Pacific Gas and Electric Company

John Glass
Pacific Gas and Electric Co
Program Manager

515 National Trails Hwy
Needles, CA, 92363
(628) 219-4369
Frederick.glass@pge.com

April 3, 2026

Chris Ioan
Project Manager
California Department of Toxic Substances Control
5796 Corporate Avenue
Cypress, CA 90630

Veronica Dickerson
Project Manager
Environmental Compliance and Cleanup Division
Office of Environmental Policy and Compliance
United States Department of the Interior

Subject: *Final Northern Shallow Monitoring Well (MW-35-039) Installation Work Plan, PG&E Topock Compressor Station, Needles, California*

Dear Mr. Ioan and Ms. Dickerson:

Enclosed is the *Final Northern Shallow Monitoring Well (MW-35-039) Installation Work Plan* (the Work Plan) to document the procedures for installation of a shallow water table monitoring well (MW-35-039) near the existing MW-35 cluster wells to further characterize the northern extent of the shallow hexavalent chromium plume within the uppermost portion of the alluvial aquifer. The original version of this Work Plan was submitted on January 16, 2026, to fulfill the requirement communicated in the California Department of Toxic Substances Control's (DTSC's) letter dated December 18, 2025. The DTSC provided comments and conditionally approved installation of monitoring well MW-35-039 on February 27, 2026. The revised Work Plan (Revision 1) addressing the DTSC's comments was submitted on March 23, 2026, and the DTSC and United States Department of the Interior approved the Work Plan on March 24, 2026. At the DTSC's request, the enclosed Work Plan incorporates final responses to the DTSC's comments as an appendix (Appendix A).

Please contact me at 628.219.4369 if you have any questions about the Work Plan.

Sincerely,

John Glass
Pacific Gas and Electric Co
Program Manager

Cc: Greg Neal/DTSC
Nicholas Ta/DTSC
Eileen Mananian/DTSC

Pacific Gas and Electric Company

Northern Shallow Monitoring Well (MW-35-039) Installation Work Plan

Topock Compressor Station
Needles, California

Original Draft: January 16, 2026
Revision 1: March 23, 2026
Final: April 3, 2026

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Original Draft: January 16, 2026
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Prepared By:
Arcadis U.S., Inc.
100 Montgomery Street
Suite 300
San Francisco
California 94104
Phone: 415 374 2744
Fax: 415 374 2745

Prepared For:
Pacific Gas and Electric Company

Our Ref:
30220453

Emily Sheu, P.E.
Principal Environmental Engineer

Gregory Foote, CPG
Principal Hydrogeologist

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Acronyms and Abbreviations

µg/L	microgram per liter
Agencies	California Department of Toxic Substances Control and U.S. Department of the Interior
Arcadis	Arcadis U.S., Inc.
bgs	below ground surface
Cr6	hexavalent chromium
C/RAWP	Construction/Remedial Action Work Plan
DTSC	Department of Toxic Substances Control
IRZ	In Situ Reactive Zone
NTH	National Trails Highway
PG&E	Pacific Gas and Electric Company
Site	Pacific Gas and Electric Topock Compressor Station site located in San Bernardino County, 15 miles southeast of the City of Needles, California
VAS	vertical aquifer sampling
Work Plan	Northern Shallow Monitoring Well (MW-35-039) Installation Work Plan

1 Introduction

On behalf of Pacific Gas and Electric Company (PG&E), Arcadis U.S., Inc. (Arcadis) has prepared this Northern Shallow Monitoring Well (MW-35-039) Installation Work Plan (Work Plan) for the PG&E Topock Compressor Station site located in San Bernardino County, 15 miles southeast of the City of Needles, California (the Site). The purpose of this Work Plan is to document the procedures for installation of a shallow water table monitoring well (MW-35-039) near existing MW-35 cluster wells to further characterize the northern extent of the shallow hexavalent chromium (Cr6) plume within the uppermost portion of the alluvial aquifer. This Work Plan is being submitted to the California Department of Toxic Substances Control (DTSC) and U.S. Department of the Interior (collectively referred to as "the Agencies") to fulfill the requirement communicated in the DTSC's letter dated December 18, 2025 (DTSC 2025), i.e., that PG&E provide a work plan for installation of a water table monitoring well near monitoring well MW-35. PG&E submitted the original draft of this Work Plan to the Agencies on January 16, 2026. The DTSC provided comments and conditionally approved installation of monitoring well MW-35-039 on February 27, 2026. This Work Plan incorporates final responses to the DTSC's comments, which are provided in Appendix A.

Phase 1 of the groundwater remedy at the Site, which consists of the National Trails Highway (NTH) In Situ Reactive Zone (IRZ), has been in operation since December 2021 as part of the final groundwater remedy (CH2M Hill 2015a) to address Cr6 in groundwater at the Site. Operation details of, and performance monitoring results for, Phase 1 of the groundwater remedy are reported in quarterly progress reports.

At the northern end of the NTH IRZ, the shallow plume is defined by residual Cr6 concentrations greater than the regional background level/cleanup goal of 32 micrograms per liter (µg/L) in monitoring wells MW-75-033 and MW-97-042, which are screened across the water table (the northern shallow plume) (Figures 1 and 2). Cr6 concentrations at these monitoring wells have fluctuated seasonally, with highs (greater than 32 µg/L) observed during low river stage and lows (less than or equal to 32 µg/L) observed during high river stage, and have averaged approximately 50 µg/L at MW-75-033 and 45 µg/L at MW-97-042 since start-up of the NTH IRZ system in December 2021. North of MW-75-033, existing monitoring wells MW-35-060 and MW-35-135 are screened below the water table at 41 to 61 feet below ground surface (bgs) and 116 to 136 feet bgs, respectively. Cr6 concentrations at these wells have historically exceeded the regional background level/cleanup goal, with values up to 35.8 µg/L at MW-35-060 (March 2008) and up to 37.8 µg/L at MW-35-135 (December 2010), but have remained less than 32 µg/L since April 2012 and December 2011, respectively. There is currently no shallow water table monitoring well north of MW-75-033.

In their December 18 letter, the DTSC indicated concern with the potential lateral extent of the northern shallow plume and directed PG&E to install a shallow water table monitoring well in the area of the existing MW-35 well cluster. Data collected from this monitoring well (MW-35-039) will be used to support determination of whether installation of additional extraction wells (e.g., IRZ-1 and/or IRZ-5, which were deferred during construction of Phase 1 of the groundwater remedy) at the northern end of the NTH IRZ is warranted.

2 Monitoring Well Installation Activities

The following sections outline planned activities related to the installation of shallow water table monitoring well MW-35-039. Pre-construction and field activities will be conducted in accordance with the Construction/Remedial Action Work Plan for the Final Groundwater Remedy (C/RAWP; CH2M Hill 2015b).

2.1 Pre-Construction Activities

Activities that will be conducted prior to monitoring well installation include project initiation with the Agencies and stakeholders, mobilization of staff and equipment, work area preparation and demarcation, and documentation of pre-construction work area conditions. All pre-construction activities will be completed in accordance with Section 4.2 of the C/RAWP (CH2M Hill 2015b). The planned work area is shown on Figure 3.

2.2 Borehole Drilling and Vertical Aquifer Sampling

A pilot borehole (6 inches in diameter) will be advanced at the proposed well location using a rotosonic drill rig. Vertical aquifer sampling (VAS) will be conducted to understand potential variations in Cr6 concentrations with depth and to select appropriate screen intervals. The rotosonic drill rig will advance a rotating and vibrating outer drive casing and inner drive core barrel through the subsurface. An Arcadis geologist will log lithologic descriptions based on visual examination of the continuous core in accordance with SOP-B3 from the C/RAWP (CH2M Hill 2015b). No soil samples or sieve samples for laboratory analysis are proposed to be collected at this location. Drilling fluid (consisting of water without additivities) will only be used on an as-needed basis to control borehole pressure and cool drilling tools, and the amount of drilling fluid used will be minimized. Field water quality parameters (specific conductance, pH, temperature, and oxidation–reduction potential) will be measured in the drilling fluid for comparison to those measured in the groundwater to determine if groundwater samples are representative of ambient aquifer conditions.

A top-down grab groundwater sampling methodology (i.e., starting at the shallowest sampling interval near the water table) will be used to collect VAS samples. The boring will be advanced to determine the depth at which groundwater is first encountered, which is estimated to be approximately 28 feet bgs. The first sample will then be collected at a depth no greater than 5 feet below the depth of the first-encountered groundwater, and subsequent sampling intervals will be determined based on field observations and will continue to an approximate total depth of 43 feet bgs. Sample tooling will be pulled out after each sampling interval for decontamination before advancing to the next depth interval to reduce potential cross-contamination between sampling intervals. The borehole will be advanced to the bottom depth of the sample interval, then the drill casing will be retracted to the top depth of the interval, exposing the temporary well screen, and the sample zone will be isolated from the water column in the cased wellhole above with a packer. Approximate sample intervals are shown in the proposed VAS plan (Appendix B) and may be adjusted based on field observations.

All samples will be collected by purging the temporary well with an electric submersible pump (or equivalent) that minimizes disturbance of the sampled water. Water quality measurements (specific conductivity, pH, temperature, and oxidation-reduction potential; taken at the pump effluent) will be monitored during purging, and samples will be collected once measurements have stabilized and are indicative of estimated aquifer conditions. The approximate minimum purge amounts are shown in Appendix B, but actual amounts will be based on field observations and on any drilling fluid added. The VAS samples collected will be submitted to a certified offsite laboratory for analysis of Cr6, total dissolved chromium, total dissolved solids, and dissolved iron in accordance with the Quality Assurance Project Plan and addendum (CH2M Hill 2014; Critigen 2020). One field duplicate sample will also be collected (preferably from the shallowest sample interval) and submitted to meet the Quality Assurance Project Plan objective of 10 percent duplicate sample collection.

The borehole will remain open with tooling in place while the VAS samples are analyzed. The borehole will be used for well installation (see Section 2.3) once VAS results are received and well screen intervals are determined.

2.3 Monitoring Well Installation

New monitoring well MW-35-039 will consist of a single screen targeting the top of the water table with the top of screen placed a few feet above the water table to allow for seasonal water level fluctuation. The specifications for this proposed well are shown in Appendix C; however, these may be adjusted based on the VAS results and observations made in the field.

The pilot borehole advanced during the collection of the VAS samples will be used for the installation of the monitoring well. The monitoring well casing and screen will be composed of flush-threaded Schedule 80 polyvinyl chloride, and the screen will be 0.010-inch machine slotted. Centralizers will be placed at 10 feet bgs and below the screen (at approximately 40 feet bgs), with proper separation between the casing and the borehole wall. The filter pack surrounding the screen will consist of clean, engineered granular material and will be placed using the drill casing as a tremie pipe. The filter pack will extend a few feet above and below the screen to allow for settlement over time. Approximately 5 feet of fine transition sand will be placed above the filter pack sand and the remainder of the annular space will be backfilled with neat cement. The surface completion will consist of a maintenance hole set in a concrete pad installed using a Sonotube. The maintenance hole and pad will be at grade with ground surface to prevent damage to the well pad from traffic entering and exiting the floodplain access road.

2.4 Monitoring Well Development

Following construction, the monitoring well will be developed using a combination of bailing, surging, and pumping to remove fluids introduced during drilling; to remove sediments potentially accumulated in the well during installation; and to develop the hydraulic connection between the well screen, filter pack, and formation. Recharge rates, sand content in the effluent, and water quality parameters will be measured during development as indicators of progress. The well will be considered developed when turbidity measurements are low and stable (50 nephelometric turbidity units or less), specific capacity is stable, a minimum volume of water greater than the volume of any water introduced during drilling and well construction has been removed, and the well is yielding groundwater that exhibits water quality measurements indicative of anticipated aquifer conditions.

2.5 Investigation-Derived Waste Management and Storage

Investigation-derived waste from the well installation will include groundwater from VAS sampling and well development, decontamination rinse water, displaced soils, and general wastes. The generated waste is not anticipated to be characterized as hazardous waste. All waste will be containerized, stored, transported, and disposed of in accordance with the Waste Management Plan from the C/RAWP (CH2M Hill 2015b).

2.6 Monitoring Well Sampling

MW-35-039 will be sampled on a quarterly basis for Cr6, total dissolved chromium, total dissolved solids, and dissolved iron for 1 year. Following the 1-year period, the sampling program will be re-evaluated to determine

whether modification is warranted, and proposed modifications will be submitted as a stand-alone submittal to the Agencies. The sampling results will be included in the quarterly progress reports.

2.7 Schedule and Reporting

PG&E is prepared to execute this Work Plan after receiving approval from the Agencies. The fieldwork portion of this Work Plan is proposed to be initiated in March or April 2026 and is anticipated to take approximately 2 months.

Data collected during well installation and testing will be reported in a construction report after installation is complete. Results from routine sampling of MW-35-039 will be included in the quarterly progress reports.

3 References

CH2M Hill. 2014. Final PG&E Program Quality Assurance Project Plan. November.

CH2M Hill. 2015a. Basis of Design Report/Final (100%) Design Submittal for the Final Groundwater Remedy. PG&E Topock Compressor Station, Needles, California. November.

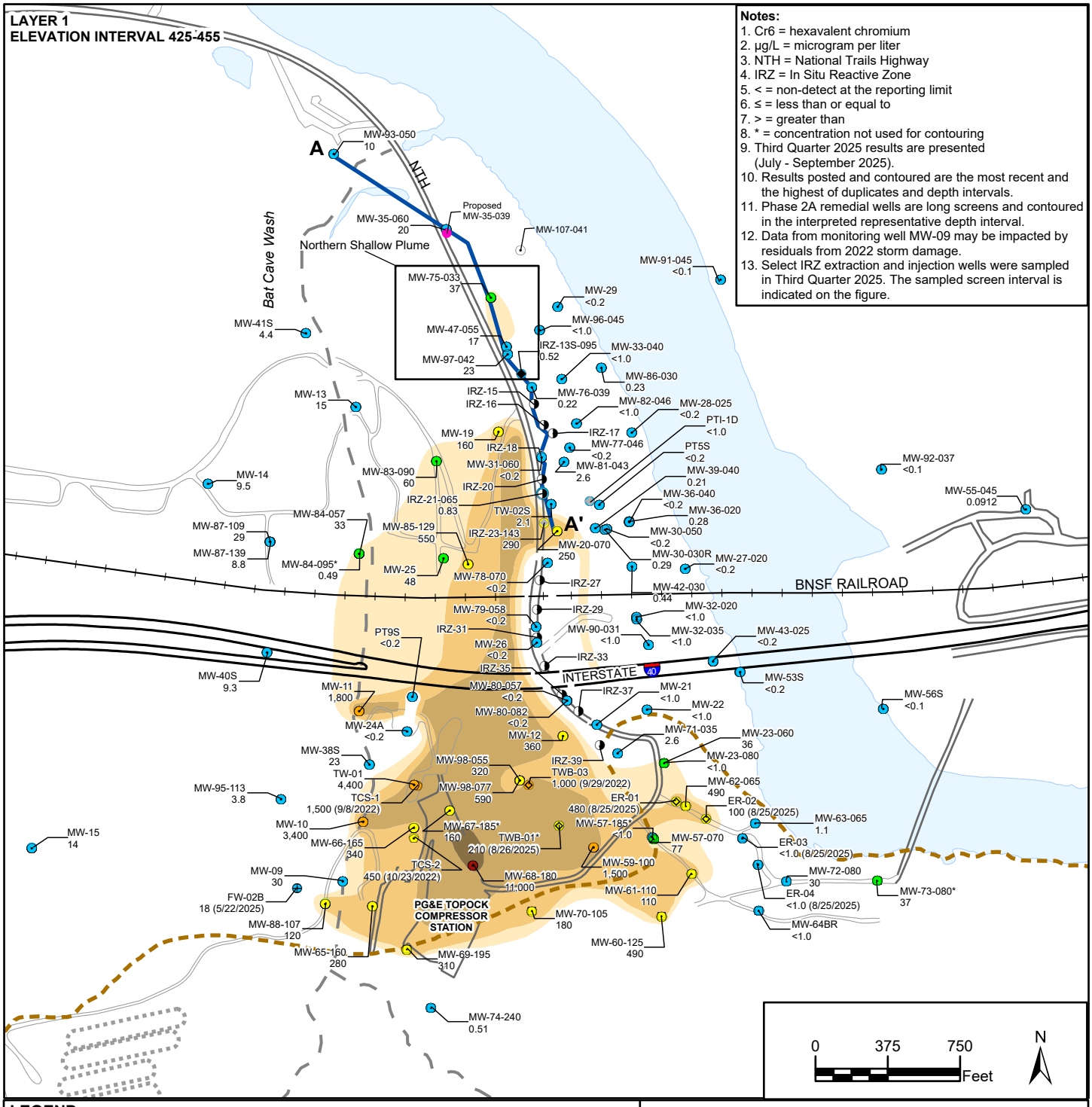
CH2M Hill. 2015b. Construction/Remedial Action Work Plan for the Final Groundwater Remedy. PG&E Topock Compressor Station. Needles, California. November.

Critigen. 2020. Addendum to the PG&E Program Quality Assurance Project Plan for Groundwater and Surface Water Sampling at the Topock Chromium Site. April.

DTSC. 2025. Letter from C. Ioan (DTSC) to J. Glass (PG&E). RE: Directive to install a water table groundwater monitoring well at the MW-35 cluster. PG&E Topock Compressor Station, Needles, California. December 18.

Figures

For additional help with the information provided in the figures, please contact Alison Schaffer, Arcadis Report Lead, at alison.schaffer@arcadis.com



LEGEND

- GROUNDWATER MONITORING WELL
- GROUNDWATER WELL COMPLETED IN BEDROCK
- NTH IRZ INJECTION WELL
- NTH IRZ EXTRACTION WELL
- PHASE 2A INJECTION WELL
- PHASE 2A EXTRACTION WELL
- PHASE 2A FRESHWATER INJECTION WELL
- REMEDIATION WELL (EXTRACTION) NOT SCREENED IN THIS INTERVAL
- PROPOSED SHALLOW MONITORING WELL
- BAT CAVE WASH
- APPROXIMATE BEDROCK CONTACT (PER DEPTH INTERVAL)
- MW-71-035 —— WELL ID
- 2.6 —— CR6 CONCENTRATION IN µg/L

Cr6 Concentrations

- ≤ 32 µg/L (or not detected)
- 32 - 100 µg/L
- 100 - 1,000 µg/L
- 1,000 - 10,000 µg/L
- > 10,000 µg/L

Cr6 contours

- 32 µg/L
- 100 µg/L
- 1,000 µg/L
- 10,000 µg/L

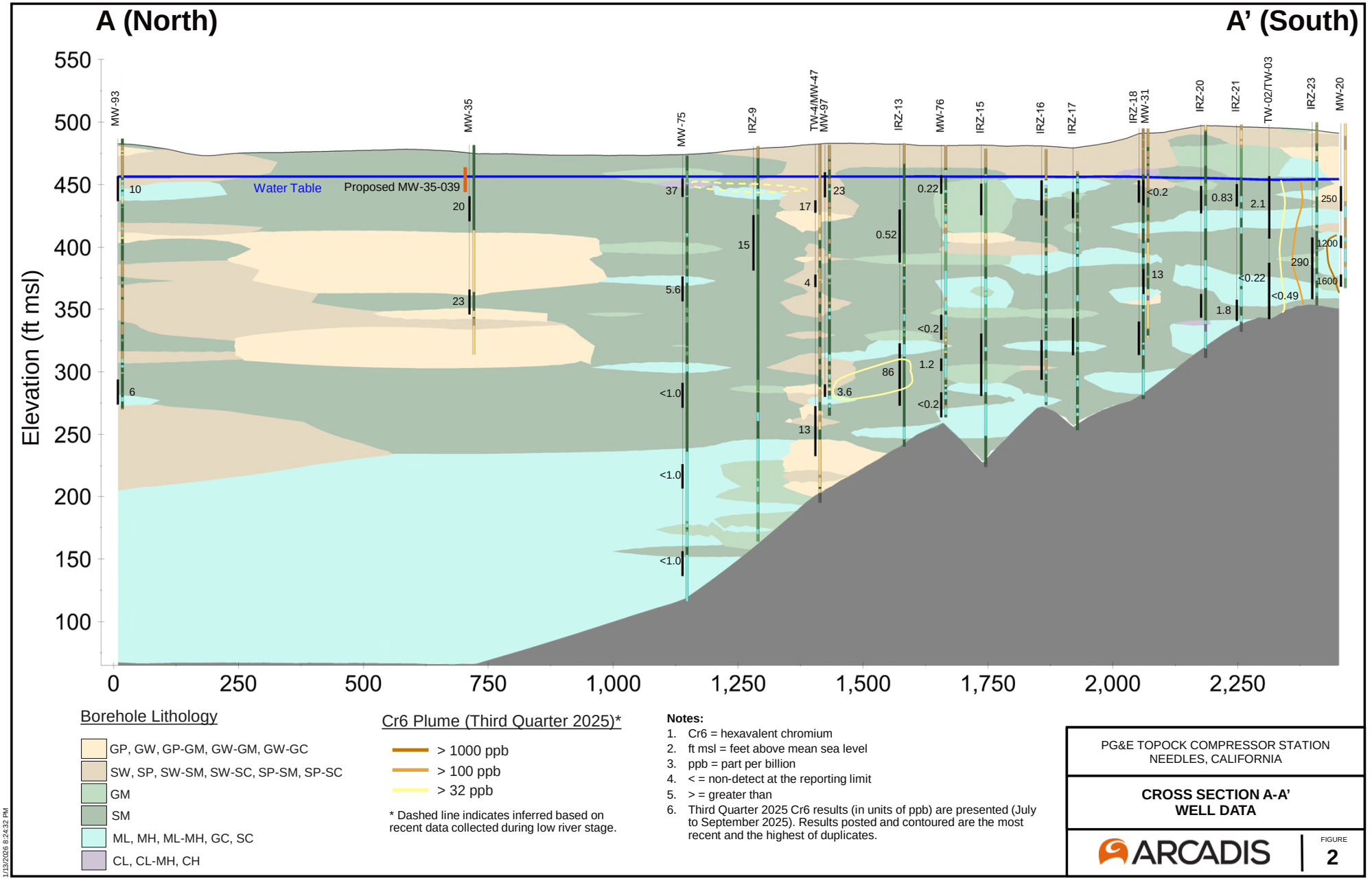
PG&E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA

SHALLOW HEXAVALENT CHROMIUM PLUME

ARCADIS

FIGURE
1

\\ARCADIS-US.COM\APP\GIS\PROCESSING_ENV\PGE_TOPOCK\GEC\ARC_PRO\GMP\3Q25\FIGURE_3_1_A_B_C_D_&_E.APRX 1/7/2026 10:12 AM



Borehole Lithology

- GP, GW, GP-GM, GW-GM, GW-GC
- SW, SP, SW-SM, SW-SC, SP-SM, SP-SC
- GM
- SM
- ML, MH, ML-MH, GC, SC
- CL, CL-MH, CH

Cr6 Plume (Third Quarter 2025)*

- > 1000 ppb
- > 100 ppb
- > 32 ppb

* Dashed line indicates inferred based on recent data collected during low river stage.

Notes:

1. Cr6 = hexavalent chromium
2. ft msl = feet above mean sea level
3. ppb = part per billion
4. < = non-detect at the reporting limit
5. > = greater than
6. Third Quarter 2025 Cr6 results (in units of ppb) are presented (July to September 2025). Results posted and contoured are the most recent and the highest of duplicates.

PG&E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA

CROSS SECTION A-A'
WELL DATA

ARCADIS

FIGURE
2

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MW-35-039 Well Pad Layout

Notes:

1. VAS = vertical aquifer sampling
2. The well pad layout and proposed monitoring well location are approximate and may be adjusted based on field conditions.

PG&E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA

PLANNED WORK AREA

ARCADIS

FIGURE
3

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Appendix A

Response to Comments

For additional help with the information provided in Appendix A, please contact Alison Schaffer, Arcadis Report Lead, at alison.schaffer@arcadis.com

Response to Comments on Northern Shallow Monitoring Well (MW-35-039) Installation Work Plan (original submitted on 01/16/2026)

PG&E Topock Compressor Station, Needles, California

Item	Comment Number	Section/ Page	Reference Text	Comment	PG&E Response to Comment	DTSC Response to Comment	PG&E's Summary of RTC Outcome
1	DTSC-1 (2/23/2026)	Section 2.6 Monitoring Well Sampling	"Following the 1-year period, MW-35-039 will be sampled for Cr6 on a quarterly basis and total dissolved chromium on a semiannual basis, which is consistent with the sampling plan for other northern NTH IRZ extraction monitoring wells."	The DTSC is amenable to sample collection frequency adjustment after data evaluation from four quarterly monitoring events of the proposed well MW-35-039. However, quarterly monitoring for hexavalent chromium, total dissolved chromium, total dissolved solids, and dissolved iron should continue until a data evaluation and monitoring program revision submittal can be prepared and submitted to the Agencies for review and approval. Further, as previously requested by the Agencies, requests for monitoring program revisions should be stand-alone submittals rather than included in regularly submitted monitoring reports.	In response to this comment, Section 2.6 was revised as follows: "Following the 1-year period, the sampling program will be re-evaluated to determine whether modification is warranted, and modifications will be submitted as a stand-alone submittal to the Agencies."	DTSC requested that the comments and revisions be included in an appendix of the final work plan.	Appendix A Response to Comments was added to the final work plan.

Appendix B

MW-35-039 Proposed VAS Plan

For additional help with the information provided in Appendix B, please contact Alison Schaffer, Arcadis Report Lead, at alison.schaffer@arcadis.com

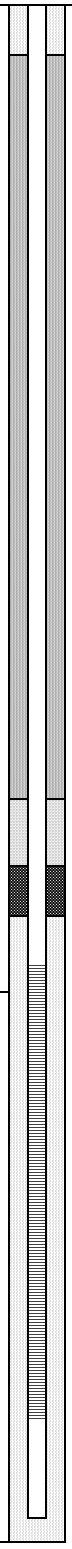
MW-35-039 Proposed VAS Sampling Plan 1/13/2026

Conductor casing Dia:	8	Sampler screen OD:	4
Drill casing Dia:	6	Sampler pipe ID:	2.5
Rathole Dia:	4		

Sieve Samples

Sieve samples will not be collected.

Ground surface 0.0 ft.



Approximate DTW 28.0 ft.

Approximate total depth 43.0 ft.

Proposed VAS Intervals

Note: VAS samples can be adjusted based on field observations with 5 to 15 ft. spacing. Approximate minimum gallons to purge are the minimum volume to purge prior to collecting sample.

27.0 to 32.0 ft. bgs

3.3 Approximate minimum gallons to purge before sampling.

Notes: First sample to be collected no greater than 5 ft. below first encoutered water. Collect DUP-01-XXXXXX.

37.0 to 42.0 ft. bgs

21.9 Approximate minimum gallons to purge before sampling.

25.13 Approx total Gallons to purge

Appendix C

MW-35-039 Proposed Well Design

For additional help with the information provided in Appendix C, please contact Alison Schaffer, Arcadis Report Lead, at alison.schaffer@arcadis.com

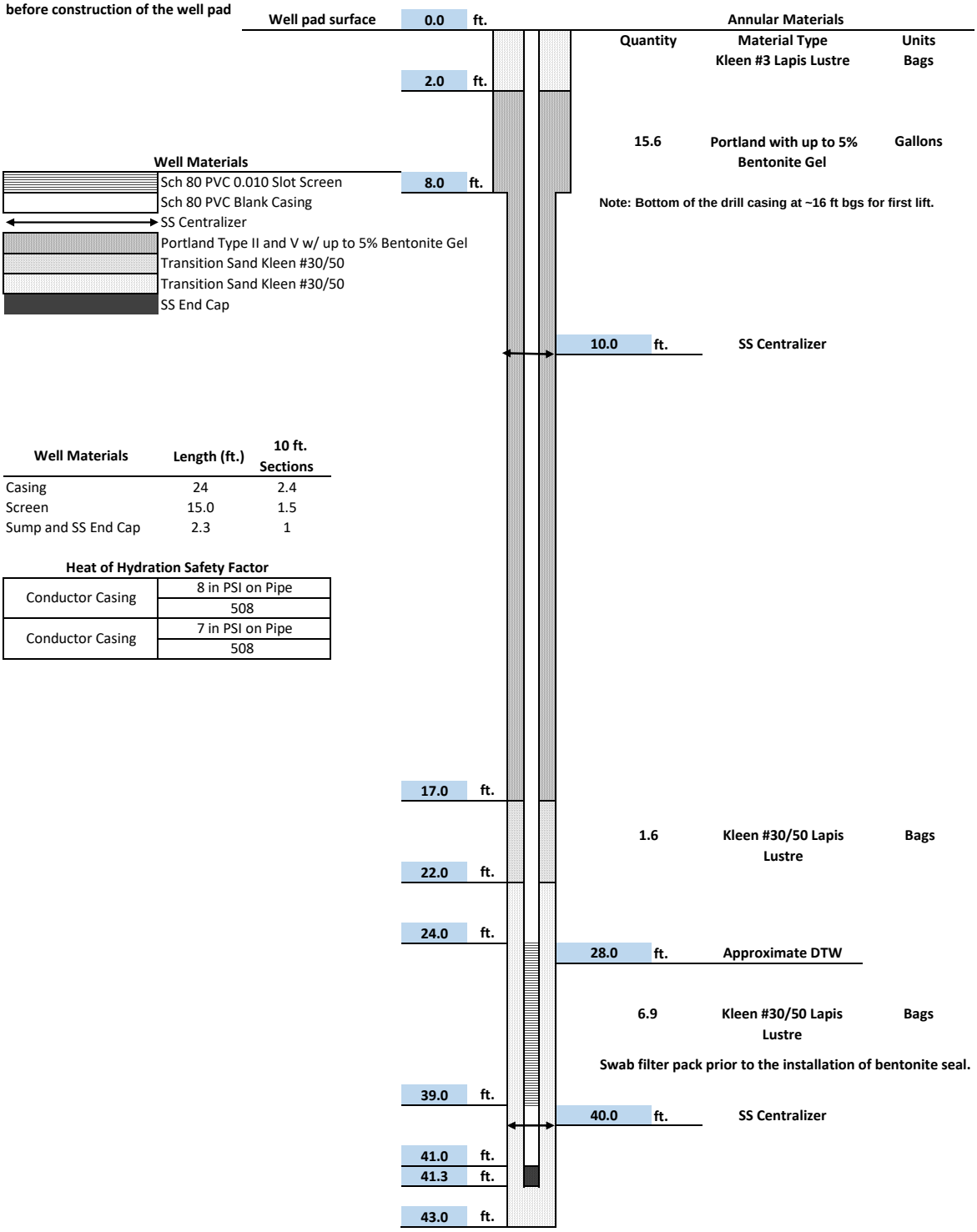
MW-35-039 Proposed Well Design 1/13/26

Conductor casing Dia:	8
Drill casing Dia:	6
Rathole Dia:	6

Well Casing Outer Diameter:	2.5
Well Casing Inner Diameter:	2

Note: Depths in the well ID are based on ground surface elevation before construction of the well pad

Surface Completion:
18-inch diameter lockable manhole in a 30-inch diameter well pad.



Annular Materials

Quantity	Material Type	Units
	Kleen #3 Lapis Lustre	Bags
15.6	Portland with up to 5% Bentonite Gel	Gallons
1.6	Kleen #30/50 Lapis Lustre	Bags
6.9	Kleen #30/50 Lapis Lustre	Bags

Note: Bottom of the drill casing at ~16 ft bgs for first lift.

10.0 ft. SS Centralizer

28.0 ft. Approximate DTW

40.0 ft. SS Centralizer

Swab filter pack prior to the installation of bentonite seal.

Well Materials	Length (ft.)	10 ft. Sections
Casing	24	2.4
Screen	15.0	1.5
Sump and SS End Cap	2.3	1

Heat of Hydration Safety Factor

Conductor Casing	8 in PSI on Pipe
	508
Conductor Casing	7 in PSI on Pipe
	508

Arcadis U.S., Inc.
100 Montgomery Street, Suite 300
San Francisco
California 94104
United States
Phone: 415 374 2744
Fax: 415 374 2745
www.arcadis.com