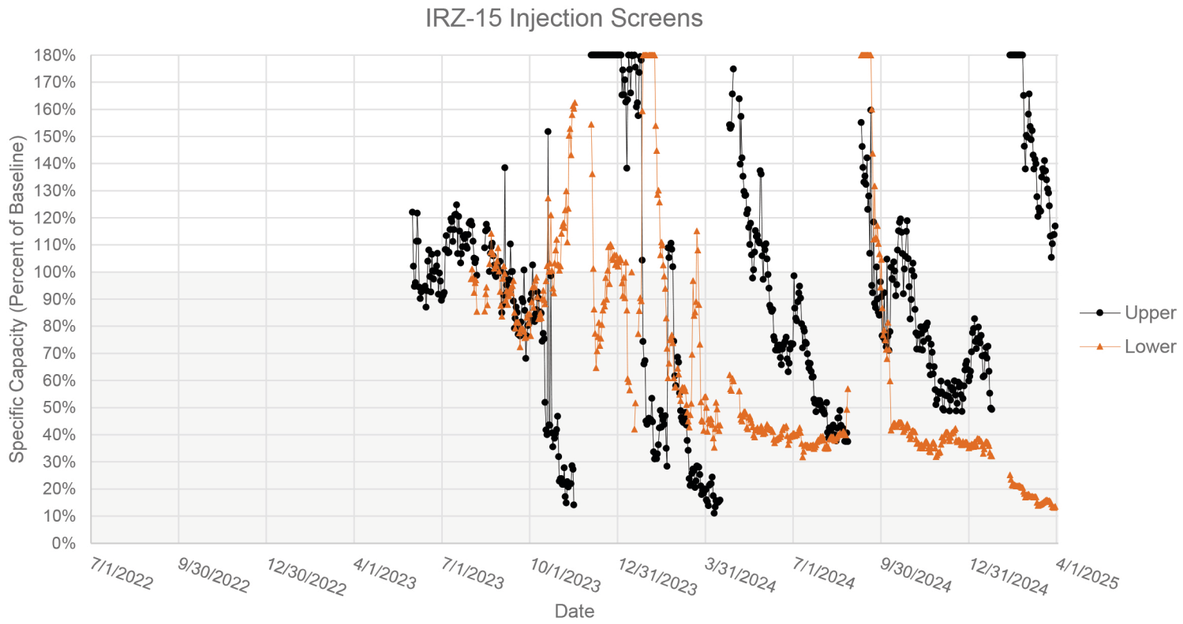
PG&E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA

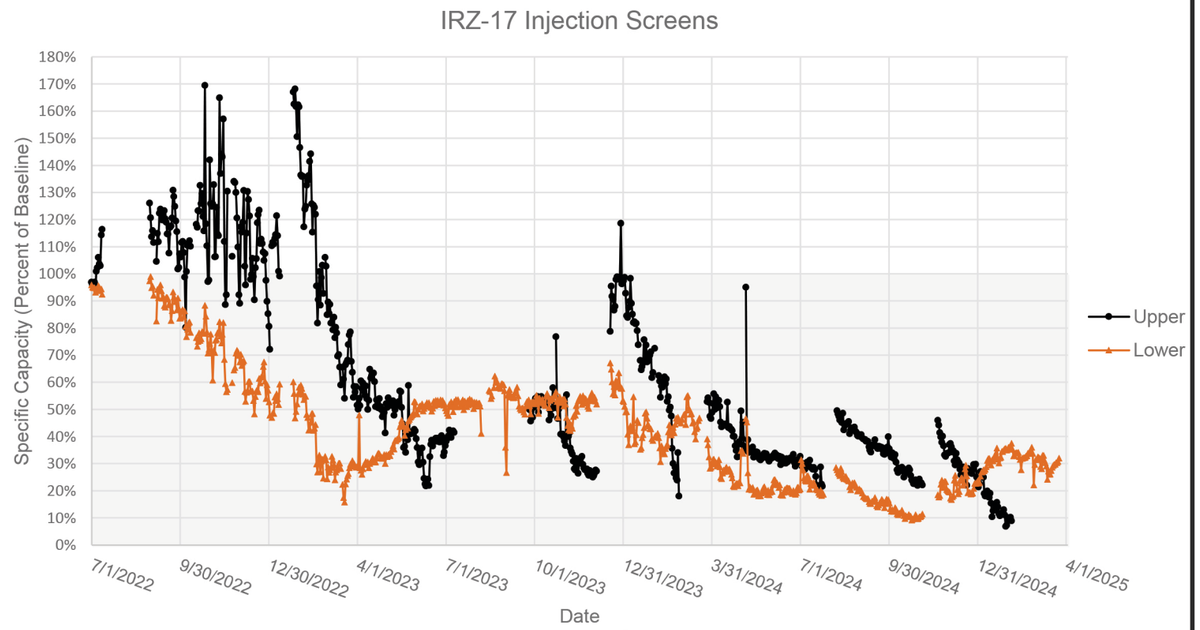
**EXTRACTION WELL SPECIFIC CAPACITY TRENDS**

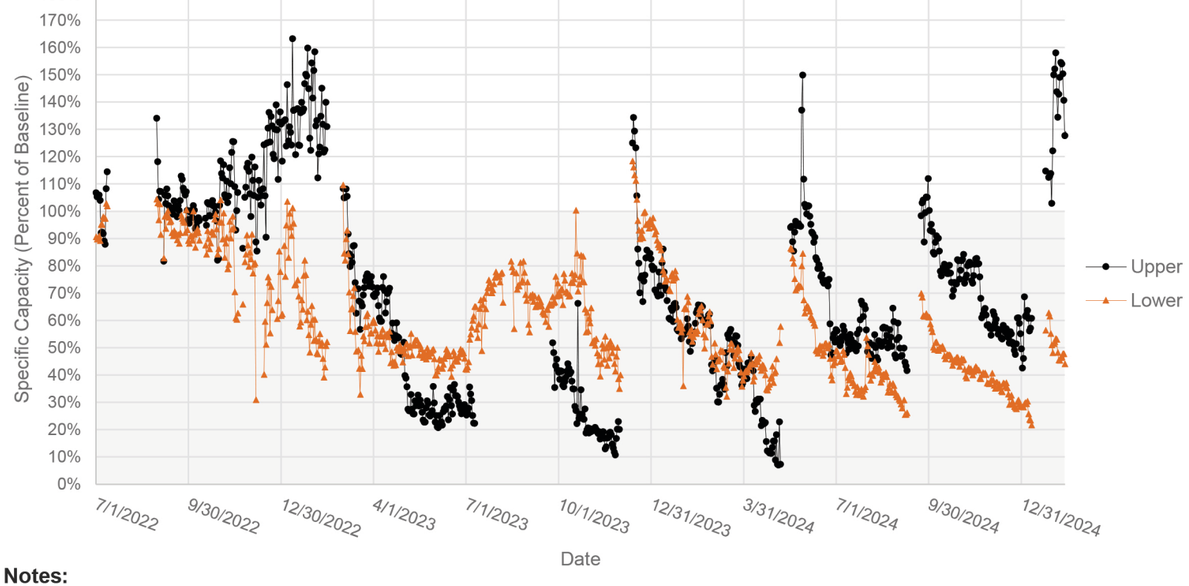
ARCADIS

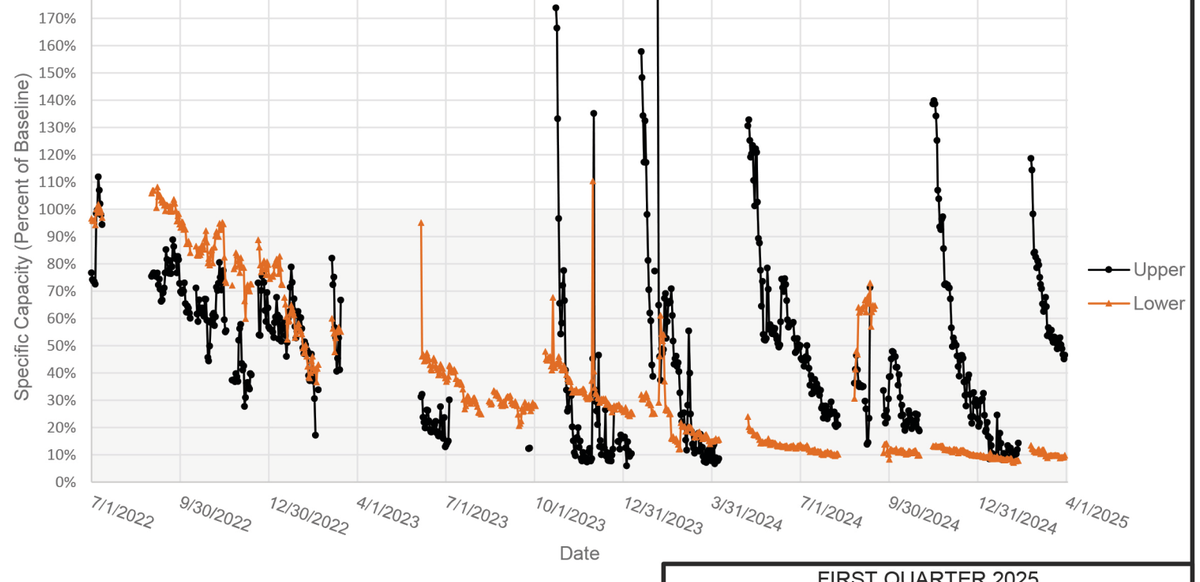
FIGURE
**3.1**

6/6/2025 3:52:20 PM




**Notes:**

1. % = percent
2. SCADA = supervisory control and data acquisition
3. Baseline specific capacity for each screen interval is represented as 100% on the y-axis. Specific capacity values greater than 100% indicate performance exceeding baseline. Values less than 100% are shaded gray.
4. IRZ-15 (upper) began operation in March 2023. IRZ-15 (lower) began operation in April 2023. Baseline specific capacities were established for these wells in June and August 2023, respectively. The graphs exclude data collected prior to the baseline specific capacity being established.
5. Specific capacities greater than or equal to 180% are shown as 180% to indicate well was operational at a high specific capacity.
6. Limited water level and flowrate data were collected between 4/30/24 and 5/8/24 due to a SCADA error. Injection wells IRZ-15, IRZ-16, and IRZ-17 were operating during this timeframe. Specific capacities during these dates were included in the graphs if sufficient data existed.

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# INJECTION WELL SPECIFIC CAPACITY TRENDS PART 1

ARCADIS

FIGURE
3.2

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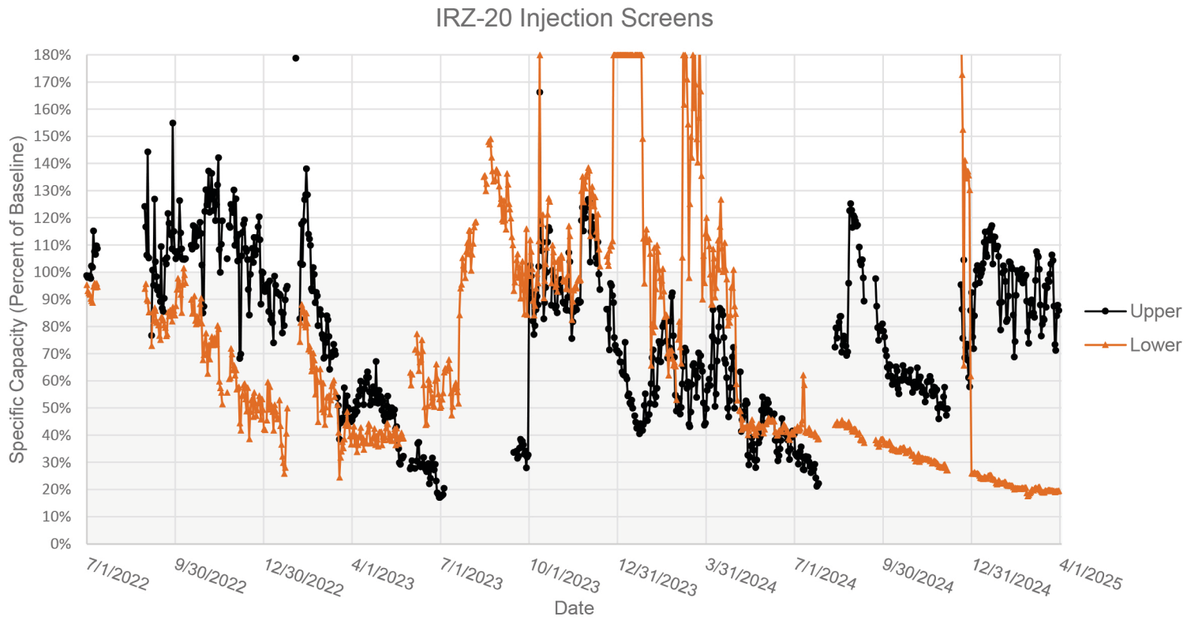


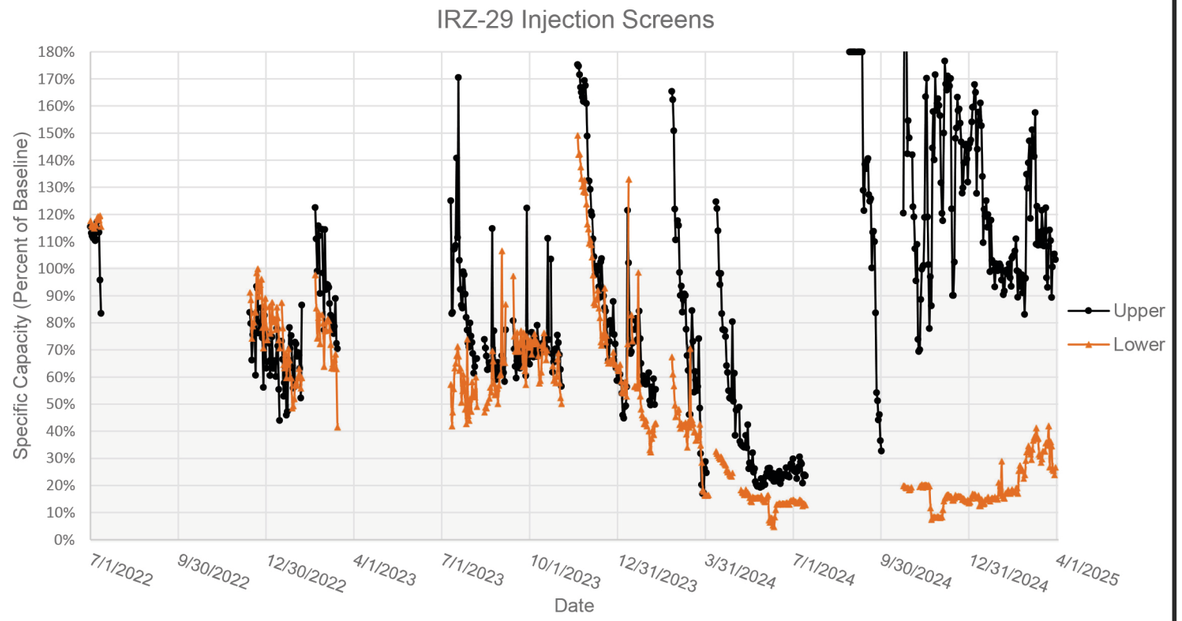


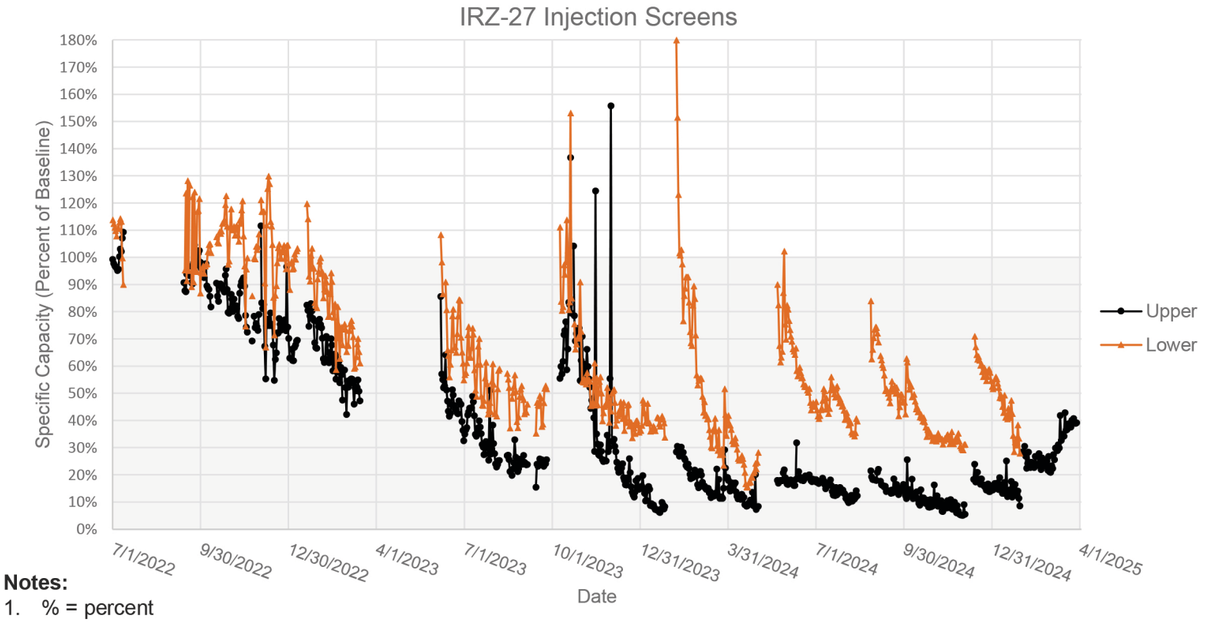


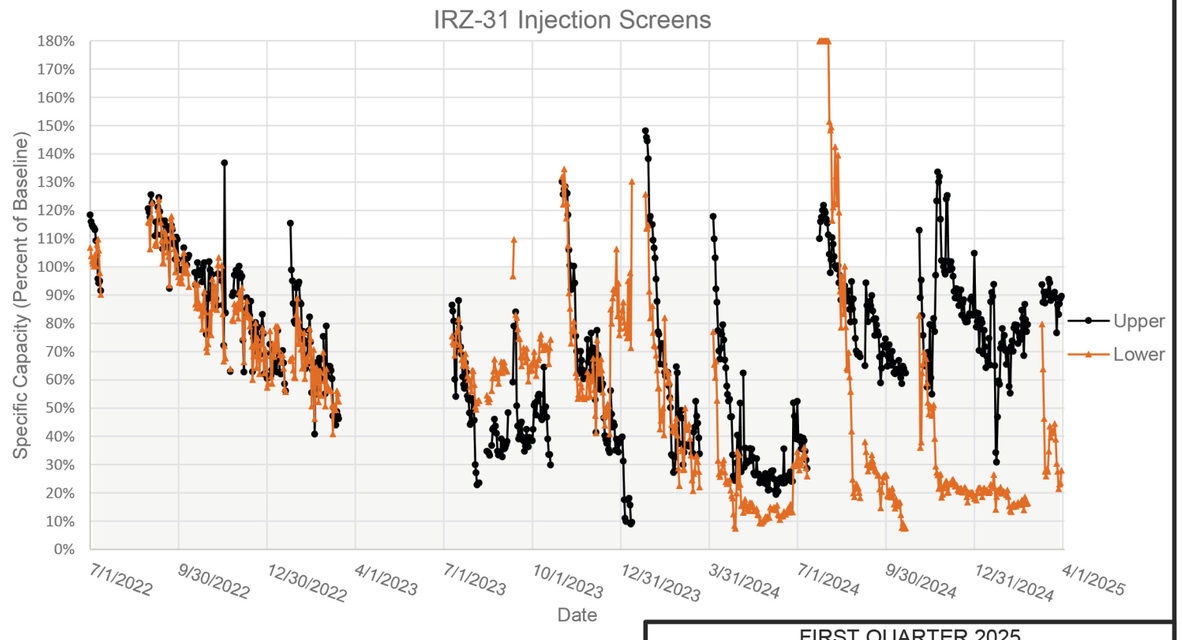


**Notes:**

1. % = percent
2. SCADA = supervisory control and data acquisition
3. Baseline specific capacity for each screen interval is represented as 100% on the y-axis. Specific capacity values greater than 100% indicate performance exceeding baseline. Values less than 100% are shaded gray.
4. Due to flow totalizer communication errors, data for IRZ-31 between 7/5/23 and 7/10/23 are unavailable. IRZ-31 was operational during this timeframe.
5. Specific capacities greater than or equal to 180% are shown as 180% to indicate well was operational at a high specific capacity.
6. Limited water level and flowrate data were collected between 4/30/24 and 5/8/24 due to a SCADA error. Injection wells IRZ-20, IRZ-29, and IRZ-31 were operating during this timeframe. IRZ-27 operated during this timeframe until it was shut down for rehabilitation on 5/2/24. Specific capacities during these dates were included in the graphs if sufficient data existed.
7. Specific capacity data for injection wells IRZ-29 (upper) and IRZ-29 (lower) were not calculated from July 29 through August 29, 2024, because water level transducer readings were inaccurate during this timeframe. Injection wells IRZ-29 (upper) and IRZ-29 (lower) operated during this timeframe, with periods of downtime for troubleshooting. The transducers were re-wired on August 22, 2024. Although IRZ-29 (upper) and IRZ-29 (lower) operated throughout September 2024, the water level transducer in IRZ-29 (lower) continued to undergo troubleshooting due to abnormal water-level readings. Therefore, specific capacity data for IRZ-29 (lower) were not calculated in September 2024.

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**INJECTION WELL SPECIFIC CAPACITY TRENDS PART 2**

ARCADIS

FIGURE
**3.3**

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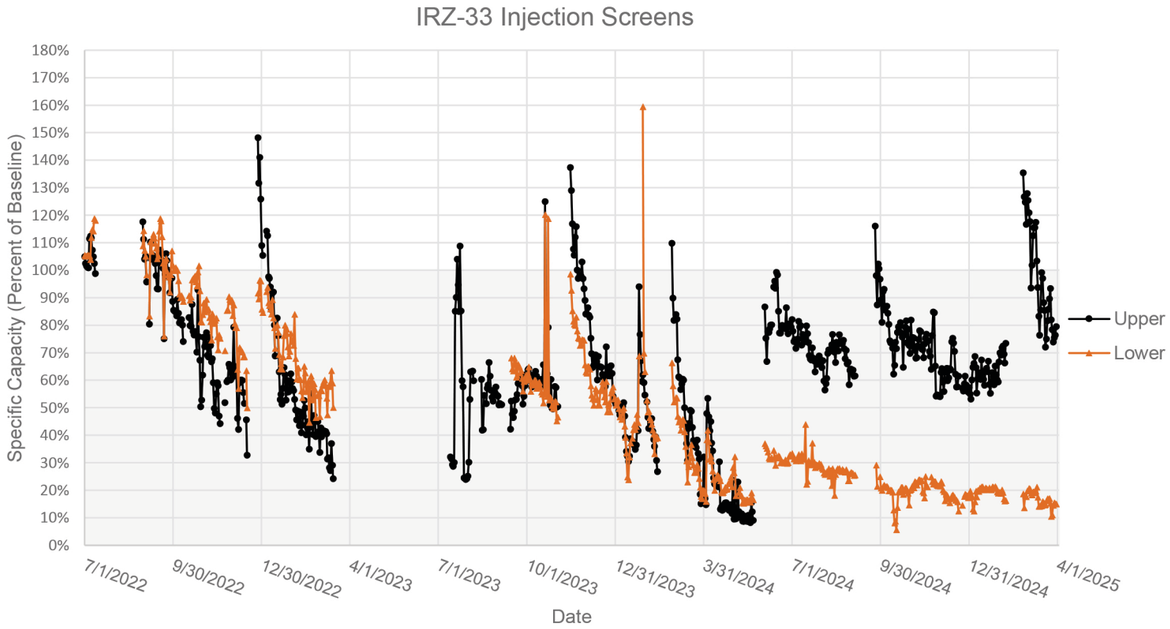


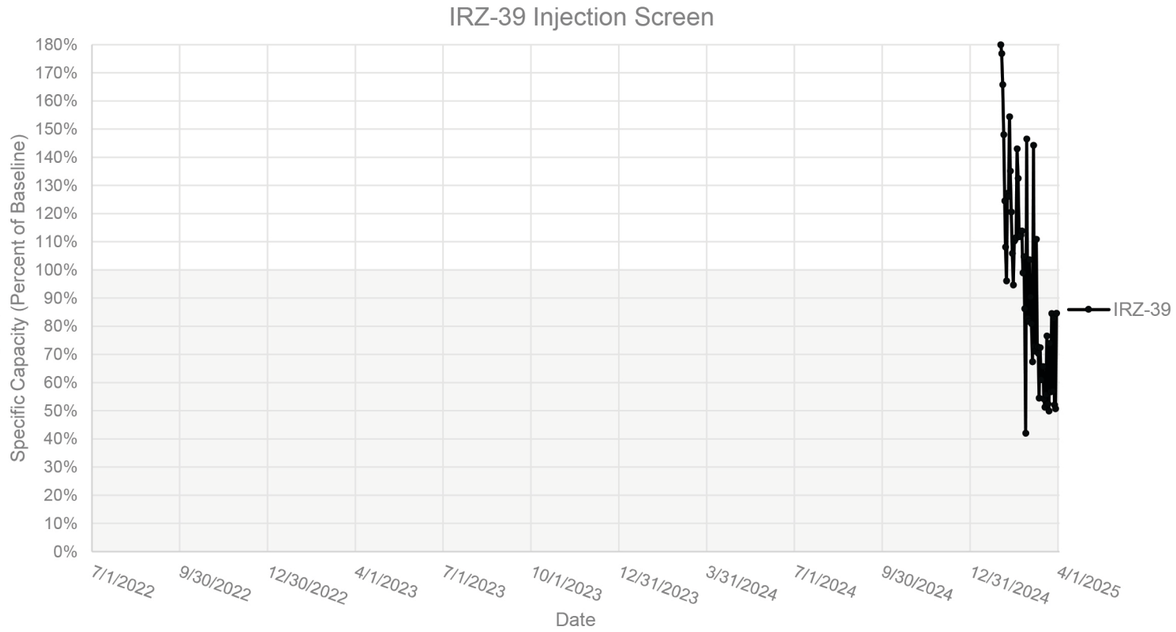


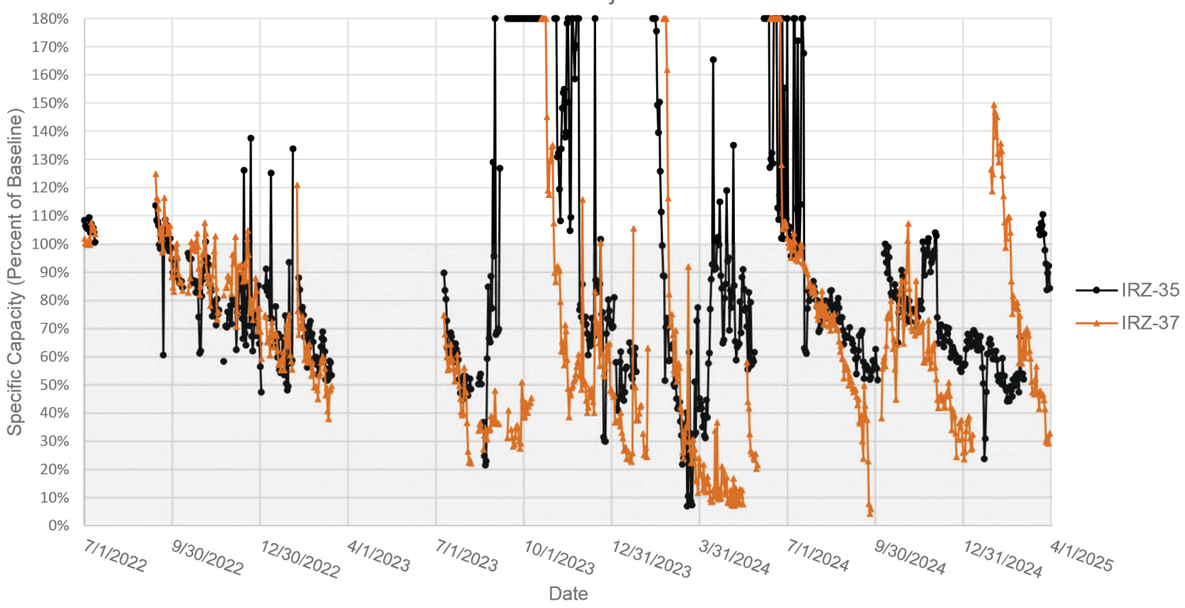


**Notes:**

1. % = percent
2. SCADA = supervisory control and data acquisition
3. Baseline specific capacity for each screen interval is represented as 100% on the y-axis. Specific capacity values greater than 100% indicate performance exceeding baseline. Values less than 100% are shaded gray.
4. IRZ-39 began operation again in December 2024. A baseline specific capacity was established for this well in February 2025. The graph excludes data collected prior to the baseline specific capacity being established.
5. Specific capacities greater than or equal to 180% are shown as 180% to indicate well was operational at a high specific capacity.
6. Limited water level and flowrate data were collected between 4/30/24 and 5/8/24 due to a SCADA error. Injection wells IRZ-33, IRZ-35, and IRZ-37 were operating during this timeframe. Specific capacities during these dates were included in the graphs if sufficient data existed.

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**INJECTION WELL SPECIFIC CAPACITY TRENDS PART 3**

ARCADIS

FIGURE
**3.4**

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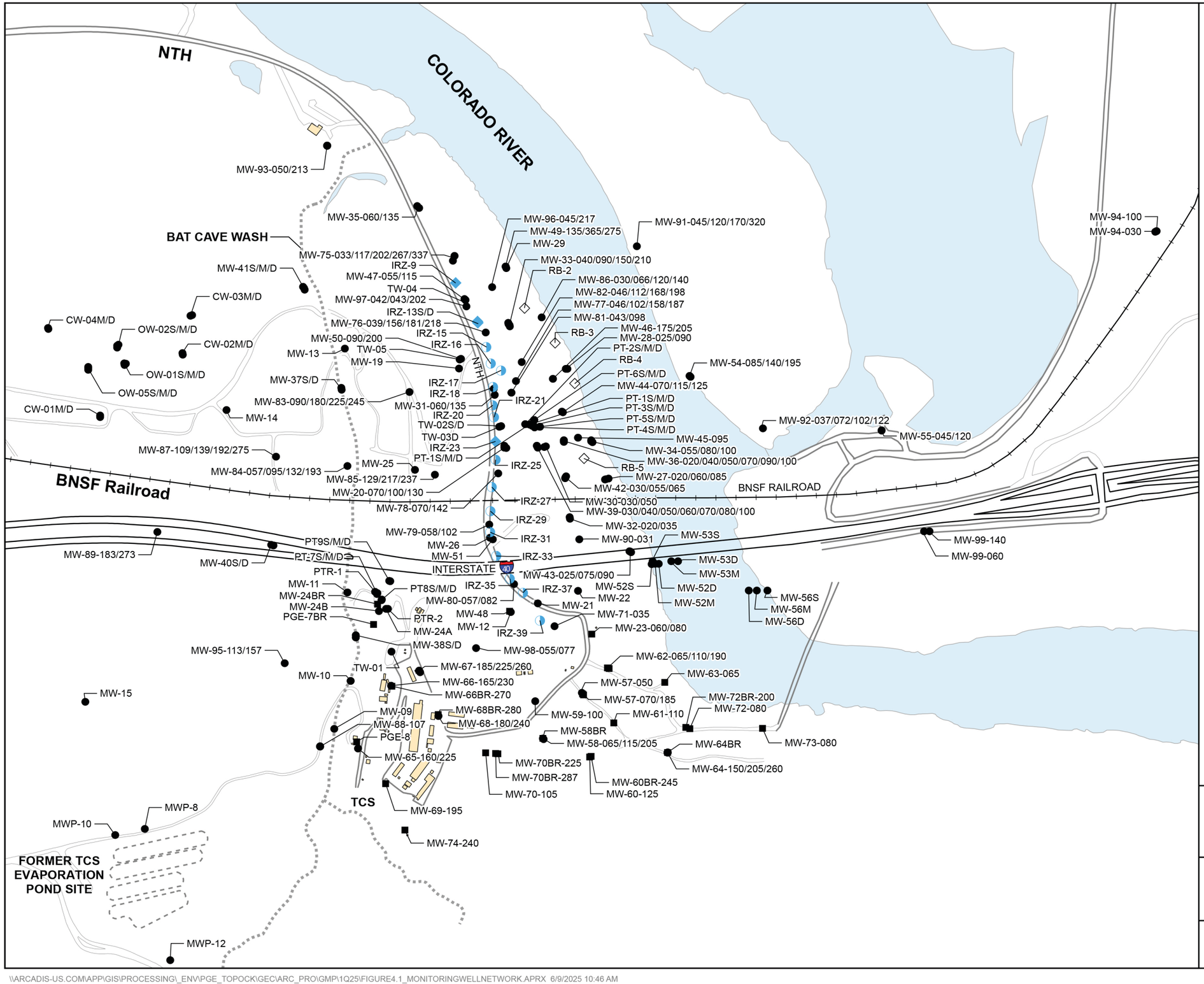


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# MONITORING WELL NETWORK

ARCADIS

FIGURE
4.1

\\ARCADIS-US.COM\APP\GIS\PROCESSING_ENV\PGE_TOPOCK\GEC\ARC_PRO\GMP\1Q25\FIGURE4.1_MONITORINGWELLNETWORK.APRX 6/9/2025 10:46 AM

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