



TOPOCK WELL COMPLETION AND ACCEPTANCE REPORT - REMEDIATION WELLS

Well Name: FW-02B

Screen Zone (feet below ground surface [bgs]): 95 – 112 and 122 – 132 (no seal between screens)

Dates Pilot Borehole Drilling: 08/20/2022 – 09/01/2022

Temporary Backfill: 09/01/2022 – 09/07/2022

Dates Pilot Borehole Overdrilling: 10/12/2022 – 10/22/2022

Well Installation: 10/23/2022 – 11/05/2022

Dates Well Head Completion: Installation of vault will be completed at a later date as noted on the Well Construction Log

Dates of Development: 11/06/2022 – 11/19/2022

Note: Well Testing was completed successfully and in accordance with Well Specification 33 22 00 unless noted below.

| Well Testing Conducted | Required (Y/N) | Dates | Comments |
|----------------------------|----------------|------------|----------|
| Alignment Test | Y | 11/22/2022 | None |
| Specific Capacity Test | Y | 11/20/2022 | None |
| Injectivity Test | Y | 11/21/2022 | None |
| Plumbness Test (Gyroscope) | N | -- | -- |
| Spinner Log | N | -- | -- |
| Downhole Video | Y | 12/02/2022 | None |
| Other | -- | -- | -- |

Acceptance Criteria

Meets Design Criteria for Construction - Well installed in accordance with well specifications and final design.

Comments: As-built well construction consistent with the final well design (see Attached Logs).

Meets Design Criteria for Injectivity Rate

| | |
|---|------------------|
| Goal from 100% Design: | 50 |
| Tested Rates (gallons per minute [gpm]): | 25.0, 50.5, 74.5 |

TOPOCK Well Acceptance Form - Remediation Wells

| | |
|-----------------------------|---|
| Specific Injectivity | 3.95 gpm/ft per 6.34 ft of mounding at an injection rate of 25 gpm 2.00 gpm/ft per 25.27 ft of mounding at an injection rate of 50.5 gpm 1.33 gpm/ft per 56.20 ft of mounding at an injection rate of 74.5 gpm |
| Comments | The 50 gpm step (100% proposed nominal rate) stabilized. The 74.5 gpm step (~150% proposed nominal rate) could not be fully evaluated for stabilization due to time constraints. Mounding may have stabilized at 74.5 gpm if testing was conducted for a longer duration. |

Well Functions as Designed

Comments: _____ criteria for the intended use.

Meets Design Criteria for Plumbness and Equipment Install – The well was free of blockages and of sufficient plumbness and alignment to allow for well development, “Dummy Tool” alignment testing, well testing, and well sampling.

Comments: Downhole equipment has not been installed as of the submittal of this Completion Report. Installation is planned to be completed in 2023.

Meets Design Criteria for Turbidity (Turbidity less than 50 NTU)

Comments: Turbidity at the completion of well development meets the design criteria.

Final Turbidity at End of Well Development

| Screen Zone | Turbidity (NTUs) |
|--|------------------|
| 95 – 112' and 122 – 132 ' (no seal between screens) | 2.25 |

Other Water Quality Parameters

Water Quality Parameters at end of development

| Screen Depths | Temp (C) | pH | ORP (mV) | Cond (uS/cm) | DO |
|--|----------|------|----------|--------------|------|
| 95 – 112' and 122 – 132 ' (no seal between screens) | 29.6 | 7.46 | 84.8 | 2537 | 5.40 |

ATTACHMENTS

- Final Well Design
- Boring Log
- Temporary Backfill Log
- Drilling Log
- Well Construction Log
- Well Development Log
- Specific Capacity Testing Package
- Specific Injectivity Testing Package

TOPOCK Well Acceptance Form - Remediation Wells

- Photo Logs
- Video Survey Report

NOTE: Field documentation for all phases of well installation, well development and testing are included in the Daily Well Construction Reports. The Daily Well Construction Reports and DoR Daily Well Construction Quality Control Reports are compiled and organized by date on *AutodeskBuild*. The parent folder for both daily reports are located on *AutodeskBuild* in the following location: Files/For the Field/DOR Drilling Quality Control/01 QC Documentation. Analytical reports are compiled and uploaded to *AutodeskBuild* in the same folder. The technical scopes were performed by or under the direct supervision of Designer of Record (DoR) Professional Geologists (see attached Certification Statement).

ACCEPTANCE APPROVAL

DoR Approver Name: Greg Foote

Approval Signature/Date:



DATE January 31, 2023

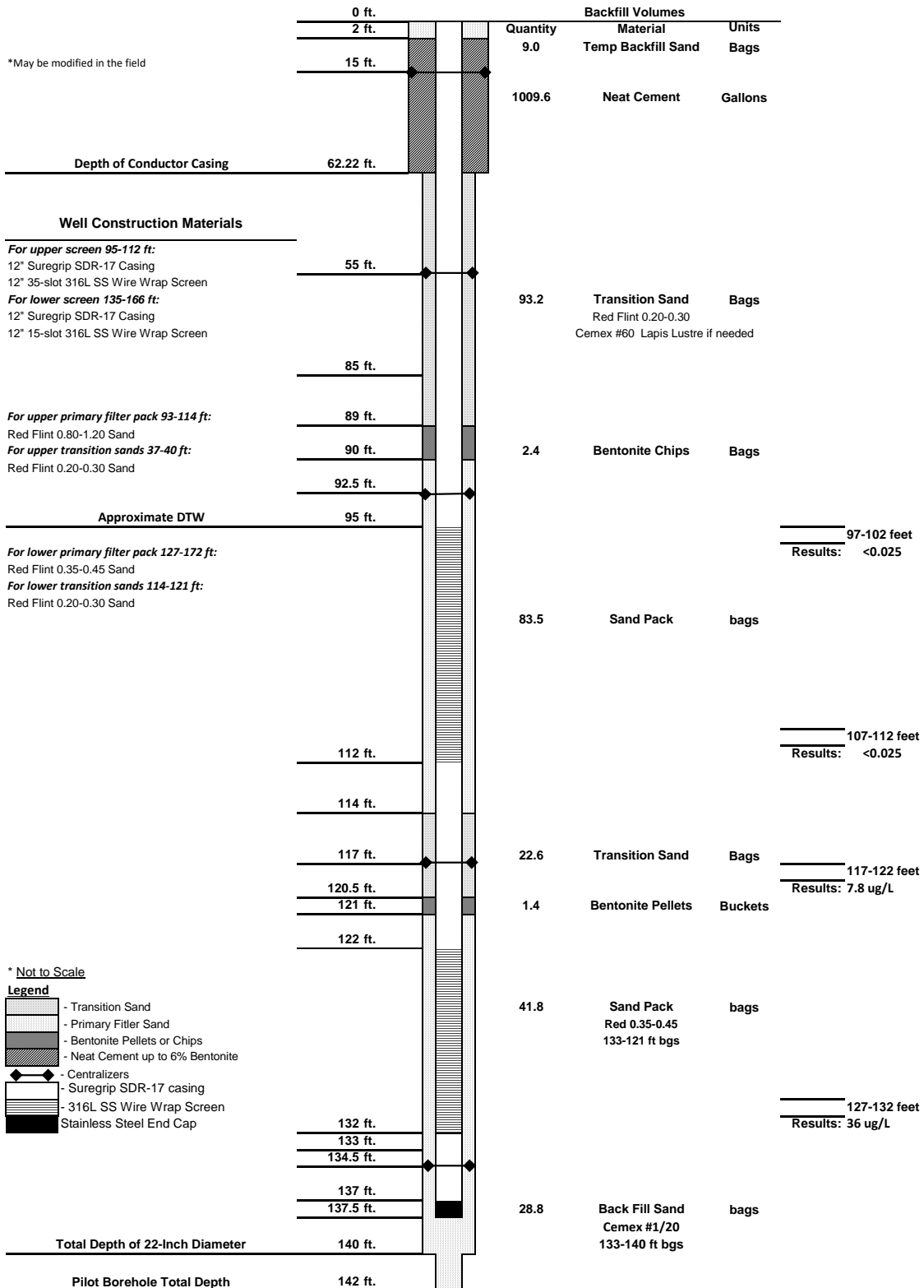
Attachment 1

Final Well Design

**Final Well Design
FW-02B (10/25/22)**



Well ID: FW-02B Well Purpose: Remediation Well Type: Dual Screened
 Borehole Dia.: 22 - 24 in. Well Diameters: 12 in.



Attachment 2

Boring Log

| | | | | | |
|------------------|---------------------------|-----------------------|---|---------------------------------|---------------------------------|
| Date Started: | 08/20/2022 | Surface Elevation: | 551.67 ft amsl | Boring No.: FW-02B Pilot | |
| Date Completed: | 09/01/2022 | Northing (NAD83): | 2100637.96 | | |
| Drilling Co.: | Cascade | Easting (NAD83): | 7614544.74 | Client: | PG&E |
| Drilling Method: | Sonic Drilling | Total Depth: | 142 ft bgs | Project: | Final GW Remedy Phase 2A |
| Drill Rig Type: | Boart Longyear drill head | Borehole Diameter: | 4-8 inches | Location: | PG&E Topock, Needles California |
| Driller Name: | Matt Arnold | Depth to First Water: | 102.0 ft bgs | | |
| Drilling Asst: | LA / IS / DH | Sampling Method: | 4 inch x 10 ft. Core Barrel | Project Number: | 30126255 |
| Logger: | J. Anderson / L. Milando | Sampling Interval: | Continuous | | |
| Editor: | Sean McGrane | Converted to Well: | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | |

| Depth (ft) | Recovery (ft) | Sieve Sample ID | Groundwater Sample ID | Geologic Formation | USCS Code | USCS Class | Soil Description | Drilling Notes | Drilling Fluid |
|------------|---------------|----------------------------|----------------------------------|--------------------|-----------|------------|--|--|--|
| 1 | | | | Fluvial Deposits | SW | | (0-2 ft) Well graded sand with gravel (SW); light gray (10YR 7/2); very fine to very coarse grained, subangular to subround; trace granules, subangular; trace small to very large pebbles, subangular; poorly sorted; dry; NOTE: sample disturbed from air-knifing activities. | (0.0 - 5.0') Air-knifed for utility clearance sediments not logged. | (0.0 - 5.0') No drilling fluid used |
| 2 | | | (2-8 ft) No Recovery | | | | | | |
| 3 | | | | NR | NR | | | | |
| 4 | 2 | | | | | | | | |
| 5 | | | | Fluvial Deposits | SW | | (8-10.5 ft) Well graded sand with gravel (SW); brown (10YR 5/3); very fine to very coarse grained, subangular to subround; little small to very large pebbles, subangular; trace silt; trace granules, subangular; trace clay; poorly sorted; dry. | (8.0 - 17.0') Soft drilling, core sample lost down hole, core barrel is pushing loose sand into the formation instead of the core barrel. | (8.0 - 17.0') No drilling fluid used |
| 6 | | | | | | | | | |
| 7 | | | | NR | NR | | | | |
| 8 | | | | | | | | | |
| 9 | | | | Fluvial Deposits | SW | | (10.5-17 ft) No Recovery | | |
| 10 | | No Sieve Samples Collected | No Groundwater Samples Collected | | | | | | |
| 11 | | | | NR | NR | | | | |
| 12 | 2.5 | | | | | | | | |
| 13 | | | | Fluvial Deposits | SW | | (17-28.5 ft) Well graded sand with gravel (SW); brown (10YR 5/3); very fine to very coarse grained, subangular to subround; little small to very large pebbles, subangular; trace silt; trace granules, subangular; trace clay; poorly sorted; dry. (17.5-19.5 ft) Increase in the percentage of coarser grained sediments. | (17.0 - 22.0') Core barrel snagged on the drill casing and the drill casing advanced approximately 0.5-1 ft. Potential void | (17.0 - 22.0') No drilling fluid used |
| 14 | | | | | | | | | |
| 15 | | | | NR | NR | | | | |
| 16 | | | | | | | | | |
| 17 | | | | Fluvial Deposits | SW | | | | |
| 18 | 4.5 | | | | | | | | |
| 19 | | | | NR | NR | | | | |
| 20 | | | | | | | | | |

Abbreviations: USCS = Unified Soil Classification System, ft = feet, bgs = below ground surface, amsl = above mean sea level, NR = No Recovery, N/A = Not Applicable, GW = groundwater, ppb = parts per billion, Notes: Solid blue and hollow blue water table marks represent depth to water (ft. bgs.) first encountered from logging and depth to water measured during the first VAS interval, respectively. Apparent partial recoveries can be the result of potential compaction of sediments in the core bag.

TOPOCK SOIL BORING LOG \\ARCADIS0365\SHAREPOINT.COM\SSLD\AVWWW\ROOT\TEAMS\PG&E\TOPOCK\CONSTRUCTION\SHARED DOCUMENTS\PHASE II DRILLING\06_FIELD DOCUMENTATION\02 GINT FILES\00 NEW PHASE 2 GINT FILES\18 2022-10-12\GINT PROJECT\GPJ_GINT DATA TEMPLATE.GDT_10/1/2022

| | | | | | |
|------------------|---------------------------|-----------------------|---|---------------------------------|---------------------------------|
| Date Started: | 08/20/2022 | Surface Elevation: | 551.67 ft amsl | Boring No.: FW-02B Pilot | |
| Date Completed: | 09/01/2022 | Northing (NAD83): | 2100637.96 | | |
| Drilling Co.: | Cascade | Easting (NAD83): | 7614544.74 | Client: | PG&E |
| Drilling Method: | Sonic Drilling | Total Depth: | 142 ft bgs | Project: | Final GW Remedy Phase 2A |
| Drill Rig Type: | Boart Longyear drill head | Borehole Diameter: | 4-8 inches | Location: | PG&E Topock, Needles California |
| Driller Name: | Matt Arnold | Depth to First Water: | 102.0 ft bgs | | |
| Drilling Asst: | LA / IS / DH | Sampling Method: | 4 inch x 10 ft. Core Barrel | Project Number: | 30126255 |
| Logger: | J. Anderson / L. Milando | Sampling Interval: | Continuous | | |
| Editor: | Sean McGrane | Converted to Well: | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | |

| Depth (ft) | Recovery (ft) | Sieve Sample ID | Groundwater Sample ID | Geologic Formation | USCS Code | USCS Class | Soil Description | Drilling Notes | Drilling Fluid |
|------------|---------------|----------------------------|----------------------------------|--------------------|-----------|------------|---|--|---|
| 21 | 4.5 | | | Fluvial Deposits | SW | | (17-28.5 ft) Well graded sand with gravel (SW); brown (10YR 5/3); very fine to very coarse grained, subangular to subround; little small to very large pebbles, subangular; trace silt; trace granules, subangular; trace clay; poorly sorted; dry. | forming or extremely soft sand. | |
| 22 | | | | | | | (24 ft) Increase in the percentage of coarser grained sediment and granules with depth. Lower percentage of silt percentage with depth. | | |
| 23 | 7 | No Sieve Samples Collected | No Groundwater Samples Collected | Fluvial Deposits | SW | | (28.5-31 ft) Well graded sand with gravel (SW); light gray (10YR 7/2); very fine to very coarse grained, subangular to subround; little small to very large pebbles, subangular to subround; trace granules, subangular; trace silt; dry; pebbles composed of metadorite; granule and pebble size decreases with depth; percentage of sand decreases with depth; friable caliche cementation. | | |
| 24 | | | | | | | | | |
| 25 | 4.5 | | | Alluvium Deposits | SW | | | (32.0 - 107.0') Rough drilling, potential boulder at approximately 32 ft bgs. | (32.0 - 107.0') No drilling fluid used |
| 26 | | | | | | | | | |
| 27 | 7.5 | | | Alluvium Deposits | SW-SM | | (37-39.5 ft) Well graded sand with silt (SW-SM); light gray (10YR 7/2); very fine to coarse grained, subangular to subround; trace silt; trace small pebbles, subround; trace granules, subangular; dry; strong HCl reaction; friable caliche cementation. | | |
| 28 | | | | | | | | | |
| 29 | | | | | | | | | |
| 30 | | | | | | | | | |
| 31 | | | | | | | | | |
| 32 | | | | | | | | | |
| 33 | | | | | | | | | |
| 34 | | | | | | | | | |
| 35 | | | | | | | | | |
| 36 | | | | | | | | | |
| 37 | | | | | | | | | |
| 38 | | | | | | | | | |
| 39 | | | | | | | | | |
| 40 | | | | | | | | | |

Abbreviations: USCS = Unified Soil Classification System, ft = feet, bgs = below ground surface, amsl = above mean sea level, NR = No Recovery, N/A = Not Applicable, GW = groundwater, ppb = parts per billion, Notes: Solid blue and hollow blue water table marks represent depth to water (ft. bgs.) first encountered from logging and depth to water measured during the first VAS interval, respectively. Apparent partial recoveries can be the result of potential compaction of sediments in the core bag.

TOPOCK SOIL BORING LOG \ARCADIS\0365\SHAREPOINT.COM\SS\DA\WWW\ROOT\TEAMS\PG&E\TOPOCK\CONSTRUCTION\SHARED_DOCUMENTATION\PHASE II DRILLING\06_FIELD_DOCUMENTATION\02_GINT_FILES\00_NEW_PHASE_2_GINT_FILES\08_2022-10-12\GINT_PROJECT\GPIJ_GINT_DATA_TEMPLATE.GDT_10/1/2022

| | | |
|---|--|---|
| Date Started: 08/20/2022 | Surface Elevation: 551.67 ft amsl | Boring No.: FW-02B Pilot |
| Date Completed: 09/01/2022 | Northing (NAD83): 2100637.96 | |
| Drilling Co.: Cascade | Easting (NAD83): 7614544.74 | Client: PG&E |
| Drilling Method: Sonic Drilling | Total Depth: 142 ft bgs | Project: Final GW Remedy Phase 2A |
| Drill Rig Type: Boart Longyear drill head | Borehole Diameter: 4-8 inches | Location: PG&E Topock, Needles California |
| Driller Name: Matt Arnold | Depth to First Water: 102.0 ft bgs | |
| Drilling Asst: LA / IS / DH | Sampling Method: 4 inch x 10 ft. Core Barrel | Project Number: 30126255 |
| Logger: J. Anderson / L. Milando | Sampling Interval: Continuous | |
| Editor: Sean McGrane | Converted to Well: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | |

TOPOCK SOIL BORING LOG \ARCADIS\0365 SHAREPOINT.COM\SSLD\AV\WWWROOT\TEAMS\PG&E\TOPOCK\CONSTRUCTION\SHARED DOCUMENTATION\02 GINT FILES\00 NEW PHASE 2 GINT FILES\88 2022-10-12\GINT PROJECT\GPIJ GINT DATA TEMPLATE.GDT 10/12/22

| Depth (ft) | Recovery (ft) | Sieve Sample ID | Groundwater Sample ID | Geologic Formation | USCS Code | USCS Class | Soil Description | Drilling Notes | Drilling Fluid |
|------------|---------------|----------------------------|----------------------------------|--------------------|-----------|------------|--|----------------|----------------|
| 41 | 7.5 | | | Alluvium Deposits | SW | | (39.5-46.5 ft) Well graded sand with gravel (SW); light brownish gray (10YR 6/2), and light gray (10YR 7/1); very fine to very coarse grained, subangular to subround; little granules, subangular; trace small pebbles, subangular; trace silt; poorly sorted; dry; strong HCl reaction; strong caliche cementation. | | |
| 42 | | | | | | | | | |
| 43 | | | | | | | | | |
| 44 | | | | | | | | | |
| 45 | | | | | | | | | |
| 46 | 5 | No Sieve Samples Collected | No Groundwater Samples Collected | Alluvium Deposits | SW-SM | | (46.5-47.5 ft) Well graded sand with silt (SW-SM); light gray (10YR 7/1); fine to very coarse grained, subangular to subround; little silt; trace granules, subangular to subround; trace small pebbles, subangular; poorly sorted; dry; moderate HCl reaction; moderate caliche cementation. | | |
| 47 | | | | | | | | | |
| 48 | | | | | | | | | |
| 49 | | | | | | | | | |
| 50 | | | | | | | | | |
| 51 | 3 | | | Alluvium Deposits | SW | | (47.5-49 ft) Well graded sand with silt and gravel (SW-SM); pale orange yellow (10YR 8/2), and light gray (10YR 7/1); fine to very coarse grained, subangular to subround; little small to large pebbles, subangular to subround; little silt; trace granules, subangular to subround; poorly sorted; dry; moderate HCl reaction; moderate caliche cementation. | | |
| 52 | | | | | | | | | |
| 53 | | | | | | | | | |
| 54 | | | | | | | | | |
| 55 | | | | | | | | | |
| 56 | 8 | | | Alluvium Deposits | SW | | (49-50.5 ft) Well graded sand with silt and gravel (SW-SM); pale orange yellow (10YR 8/2), and light gray (10YR 7/1); fine to very coarse grained, subangular to subround; little small to large pebbles, subangular to subround; trace silt; trace granules, subangular to subround; trace clay; poorly sorted; dry; moderate HCl reaction; moderate caliche cementation. | | |
| 57 | | | | | | | | | |
| 58 | | | | | | | | | |
| 59 | | | | | | | | | |
| 60 | | | | Alluvium Deposits | SW-SM | | (50.5-57 ft) Well graded sand with gravel (SW); light gray (10YR 7/2); very fine to coarse grained, subangular to subround; little small to medium pebbles, subangular to subround; little granules, subangular to subround; trace silt; trace clay; poorly sorted; dry; moderate HCl reaction; weak caliche cementation. | | |
| | | | | Alluvium Deposits | SW | | (57-57.5 ft) Well graded sand with gravel (SW); light gray (10YR 7/2); very fine to coarse grained, subangular to subround; little small to medium pebbles, subangular to subround; little granules, subangular to subround; trace silt; trace clay; poorly sorted; dry; moderate HCl reaction; weak caliche cementation. | | |

Abbreviations: USCS = Unified Soil Classification System, ft = feet, bgs = below ground surface, amsl = above mean sea level, NR = No Recovery, N/A = Not Applicable, GW = groundwater, ppb = parts per billion, Notes: Solid blue and hollow blue water table marks represent depth to water (ft. bgs.) first encountered from logging and depth to water measured during the first VAS interval, respectively. Apparent partial recoveries can be the result of potential compaction of sediments in the core bag.

| | | | | | |
|------------------|---------------------------|-----------------------|---|---------------------------------|---------------------------------|
| Date Started: | 08/20/2022 | Surface Elevation: | 551.67 ft amsl | Boring No.: FW-02B Pilot | |
| Date Completed: | 09/01/2022 | Northing (NAD83): | 2100637.96 | | |
| Drilling Co.: | Cascade | Easting (NAD83): | 7614544.74 | Client: | PG&E |
| Drilling Method: | Sonic Drilling | Total Depth: | 142 ft bgs | Project: | Final GW Remedy Phase 2A |
| Drill Rig Type: | Boart Longyear drill head | Borehole Diameter: | 4-8 inches | Location: | PG&E Topock, Needles California |
| Driller Name: | Matt Arnold | Depth to First Water: | 102.0 ft bgs | | |
| Drilling Asst: | LA / IS / DH | Sampling Method: | 4 inch x 10 ft. Core Barrel | Project Number: | 30126255 |
| Logger: | J. Anderson / L. Milando | Sampling Interval: | Continuous | | |
| Editor: | Sean McGrane | Converted to Well: | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | |

| Depth (ft) | Recovery (ft) | Sieve Sample ID | Groundwater Sample ID | Geologic Formation | USCS Code | USCS Class | Soil Description | Drilling Notes | Drilling Fluid |
|------------|---------------|----------------------------|----------------------------------|--------------------|-----------|------------|--|----------------|----------------|
| 61 | 8 | | | Alluvium Deposits | SW-SM | | (57.5-62.5 ft) Well graded sand with silt and gravel (SW-SM); brown (10YR 5/3); very fine to coarse grained, subangular to subround; little granules, subangular to subround; little silt; trace small to medium pebbles, subangular to subround; trace clay; poorly sorted; dry; moderate HCl reaction; weak caliche cementation. (60-62.5 ft) Decrease in fine content. | | |
| 62 | | | | Alluvium Deposits | SW | | (62.5-65 ft) Well graded sand with gravel (SW); light brownish gray (10YR 6/2); very fine to coarse grained, subangular; little granules, subangular; little small to large pebbles, subangular; trace silt; trace clay; poorly sorted; dry; moderate HCl reaction; weak caliche cementation. | | |
| 63 | 0 | | | | NR | | (65-67 ft) No Recovery | | |
| 64 | | | | | | | | | |
| 65 | 7 | No Sieve Samples Collected | No Groundwater Samples Collected | Alluvium Deposits | SW | | (67-68 ft) Well graded sand with gravel (SW); light brownish gray (10YR 6/2); very fine to coarse grained, subangular; little granules, subangular; little small to large pebbles, subangular; trace silt; trace clay; poorly sorted; dry; moderate HCl reaction; weak caliche cementation. | | |
| 66 | | | | Alluvium Deposits | SW | | (68-71 ft) Well graded sand with gravel (SW); light gray (10YR 7/2); fine to very coarse grained, subangular to subround; little granules, subangular to subround; little small to large pebbles, subangular to subround; trace silt; trace clay; poorly sorted; dry to moist; moderate HCl reaction; weak caliche cementation. | | |
| 67 | 7 | | | Alluvium Deposits | SM | | (71-74.5 ft) Silty sand (SM); light gray (10YR 7/2); very fine to very coarse grained, subangular to subround; some silt; trace small to large pebbles, subangular to subround; trace granules, subangular to subround; trace clay; poorly sorted; dry; moderate HCl reaction; weak caliche cementation. (72-74.5 ft) Decrease in silt, granules and pebbles, increase in sand. | | |
| 68 | | | | Alluvium Deposits | SW | | (74.5-77.5 ft) Well graded sand with gravel (SW); yellowish brown (10YR 5/4); fine to very coarse grained, subangular to subround; little granules, subangular to subround; trace small to medium pebbles, subangular to subround; trace silt; trace clay; poorly sorted; dry to moist; moderate HCl reaction; weak caliche cementation. | | |
| 69 | 8 | | | | | | (77 ft) Decrease in small to large pebbles, increase in sand. | | |
| 70 | | | | Alluvium Deposits | SW-SM | | (77.5-83 ft) Well graded sand with silt and gravel (SW-SM); yellowish brown (10YR 5/4); very fine to very coarse grained, subangular to subround; little silt; little small to large pebbles, subangular; trace granules, subangular to subround; trace clay; poorly sorted; dry; moderate HCl reaction; weak caliche cementation. | | |
| 71 | | | | | | | | | |
| 72 | | | | | | | | | |
| 73 | | | | | | | | | |
| 74 | | | | | | | | | |
| 75 | | | | | | | | | |
| 76 | | | | | | | | | |
| 77 | | | | | | | | | |
| 78 | | | | | | | | | |
| 79 | | | | | | | | | |
| 80 | | | | | | | | | |

Abbreviations: USCS = Unified Soil Classification System, ft = feet, bgs = below ground surface, amsl = above mean sea level, NR = No Recovery, N/A = Not Applicable, GW = groundwater, ppb = parts per billion, Notes: Solid blue and hollow blue water table marks represent depth to water (ft. bgs.) first encountered from logging and depth to water measured during the first VAS interval, respectively. Apparent partial recoveries can be the result of potential compaction of sediments in the core bag.

TOPOCK SOIL BORING LOG I:\ARCADIS\03615.SHAREPOINT.COM\SSLD\A\WWW\ROOT\TEAMS\PG&E\TOPOCK\CONSTRUCTION\SHARED_DOCUMENTATION\02_GINT_DOCUMENTATION\02_GINT_DATA_TEMPLATE.GDT_10/1/2022

| | | | | | |
|------------------|---------------------------|-----------------------|---|---------------------------------|---------------------------------|
| Date Started: | 08/20/2022 | Surface Elevation: | 551.67 ft amsl | Boring No.: FW-02B Pilot | |
| Date Completed: | 09/01/2022 | Northing (NAD83): | 2100637.96 | | |
| Drilling Co.: | Cascade | Easting (NAD83): | 7614544.74 | Client: | PG&E |
| Drilling Method: | Sonic Drilling | Total Depth: | 142 ft bgs | Project: | Final GW Remedy Phase 2A |
| Drill Rig Type: | Boart Longyear drill head | Borehole Diameter: | 4-8 inches | Location: | PG&E Topock, Needles California |
| Driller Name: | Matt Arnold | Depth to First Water: | 102.0 ft bgs | | |
| Drilling Asst: | LA / IS / DH | Sampling Method: | 4 inch x 10 ft. Core Barrel | Project Number: | 30126255 |
| Logger: | J. Anderson / L. Milando | Sampling Interval: | Continuous | | |
| Editor: | Sean McGrane | Converted to Well: | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | |

| Depth (ft) | Recovery (ft) | Sieve Sample ID | Groundwater Sample ID | Geologic Formation | USCS Code | USCS Class | Soil Description | Drilling Notes | Drilling Fluid | | |
|------------|---------------|---|--|--------------------|----------------------------------|-------------------|--|---|--|--|--|
| 81 | 8 | No Sieve Samples Collected | | Alluvium Deposits | SW-SM | | (77.5-83 ft) Well graded sand with silt and gravel (SW-SM); yellowish brown (10YR 5/4); very fine to very coarse grained, subangular to subround; little silt; little small to large pebbles, subangular; trace granules, subangular to subround; trace clay; poorly sorted; dry; moderate HCl reaction; weak caliche cementation. | | | | |
| 82 | | | | | | | (83-92.5 ft) Well graded sand (SW); light gray (10YR 7/2); very fine to very coarse grained, subangular to subround; trace granules, subangular to subround; trace small to medium pebbles, subangular to subround; trace silt; poorly sorted; dry; moderate HCl reaction; strong caliche cementation; increase in the percentage of finer grained sand and silt with depth. | | | | |
| 83 | | | | 3.8 | No Groundwater Samples Collected | Alluvium Deposits | SW | | | | |
| 84 | | | | | | | | | | | |
| 85 | 3.9 | FW-02B-SS-90-92.5 8/25/2022 16:05 | | Alluvium Deposits | SW-SM | | (92.5-99 ft) Well graded sand with silt and gravel (SW-SM); light gray (10YR 7/2); very fine to very coarse grained, subangular to subround; little granules, angular to subangular; little small to medium pebbles, subangular to subround; little silt; poorly sorted; dry; trace metadiorite pebbles; approximately 25% of the core has moderate caliche cementation. | | | | |
| 86 | | | | | | | | | | | |
| 87 | | | | | | | | | | | |
| 88 | 3.7 | FW-02B-SS-96-99 8/25/2022 16:15 | FW-02B-VAS-97-102 (<0.025 ppb) 8/24/2022 11:12 | Alluvium Deposits | SW | | | (97.0 - 102.0') VAS interval had to be resampled due to the Cr (VI) inadvertently not field filtered. | (97.0 - 102.0') No drilling fluid used | | |
| 89 | | | | | | | | | | | |
| 90 | | | | | | | | | | | |
| 91 | | | | | | | | | | | |
| 92 | | | | | | | | | | | |
| 93 | | | | | | | | | | | |
| 94 | | | | | | | | | | | |
| 95 | | | | | | | | | | | |
| 96 | | | | | | | | | | | |
| 97 | | | | | | | | | | | |
| 98 | | | | | | | | | | | |
| 99 | | | | | | | | | | | |
| 100 | | | | | | | | | | | |

Abbreviations: USCS = Unified Soil Classification System, ft = feet, bgs = below ground surface, amsl = above mean sea level, NR = No Recovery, N/A = Not Applicable, GW = groundwater, ppb = parts per billion, Notes: Solid blue and hollow blue water table marks represent depth to water (ft. bgs.) first encountered from logging and depth to water measured during the first VAS interval, respectively. Apparent partial recoveries can be the result of potential compaction of sediments in the core bag.

I:\ARCADIS\0365.SHAREPOINT.COM\SSLD\AV\WWW\ROOT\TEAMS\PG&E\CONSTRUCTION\SHARED_DOCUMENTS\PHASE II DRILLING\06_FIELD_DOCUMENTATION\02_GINT FILES\00 NEW PHASE 2 GINT FILES\38_2022-10-12\GINT PROJECT\GPJ_GINT DATA TEMPLATE.GDT_10/1/2022

| | | | | | |
|------------------|---------------------------|-----------------------|---|---------------------------------|---------------------------------|
| Date Started: | 08/20/2022 | Surface Elevation: | 551.67 ft amsl | Boring No.: FW-02B Pilot | |
| Date Completed: | 09/01/2022 | Northing (NAD83): | 2100637.96 | | |
| Drilling Co.: | Cascade | Easting (NAD83): | 7614544.74 | Client: | PG&E |
| Drilling Method: | Sonic Drilling | Total Depth: | 142 ft bgs | Project: | Final GW Remedy Phase 2A |
| Drill Rig Type: | Boart Longyear drill head | Borehole Diameter: | 4-8 inches | Location: | PG&E Topock, Needles California |
| Driller Name: | Matt Arnold | Depth to First Water: | 102.0 ft bgs | | |
| Drilling Asst: | LA / IS / DH | Sampling Method: | 4 inch x 10 ft. Core Barrel | Project Number: | 30126255 |
| Logger: | J. Anderson / L. Milando | Sampling Interval: | Continuous | | |
| Editor: | Sean McGrane | Converted to Well: | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | |

| Depth (ft) | Recovery (ft) | Sieve Sample ID | Groundwater Sample ID | Geologic Formation | USCS Code | USCS Class | Soil Description | Drilling Notes | Drilling Fluid |
|------------|---|---|-----------------------|--------------------|-----------|------------|---|---|---|
| 101 | 3.7 | FW-02B-SS-99-104 8/25/2022 16:20 | | Alluvium Deposits | SW | | (99-104 ft) Well graded sand with gravel (SW); light gray (10YR 7/2), some brown (10YR 5/3); very fine to very coarse grained, subangular to subround; little granules, subangular to subround; trace small to medium pebbles, subangular; trace clay; poorly sorted; dry to moist; moderate caliche cementation; sizes of cemented sediment fragments decreased with depth; the percentage of coarse grained sand increases with depth. (102) Increase in the percentage of metadiorite pebbles. | | |
| 102 | | | | | | | | | |
| 103 | 3.5 | FW-02B-SS-104-108 8/25/2022 16:25 | | Alluvium Deposits | SW | | (104-108 ft) Well graded sand with gravel (SW); brown (10YR 5/3); very fine to very coarse grained, subangular to subround; little small to large pebbles, subangular to subround; trace granules, subangular to subround; trace silt; trace clay; poorly sorted; moist. | | |
| 104 | | | | | | | | | |
| 105 | | | | | | | | | |
| 106 | 3.6 | FW-02B-SS-108-112 8/25/2022 16:30 | | Alluvium Deposits | SW-SM | | (108-112 ft) Well graded sand with silt and gravel (SW-SM); brown (10YR 5/3), some light yellowish brown (10YR 6/4); very fine to very coarse grained, subangular to subround; little silt; trace small to medium pebbles, subangular to subround; trace granules, subangular to subround; trace clay; poorly sorted; moist; majority of the core has moderate caliche cementation. | (107.0 - 112.0') Bottom of borehole collapsed before sample screen was deployed, tripped back in to clear it out and advance the 6-inch casing to 107 feet bgs. VAS interval had to be resampled due to the Cr (VI) inadvertently not field filtered. | (107.0 - 112.0') No drilling fluid used |
| 107 | | | | | | | | | |
| 108 | | | | | | | | | |
| 109 | | | | | | | | | |
| 110 | 5 | FW-02B-SS-112-115 8/25/2022 16:35 | | Alluvium Deposits | SM | | (112-115 ft) Silty sand (SM); brown (10YR 5/3); very fine to coarse grained, subangular to subround; little silt; trace granules, subangular to subround; trace small to medium pebbles, subangular to subround; trace clay; poorly sorted; moist. | (112.0 - 122.0') Tight drilling, went back down to clear it out and the rig overheated. | (112.0 - 122.0') No drilling fluid used |
| 111 | | | | | | | | | |
| 112 | | | | | | | | | |
| 113 | | | | | | | | | |
| 114 | | | | | | | | | |
| 115 | FW-02B-SS-115-119.5 8/25/2022 16:40 | FW-02B-VAS-117-122 (7.8 ppb) 8/30/2022 11:14 | | Alluvium Deposits | SW | | (115-119 ft) Well graded sand (SW); light yellowish brown (10YR 6/4), and brown (10YR 5/3); very fine to coarse grained, subangular to subround; trace granules, subangular to subround; trace silt; trace small to medium pebbles, subangular to subround; trace clay; poorly sorted; moist; moderate caliche cementation; cemented sediments and metadiorite pebbles were medium to large in size. | | |
| 116 | | | | | | | | | |
| 117 | | | | | | | | | |
| 118 | | | | | | | | | |
| 119 | | | | Alluvium Deposits | SW-SM | | | | |
| 120 | | | | | | | | | |

Abbreviations: USCS = Unified Soil Classification System, ft = feet, bgs = below ground surface, amsl = above mean sea level, NR = No Recovery, N/A = Not Applicable, GW = groundwater, ppb = parts per billion, Notes: Solid blue and hollow blue water table marks represent depth to water (ft. bgs.) first encountered from logging and depth to water measured during the first VAS interval, respectively. Apparent partial recoveries can be the result of potential compaction of sediments in the core bag.

TOPOCK SOIL BORING LOG \ARCADIS\0365\SHAREPOINT.COM\SS\LD\WWW\ROOT\TEAMS\PG&E\TOPOCK\CONSTRUCTION\SHARED DOCUMENTS\PHASE II DRILLING\06_FIELD DOCUMENTATION\02 GINT FILES\00 NEW PHASE 2 GINT FILES\18-2022-10-12\GINT PROJECT\GPI-GINT DATA TEMPLATE.GDT 10/12/22

| | | | | | |
|------------------|---------------------------|-----------------------|---|---------------------------------|---------------------------------|
| Date Started: | 08/20/2022 | Surface Elevation: | 551.67 ft amsl | Boring No.: FW-02B Pilot | |
| Date Completed: | 09/01/2022 | Northing (NAD83): | 2100637.96 | | |
| Drilling Co.: | Cascade | Easting (NAD83): | 7614544.74 | Client: | PG&E |
| Drilling Method: | Sonic Drilling | Total Depth: | 142 ft bgs | Project: | Final GW Remedy Phase 2A |
| Drill Rig Type: | Boart Longyear drill head | Borehole Diameter: | 4-8 inches | Location: | PG&E Topock, Needles California |
| Driller Name: | Matt Arnold | Depth to First Water: | 102.0 ft bgs | | |
| Drilling Asst: | LA / IS / DH | Sampling Method: | 4 inch x 10 ft. Core Barrel | Project Number: | 30126255 |
| Logger: | J. Anderson / L. Milando | Sampling Interval: | Continuous | | |
| Editor: | Sean McGrane | Converted to Well: | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | |

| Depth (ft) | Recovery (ft) | Sieve Sample ID | Groundwater Sample ID | Geologic Formation | USCS Code | USCS Class | Soil Description | Drilling Notes | Drilling Fluid |
|------------|---------------|-------------------------------------|---|----------------------------------|--|------------|--|--|---|
| 121 | 5 | FW-02B-SS-119.5-122 8/25/2022 16:45 | | Alluvium Deposits | SW-SM | | (119-122 ft) Well graded sand with silt (SW-SM); brown (10YR 5/3); very fine to coarse grained, subangular to subround; little silt; trace clay, trace granules, subround; trace small to medium pebbles, subround; poorly sorted; moist to wet. | | |
| 123 | 6.8 | FW-02B-SS-122-127.5 9/1/2022 15:30 | | Alluvium Deposits | SM | | (122-124.5 ft) Silty sand (SM); dark grayish brown (2.5Y 4/2), and reddish yellow (7.5YR 7/6); very fine to coarse grained, subangular to subround; some silt; trace small to medium pebbles, angular to subangular; trace clay; poorly sorted; dry to moist. | (122.0') Drilling with the 6-inch casing getting tight. Drillers retracked approximately 70 feet of drill casing to ream the hole to assist with advancing drill casing. | (122.0') No drilling fluid used |
| 124 | | | | Alluvium Deposits | SW-SM | | (124.5-126.5 ft) Well graded sand with silt (SW-SM); dark grayish brown (2.5Y 4/2), and reddish yellow (7.5YR 7/6); very fine to coarse grained, subangular to subround; little silt; trace small to medium pebbles, angular to subangular; trace clay; poorly sorted; dry to moist; blocky structure; moderate HCl reaction. | | |
| 125 | | Alluvium Deposits | SM | | (126.5-127.5 ft) Silty sand with gravel (SM); dark grayish brown (2.5Y 4/2), and reddish yellow (7.5YR 7/6); very fine to very coarse grained, subangular to subround; some silt; little small pebbles, subangular to subround; trace granules, subangular to subround; trace clay; poorly sorted; dry to moist; blocky structure; moderate HCl reaction. | | | | |
| 126 | | Alluvium Deposits | SW | | (127.5-131 ft) Well graded sand with gravel (SW); dark grayish brown (2.5Y 4/2), and reddish yellow (7.5YR 7/6); very fine to very coarse grained, subangular to subround; little granules, subangular to subround; trace small to medium pebbles, subangular to subround; trace silt; poorly sorted; dry to moist; blocky structure; moderate HCl reaction. | | | | |
| 127 | | Alluvium Deposits | SM | | (131-132 ft) Silty sand (SM); dark grayish brown (2.5Y 4/2), and reddish yellow (7.5YR 7/6); very fine to very coarse grained, subangular to subround; some silt; trace small pebbles, subangular; trace granules, subangular; trace clay; poorly sorted; dry to moist; blocky structure; moderate HCl reaction. | | | | |
| 128 | 7.2 | FW-02B-SS-127.5-131 9/1/2022 15:35 | FW-02B-VAS-127-132 (36 ppb) 8/31/2022 11:00 | Alluvium Deposits | SW | | (127.5-131 ft) Well graded sand with gravel (SW); dark grayish brown (2.5Y 4/2), and reddish yellow (7.5YR 7/6); very fine to very coarse grained, subangular to subround; little granules, subangular to subround; trace small to medium pebbles, subangular to subround; trace silt; poorly sorted; dry to moist; blocky structure; moderate HCl reaction. | (132.0 - 134.5') Poor recovery | (132.0 - 134.5') No drilling fluid used |
| 129 | | | | Alluvium Deposits | SM | | (131-132 ft) Silty sand (SM); dark grayish brown (2.5Y 4/2), and reddish yellow (7.5YR 7/6); very fine to very coarse grained, subangular to subround; some silt; trace small pebbles, subangular; trace granules, subangular; trace clay; poorly sorted; dry to moist; blocky structure; moderate HCl reaction. | | |
| 130 | | No Sieve Samples Collected | FW-02B-VAS-135-137 (Sample results disregraded as water not likely representative of aquifer and is considered not water bearing interval) 9/1/2022 09:22 | Weathered Bedrock - Conglomerate | N/A | | (132-135 ft) Sedimentary Rock - Conglomerate; brown (7.5YR 5/4); fine grained to medium grained; highly weathered; soft, wet. | | |
| 131 | | | | Competent Bedrock - Conglomerate | N/A | | (135-139.5 ft) Sedimentary Rock - Conglomerate; brown (7.5YR 5/4); fine grained to medium grained; moderately weathered; medium hard; friable; wet, moisture in pockets; pulverized by drilling process. (135.5-139.5 ft) Moist to dry. | | |
| 132 | | | | | N/A | | | (135.0 - 142.0') Rough drilling, drill rig started to overheat. | (135.0 - 142.0') No drilling fluid used |
| 133 | | | | | | | | (135.5') The 6-inch diameter casing stick in the formation, had to vibrate to free it and retack to approximately 118 ft bgs. | (135.5') No drilling fluid used |
| 134 | | | | | | | | | |
| 135 | | | | | | | | | |
| 136 | | | | | | | | | |
| 137 | | | | | | | | | |
| 138 | | | | | | | | | |
| 139 | | | | | | | | | |
| 140 | | | | | | | | | |

Abbreviations: USCS = Unified Soil Classification System, ft = feet, bgs = below ground surface, amsl = above mean sea level, NR = No Recovery, N/A = Not Applicable, GW = groundwater, ppb = parts per billion, Notes: Solid blue and hollow blue water table marks represent depth to water (ft. bgs.) first encountered from logging and depth to water measured during the first VAS interval, respectively. Apparent partial recoveries can be the result of potential compaction of sediments in the core bag.

TOPOCK SOIL BORING LOG \\ARCADIS06\56\SHAREPOINT\COM\SS\LD\VA\WWW\ROOT\TEAMS\PG&E\TOPOCK\CONSTRUCTION\SHARED_DOCUMENTS\PHASE II DRILLING\06_FIELD_DOCUMENTATION\02 GINT FILES\00 NEW PHASE 2 GINT FILES\38 2022-10-12\GINT PROJECT\GPI GINT DATA TEMPLATE.GDT 10/1/2022

| | | |
|---|--|---|
| Date Started: 08/20/2022 | Surface Elevation: 551.67 ft amsl | Boring No.: FW-02B Pilot |
| Date Completed: 09/01/2022 | Northing (NAD83): 2100637.96 | |
| Drilling Co.: Cascade | Easting (NAD83): 7614544.74 | Client: PG&E |
| Drilling Method: Sonic Drilling | Total Depth: 142 ft bgs | Project: Final GW Remedy Phase 2A |
| Drill Rig Type: Boart Longyear drill head | Borehole Diameter: 4-8 inches | Location: PG&E Topock, Needles California |
| Driller Name: Matt Arnold | Depth to First Water: 102.0 ft bgs | |
| Drilling Asst: LA / IS / DH | Sampling Method: 4 inch x 10 ft. Core Barrel | Project Number: 30126255 |
| Logger: J. Anderson / L. Milano | Sampling Interval: Continuous | |
| Editor: Sean McGrane | Converted to Well: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | |

| Depth (ft) | Recovery (ft) | Sieve Sample ID | Groundwater Sample ID | Geologic Formation | USCS Code | USCS Class | Soil Description | Drilling Notes | Drilling Fluid |
|------------|---------------|----------------------------|-----------------------|----------------------------------|-----------|------------|--|----------------|----------------|
| 141 | 7.2 | No Sieve Samples Collected | | Competent Bedrock - Conglomerate | N/A | XXXXXX | (139.5-142 ft) Sedimentary Rock - Conglomerate; brown (7.5YR 5/4); fine grained to medium grained; slightly weathered; medium hard; friable; dry to moist; moisture in pockets; pulverized by drilling method. | | |
| 142 | | | | | | XXXXXX | End of Boring at 142 ft bgs. | | |
| 143 | | | | | | | | | |
| 144 | | | | | | | | | |
| 145 | | | | | | | | | |
| 146 | | | | | | | | | |
| 147 | | | | | | | | | |
| 148 | | | | | | | | | |
| 149 | | | | | | | | | |
| 150 | | | | | | | | | |
| 151 | | | | | | | | | |
| 152 | | | | | | | | | |
| 153 | | | | | | | | | |
| 154 | | | | | | | | | |
| 155 | | | | | | | | | |
| 156 | | | | | | | | | |
| 157 | | | | | | | | | |
| 158 | | | | | | | | | |
| 159 | | | | | | | | | |
| 160 | | | | | | | | | |

Final 10/12/22

Abbreviations: USCS = Unified Soil Classification System, ft = feet, bgs = below ground surface, amsl = above mean sea level, NR = No Recovery, N/A = Not Applicable, GW = groundwater, ppb = parts per billion, Notes: Solid blue and hollow blue water table marks represent depth to water (ft. bgs.) first encountered from logging and depth to water measured during the first VAS interval, respectively. Apparent partial recoveries can be the result of potential compaction of sediments in the core bag.

G:\ARCADIS\0365\SHAREPOINT\COM\SS\DA\WWW\ROOT\TEAMS\FGETOPOCK\CONSTRUCTION\SHARED\DOCUMENTS\PHASE II\DRILLING\06_FIELD DOCUMENTATION\02_GINT FILES\00 NEW PHASE 2 GINT FILES\18 2022-10-12\GINT PROJECT\GJ_GINT DATA TEMPLATE.GDT_10/12/22

Attachment 3

Temporary Backfill Log

| | | |
|---------------------------------|------------------------------------|---|
| Date Started: 09/01/2022 | Surface Elevation: 551.67 ft amsl | Well ID: FW-02B Pilot |
| Date Completed: 09/07/2022 | Northing (NAD83): 2100637.96 | |
| Drilling Co.: Cascade | Easting (NAD83): 7614544.74 | Client: PG&E |
| Drilling Method: Sonic Drilling | Total Depth: 142 ft bgs | Project: Final GW Remedy Phase 2A |
| Driller Name: Matt Arnold | Borehole Diameter: 4-8 inches | Location: PG&E Topock, Needles California |
| Drilling Asst: LA / IS / DH | Depth to First Water: 102.0 ft bgs | |
| Logger: L. Milano / A. Terry | Editor: Sean McGrane | Project Number: 30126255 |

TOPOCK TEMP ABANDONMENT LOG \ARCADIS\0365.SHAREPOINT.COM\SSLD\WWW\ROOT\TEAMS\PG&E\TOPOCK\CONSTRUCTION\PHASE 2\DRILLING\06_FIELD DOCUMENTATION\02_GINT FILES\00 NEW PHASE 2 GINT FILES\98 2022-10-12\GINT PROJECT\GJ_GINT DATA TEMPLATE.GDT 10/12/22

| Depth (ft) | Groundwater Sample ID | Geologic Formation | USCS Code | USCS Class | Construction Details | Calculated Material Volumes | Material Volumes Installed Note: percentages are the actual volume vs the calculated volume |
|------------|----------------------------------|--------------------|-----------|------------|--|-----------------------------|--|
| 1 | No Groundwater Samples Collected | Fluvial Deposits | SW | | (0.0 - 0.5') Steel plate | | Note: Steel plate used to mark pilot borehole |
| 2 | | | | | (0.5 - 4.0') Cemex #0/30 (30x50) Lapis Lustre Sand | | |
| 3 | | NR | | | | | |
| 4 | | | | | | | |
| 5 | | | | | | | |
| 6 | | | | | | | |
| 7 | | | | | | | |
| 8 | | | | | | | |
| 9 | | | | | | | |
| 10 | | | | | | | |
| 11 | | Fluvial Deposits | SW | | | | |
| 12 | | | | | | | |
| 13 | | NR | | | | | |
| 14 | | | | | | | |
| 15 | | | | | | | |
| 16 | | | | | | | |
| 17 | | | | | | | |
| 18 | | | | | | | |
| 19 | | | | | | | |
| 20 | | | | | | | |

Abbreviations: USCS = Unified Soil Classification System, ft = feet, bgs = below ground surface, amsl = above mean sea level, NR = No Recovery, N/A = Not Applicable, GW = groundwater, ppb = parts per billion, Notes: Solid blue and hollow blue water table marks represent depth to water (ft. bgs.) first encountered from logging and depth to water measured during the first VAS interval, respectively. Granular backfill material was removed during overdrilling of the pilot borehole.

| | | |
|---------------------------------|------------------------------------|---|
| Date Started: 09/01/2022 | Surface Elevation: 551.67 ft amsl | Well ID: FW-02B Pilot |
| Date Completed: 09/07/2022 | Northing (NAD83): 2100637.96 | |
| Drilling Co.: Cascade | Easting (NAD83): 7614544.74 | Client: PG&E |
| Drilling Method: Sonic Drilling | Total Depth: 142 ft bgs | Project: Final GW Remedy Phase 2A |
| Driller Name: Matt Arnold | Borehole Diameter: 4-8 inches | Location: PG&E Topock, Needles California |
| Drilling Asst: LA / IS / DH | Depth to First Water: 102.0 ft bgs | |
| Logger: L. Milando / A. Terry | Editor: Sean McGrane | Project Number: 30126255 |

TOPOCK TEMP ABANDONMENT LOG \\ARCADIS\0365.SHAREPOINT.COM\SSLD\VA\WWW\ROOT\TEAMS\PG&E\TOPOCK\CONSTRUCTIONS\PHASE 2\DRILLING\06.FIELD DOCUMENTATION\02.GINT FILES\00 NEW PHASE 2.GINT FILES\98.2022-10-12\GINT PROJECT\GPJ.GINT DATA TEMPLATE.GDT 10/12/22

| Depth (ft) | Groundwater Sample ID | Geologic Formation | USCS Code | USCS Class | Construction Details | Calculated Material Volumes | Material Volumes Installed Note: percentages are the actual volume vs the calculated volume |
|------------|----------------------------------|--------------------|-----------|------------|------------------------------|---|--|
| 21 | No Groundwater Samples Collected | Fluvial Deposits | SW | | | (4.0 - 39.0') 15 bags | (4.0 - 39.0') 13.5 bags (90%) Note: Backfill sand |
| 22 | | | | | | | |
| 23 | | | | | | | |
| 24 | | | | | | | |
| 25 | Alluvium Deposits | SW | | | (4.0 - 39.0') 15 bags | (4.0 - 39.0') 13.5 bags (90%) Note: Backfill sand | |
| 26 | | | | | | | |
| 27 | | | | | | | |
| 28 | Alluvium Deposits | SW-SM | | | (4.0 - 39.0') 15 bags | (4.0 - 39.0') 13.5 bags (90%) Note: Backfill sand | |
| 29 | | | | | | | |
| 30 | Alluvium Deposits | SW | | | (39.0 - 131.0') 36.1 bags | (39.0 - 131.0') 42 bags (116%) Note: Backfill sand | |
| 31 | | | | | | | |
| 32 | Alluvium Deposits | SW | | | (39.0 - 131.0') 36.1 bags | (39.0 - 131.0') 42 bags (116%) Note: Backfill sand | |
| 33 | | | | | | | |
| 34 | Alluvium Deposits | SW | | | (39.0 - 131.0') 36.1 bags | (39.0 - 131.0') 42 bags (116%) Note: Backfill sand | |
| 35 | | | | | | | |
| 36 | Alluvium Deposits | SW | | | (39.0 - 131.0') 36.1 bags | (39.0 - 131.0') 42 bags (116%) Note: Backfill sand | |
| 37 | | | | | | | |
| 38 | Alluvium Deposits | SW | | | (39.0 - 131.0') 36.1 bags | (39.0 - 131.0') 42 bags (116%) Note: Backfill sand | |
| 39 | | | | | | | |
| 40 | Alluvium Deposits | SW | | | (39.0 - 131.0') 36.1 bags | (39.0 - 131.0') 42 bags (116%) Note: Backfill sand | |
| 41 | | | | | | | |

Abbreviations: USCS = Unified Soil Classification System, ft = feet, bgs = below ground surface, amsl = above mean sea level, NR = No Recovery, N/A = Not Applicable, GW = groundwater, ppb = parts per billion, Notes: Solid blue and hollow blue water table marks represent depth to water (ft. bgs.) first encountered from logging and depth to water measured during the first VAS interval, respectively. Granular backfill material was removed during overdrilling of the pilot borehole.

| | | |
|---------------------------------|------------------------------------|---|
| Date Started: 09/01/2022 | Surface Elevation: 551.67 ft amsl | Well ID: FW-02B Pilot |
| Date Completed: 09/07/2022 | Northing (NAD83): 2100637.96 | |
| Drilling Co.: Cascade | Easting (NAD83): 7614544.74 | Client: PG&E |
| Drilling Method: Sonic Drilling | Total Depth: 142 ft bgs | Project: Final GW Remedy Phase 2A |
| Driller Name: Matt Arnold | Borehole Diameter: 4-8 inches | Location: PG&E Topock, Needles California |
| Drilling Asst: LA / IS / DH | Depth to First Water: 102.0 ft bgs | |
| Logger: L. Milano / A. Terry | Editor: Sean McGrane | Project Number: 30126255 |

TOPOCK TEMP ABANDONMENT LOG \ARCADIS\0365.SHAREPOINT.COM\SSLD\WWW\ROOT\TEAMS\PG&E\TOPOCK\CONSTRUCTION\PHASE 2\DRILLING\06_FIELD DOCUMENTATION\02_GINT FILES\00_NEW PHASE 2_GINT FILES\98_2022-10-12\GINT PROJECT\GPJ_GINT DATA TEMPLATE.GDT 10/12/22

| Depth (ft) | Groundwater Sample ID | Geologic Formation | USCS Code | USCS Class | Construction Details | Calculated Material Volumes | Material Volumes Installed Note: percentages are the actual volume vs the calculated volume |
|------------|----------------------------------|--------------------|-----------|------------|----------------------|------------------------------|--|
| 41 | No Groundwater Samples Collected | Alluvium Deposits | SW | | | (39.0 - 131.0') 36.1 bags | (39.0 - 131.0') 42 bags (116%) Note: Backfill sand |
| 42 | | | | | | | |
| 43 | | | | | | | |
| 44 | | | | | | | |
| 45 | | | | | | | |
| 46 | | | | | | | |
| 47 | | | | | | | |
| 48 | | | | | | | |
| 49 | | | | | | | |
| 50 | | | | | | | |
| 51 | No Groundwater Samples Collected | Alluvium Deposits | SW-SM | | | (39.0 - 131.0') 36.1 bags | (39.0 - 131.0') 42 bags (116%) Note: Backfill sand |
| 52 | | | | | | | |
| 53 | | | | | | | |
| 54 | | | | | | | |
| 55 | | | | | | | |
| 56 | | | | | | | |
| 57 | | | | | | | |
| 58 | | | | | | | |
| 59 | | | | | | | |
| 60 | | | | | | | |

Abbreviations: USCS = Unified Soil Classification System, ft = feet, bgs = below ground surface, amsl = above mean sea level, NR = No Recovery, N/A = Not Applicable, GW = groundwater, ppb = parts per billion, Notes: Solid blue and hollow blue water table marks represent depth to water (ft. bgs.) first encountered from logging and depth to water measured during the first VAS interval, respectively. Granular backfill material was removed during overdrilling of the pilot borehole.

| | | | | |
|------------------|-----------------------|-----------------------|----------------|---|
| Date Started: | 09/01/2022 | Surface Elevation: | 551.67 ft amsl | Well ID: FW-02B Pilot |
| Date Completed: | 09/07/2022 | Northing (NAD83): | 2100637.96 | |
| Drilling Co.: | Cascade | Easting (NAD83): | 7614544.74 | Client: PG&E |
| Drilling Method: | Sonic Drilling | Total Depth: | 142 ft bgs | Project: Final GW Remedy Phase 2A |
| Driller Name: | Matt Arnold | Borehole Diameter: | 4-8 inches | Location: PG&E Topock, Needles California |
| Drilling Asst: | LA / IS / DH | Depth to First Water: | 102.0 ft bgs | |
| Logger: | L. Milando / A. Terry | Editor: | Sean McGrane | Project Number: 30126255 |

| Depth (ft) | Groundwater Sample ID | Geologic Formation | USCS Code | USCS Class | Construction Details | Calculated Material Volumes | Material Volumes Installed Note: percentages are the actual volume vs the calculated volume |
|------------|----------------------------------|--------------------|-----------|------------|----------------------|------------------------------|--|
| | | | | | | | |
| 61 | No Groundwater Samples Collected | Alluvium Deposits | SW-SM | | | (39.0 - 131.0') 36.1 bags | (39.0 - 131.0') 42 bags (116%) Note: Backfill sand |
| 62 | | Alluvium Deposits | SW | | | | |
| 63 | | | NR | | | | |
| 64 | | Alluvium Deposits | SW | | | | |
| 65 | | | | | | | |
| 66 | | Alluvium Deposits | SW | | | | |
| 67 | | Alluvium Deposits | SW | | | | |
| 68 | | Alluvium Deposits | SM | | | | |
| 69 | | | | | | | |
| 70 | | | | | | | |
| 71 | | | | | | | |
| 72 | | | | | | | |
| 73 | | | | | | | |
| 74 | | | | | | | |
| 75 | | | | | | | |
| 76 | | | | | | | |
| 77 | | | | | | | |
| 78 | | | | | | | |
| 79 | | | | | | | |
| 80 | | | | | | | |

Abbreviations: USCS = Unified Soil Classification System, ft = feet, bgs = below ground surface, amsl = above mean sea level, NR = No Recovery, N/A = Not Applicable, GW = groundwater, ppb = parts per billion, Notes: Solid blue and hollow blue water table marks represent depth to water (ft. bgs.) first encountered from logging and depth to water measured during the first VAS interval, respectively. Granular backfill material was removed during overdrilling of the pilot borehole.

TOPOCK TEMP ABANDONMENT LOG \\ARCADIS0365.SHAREPOINT.COM@SSL.DA.VVWWWROOT\TEAMS\PG&E\TOPOCK\CONSTRUCTIONS\HARED DOCUMENTS\PHASE II DRILLING\06_FIELD DOCUMENTATION\02_GINT FILES\00_NEW PHASE 2_GINT FILES\98_2022-10-12\GINT PROJECT\GPJ_GINT DATA TEMPLATE.GDT 10/12/22

| | | | | | |
|------------------|----------------------|-----------------------|----------------|---|--------------------------|
| Date Started: | 09/01/2022 | Surface Elevation: | 551.67 ft amsl | Well ID: FW-02B Pilot | |
| Date Completed: | 09/07/2022 | Northing (NAD83): | 2100637.96 | | |
| Drilling Co.: | Cascade | Easting (NAD83): | 7614544.74 | Client: | PG&E |
| Drilling Method: | Sonic Drilling | Total Depth: | 142 ft bgs | Project: | Final GW Remedy Phase 2A |
| Driller Name: | Matt Arnold | Borehole Diameter: | 4-8 inches | Location: PG&E Topock, Needles California | |
| Drilling Asst: | LA / IS / DH | Depth to First Water: | 102.0 ft bgs | Project Number: 30126255 | |
| Logger: | L. Milano / A. Terry | Editor: | Sean McGrane | | |

| Depth (ft) | Groundwater Sample ID | Geologic Formation | USCS Code | USCS Class | Construction Details | Calculated Material Volumes | Material Volumes Installed Note: percentages are the actual volume vs the calculated volume | |
|------------|---|--------------------|-------------------|------------|----------------------|---|--|---|
| 81 | No Groundwater Samples Collected | Alluvium Deposits | SW-SM | SM | | | | |
| 82 | | | | | | | | |
| 83 | | | | | | | | |
| 84 | | | | | | | | |
| 85 | | | | | | | | |
| 86 | | | | | | | | |
| 87 | | | | | | | | |
| 88 | | | Alluvium Deposits | SW | SW | | | |
| 89 | | | | | | | | |
| 90 | | | | | | (39.0 - 131.0') Cemex #1/20 (20x40) Lapis Lustre Sand | (39.0 - 131.0') 36.1 bags | (39.0 - 131.0') 42 bags (116%) Note: Backfill sand |
| 91 | | | | | | | | |
| 92 | | | | | | | | |
| 93 | | | | | | | | |
| 94 | | | | | | | | |
| 95 | | | | | | | | |
| 96 | | Alluvium Deposits | SW-SM | SM | | | | |
| 97 | | | | | | | | |
| 98 | FW-02B-VAS-97-102 (<0.025 ppb) 8/24/2022 11:12 | | | | | | | |
| 99 | | | | | | | | |
| 100 | | Alluvium Deposits | SW | SW | | | | |

Abbreviations: USCS = Unified Soil Classification System, ft = feet, bgs = below ground surface, amsl = above mean sea level, NR = No Recovery, N/A = Not Applicable, GW = groundwater, ppb = parts per billion, Notes: Solid blue and hollow blue water table marks represent depth to water (ft. bgs.) first encountered from logging and depth to water measured during the first VAS interval, respectively. Granular backfill material was removed during overdrilling of the pilot borehole.

TOPOCK TEMP ABANDONMENT LOG \ARCADIS\0365.SHAREPOINT.COM\SSLD\WWW\ROOT\TEAMS\PG&E\TOPOCK\CONSTRUCTION\PHASE 2\GINT FILES\00 NEW PHASE 2\GINT FILES\00 2022-10-12\GINT PROJECT\GPJ_GINT DATA TEMPLATE.GDT 10/12/22

| | | |
|---------------------------------|------------------------------------|---|
| Date Started: 09/01/2022 | Surface Elevation: 551.67 ft amsl | Well ID: FW-02B Pilot |
| Date Completed: 09/07/2022 | Northing (NAD83): 2100637.96 | |
| Drilling Co.: Cascade | Easting (NAD83): 7614544.74 | Client: PG&E |
| Drilling Method: Sonic Drilling | Total Depth: 142 ft bgs | Project: Final GW Remedy Phase 2A |
| Driller Name: Matt Arnold | Borehole Diameter: 4-8 inches | Location: PG&E Topock, Needles California |
| Drilling Asst: LA / IS / DH | Depth to First Water: 102.0 ft bgs | |
| Logger: L. Milando / A. Terry | Editor: Sean McGrane | Project Number: 30126255 |

TOPOCK TEMP ABANDONMENT LOG \\ARCADIS\0365.SHAREPOINT.COM\SSLD\WWW\ROOT\TEAMS\PG&E\TOPOCK\CONSTRUCTION\PHASE 2\GINT FILES\00 NEW PHASE 2 GINT FILES\08 2022-10-12\GINT PROJECT\GPJ_GINT DATA TEMPLATE.GDT 10/12/22

| Depth (ft) | Groundwater Sample ID | Geologic Formation | USCS Code | USCS Class | Construction Details | Calculated Material Volumes | Material Volumes Installed Note: percentages are the actual volume vs the calculated volume |
|------------|---|--------------------|-----------|------------|----------------------|-----------------------------|--|
| 101 | | Alluvium Deposits | SW | [Pattern] | [Pattern] | | |
| 102 | | | | | | | |
| 103 | | Alluvium Deposits | SW | [Pattern] | [Pattern] | | |
| 104 | | | | | | | |
| 105 | | Alluvium Deposits | SW-SM | [Pattern] | [Pattern] | | |
| 106 | | | | | | | |
| 107 | | Alluvium Deposits | SW-SM | [Pattern] | [Pattern] | | |
| 108 | | | | | | | |
| 109 | FW-02B-VAS-107-112 (<0.025 ppb) 8/24/2022 09:15 | Alluvium Deposits | SW-SM | [Pattern] | [Pattern] | | |
| 110 | | | | | | | |
| 111 | | Alluvium Deposits | SM | [Pattern] | [Pattern] | | |
| 112 | | | | | | | |
| 113 | | Alluvium Deposits | SW | [Pattern] | [Pattern] | | |
| 114 | | | | | | | |
| 115 | | Alluvium Deposits | SW | [Pattern] | [Pattern] | | |
| 116 | | | | | | | |
| 117 | | Alluvium Deposits | SW-SM | [Pattern] | [Pattern] | | |
| 118 | | | | | | | |
| 119 | FW-02B-VAS-117-122 (7.8 ppb) 8/30/2022 11:14 | Alluvium Deposits | SW-SM | [Pattern] | [Pattern] | | |
| 120 | | | | | | | |

(39.0 - 131.0')
Cemex #1/20
(20x40) Lapis Lustré Sand

(39.0 - 131.0')
36.1 bags

(39.0 - 131.0') 42 bags (116%)
Note: Backfill sand

Abbreviations: USCS = Unified Soil Classification System, ft = feet, bgs = below ground surface, amsl = above mean sea level, NR = No Recovery, N/A = Not Applicable, GW = groundwater, ppb = parts per billion, Notes: Solid blue and hollow blue water table marks represent depth to water (ft. bgs.) first encountered from logging and depth to water measured during the first VAS interval, respectively. Granular backfill material was removed during overdrilling of the pilot borehole.

| | | |
|---------------------------------|------------------------------------|---|
| Date Started: 09/01/2022 | Surface Elevation: 551.67 ft amsl | Well ID: FW-02B Pilot |
| Date Completed: 09/07/2022 | Northing (NAD83): 2100637.96 | |
| Drilling Co.: Cascade | Easting (NAD83): 7614544.74 | Client: PG&E |
| Drilling Method: Sonic Drilling | Total Depth: 142 ft bgs | Project: Final GW Remedy Phase 2A |
| Driller Name: Matt Arnold | Borehole Diameter: 4-8 inches | Location: PG&E Topock, Needles California |
| Drilling Asst: LA / IS / DH | Depth to First Water: 102.0 ft bgs | |
| Logger: L. Milano / A. Terry | Editor: Sean McGrane | Project Number: 30126255 |

TOPOCK TEMP ABANDONMENT LOG \ARCADIS\0365.SHAREPOINT.COM\SSLD\WWW\ROOT\TEAMS\PG&E\TOPOCK\CONSTRUCTION\PHASE II DRILLING\06_FIELD DOCUMENTATION\02_GINT FILES\08_2022-10-12\GINT PROJECT\GPJ_GINT DATA TEMPLATE.GDT 10/12/22

| Depth (ft) | Groundwater Sample ID | Geologic Formation | USCS Code | USCS Class | Construction Details | Calculated Material Volumes | Material Volumes Installed Note: percentages are the actual volume vs the calculated volume |
|------------|--|----------------------------------|-----------|------------|---|------------------------------|--|
| 121 | | Alluvium Deposits | SW-SM | | | | |
| 122 | | Alluvium Deposits | SM | | | | |
| 123 | | Alluvium Deposits | SM | | | | |
| 124 | | Alluvium Deposits | SM | | | | |
| 125 | | Alluvium Deposits | SW-SM | | (39.0 - 131.0') Cemex #1/20 (20x40) Lapis Lustre Sand | (39.0 - 131.0') 36.1 bags | (39.0 - 131.0') 42 bags (116%) Note: Backfill sand |
| 126 | | Alluvium Deposits | SW-SM | | | | |
| 127 | | Alluvium Deposits | SM | | | | |
| 128 | | Alluvium Deposits | SM | | | | |
| 129 | FW-02B-VAS-127-132 (36 ppb) 8/31/2022 11:00 | Alluvium Deposits | SW | | | | |
| 130 | | Alluvium Deposits | SW | | | | |
| 131 | | Alluvium Deposits | SM | | | | |
| 132 | | Alluvium Deposits | SM | | | | |
| 133 | | Weathered Bedrock - Conglomerate | N/A | | | | |
| 134 | | Weathered Bedrock - Conglomerate | N/A | | | | |
| 135 | | Weathered Bedrock - Conglomerate | N/A | | | | |
| 136 | FW-02B-VAS-135-137 (Sample results disregarded as water not likely representative of aquifer and is considered not water bearing interval) 9/1/2022 09:22 | Competent Bedrock - Conglomerate | N/A | | (131.0 - 142.0') Cemex #8 (4x16) Mesh Lapis Lustre Sand | (131.0 - 142.0') 2.9 bags | (131.0 - 142.0') 3.0 bags (103%) Note: Indicator sand |
| 137 | | Competent Bedrock - Conglomerate | N/A | | | | |
| 138 | | Competent Bedrock - Conglomerate | N/A | | | | |
| 139 | | Competent Bedrock - Conglomerate | N/A | | | | |
| 140 | | Competent Bedrock - Conglomerate | N/A | | | | |

Abbreviations: USCS = Unified Soil Classification System, ft = feet, bgs = below ground surface, amsl = above mean sea level, NR = No Recovery, N/A = Not Applicable, GW = groundwater, ppb = parts per billion, Notes: Solid blue and hollow blue water table marks represent depth to water (ft. bgs.) first encountered from logging and depth to water measured during the first VAS interval, respectively. Granular backfill material was removed during overdrilling of the pilot borehole.

| | | | | | |
|------------------|-----------------------|-----------------------|----------------|------------------------------|---------------------------------|
| Date Started: | 09/01/2022 | Surface Elevation: | 551.67 ft amsl | Well ID: FW-02B Pilot | |
| Date Completed: | 09/07/2022 | Northing (NAD83): | 2100637.96 | | |
| Drilling Co.: | Cascade | Easting (NAD83): | 7614544.74 | Client: | PG&E |
| Drilling Method: | Sonic Drilling | Total Depth: | 142 ft bgs | Project: | Final GW Remedy Phase 2A |
| Driller Name: | Matt Arnold | Borehole Diameter: | 4-8 inches | Location: | PG&E Topock, Needles California |
| Drilling Asst: | LA / IS / DH | Depth to First Water: | 102.0 ft bgs | | |
| Logger: | L. Milando / A. Terry | Editor: | Sean McGrane | Project Number: | 30126255 |

| Depth (ft) | Groundwater Sample ID | Geologic Formation | USCS Code | USCS Class | Construction Details | Calculated Material Volumes | Material Volumes Installed Note: percentages are the actual volume vs the calculated volume | |
|------------|-----------------------|----------------------------------|-----------|--|---|-----------------------------|--|--|
| 141 | | Competent Bedrock - Conglomerate | N/A | XXXXXX XXXXXX XXXXXX XXXXXX XXXXXX XXXXXX XXXXXX XXXXXX XXXXXX XXXXXX | (131.0 - 142.0') Cemex #8 (4x16) Mesh Lapis Lustre Sand | | (131.0 - 142.0') 2.9 bags | (131.0 - 142.0') 3.0 bags (103%) Note: Indicator sand |
| 142 | | | | | | | | |

Final 10/12/22



Abbreviations: USCS = Unified Soil Classification System, ft = feet, bgs = below ground surface, amsl = above mean sea level, NR = No Recovery, N/A = Not Applicable, GW = groundwater, ppb = parts per billion, Notes: Solid blue and hollow blue water table marks represent depth to water (ft. bgs.) first encountered from logging and depth to water measured during the first VAS interval, respectively. Granular backfill material was removed during overdrilling of the pilot borehole.

TOPOCK TEMP ABANDONMENT LOG \ARCADIS\0365.SHAREPOINT.COM\SSLD\WWW\ROOT\TEAMS\PG&E\TOPOCK\CONSTRUCTION\SHARED DOCUMENTS\PHASE II DRILLING\06_FIELD DOCUMENTATION\02_GINT FILES\00_NEW PHASE 2_GINT FILES\98_2022-10-12\GINT PROJECT\GPJ_GINT DATA TEMPLATE.GDT 10/12/22

Attachment 4

Drilling Log

| | | | | | |
|------------------|--------------------|----------------------------|---|---------------------------|--------------------------|
| Date Started: | 10/12/2022 | Surface Elevation: | 551.67 ft amsl | Boring No.: FW-02B | |
| Date Completed: | 10/22/2022 | Northing (NAD83): | 2100637.96 | | |
| Drilling Co.: | Cascade | Easting (NAD83): | 7614544.74 | Client: | PG&E |
| Drilling Method: | Dual Rotary | Total Depth: | 142.1 ft bgs | Project: | Final GW Remedy Phase 2A |
| Drill Rig Type: | Foremost DR 24HD | Conductor Casing Diameter: | 24 inches | Location: | PG&E Topock, Needles |
| Driller Name: | Josh Saldana | Drill Casing Diameter: | 22 inches | California | |
| Drilling Asst: | L.G. / A.A. / D.A. | Drill Bit: | 23" & 20" Tricone | Project Number: | 30126255 |
| Tool-Pusher: | Arnold Lamon | Depth to First Water: | 92.0 ft bgs | | |
| Rig Geologist: | Ellen Redner | Converted to Well: | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | |

| Depth (ft) | Drilling Run (ft) and Average Penetration Rate | USCS Code | USCS Class | Description (See Pilot boring log for full geologic descriptions) | Drilling notes and observations confirming presence of temporary backfill material in drill cuttings | Drilling Fluid | |
|------------|--|-----------|------------|--|--|---|--|
| 1 | (0.0 - 19.6) 1.28 mins/ft | SW | | (0-2 ft) Well graded sand with gravel (SW); light gray (10YR 7/2). | (0.0 - 0.5') Confirmed drill casing was lined up over pilot borehole. (0.5 - 19.6') Normal drilling | (0.5 - 19.6') 200 gallons of water used; 200 gallons of water recovered; 0 gallons of water lost | |
| 2 | | | | (2-8 ft) No Recovery | (2.0') Observed trace amounts of Cemex #0/30 (30x50) Lapis Lustre Sand in drill cuttings. | | |
| 3 | | NR | | | (7.0') Observed trace amounts of Cemex #2/12 (12x30) Lapis Lustre Sand in drill cuttings. | | |
| 4 | | | | | | | |
| 5 | | | | | | | |
| 6 | | | | | | | |
| 7 | | | | | | | |
| 8 | | | | | | | |
| 9 | | | SW | | (8-10.5 ft) Well graded sand with gravel (SW); brown (10YR 5/3). | | |
| 10 | | | | | | | |
| 11 | | | | | (10.5-17 ft) No Recovery | | |
| 12 | | | | | | | |
| 13 | | | | | | | |
| 14 | | | NR | | | | |
| 15 | | | | | | | |
| 16 | | | | | | | |
| 17 | | | | | | | |
| 18 | | | SW | | (17-28.5 ft) Well graded sand with gravel (SW); brown (10YR 5/3). | | (15.0') Observed trace amounts of Cemex #2/12 (12x30) Lapis Lustre Sand in drill cuttings. |
| 19 | | | | | | | |

Abbreviations: USCS = Unified Soil Classification System, ft = feet, bgs = below ground surface, amsl = above mean sea level, GW = groundwater, Notes: Solid blue water table mark represents depth to water (ft. bgs.) depth to water measured during collection of the first VAS interval in the pilot borehole.

TOPOCK\IRZ\DRILLING LOG - ARCADIS\SHARED DOCUMENTS\PHASE II\DRILLING\06 - FIELD DOCUMENTATION\02 GINT FILES\00 NEW PHASE 2 GINT FILES\46 2022-12-07\GINT PROJECT.GPJ - GINT DATA TEMPLATE.GDT - 12/7/22

| | | | | | |
|------------------|--------------------|----------------------------|---|---------------------------|------------------------------------|
| Date Started: | 10/12/2022 | Surface Elevation: | 551.67 ft amsl | Boring No.: FW-02B | |
| Date Completed: | 10/22/2022 | Northing (NAD83): | 2100637.96 | | |
| Drilling Co.: | Cascade | Easting (NAD83): | 7614544.74 | Client: | PG&E |
| Drilling Method: | Dual Rotary | Total Depth: | 142.1 ft bgs | Project: | Final GW Remedy Phase 2A |
| Drill Rig Type: | Foremost DR 24HD | Conductor Casing Diameter: | 24 inches | Location: | PG&E Topock, Needles California |
| Driller Name: | Josh Saldana | Drill Casing Diameter: | 22 inches | Project Number: | 30126255 |
| Drilling Asst: | L.G. / A.A. / D.A. | Drill Bit: | 23" & 20" Tricone | | |
| Tool-Pusher: | Arnold Lamon | Depth to First Water: | 92.0 ft bgs | | |
| Rig Geologist: | Ellen Redner | Converted to Well: | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | |

| Depth (ft) | Drilling Run (ft) and Average Penetration Rate | USCS Code | USCS Class | Description (See Pilot boring log for full geologic descriptions) | Drilling notes and observations confirming presence of temporary backfill material in drill cuttings | Drilling Fluid |
|------------|--|-----------|------------|--|--|--|
| 20 | (0.0 - 19.6) 1.28 mins/ft | SW | | (17-28.5 ft) Well graded sand with gravel (SW); brown (10YR 5/3). (17.5-19.5 ft) Increase in the percentage of coarser grained sediments. | (19.6 - 39.6') Normal drilling 19-31' bgs, rough drilling 31-39' bgs approximately. | (19.6 - 39.6') 450 gallons of water used; 450 gallons of water recovered; 0 gallons of water lost |
| 21 | | | | (24 ft) Increase in the percentage of coarser grained sediment and granules with depth. Lower percentage of silt percentage with depth. | | |
| 22 | (19.6 - 39.6) 2.00 mins/ft | SW | | (25.0') Observed trace amounts of Cemex #2/12 (12x30) Lapis Lustre Sand in drill cuttings. | | |
| 23 | | | | (28.5-31 ft) Well graded sand with gravel (SW); light gray (10YR 7/2). | | |
| 24 | | | | (31-37 ft) Well graded sand with gravel (SW); light gray (10YR 7/2). | | |
| 25 | | SW | | (37-39.5 ft) Well graded sand with silt (SW-SM); light gray (10YR 7/2). | (35.0') Observed trace amounts of Cemex #2/12 (12x30) Lapis Lustre Sand in drill cuttings. | |
| 26 | | | | | | |
| 27 | | SW-SM | | | | |

Abbreviations: USCS = Unified Soil Classification System, ft = feet, bgs = below ground surface, amsl = above mean sea level, GW = groundwater, Notes: Solid blue water table mark represents depth to water (ft. bgs.) depth to water measured during collection of the first VAS interval in the pilot borehole.

TOPOCK\IRZ\DRILLING LOG - ARCADIS\MCGRANEON\DRIVE - ARCADIS\SHARED DOCUMENTS\PHASE II\DRILLING\06 - FIELD DOCUMENTATION\02 GINT FILES\00 NEW PHASE 2 GINT FILES\46 2022-12-07\GINT PROJECT.GPJ - GINT DATA TEMPLATE.GDT - 12/7/22

| | | | | | |
|------------------|--------------------|----------------------------|---|---------------------------|---------------------------------|
| Date Started: | 10/12/2022 | Surface Elevation: | 551.67 ft amsl | Boring No.: FW-02B | |
| Date Completed: | 10/22/2022 | Northing (NAD83): | 2100637.96 | | |
| Drilling Co.: | Cascade | Easting (NAD83): | 7614544.74 | Client: | PG&E |
| Drilling Method: | Dual Rotary | Total Depth: | 142.1 ft bgs | Project: | Final GW Remedy Phase 2A |
| Drill Rig Type: | Foremost DR 24HD | Conductor Casing Diameter: | 24 inches | Location: | PG&E Topock, Needles California |
| Driller Name: | Josh Saldana | Drill Casing Diameter: | 22 inches | Project Number: | 30126255 |
| Drilling Asst: | L.G. / A.A. / D.A. | Drill Bit: | 23" & 20" Tricone | | |
| Tool-Pusher: | Arnold Lamon | Depth to First Water: | 92.0 ft bgs | | |
| Rig Geologist: | Ellen Redner | Converted to Well: | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | |

| Depth (ft) | Drilling Run (ft) and Average Penetration Rate | USCS Code | USCS Class | Description (See Pilot boring log for full geologic descriptions) | Drilling notes and observations confirming presence of temporary backfill material in drill cuttings | Drilling Fluid |
|------------|--|-----------|------------|---|--|---|
| 39 | (19.6 - 39.6) 2.00 mins/ft | SW-SM | | (37-39.5 ft) Well graded sand with silt (SW-SM); light gray (10YR 7/2). | | |
| 40 | (39.6 - 59.6) 2.95 mins/ft | SW | | (39.5-46.5 ft) Well graded sand with gravel (SW); light brownish gray (10YR 6/2), and light gray (10YR 7/1). | (39.6 - 59.6') Hard drilling 39-53', normal drilling 53-59' bgs approximately. | (39.6 - 59.6') 750 gallons of water used; 600 gallons of water recovered; 150 gallons of water lost |
| 41 | | | | | | |
| 42 | | | | | | |
| 43 | | | | | | |
| 44 | | | | | | |
| 45 | | | | (45.0') Observed trace amounts of Cemex #1/20 (20x40) Lapis Lustre Sand in drill cuttings. | | |
| 46 | | | | (46.5-47.5 ft) Well graded sand with silt (SW-SM); light gray (10YR 7/1). | | |
| 47 | | SW-SM | | (47.5-49 ft) Well graded sand with silt and gravel (SW-SM); pale orange yellow (10YR 8/2), and light gray (10YR 7/1). | | |
| 48 | | SW-SM | | (49-50.5 ft) Well graded sand with silt and gravel (SW-SM); pale orange yellow (10YR 8/2), and light gray (10YR 7/1). | | |
| 49 | | SW-SM | | (49-50.5 ft) Decrease in silt to approximately 1% silt, and increase the amount moderate caliche cementation. | | |
| 50 | | SW-SM | | (50.5-57 ft) Well graded sand with gravel (SW); light gray (10YR 7/2). | | |
| 51 | | SW | | | | |
| 52 | | | | | | |
| 53 | | | | | | |
| 54 | | | | | | |
| 55 | | | | | | |
| 56 | | | | | | |
| 57 | | | | | | |
| | | | | (55.0') Observed trace amounts of Cemex #1/20 (20x40) Lapis Lustre Sand in drill cuttings. | | |

Abbreviations: USCS = Unified Soil Classification System, ft = feet, bgs = below ground surface, amsl = above mean sea level, GW = groundwater, Notes: Solid blue water table mark represents depth to water (ft. bgs.) depth to water measured during collection of the first VAS interval in the pilot borehole.

TOPOCK IRZ DRILLING LOG C:\USERS\SMC\GRANEONE\DRIVE - ARCADIS\SHARED DOCUMENTS\PHASE II\DRILLING\06 - FIELD DOCUMENTATION\02 GINT FILES\00 NEW PHASE 2 GINT FILES\46 2022-12-07\GINT PROJECT.GPJ - GINT DATA TEMPLATE.GDT - 12/7/22

| | | | | | |
|------------------|--------------------|----------------------------|---|---------------------------|---------------------------------|
| Date Started: | 10/12/2022 | Surface Elevation: | 551.67 ft amsl | Boring No.: FW-02B | |
| Date Completed: | 10/22/2022 | Northing (NAD83): | 2100637.96 | | |
| Drilling Co.: | Cascade | Easting (NAD83): | 7614544.74 | Client: | PG&E |
| Drilling Method: | Dual Rotary | Total Depth: | 142.1 ft bgs | Project: | Final GW Remedy Phase 2A |
| Drill Rig Type: | Foremost DR 24HD | Conductor Casing Diameter: | 24 inches | Location: | PG&E Topock, Needles California |
| Driller Name: | Josh Saldana | Drill Casing Diameter: | 22 inches | Project Number: | 30126255 |
| Drilling Asst: | L.G. / A.A. / D.A. | Drill Bit: | 23" & 20" Tricone | | |
| Tool-Pusher: | Arnold Lamon | Depth to First Water: | 92.0 ft bgs | | |
| Rig Geologist: | Ellen Redner | Converted to Well: | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | |

| Depth (ft) | Drilling Run (ft) and Average Penetration Rate | USCS Code | USCS Class | Description (See Pilot boring log for full geologic descriptions) | Drilling notes and observations confirming presence of temporary backfill material in drill cuttings | Drilling Fluid | |
|------------|--|-----------|---|---|--|---|--|
| 58 | (39.6 - 59.6) 2.95 mins/ft | SW | (57-57.5 ft) Well graded sand with gravel (SW); light gray (10YR 7/2). | | | | |
| 59 | | | (57.5-62.5 ft) Well graded sand with silt and gravel (SW-SM); brown (10YR 5/3). | | | | |
| 60 | (59.6 - 79.1) 5.38 mins/ft | SW-SM | (60-62.5 ft) Decrease in fine content. | | (59.6 - 79.1') Normal drilling, driller states that it has not been hard drilling but appears to be drilling a little slower usual. | (59.6 - 79.1') 1200 gallons of water used; 1100 gallons of water recovered; 100 gallons of water lost | |
| 61 | | | | | (59.6 - 60.7') The 24-inch diameter casing was advanced by pushing the casing without advancing drill string and the cuttings below 59.6 ft were removed by drilling with the 22-inch diameter drill casing. | | |
| 62 | | | | | | | |
| 63 | | | SW | (62.5-65 ft) Well graded sand with gravel (SW); light brownish gray (10YR 6/2). | | | |
| 64 | | | | | | | |
| 65 | | | | (65-67 ft) No Recovery | | (65.0') Observed trace amounts of Cemex #1/20 (20x40) Lapis Lustre Sand in drill cuttings. | |
| 66 | | NR | | | | | |
| 67 | | SW | (67-68 ft) Well graded sand with gravel (SW); light brownish gray (10YR 6/2). | | | | |
| 68 | | | | | | | |
| 69 | | SW | (68-71 ft) Well graded sand with gravel (SW); light gray (10YR 7/2). | | | | |
| 70 | | | | | | | |
| 71 | | | | | | | |
| 72 | | SM | (71-74.5 ft) Silty sand (SM); light gray (10YR 7/2). | | | | |
| 73 | | | (72-74.5 ft) Decrease in silt, granules and pebbles, increase in sand. | | | | |
| 74 | | | | | | | |
| 75 | | SW | (74.5-77.5 ft) Well graded sand with gravel (SW); yellowish brown (10YR 5/4). | | (75.0') Observed trace amounts of Cemex #1/20 (20x40) Lapis Lustre Sand in drill cuttings. | | |
| 76 | | | | | | | |

Abbreviations: USCS = Unified Soil Classification System, ft = feet, bgs = below ground surface, amsl = above mean sea level, GW = groundwater, Notes: Solid blue water table mark represents depth to water (ft. bgs.) depth to water measured during collection of the first VAS interval in the pilot borehole.

TOPOCK\IRZ\DRILLING LOG - ARCADIS\SHARE DOCUMENTS\PHASE II\DRILLING\06 FIELD DOCUMENTATION\02 GINT FILES\00 NEW PHASE 2 GINT FILES\46 2022-12-07\GINT PROJECT.GPJ - GINT DATA TEMPLATE.GDT - 12/7/22

| | | | | | |
|------------------|--------------------|----------------------------|---|---------------------------|---------------------------------|
| Date Started: | 10/12/2022 | Surface Elevation: | 551.67 ft amsl | Boring No.: FW-02B | |
| Date Completed: | 10/22/2022 | Northing (NAD83): | 2100637.96 | | |
| Drilling Co.: | Cascade | Easting (NAD83): | 7614544.74 | Client: | PG&E |
| Drilling Method: | Dual Rotary | Total Depth: | 142.1 ft bgs | Project: | Final GW Remedy Phase 2A |
| Drill Rig Type: | Foremost DR 24HD | Conductor Casing Diameter: | 24 inches | Location: | PG&E Topock, Needles California |
| Driller Name: | Josh Saldana | Drill Casing Diameter: | 22 inches | Project Number: | 30126255 |
| Drilling Asst: | L.G. / A.A. / D.A. | Drill Bit: | 23" & 20" Tricone | | |
| Tool-Pusher: | Arnold Lamon | Depth to First Water: | 92.0 ft bgs | | |
| Rig Geologist: | Ellen Redner | Converted to Well: | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | |

| Depth (ft) | Drilling Run (ft) and Average Penetration Rate | USCS Code | USCS Class | Description (See Pilot boring log for full geologic descriptions) | Drilling notes and observations confirming presence of temporary backfill material in drill cuttings | Drilling Fluid |
|------------|--|-----------|------------|---|--|--|
| 77 | (59.6 - 79.1) 5.38 mins/ft | SW | | (74.5-77.5 ft) Well graded sand with gravel (SW); yellowish brown (10YR 5/4). | | |
| 78 | | | | (77 ft) Decrease in small to large pebbles, increase in sand. | | |
| 79 | (79.1 - 99.1) 4.35 mins/ft | SW-SM | | (77.5-83 ft) Well graded sand with silt and gravel (SW-SM); yellowish brown (10YR 5/4). | (79.1 - 99.1') Normal drilling | (79.1 - 99.1') 1500 gallons of water used; 1800 gallons of water recovered; 300 gallons of water gained |
| 80 | | | | | | |
| 81 | | | | | | |
| 82 | | | | | | |
| 83 | | | | (83-92.5 ft) Well graded sand (SW); light gray (10YR 7/2). | | |
| 84 | | | | | | |
| 85 | | | | | (85.0') Observed trace amounts of Cemex #1/20 (20x40) Lapis Lustre Sand in drill cuttings. | |
| 86 | | | | | | |
| 87 | | | | | | |
| 88 | | | | | | |
| 89 | | | | | | |
| 90 | | | | | | |
| 91 | | | | | | |
| 92 | | | | | | |
| 93 | | | | (92.5-99 ft) Well graded sand with silt and gravel (SW-SM); light gray (10YR 7/2). | | |
| 94 | | | | | | |
| 95 | | | | | | |

Abbreviations: USCS = Unified Soil Classification System, ft = feet, bgs = below ground surface, amsl = above mean sea level, GW = groundwater, Notes: Solid blue water table mark represents depth to water (ft. bgs.) depth to water measured during collection of the first VAS interval in the pilot borehole.

TOPOCK\IRZ\DRILLING LOG - ARCADIS\SHARED DOCUMENTS\PHASE II\DRILLING\06 - FIELD DOCUMENTATION\02 GINT FILES\00 NEW PHASE 2 GINT FILES\46 2022-12-07\GINT PROJECT.GPJ - GINT DATA TEMPLATE.GDT - 12/7/22

| | | |
|-----------------------------------|--|---|
| Date Started: 10/12/2022 | Surface Elevation: 551.67 ft amsl | Boring No.: FW-02B |
| Date Completed: 10/22/2022 | Northing (NAD83): 2100637.96 | |
| Drilling Co.: Cascade | Easting (NAD83): 7614544.74 | Client: PG&E |
| Drilling Method: Dual Rotary | Total Depth: 142.1 ft bgs | Project: Final GW Remedy Phase 2A |
| Drill Rig Type: Foremost DR 24HD | Conductor Casing Diameter: 24 inches | Location: PG&E Topock, Needles California |
| Driller Name: Josh Saldana | Drill Casing Diameter: 22 inches | Project Number: 30126255 |
| Drilling Asst: L.G. / A.A. / D.A. | Drill Bit: 23" & 20" Tricone | |
| Tool-Pusher: Arnold Lamon | Depth to First Water: 92.0 ft bgs | |
| Rig Geologist: Ellen Redner | Converted to Well: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | |

| Depth (ft) | Drilling Run (ft) and Average Penetration Rate | USCS Code | USCS Class | Description <small>(See Pilot boring log for full geologic descriptions)</small> | Drilling notes and observations confirming presence of temporary backfill material in drill cuttings | Drilling Fluid |
|------------|--|-----------|------------|--|---|---|
| 96 | (79.1 - 99.1) 4.35 mins/ft | SW-SM | [Symbol] | (92.5-99 ft) Well graded sand with silt and gravel (SW-SM); light gray (10YR 7/2). | (95.0') Observed trace amounts of Cemex #1/20 (20x40) Lapis Lustre Sand in drill cuttings. | |
| 97 | | | [Symbol] | (99.5-104 ft) Well graded sand with gravel (SW); light gray (10YR 7/2), some brown (10YR 5/3). | | |
| 98 | (99.1 - 119.1) 4.45 mins/ft | SW | [Symbol] | (102) Increase in the percentage of metadiorite pebbles. | (99.1 - 119.1') Normal drilling approximately 99-111' bgs, soft drilling approximately 111-113' bgs, normal drilling approximately 113-119' bgs. (105.0') Observed trace amounts of Cemex #1/20 (20x40) Lapis Lustre Sand in drill cuttings. | (99.1 - 119.1') 1300 gallons of water used; 1300 gallons of water recovered; 0 gallons of water lost |
| 99 | | | [Symbol] | (104-108 ft) Well graded sand with gravel (SW); brown (10YR 5/3). | | |
| 100 | | | [Symbol] | (108-112 ft) Well graded sand with silt and gravel (SW-SM); brown (10YR 5/3), some light yellowish brown (10YR 6/4). | | |
| 101 | | | [Symbol] | (112-115 ft) Silty sand (SM); brown (10YR 5/3). | | |
| 102 | | | [Symbol] | | | |
| 103 | | | [Symbol] | | | |
| 104 | | | | | | |
| 105 | | | | | | |
| 106 | | | | | | |
| 107 | | | | | | |
| 108 | | | | | | |
| 109 | | | | | | |
| 110 | | | | | | |
| 111 | | | | | | |
| 112 | | | | | | |
| 113 | | | | | | |
| 114 | | | | | | |

Abbreviations: USCS = Unified Soil Classification System, ft = feet, bgs = below ground surface, amsl = above mean sea level, GW = groundwater, Notes: Solid blue water table mark represents depth to water (ft. bgs.) depth to water measured during collection of the first VAS interval in the pilot borehole.

C:\USERS\SMC\GRANE\DRIVE - ARCADIS\SHARED DOCUMENTS\PHASE I\DRILLING\06 - FIELD DOCUMENTATION\02 GINT FILES\00 NEW PHASE 2 GINT FILES\46 2022-12-07\GINT PROJECT.GPJ - GINT DATA TEMPLATE.GDT - 12/7/22

| | | | | | |
|------------------|--------------------|----------------------------|---|---------------------------|---------------------------------|
| Date Started: | 10/12/2022 | Surface Elevation: | 551.67 ft amsl | Boring No.: FW-02B | |
| Date Completed: | 10/22/2022 | Northing (NAD83): | 2100637.96 | | |
| Drilling Co.: | Cascade | Easting (NAD83): | 7614544.74 | Client: | PG&E |
| Drilling Method: | Dual Rotary | Total Depth: | 142.1 ft bgs | Project: | Final GW Remedy Phase 2A |
| Drill Rig Type: | Foremost DR 24HD | Conductor Casing Diameter: | 24 inches | Location: | PG&E Topock, Needles California |
| Driller Name: | Josh Saldana | Drill Casing Diameter: | 22 inches | Project Number: | 30126255 |
| Drilling Asst: | L.G. / A.A. / D.A. | Drill Bit: | 23" & 20" Tricone | | |
| Tool-Pusher: | Arnold Lamon | Depth to First Water: | 92.0 ft bgs | | |
| Rig Geologist: | Ellen Redner | Converted to Well: | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | |

| Depth (ft) | Drilling Run (ft) and Average Penetration Rate | USCS Code | USCS Class | Description (See Pilot boring log for full geologic descriptions) | Drilling notes and observations confirming presence of temporary backfill material in drill cuttings | Drilling Fluid |
|------------|--|-----------|------------|---|--|---|
| 115 | (99.1 - 119.1) 4.45 mins/ft | SM | | (112-115 ft) Silty sand (SM); brown (10YR 5/3). | (115.0') Observed trace amounts of Cemex #1/20 (20x40) Lapis Lustre Sand in drill cuttings. | |
| 116 | | SW | | (115-119 ft) Well graded sand (SW); light yellowish brown (10YR 6/4), and brown (10YR 5/3). | | |
| 117 | (119.1 - 130.0) 6.61 mins/ft | SW-SM | | (119-122 ft) Well graded sand with silt (SW-SM); brown (10YR 5/3). | (119.1 - 130.0') Normal drilling | (119.1 - 130.0') 900 gallons of water used; 1200 gallons of water recovered; 300 gallons of water gained |
| 118 | | SM | | (122-124.5 ft) Silty sand (SM); dark grayish brown (2.5Y 4/2), and reddish yellow (7.5YR 7/6). | | |
| 119 | | SW-SM | | (124.5-126.5 ft) Well graded sand with silt (SW-SM); dark grayish brown (2.5Y 4/2), and reddish yellow (7.5YR 7/6). | | |
| 120 | | SM | | (126.5-127.5 ft) Silty sand with gravel (SM); dark grayish brown (2.5Y 4/2), and reddish yellow (7.5YR 7/6). | | |
| 121 | | SW | | (127.5-131 ft) Well graded sand with gravel (SW); dark grayish brown (2.5Y 4/2), and reddish yellow (7.5YR 7/6). | | |
| 122 | | SM | | (131-132 ft) Silty sand (SM); dark grayish brown (2.5Y 4/2), and reddish yellow (7.5YR 7/6). | | |
| 123 | (130.0 - 140.0) 5.40 mins/ft | N/A | | (132-135 ft) Sedimentary Rock - Conglomerate; brown (7.5YR 5/4). | (130.0 - 140.0') Normal drilling | (130.0 - 140.0') 1000 gallons of water used; 1000 gallons of water recovered; 0 gallons of water lost |
| 124 | | | | | | |
| 125 | | | | | | |

Abbreviations: USCS = Unified Soil Classification System, ft = feet, bgs = below ground surface, amsl = above mean sea level, GW = groundwater, Notes: Solid blue water table mark represents depth to water (ft. bgs.) depth to water measured during collection of the first VAS interval in the pilot borehole.

TOPOCK\IRZ\DRILLING LOG C:\USERS\SMC\GRANEONE\DRIVE - ARCADIS\SHARED DOCUMENTS\PHASE II\DRILLING\06 - FIELD DOCUMENTATION\02 GINT FILES\00 NEW PHASE 2 GINT FILES\46 2022-12-07\GINT PROJECT.GPJ - GINT DATA TEMPLATE.GDT - 12/7/22

| | | | | | |
|------------------|--------------------|----------------------------|---|---------------------------|------------------------------------|
| Date Started: | 10/12/2022 | Surface Elevation: | 551.67 ft amsl | Boring No.: FW-02B | |
| Date Completed: | 10/22/2022 | Northing (NAD83): | 2100637.96 | | |
| Drilling Co.: | Cascade | Easting (NAD83): | 7614544.74 | Client: | PG&E |
| Drilling Method: | Dual Rotary | Total Depth: | 142.1 ft bgs | Project: | Final GW Remedy Phase 2A |
| Drill Rig Type: | Foremost DR 24HD | Conductor Casing Diameter: | 24 inches | Location: | PG&E Topock, Needles California |
| Driller Name: | Josh Saldana | Drill Casing Diameter: | 22 inches | Project Number: | 30126255 |
| Drilling Asst: | L.G. / A.A. / D.A. | Drill Bit: | 23" & 20" Tricone | | |
| Tool-Pusher: | Arnold Lamon | Depth to First Water: | 92.0 ft bgs | | |
| Rig Geologist: | Ellen Redner | Converted to Well: | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | |

| Depth (ft) | Drilling Run (ft) and Average Penetration Rate | USCS Code | USCS Class | Description (See Pilot boring log for full geologic descriptions) | Drilling notes and observations confirming presence of temporary backfill material in drill cuttings | Drilling Fluid |
|------------|--|-----------|------------|--|--|----------------|
| 134 | (130.0 - 140.0) 5.40 mins/ft | N/A | xxxxx | (132-135 ft) Sedimentary Rock - Conglomerate; brown (7.5YR 5/4). | | |
| 135 | | | xxxxx | | | |
| 136 | | N/A | xxxxx | (135-139.5 ft) Sedimentary Rock - Conglomerate; brown (7.5YR 5/4). (135.5-139.5 ft) Moist to dry. | | |
| 137 | | | xxxxx | | | |
| 138 | | | xxxxx | | | |
| 139 | | | xxxxx | | | |
| 140 | | | xxxxx | | | |
| 141 | | | xxxxx | | | |
| 142 | | | xxxxx | | | |
| 143 | | | N/A | N/A | | |
| 144 | xxxxx | | | | | |
| 145 | xxxxx | | | | | |
| 146 | xxxxx | | | | | |
| 147 | xxxxx | | | | | |
| 148 | | | | | | |
| 149 | | | | | | |
| 150 | | | | | | |
| 151 | | | | | | |
| 152 | | | | | | |

End of Boring at 142.06 ft bgs.

Abbreviations: USCS = Unified Soil Classification System, ft = feet, bgs = below ground surface, amsl = above mean sea level, GW = groundwater, Notes: Solid blue water table mark represents depth to water (ft. bgs.) depth to water measured during collection of the first VAS interval in the pilot borehole.

C:\USERS\SMC\GRANE\ONE\DRIVE - ARCADIS\SHARED DOCUMENTS\PHASE II DRILLING\06 FIELD DOCUMENTATION\02 GINT FILES\00 NEW PHASE 2 GINT FILES\46 2022-12-07\GINT PROJECT.GPJ GINT DATA TEMPLATE.GDT 12/7/22

Attachment 5

Well Construction Log

| | | |
|-----------------------------------|---|---|
| Date Started: 10/23/2022 | Surface Elevation: 551.67 ft amsl | Well ID: FW-02B |
| Date Completed: 11/05/2022 | Shallow Well Elevation: N/A | |
| Drilling Co.: Cascade | Deep Well Elevation: N/A | Client: PG&E |
| Drilling Method: Dual Rotary | Northing (NAD83): 2100637.96 | Project: Final GW Remedy Phase 2A |
| Driller Name: Josh Saldana | Easting (NAD83): 7614544.74 | Location: PG&E Topock, Needles California |
| Drilling Asst: L.G. / A.A. / D.A. | Borehole Diameter: 22-24 inches | |
| Logger: Ellen Redner | Static Water Level: See Log for Depths | Project Number: 30126255 |
| Editor: Sean McGrane | Development End Date: 11/19/2022 | |
| Total Depth: 142.06 ft bgs | Well Completion: <input type="checkbox"/> Flush <input type="checkbox"/> Stick-up <input checked="" type="checkbox"/> To Be Completed in Well Vault | |

| Depth (ft) | Groundwater Sample ID | Geologic Formation | USCS Code | USCS Class | Construction Details | Calculated Material Volumes | Material Volumes Installed Note: percentages are the actual volume vs the calculated volume | | | |
|------------|----------------------------------|--------------------|------------------|------------|--|--|--|---|--|--|
| 1 | No Groundwater Samples Collected | Fluvial Deposits | SW | [Pattern] | (0.0 - 95.0') 12" SHUR-GRIP SDR17 PVC Casing (0.0 - 2.0') Red Flint Sand 0.80-1.20 MM | (0.0 - 2.0') 9 bags | (0.0 - 2.0') 14 bags (156%) Note: Temporary backfill sand, used >20% of the calculated volume due to potential voids that formed during drilling. | | | |
| 2 | | | | | | | | | | |
| 3 | | | | | | | | | | |
| 4 | | | | | | | | | | |
| 5 | | | NR | NR | [Pattern] | (2.0 - 6.9') Portland Cement Type I, II and IV with up to 6% Quik-Gel. | (2.0 - 6.9') 82.1 gallons | (2.0 - 6.9') 86 gallons (105%) Note: Grout seal third lift | | |
| 6 | | | | | | | | | | |
| 7 | | | | | | | | | | |
| 8 | | | Fluvial Deposits | SW | [Pattern] | | | | | |
| 9 | | | | | | | | | | |
| 10 | | | | | | | | | | |
| 11 | | | | | | | | | | |
| 12 | | | | | | | | | | |
| 13 | | | NR | NR | [Pattern] | (6.9 - 20.7') Portland Cement Type I, II and IV with up to 6% Quik-Gel. (13.5 - 14.5') Kwik-Zip Centralizer | (6.9 - 20.7') 231.4 gallons | (6.9 - 20.7') 570 gallons (246%) Note: Grout seal second lift, used >20% of the calculated volume due to potential voids that formed during drilling and grout migration into the formation. | | |
| 14 | | | | | | | | | | |
| 15 | | | | | | | | | | |
| 16 | | | | | | | | | | |
| 17 | | | Fluvial Deposits | SW | [Pattern] | | | | | |
| 18 | | | | | | | | | | |
| 19 | | | | | | | | | | |
| 20 | | | | | | | | | | |

Abbreviations: USCS = Unified Soil Classification System, ft = feet, bgs = below ground surface, amsl = above mean sea level, SS = Stainless Steel, NR = No Recovery, N/A = Not Applicable, GW = groundwater, ppb = parts per billion, Notes: Solid blue water table marks represent depth to water (ft. bgs.) measured post development.

TOPOCK WELL COMPLETION DETAILS C:\USERS\SMCGRANE\ONE\DRIVE - ARCADIS\SHARED DOCUMENTS\PHASE II DRILLING\06 - FIELD DOCUMENTATION\02 GINT FILES\00 NEW PHASE 2 GINT FILES\00 NEW PHASE 2 GINT FILES\00 NEW PHASE 2 GINT DATA TEMPLATE.GDT 12/7/22

| | | |
|-----------------------------------|---|---|
| Date Started: 10/23/2022 | Surface Elevation: 551.67 ft amsl | Well ID: FW-02B |
| Date Completed: 11/05/2022 | Shallow Well Elevation: N/A | |
| Drilling Co.: Cascade | Deep Well Elevation: N/A | Client: PG&E |
| Drilling Method: Dual Rotary | Northing (NAD83): 2100637.96 | Project: Final GW Remedy Phase 2A |
| Driller Name: Josh Saldana | Easting (NAD83): 7614544.74 | Location: PG&E Topock, Needles California |
| Drilling Asst: L.G. / A.A. / D.A. | Borehole Diameter: 22-24 inches | |
| Logger: Ellen Redner | Static Water Level: See Log for Depths | Project Number: 30126255 |
| Editor: Sean McGrane | Development End Date: 11/19/2022 | |
| Total Depth: 142.06 ft bgs | Well Completion: <input type="checkbox"/> Flush <input type="checkbox"/> Stick-up <input checked="" type="checkbox"/> To Be Completed in Well Vault | |

| Depth (ft) | Groundwater Sample ID | Geologic Formation | USCS Code | USCS Class | Construction Details | | Calculated Material Volumes | Material Volumes Installed Note: percentages are the actual volume vs the calculated volume | |
|------------|----------------------------------|--------------------|------------------|------------|--|---|-----------------------------|--|---|
| | | | | | | | | | |
| 21 | No Groundwater Samples Collected | Fluvial Deposits | SW | [Pattern] | (0.0 - 95.0') 12" SHUR-GRIP SDR17 PVC Casing | [Pattern] | | | |
| 22 | | | | | | | | | |
| 23 | | | | | | | | | |
| 24 | | | | | | | | | |
| 25 | | | | | | | | | |
| 26 | | | | | | | | | |
| 27 | | | | | | | | | |
| 28 | | | | | | | | | |
| 29 | | | Fluvial Deposits | SW | [Pattern] | | | | |
| 30 | | | | | | (20.7 - 61.7') Portland Cement Type I, II and IV with up to 6% Quik-Gel. | | (20.7 - 61.7') 687.3 gallons | (20.7 - 61.7') 660 gallons (96%) Note: Grout seal first lift |
| 31 | | | | | | | | | |
| 32 | | | | | | | | | |
| 33 | | Alluvium Deposits | SW | [Pattern] | | | | | |
| 34 | | | | | | | | | |
| 35 | | | | | | | | | |
| 36 | | | | | | | | | |
| 37 | | | | | | | | | |
| 38 | | Alluvium Deposits | SW-SM | [Pattern] | | | | | |
| 39 | | | | | | | | | |
| 40 | | Alluvium | SW | [Pattern] | | | | | |

Abbreviations: USCS = Unified Soil Classification System, ft = feet, bgs = below ground surface, amsl = above mean sea level, SS = Stainless Steel, NR = No Recovery, N/A = Not Applicable, GW = groundwater, ppb = parts per billion, Notes: Solid blue water table marks represent depth to water (ft. bgs.) measured post development.

TOPOCK WELL COMPLETION DETAILS C:\USERS\SMCGRANE\ONEEDRIVE - ARCADIS\SHARED DOCUMENTS\PHASE II DRILLING\06 - FIELD DOCUMENTATION\02 GINT FILES\00 NEW PHASE 2 GINT FILES\06 2022-12-07\GINT PROJECT\GPI GINT DATA TEMPLATE.GDT 12/7/22

| | | |
|-----------------------------------|---|---|
| Date Started: 10/23/2022 | Surface Elevation: 551.67 ft amsl | Well ID: FW-02B |
| Date Completed: 11/05/2022 | Shallow Well Elevation: N/A | |
| Drilling Co.: Cascade | Deep Well Elevation: N/A | Client: PG&E |
| Drilling Method: Dual Rotary | Northing (NAD83): 2100637.96 | Project: Final GW Remedy Phase 2A |
| Driller Name: Josh Saldana | Easting (NAD83): 7614544.74 | Location: PG&E Topock, Needles California |
| Drilling Asst: L.G. / A.A. / D.A. | Borehole Diameter: 22-24 inches | |
| Logger: Ellen Redner | Static Water Level: See Log for Depths | Project Number: 30126255 |
| Editor: Sean McGrane | Development End Date: 11/19/2022 | |
| Total Depth: 142.06 ft bgs | Well Completion: <input type="checkbox"/> Flush <input type="checkbox"/> Stick-up <input checked="" type="checkbox"/> To Be Completed in Well Vault | |

| Depth (ft) | Groundwater Sample ID | Geologic Formation | USCS Code | USCS Class | Construction Details | | Calculated Material Volumes | Material Volumes Installed Note: percentages are the actual volume vs the calculated volume |
|------------|----------------------------------|--------------------|-----------|------------|---|--|---------------------------------|--|
| | | | | | | | | |
| 41 | | Deposits | | | (0.0 - 95.0') 12" SHUR-GRIP SDR17 PVC Casing | | | |
| 42 | | Alluvium Deposits | SW | | | | | |
| 43 | | | | | | | | |
| 44 | | | | | | | | |
| 45 | | | | | | | | |
| 46 | | | | | | | | |
| 47 | | Alluvium Deposits | SW-SM | | | | | |
| 48 | | Alluvium Deposits | SW-SM | | | | | |
| 49 | | | | | | | | |
| 50 | No Groundwater Samples Collected | Alluvium Deposits | SW-SM | | (20.7 - 61.7') Portland Cement Type I, II and IV with up to 6% Quik-Gel. | | (20.7 - 61.7') 687.3 gallons | (20.7 - 61.7') 660 gallons (96%) Note: Grout seal first lift |
| 51 | | | | | | | | |
| 52 | | | | | | | | |
| 53 | | Alluvium Deposits | SW | | | | | |
| 54 | | | | | (53.5 - 54.5') Kwik-Zip Centralizer | | | |
| 55 | | | | | | | | |
| 56 | | | | | | | | |
| 57 | | Alluvium Deposits | SW | | | | | |
| 58 | | | | | | | | |
| 59 | | Alluvium Deposits | SW-SM | | | | | |
| 60 | | | | | | | | |

Abbreviations: USCS = Unified Soil Classification System, ft = feet, bgs = below ground surface, amsl = above mean sea level, SS = Stainless Steel, NR = No Recovery, N/A = Not Applicable, GW = groundwater, ppb = parts per billion, Notes: Solid blue water table marks represent depth to water (ft. bgs.) measured post development.

| | | |
|-----------------------------------|---|---|
| Date Started: 10/23/2022 | Surface Elevation: 551.67 ft amsl | Well ID: FW-02B |
| Date Completed: 11/05/2022 | Shallow Well Elevation: N/A | |
| Drilling Co.: Cascade | Deep Well Elevation: N/A | Client: PG&E |
| Drilling Method: Dual Rotary | Northing (NAD83): 2100637.96 | Project: Final GW Remedy Phase 2A |
| Driller Name: Josh Saldana | Easting (NAD83): 7614544.74 | Location: PG&E Topock, Needles California |
| Drilling Asst: L.G. / A.A. / D.A. | Borehole Diameter: 22-24 inches | |
| Logger: Ellen Redner | Static Water Level: See Log for Depths | Project Number: 30126255 |
| Editor: Sean McGrane | Development End Date: 11/19/2022 | |
| Total Depth: 142.06 ft bgs | Well Completion: <input type="checkbox"/> Flush <input type="checkbox"/> Stick-up <input checked="" type="checkbox"/> To Be Completed in Well Vault | |

| Depth (ft) | Groundwater Sample ID | Geologic Formation | USCS Code | USCS Class | Construction Details | Calculated Material Volumes | Material Volumes Installed Note: percentages are the actual volume vs the calculated volume |
|------------|----------------------------------|--------------------|-----------|------------|---|---------------------------------|--|
| 61 | | Alluvium Deposits | SW-SM | | (0.0 - 95.0') 12" SHUR-GRIP SDR17 PVC Casing | (20.7 - 61.7') 687.3 gallons | (20.7 - 61.7') 660 gallons (96%) Note: Grout seal first lift |
| 62 | | | | | (20.7 - 61.7') Portland Cement Type I, II and IV with up to 6% Quik-Gel. | | |
| 63 | | Alluvium Deposits | SW | | (61.7 - 64.6') Cemex #60 (40x70) Lapis Lustre Sand | (61.7 - 64.6') 10.1 bags | (61.7 - 64.6') 10 bags (99%) Note: Transition sand |
| 64 | | | | | | | |
| 65 | | | | | | | |
| 66 | | | NR | | | | |
| 67 | | Alluvium Deposits | SW | | | | |
| 68 | | | | | | | |
| 69 | | Alluvium Deposits | SW | | | | |
| 70 | No Groundwater Samples Collected | | | | | | |
| 71 | | | | | | | |
| 72 | | Alluvium Deposits | SM | | (64.6 - 89.0') Red Flint Sand 0.20-0.30 MM | (64.6 - 89.0') 84.9 bags | (64.6 - 89.0') 88 bags (104%) Note: Transition sand |
| 73 | | | | | | | |
| 74 | | | | | | | |
| 75 | | Alluvium Deposits | SW | | | | |
| 76 | | | | | | | |
| 77 | | | | | | | |
| 78 | | | | | | | |
| 79 | | Alluvium Deposits | SW-SM | | | | |
| 80 | | | | | | | |

Abbreviations: USCS = Unified Soil Classification System, ft = feet, bgs = below ground surface, amsl = above mean sea level, SS = Stainless Steel, NR = No Recovery, N/A = Not Applicable, GW = groundwater, ppb = parts per billion, Notes: Solid blue water table marks represent depth to water (ft. bgs.) measured post development.

TOPOCK WELL COMPLETION DETAILS C:\USERS\SMCGRANE\ONEDRIVE - ARCADIS\SHARED DOCUMENTS\PHASE II DRILLING\06 - FIELD DOCUMENTATION\02 GINT FILES\00 NEW PHASE 2 GINT FILES\00 2022-12-07\GINT PROJECT\GPI GINT DATA TEMPLATE.GDT 12/7/22

| | | |
|-----------------------------------|---|---|
| Date Started: 10/23/2022 | Surface Elevation: 551.67 ft amsl | Well ID: FW-02B |
| Date Completed: 11/05/2022 | Shallow Well Elevation: N/A | |
| Drilling Co.: Cascade | Deep Well Elevation: N/A | Client: PG&E |
| Drilling Method: Dual Rotary | Northing (NAD83): 2100637.96 | Project: Final GW Remedy Phase 2A |
| Driller Name: Josh Saldana | Easting (NAD83): 7614544.74 | Location: PG&E Topock, Needles California |
| Drilling Asst: L.G. / A.A. / D.A. | Borehole Diameter: 22-24 inches | |
| Logger: Ellen Redner | Static Water Level: See Log for Depths | Project Number: 30126255 |
| Editor: Sean McGrane | Development End Date: 11/19/2022 | |
| Total Depth: 142.06 ft bgs | Well Completion: <input type="checkbox"/> Flush <input type="checkbox"/> Stick-up <input checked="" type="checkbox"/> To Be Completed in Well Vault | |

| Depth (ft) | Groundwater Sample ID | Geologic Formation | USCS Code | USCS Class | Construction Details | Calculated Material Volumes | Material Volumes Installed Note: percentages are the actual volume vs the calculated volume |
|------------|---|--------------------|-----------|------------|--|------------------------------|---|
| 81 | | Alluvium Deposits | SW-SM | | (0.0 - 95.0') 12" SHUR-GRIP SDR17 PVC Casing | | |
| 82 | | | | | | | |
| 83 | | Alluvium Deposits | SW | | (64.6 - 89.0') Red Flint Sand 0.20-0.30 MM | (64.6 - 89.0') 84.9 bags | (64.6 - 89.0') 88 bags (104%) Note: Transition sand |
| 84 | | | | | | | |
| 85 | | | | | | | |
| 86 | | | | | | | |
| 87 | No Groundwater Samples Collected | | | | (89.0 - 90.0') Puregold Medium Bentonite Chips | (89.0 - 90.0') 2.42 bags | (89.0 - 90.0') 3 bags (124%) Note: Bentonite seal |
| 88 | | | | | | | |
| 89 | | | | | | | |
| 90 | | Alluvium Deposits | SW-SM | | (92.0 - 93.0') Kwik-Zip Centralizer | | |
| 91 | | | | | | | |
| 92 | | | | | | | |
| 93 | | | | | | | |
| 94 | | | | | | | |
| 95 | | | | | (90.0 - 113.4') Red Flint Sand 0.80-1.20 MM | (90.0 - 113.4') 81.4 bags | (90.0 - 113.4') 97 bags (119%) Note: Filter pack, swabbed the filter pack for approximately 100 minutes prior to installation of the bentonite seal. |
| 96 | | | | | (95.0 - 112.0') 12" 35-Slot 316L SS Wire Wrap Screen | | |
| 97 | | | | | | | |
| 98 | FW-02B- VAS-97-102 (<0.025 ppb) 8/24/2022 11:12 | | | | | | |
| 99 | | Alluvium Deposits | SW | | | | |
| 100 | | | | | | | |

Abbreviations: USCS = Unified Soil Classification System, ft = feet, bgs = below ground surface, amsl = above mean sea level, SS = Stainless Steel, NR = No Recovery, N/A = Not Applicable, GW = groundwater, ppb = parts per billion, Notes: Solid blue water table marks represent depth to water (ft. bgs.) measured post development.

TOPOCK WELL COMPLETION DETAILS C:\USERS\SMCGRANE\ONEEDRIVE - ARCADIS\SHARED DOCUMENTS\PHASE II DRILLING\06 - FIELD DOCUMENTATION\02 GINT FILES\00 NEW PHASE 2 GINT FILES\00 GINT PROJECT\GPI GINT DATA TEMPLATE.GDT 12/7/22

| | | |
|-----------------------------------|---|---|
| Date Started: 10/23/2022 | Surface Elevation: 551.67 ft amsl | Well ID: FW-02B |
| Date Completed: 11/05/2022 | Shallow Well Elevation: N/A | |
| Drilling Co.: Cascade | Deep Well Elevation: N/A | Client: PG&E |
| Drilling Method: Dual Rotary | Northing (NAD83): 2100637.96 | Project: Final GW Remedy Phase 2A |
| Driller Name: Josh Saldana | Easting (NAD83): 7614544.74 | Location: PG&E Topock, Needles California |
| Drilling Asst: L.G. / A.A. / D.A. | Borehole Diameter: 22-24 inches | |
| Logger: Ellen Redner | Static Water Level: See Log for Depths | Project Number: 30126255 |
| Editor: Sean McGrane | Development End Date: 11/19/2022 | |
| Total Depth: 142.06 ft bgs | Well Completion: <input type="checkbox"/> Flush <input type="checkbox"/> Stick-up <input checked="" type="checkbox"/> To Be Completed in Well Vault | |

| Depth (ft) | Groundwater Sample ID | Geologic Formation | USCS Code | USCS Class | Construction Details | Calculated Material Volumes | Material Volumes Installed Note: percentages are the actual volume vs the calculated volume |
|------------|---|--------------------|-----------|------------|--|------------------------------|---|
| 101 | | Alluvium Deposits | SW | [Pattern] | (95.0 - 112.0') 12" 35-Slot 316L SS Wire Wrap Screen | | |
| 102 | | | | | | | |
| 103 | | Alluvium Deposits | SW | [Pattern] | (90.0 - 113.4') Red Flint Sand 0.80-1.20 MM | (90.0 - 113.4') 81.4 bags | (90.0 - 113.4') 97 bags (119%) Note: Filter pack, swabbed the filter pack for approximately 100 minutes prior to installation of the bentonite seal. |
| 104 | | | | | | | |
| 105 | | Alluvium Deposits | SW-SM | [Pattern] | (112.0 - 122.0') 12" SHUR-GRIP SDR17 PVC Casing | | |
| 106 | | | | | | | |
| 107 | | Alluvium Deposits | SM | [Pattern] | (115.5 - 116.5') Kwik-Zip Centralizer (113.4 - 120.3') Red Flint Sand 0.20-0.30 MM | (113.4 - 120.3') 24 bags | (113.4 - 120.3') 36 bags (150%) Note: Transition sand, used >20% of the calculated volume due to potential voids that formed during drilling or the finer grained transition entering the well through the upper screen during installation. |
| 108 | | | | | | | |
| 109 | FW-02B-VAS-107-112 (<0.025 ppb) 8/24/2022 09:15 | Alluvium Deposits | SW | [Pattern] | | | |
| 110 | | | | | | | |
| 111 | | Alluvium Deposits | SW-SM | [Pattern] | | | |
| 112 | | | | | | | |
| 113 | | Alluvium Deposits | SW | [Pattern] | | | |
| 114 | | | | | | | |
| 115 | | Alluvium Deposits | SW-SM | [Pattern] | | | |
| 116 | | | | | | | |
| 117 | FW-02B-VAS-117-122 (7.8 ppb) 8/30/2022 11:14 | Alluvium Deposits | SW-SM | [Pattern] | | | |
| 118 | | | | | | | |
| 119 | | Alluvium Deposits | SW-SM | [Pattern] | | | |
| 120 | | | | | | | |

Abbreviations: USCS = Unified Soil Classification System, ft = feet, bgs = below ground surface, amsl = above mean sea level, SS = Stainless Steel, NR = No Recovery, N/A = Not Applicable, GW = groundwater, ppb = parts per billion, Notes: Solid blue water table marks represent depth to water (ft. bgs.) measured post development.

TOPOCK WELL COMPLETION DETAILS C:\USERS\SMCGRANE\ONE\DRIVE - ARCADIS\SHARED DOCUMENTS\PHASE II DRILLING\06 - FIELD DOCUMENTATION\02 GINT FILES\00 NEW PHASE 2 GINT FILES\00 NEW PHASE 2 GINT FILES\06 2022-12-07\GINT PROJECT\GPI GINT DATA TEMPLATE.GDT 12/7/22

| | | |
|-----------------------------------|---|---|
| Date Started: 10/23/2022 | Surface Elevation: 551.67 ft amsl | Well ID: FW-02B |
| Date Completed: 11/05/2022 | Shallow Well Elevation: N/A | |
| Drilling Co.: Cascade | Deep Well Elevation: N/A | Client: PG&E |
| Drilling Method: Dual Rotary | Northing (NAD83): 2100637.96 | Project: Final GW Remedy Phase 2A |
| Driller Name: Josh Saldana | Easting (NAD83): 7614544.74 | Location: PG&E Topock, Needles California |
| Drilling Asst: L.G. / A.A. / D.A. | Borehole Diameter: 22-24 inches | |
| Logger: Ellen Redner | Static Water Level: See Log for Depths | Project Number: 30126255 |
| Editor: Sean McGrane | Development End Date: 11/19/2022 | |
| Total Depth: 142.06 ft bgs | Well Completion: <input type="checkbox"/> Flush <input type="checkbox"/> Stick-up <input checked="" type="checkbox"/> To Be Completed in Well Vault | |

| Depth (ft) | Groundwater Sample ID | Geologic Formation | USCS Code | USCS Class | Construction Details | Calculated Material Volumes | Material Volumes Installed Note: percentages are the actual volume vs the calculated volume |
|------------|---|----------------------------------|-----------|------------|---|------------------------------|--|
| 121 | | Alluvium Deposits | SW-SM | | (120.3 - 120.9') Pel-Plug Bentonite Pellets 3/8" (TR30) | (120.3 - 120.9') 1.5 buckets | (120.3 - 120.9') 2 buckets (133%) Note: Bentonite seal, used >20% of the calculated volume due to potential voids that formed during drilling. |
| 122 | | Alluvium Deposits | SM | | (112.0 - 122.0') 12" SHUR-GRIP SDR17 PVC Casing | | |
| 123 | | Alluvium Deposits | SM | | (122.0 - 132.0') 12" 15-Slot 316L SS Wire Wrap Screen | | |
| 124 | | Alluvium Deposits | SW-SM | | | | |
| 125 | | Alluvium Deposits | SW-SM | | | | |
| 126 | | Alluvium Deposits | SM | | (120.9 - 133.2') Red Flint Sand 0.35-0.45 MM | (120.9 - 133.2') 43 bags | (120.9 - 133.2') 55 bags (128%) Note: Filter pack, used >20% of the calculated volume due to potential voids forming during drilling or the finer grained lower filter pack entering the well through the upper screen during installation. Swabbed the filter pack for approximately 30 minutes prior to installation of the bentonite seal. |
| 127 | | Alluvium Deposits | SM | | | | |
| 128 | | Alluvium Deposits | SW | | | | |
| 129 | FW-02B-VAS-127-132 (36 ppb) 8/31/2022 11:00 | Alluvium Deposits | SW | | | | |
| 130 | | Alluvium Deposits | SM | | | | |
| 131 | | Alluvium Deposits | SM | | | | |
| 132 | | Alluvium Deposits | SM | | | | Note: Conducted "Dummy Tool" Pre-alignment test to approximately 132.5 ft bgs to confirm there were no obstructions in the well post construction. |
| 133 | | Weathered Bedrock - Conglomerate | N/A | | (132.0 - 137.0') 12" SHUR-GRIP SDR-17 PVC Sump | | |
| 134 | | Weathered Bedrock - Conglomerate | N/A | | | | |
| 135 | | Weathered Bedrock - Conglomerate | N/A | | (134.0 - 135.0') Kwik-Zip Centralizer | | |
| 136 | FW-02B-VAS-135-137 (Sample results disregarded as water not likely representative of aquifer and is considered not water bearing interval) 9/1/2022 09:22 | Competent Bedrock - Conglomerate | N/A | | (133.2 - 140.0') Cemex #1/20 (20x40) Lapis Lustre Sand | (133.2 - 140.0') 27.3 bags | (133.2 - 140.0') 29 bags (106%) Note: Backfill sand |
| 137 | | Competent Bedrock - Conglomerate | N/A | | | | |
| 138 | | Competent Bedrock - Conglomerate | N/A | | (137.0 - 137.95') 12" 316 SS End Cap | | |
| 139 | | Competent Bedrock - Conglomerate | N/A | | | | |
| 140 | | Competent Bedrock - Conglomerate | N/A | | | | |

Abbreviations: USCS = Unified Soil Classification System, ft = feet, bgs = below ground surface, amsl = above mean sea level, SS = Stainless Steel, NR = No Recovery, N/A = Not Applicable, GW = groundwater, ppb = parts per billion, Notes: Solid blue water table marks represent depth to water (ft. bgs.) measured post development.

TOPOCK WELL COMPLETION DETAILS C:\USERS\SMCGRANE\ONE\DRIVE - ARCADIS\SHARED DOCUMENTS\PHASE II DRILLING\06 - FIELD DOCUMENTATION\02 GINT FILES\00 NEW PHASE 2 GINT FILES\06 2022-12-07\GINT PROJECT\GPI GINT DATA TEMPLATE.GDT 12/7/22

| | | |
|-----------------------------------|---|---|
| Date Started: 10/23/2022 | Surface Elevation: 551.67 ft amsl | Well ID: FW-02B |
| Date Completed: 11/05/2022 | Shallow Well Elevation: N/A | |
| Drilling Co.: Cascade | Deep Well Elevation: N/A | Client: PG&E |
| Drilling Method: Dual Rotary | Northing (NAD83): 2100637.96 | Project: Final GW Remedy Phase 2A |
| Driller Name: Josh Saldana | Easting (NAD83): 7614544.74 | Location: PG&E Topock, Needles California |
| Drilling Asst: L.G. / A.A. / D.A. | Borehole Diameter: 22-24 inches | |
| Logger: Ellen Redner | Static Water Level: See Log for Depths | Project Number: 30126255 |
| Editor: Sean McGrane | Development End Date: 11/19/2022 | |
| Total Depth: 142.06 ft bgs | Well Completion: <input type="checkbox"/> Flush <input type="checkbox"/> Stick-up <input checked="" type="checkbox"/> To Be Completed in Well Vault | |

| Depth (ft) | Groundwater Sample ID | Geologic Formation | USCS Code | USCS Class | Construction Details | Calculated Material Volumes | Material Volumes Installed Note: percentages are the actual volume vs the calculated volume | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|------------|-----------------------|----------------------------------|-----------|--|---|-----------------------------|--|--|-----|--|-----|--|-----|--|-----|--|-----|--|-----|--|-----|--|-----|--|-----|--|-----|--|-----|--|-----|--|-----|--|-----|--|-----|
| 141 | | Competent Bedrock - Conglomerate | N/A | XXXXXX XXXXXX XXXXXX XXXXXX XXXXXX XXXXXX XXXXXX XXXXXX | (140.0 - 142.1') Cemex #8 (4x16) Mesh Lapis Lustre Sand and formation cuttings | | Note: After circulating to flush casing, the casing was advanced by pushing the casing without advancing drill string and the cuttings and temp backfill sand below 140 ft were not removed. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 142 | | | | | 143 | | 144 | | 145 | | 146 | | 147 | | 148 | | 149 | | 150 | | 151 | | 152 | | 153 | | 154 | | 155 | | 156 | | 157 | | 158 | | 159 |

Draft Final - Pending Final Survey 12/7/22

Abbreviations: USCS = Unified Soil Classification System, ft = feet, bgs = below ground surface, amsl = above mean sea level, SS = Stainless Steel, NR = No Recovery, N/A = Not Applicable, GW = groundwater, ppb = parts per billion, Notes: Solid blue water table marks represent depth to water (ft. bgs.) measured post development.

C:\USERS\SMCGRANE\ONE DRIVE - ARCADIS\SHARED DOCUMENTS\PHASE II DRILLING\06_FIELD DOCUMENTATION\02_GINT FILES\00_NEW PHASE 2 GINT FILES\06_2022-12-07\GINT PROJECT GPJ_GINT DATA TEMPLATE.GDT 12/7/22

Attachment 6

Well Development Log

ARCADIS
Well Development Record

Project Name: PG&E Topock Phase 2A GW Remedy

PG 1 of 5
Date: 11/19/22

Date(s) 11/06/22 - 11/14/22 Project # 30126255

Arcadis Oversight: J. Alexander

ARCADIS Job Title: Env. Scientist I

Well ID FW-02B

Measuring Point (MP) 2.6' ft. (ags/bgs)

Total Depth (ft. BMP) 140.75'

Screen Interval (ft. bgs) 95'-112'
122'-132'

DTW (ft. BMP): 98.51'

DTW (ft. bgs): 95.91'

Water column in well (ft.): 42.24'

Diameter of well (in.): 12"

Gallons in well: 248.07 gal

Rig operator: Nicholas Kinosh / Javier Duran

Rig type: Pulstar P12

Bailer make and size: 10ft. x 3 in. diameter

Water added: N/A

Surge block make and size: 7ft long / 12 in. diameter

Pump make and size: Goulds 85 GS 50

Water source: N/A

| Time | Task | GPM | DTW (ft. BMP) | Total Depth (ft. BMP) | Temp °C | pH (+1.0) | ORP (mV) (+10.0 mV) | Cond. (µS/cm) (+3%) | Turb NTU (<10.0 NTU) | DO (mg/L) (+0.3 mg/L) | Notes/Gallons Removed/Water Clarity |
|---------------|---|-----|---------------|-----------------------|---------|-----------|---------------------|---------------------|----------------------|-----------------------|---|
| 11/06/22 1029 | Tag | | | 140.75' | | | | | | | TD (bacc.) "hard bottom" - 1st round of bailing not necessary |
| 1132 | Tag | | 98.51' | | | | | | | | DTW (bacc.) |
| 1135 | Measuring out surge block line - preparing to swab screen - interval 122'-132' | | | | | | | | | | |
| 1142 | Begin swabbing screen interval 122'-132' (bgs) - lower screen | | | | | | | | | | |
| 1232 | End Swabbing screen interval 122'-132' | | | | | | | | | | |
| 1305 | Measuring next screen interval. | | | | | | | | | | |
| 1310 | Begin swabbing screen interval 102'-112' (bgs) - upper screen. | | | | | | | | | | |
| 1400 | End swabbing screen interval 102'-112' | | | | | | | | | | |
| 1400 | Begin swabbing screen interval 95'-102' | | | | | | | | | | |
| 1435 | End swabbing screen interval 95'-102' | | | | | | | | | | |
| 1436 | Tag 98.20' DTW, 140.72' TD (hard bottom) | | | | | | | | | | |
| 1501 | Begin bailing (#1) → Imhoff: 18 ml/L sand, 40 ml/L total solids (8 gal. bailed) | | | | | | | | | | |
| 1508 | Bail #2 → Imhoff: 25 ml/L sand, 30 ml/L total solids | | | | | | | | | | |
| 1518 | Begin swabbing screen interval 122'-132' | | | | | | | | | | |
| 1608 | End swabbing screen interval 122'-132' | | | | | | | | | | |
| 1609 | Tag - 98.42' 140.72' (hard bottom) | | | | | | | | | | |
| | Finished for the day - 8 gallons bailed | | | | | | | | | | |
| | 11/07/22 | | | | | | | | | | |
| 11/07/22 0653 | Tag - 98.55' 140.72' (hard bottom) | | | | | | | | | | |
| 0700 | Begin swabbing screen interval 102'-112' | | | | | | | | | | |
| 0750 | End swabbing interval 102'-112' | | | | | | | | | | |
| 0750 | Begin swabbing interval 95'-102' | | | | | | | | | | |

Sample ID and Time: FW-02B-111922; 1341
Total gallons removed at completion of development: 977 gal
Arcadis Staff: Diana Fregoso-Sanchez

FW-02B - Well Development Record

ARCADIS Well Development Record

Project Name: PG&E Topock Phase 2A GW Remedy

PG 2 of 5 11/14/22

Date(s) 11/06/22-11/19/22 Project # 30126255

Arcadis Oversight: J. Alexander

ARCADIS Job Title: Env Scientist

| Time | Task | GPM | DTW (ft. BMP) | Total Depth (ft. BMP) | Temp °C | pH (± 1.0) | ORP (mV) (± 10.0 mV) | Cond. (µS/cm) (± 3%) | Turb NTU (<10.0 NTU) | DO (mg/L) (+0.3 mg/L) | Notes/Gallons Removed/Water Clarity |
|---|---|--------|---------------|-----------------------|---------|------------|----------------------|----------------------|----------------------|-----------------------|-------------------------------------|
| 11/07/22 0825 | End swabbing screen interval 95'-102' | | | | | | | | | | |
| 0827 | Tag - 98.60' 140.72' (hard bottom) | | | | | | | | | | |
| 0835 | Begin bailing (#1) → Imhoff: 100 mL sand, 375 mL total solids | | | | | | | | | | } 10 gal. bailed |
| 0838 | Bail #2 | | | | | | | | | | |
| 0841 | Bail #3 → Imhoff: 22 mL sand, 60 mL total solids | | | | | | | | | | |
| 0845 | Tag - 98.61' 140.75' (hard bottom) | | | | | | | | | | |
| Finished for the day - 10 gallons bailed | | | | | | | | | | | |
| 11/08/22 | | | | | | | | | | | |
| 1051 | Tag - 98.55' btoc. | | | | | | | | | | |
| 1055 | Surge 1 | | | | | | | | | | |
| 1057 | Surge 2 | | | | | | | | | | |
| 1059 | Surge 3 | | | | | | | | | | |
| 1102 | Surge 4 | | | | | | | | | | |
| 1104 | Surge 5 | | | | | | | | | | |
| 1105 | Pump 25.04 | 100.5 | | | | | | | | | |
| Pump intake at ~103' bps. → 105.5' btoc/BMP | | | | | | | | | | | |
| 1110 | Pump 20.40 | 101.65 | | | | 26.89 | 7.27 | 216.3 | 2601 | 26.4 | 55.3 |
| Pump intake ~105' btoc | | | | | | | | | | | |
| 1115 | Pump 10.12 | 100.46 | | | | 27.76 | 7.65 | 206.3 | 2665 | 23.5 | 46.5 |
| } 257.56 gallons pumped → pump rate decreased to avoid getting water level too close to pump intake | | | | | | | | | | | |
| 1120 | Pump 4.98 | 101.5 | | | | 27.95 | 7.65 | 173.3 | 2655 | 10.9 | 36.0 |
| 1125 | Pump 4.98 | 101.2 | | | | 28.28 | 7.65 | 174.0 | 2639 | 7.34 | 38.8 |
| 1127 | Pump off | | | | | | | | | | |
| 1155 | Tag - 98.50' | | | | | | | | | | |
| 1156 | Surge 1 | | | | | | | | | | |
| 1158 | Surge 2 | | | | | | | | | | |
| 1159 | Surge 3 | | | | | | | | | | |
| 1201 | Surge 4 | | | | | | | | | | |
| 1203 | Surge 5 | | | | | | | | | | |
| Pump intake 131.5' btoc. | | | | | | | | | | | |

Sample ID and Time: see page 1
 Total gallons removed at completion of development:
 Arcadis Staff:

ARCADIS Well Development Record

Project Name: PG&E Topock Phase 2A GW Remedy

PG 3 of 5 11/14/22

Date(s) 11/06/22 - 11/14/22 Project # 30126255

Arcadis Oversight: J. Krumholz

ARCADIS Job Title: Env. Scientist

11/06/22

| Time | Task | GPM | DTW (ft. BMP) | Total Depth (ft. BMP) | Temp °C | pH (± 1.0) | ORP (mV) (± 10.0 mV) | Cond. (µS/cm) (± 3%) | Turb NTU (<10.0 NTU) | DO (mg/L) (± 0.3 mg/L) | Notes/Gallons Removed/Water Clarity |
|--|---|-------|---------------|-----------------------|---------|------------|----------------------|----------------------|----------------------|------------------------|---------------------------------------|
| 1205 | Tag | — | 98.31' | | | | | | | | |
| 1205 | Pump | 50.08 | | | | | | | | | pump intake at 131.5' btoe (129' bgs) |
| 1210 | Pump | 48.66 | 120.1 | 131.5' | 27.09 | 7.67 | 117.2 | 2822 | 11.9 | 26.4 | 7 |
| 1215 | Pump | 50.90 | 126.21 | " | 27.24 | 7.69 | 46.4 | 3185 | 148.0 | 48.5 | GPM decreased to 30 to avoid pump |
| 1220 | Pump | 26.88 | 114.95 | " | 27.03 | 7.74 | -8.0 | 3200 | 44.8 | 51.6 | 1361 gallons pumped |
| 1225 | Pump | 25.88 | 114.69 | " | 27.19 | 7.74 | 14.2 | 3179 | 18.0 | 100.2 | |
| 1230 | Pump | 26.38 | 115.60 | " | 27.59 | 7.68 | 29.1 | 3189 | 13.4 | 150.0 | |
| 1235 | Pump | 26.38 | 115.60 | " | 27.40 | 7.62 | 18.0 | 3184 | 11.9 | 130.6 | |
| 1240 | Pump | 28.20 | 114.60 | " | 27.42 | 7.68 | -0.6 | 3085 | 13.1 | 67.9 | |
| 1245 | Pump | 28.54 | 114.63 | " | 27.18 | 7.67 | 5.8 | 3183 | 15.5 | 59.6 | |
| 1248 | Pump off | | | | | | | | | | |
| 1300 | Tag | — | 100.21 | | | | | | | | |
| 1520 | Begin baseline sp. capacity test - 50 GPM - pump intake = 132.5' btoe. } 468.51 gallons | | | | | | | | | | |
| 1528 | Pump malfunction - abort baseline sp. capacity test | | | | | | | | | | |
| 1530 | Testing Pump } 169.76 gallons | | | | | | | | | | |
| 1537 | Pump malfunction again | | | | | | | | | | |
| 1546 | Tag | — | 98.42' | | | | | | | | |
| 1548 | Tag | — | 99.91' | | | | | | | | |
| Finished for the day - 2257 gallons pumped | | | | | | | | | | | |
| 11/09/22 | | | | | | | | | | | |
| 0916 | Tag | — | 98.72' | 98.71' | | | | | | | |
| 0930 | Begin second attempt of baseline specific capacity test → 542.57 gallons | | | | | | | | | | |
| 0941 | Pump off - baseline sp. capacity test aborted due to pump malfunction. | | | | | | | | | | |
| 0945 | Removing 5ft of pipe and will raise pump intake to 127.5 ft btoe. (125 ft bgs) to attempt test again. | | | | | | | | | | |
| 1024 | Tag | — | 98.85' | | | | | | | | |

Sample ID and Time: See page 1
 Total gallons removed at completion of development:
 Arcadis Staff:

FW-02B - Well Development Record

ARCADIS Well Development Record

Project Name: PG&E Topock Phase 2A GW Remedy

PG 4 of 5 ¹¹ SA 11/19/22

Date(s) 11/08/22 - 11/19/22 Project # 30126255

Arcadis Oversight: J. Alexander

ARCADIS Job Title: Env Scientist

11/09/22

| Time | Task | GPM | DTW (ft. BMP) | Total Depth (ft. BMP) | Temp °C | pH (+ 1.0) | ORP (mV) (+ 10.0 mV) | Cond. (µS/cm) (+ 3%) | Turb NTU (<10.0 NTU) | DO (mg/L) (+ 0.3 mg/L) | Notes/Gallons Removed/Water Clarity |
|------|--|-------|---------------|-------------------------------------|---------|------------|----------------------|----------------------|----------------------|------------------------|---|
| 1025 | Begin third attempt at baseline specific capacity test at 50 GPM. | | | | | | | | | | |
| 1033 | Pump malfunction during test at 40 GPM subsequent to 50 GPM. | | | | | | | | | | |
| 1039 | Lowered GPM to 20 and restarted test. | | | | | | | | | | |
| 1040 | Restart ^{baseline} specific capacity test at 20 GPM after finding a flow rate that would not fluctuate ^{drop} significantly. (pump continuously ran) | | | | | | | | | | |
| 1235 | s.c. Test | 20.24 | 114.71 | 127.5' ^{pump intake} | 27.22 | 7.60 | 10.1 | 3142 | 8.70 | 45.6 | very clear water |
| 1240 | Pump off - end baseline sp. capacity test | | | | | | | | | | 2987.64 gallons removed |
| 1300 | Tag - | | 99.60 | | | | | | | | |
| 1430 | Begin bailing ^{Tag} well - | | | 140.72 TD (hard bottom), 98.76' DTW | | | | | | | |
| 1437 | Begin bailing (#1) → Imhoff: 45 ml/L sand, 125 ml/L total solids | | | | | | | | | | 5 gal |
| 1441 | Bail #2 → Imhoff: 22 ml/L sand, 35 ml/L total solids | | | | | | | | | | bailed |
| 1448 | Begin swabbing screen interval 122'-132' | | | | | | | | | | (Tagged at 1442 → 140.75 (hard bottom)) |
| 1533 | End swabbing screen interval 122'-132' | | | | | | | | | | |
| | Finished for the day - 3535.21 gallons pumped | | | | | | | | | | |

11/10/22

| | | | | | | | | | | | |
|----------|---|--|-------|----------------------|--|--|--|--|--|--|--------|
| 11/10/22 | | | | | | | | | | | |
| 0819 | Tag - | | 98.72 | 140.72 (hard bottom) | | | | | | | |
| 0830 | Begin swabbing screen interval 102'-112' | | | | | | | | | | |
| 0920 | End swabbing screen interval 102'-112' | | | | | | | | | | |
| 0920 | Begin swabbing screen interval 95'-102' | | | | | | | | | | |
| 0950 | Pause swabbing screen interval 95'-102' | | | | | | | | | | |
| 0955 | Resume swabbing | | | | | | | | | | |
| 1000 | End swabbing screen interval 95'-102' | | | | | | | | | | |
| 1003 | Tag - | | 98.70 | 140.70 (soft bottom) | | | | | | | |
| 1008 | Begin bailing (#1) → Imhoff: 40 ml/L sand, 40 ml/L total solids | | | | | | | | | | |
| 1015 | Bail #2 | | | | | | | | | | 10 gal |
| 1019 | Bail #3 → Imhoff: 20 ml/L sand, 23 ml/L total solids | | | | | | | | | | bailed |

Sample ID and Time: See page 1
 Total gallons removed at completion of development: _____
 Arcadis Staff: _____

ARCADIS Well Development Record

Project Name: PG&E Topock Phase 2A GW Remedy PG 5 of 5 5/11/19/22

Date(s) 11/06/22-11/19/22 Project # 30126255 Arcadis Oversight: J. Alexander Arcadis Job Title: Env Scientist

| Time | Task | GPM | DTW (ft. BMP) | Total Depth (ft. BMP) | Temp °C | pH (+1.0) | ORP (mV) (+10.0 mV) | Cond. (µS/cm) (+3%) | Turb NTU (<10.0 NTU) | DO (mg/L) (+0.3 mg/L) | Notes/Gallons Removed/Water Clarity |
|---------------------------------|------------|----------|---|------------------------------|---------|-----------|---------------------|---------------------|----------------------|-----------------------|-------------------------------------|
| <u>11/10/22</u> 1022 | <u>Tag</u> | <u>-</u> | <u>98.72'</u> | <u>140.72' (hard bottom)</u> | | | | | | | |
| | | | <u>Finished for the day - 10 gallons bailed</u> | | | | | | | | |
| <u>11/19/22</u> <u>DMFGS</u> | | | | | | | | | | | |

Sample ID and Time: FW-02B-111922; 1341

Total gallons removed at completion of development: 9776 gal

Arcadis Staff: Diana Fregoso-Sanchez

FW-02B - Well Development Record

ARCADIS Design & Consultancy
for natural and built assets

Well Development Record
SM 11/19/22

Project Name: PG&E Topock Phase 2A GW Remedy

6 OF 11
PG 1 OF 6 SM 11/19/22

Date(s) 11/15/22 - 11/19/22

Project # 30126255

Arcadis Oversight: Diana Fregoso-Sanchez

ARCADIS Job Title: SM Eval.

Well ID FW-02B

Measuring Point (MP) ft. (ags/bgs) 2.6 ags

Total Depth (ft. BMP) 140.61'

Screen Interval (ft. bgs) 95'-112'
122'-132'

DTW (ft. BMP): 98.71'

DTW (ft. bgs): 98.61'

Water column in well (ft.): 41.94'

Diameter of well (in.): 12"

Gallons in well: 246.27 gal

Rig operator: Javier Duarte

Rig type: Pulstar P12

Bailer make and size: 10' x 3" diameter

Water added: N/A

Surge block make and size: 7" long, 12" diameter

Pump make and size: Goulds 85 G550

Water source: N/A

| Time | Task | GPM | DTW (ft. BMP) | Total Depth (ft. BMP) | Temp °C | pH (+ 1.0) | ORP (mV) (+ 10.0 mV) | Cond. (µS/cm) (+ 3%) | Turb NTU (<10.0 NTU) | DO (mg/L) (+ 0.3 mg/L) | Notes/Gallons Removed/Water Clarity |
|-------|---|-----|---------------|-----------------------|---------|------------|----------------------|----------------------|----------------------|------------------------|-------------------------------------|
| 0812 | Start SWAB, 1st 10 ft | | | | | | | | | | |
| 0835 | Tagged TD 140.62, DTW 98.71 | | | | | | | | | | |
| 0830 | Begin swabbing screen interval 122' - 132' - lower screen | | | | | | | | | | |
| 0830 | End of swabbing 122' - 132' - wrong time | | | | | | | | | | |
| 0920 | End of swabbing 122' - 132' | | | | | | | | | | |
| 0922 | Measuring next interval; skipped 122' - 112' (agg) | | | | | | | | | | |
| 0931 | Begin swabbing screen interval 102' - 112' | | | | | | | | | | |
| 1025 | End of swabbing 102' - 112' | | | | | | | | | | |
| 1028 | Measuring next interval; | | | | | | | | | | |
| 1032 | Begin swabbing screen interval 95' - 102' | | | | | | | | | | |
| 1109 | End of swabbing | | | | | | | | | | |
| 11:14 | 98.68' DTW, 140.60' TD (Soft Bottom) | | | | | | | | | | |
| 11:26 | Surge prep - RFS Prep for bail | | | | | | | | | | |
| 11:39 | Begin Bailing #1, 100ml/L sands, 300ml/L total solids | | | | | | | | | | |
| 11:49 | Begin Bailing #2 | | | | | | | | | | |
| 11:54 | Bailing #3 | | | | | | | | | | |
| 12:03 | Bailing #4 | | | | | | | | | | |
| 12:07 | Bailing #5; total bailed 20gal; 15ml/L sands, 60ml/L total solids | | | | | | | | | | |
| 12:26 | DTW 98.67'; TD 140.61' (Hard Bottom) | | | | | | | | | | |
| 13:49 | | | | | | | | | | | RFS 11/15/22 |
| 15:29 | 98.65' DTW, Pump d roots im. killed, Pump | | | | | | | | | | |
| 15:31 | Surge 1 | | | | | | | | | | |
| 15:33 | Surge 2 | | | | | | | | | | |

Sample ID and Time: FW-02B-111922; 1341

Total gallons removed at completion of development: 9776 gal

Arcadis Staff: Diana Fregoso-Sanchez

7 OF 11
PG 7 of 11 of 6
SM 11/19/22 of 6
SM 11/19/22
FW-02B

ARCADIS Well Development Record
Project Name: PG&E Topock Phase 2A GW Remedy
Date(s): 11/06/22 - 11/19/22
Project # 30126255
Arcadis Oversight: Diana Freyre-Sanchez
Well ID: FW-02B

| Time | Task | GPM | DTW (ft. BMP) | Total Depth (ft. BMP) | Temp °C | pH (+1.0) | ORP (mV) (+10.0 mV) | Cond. (µS/cm) (+3%) | Turb NTU (<10.0 NTU) | DO (mg/L) (+0.3 mg/L) | Notes/Gallons Removed/Water Clarity |
|-------|--|-----|---------------|-----------------------|---------|-----------|---------------------|---------------------|----------------------|-----------------------|-------------------------------------|
| 15:36 | Surge 3 | | | | | | | | | | |
| 15:39 | Surge 4 | | | | | | | | | | |
| 16:42 | Surge 5 | | | | | | | | | | |
| | | | | finished | | | | | | | |
| | | | | 11/16/22 | | | | | | | |
| 10:00 | Pump on adj. w 20 gpm, intake at ~116 ft btpoc, tag 98.82' | | | | | | | | | | |
| 10:02 | Pump 2192 gpm set approximately | | | | | | | | | | |
| 10:05 | Pump 2157 101.96 | | | | 24.5 | 6.47 | 107.0 | 2083 | 19.0 | 2.36 | |
| 10:10 | Pump 2157 101.93 | | | | 29.6 | 7.29 | 389 | 2056 | 38.6 | 2.82 | |
| 10:15 | Pump 2157 102.75 | | | | 29.7 | 7.33 | 12.6 | 2048 | 19.5 | 3.23 | |
| 10:20 | Pump 2190 102.14 | | | | 29.7 | 7.34 | -5.7 | 2064 | 12.4 | 3.56 | |
| 10:25 | Pump 2206 102.44 | | | | 29.6 | 7.35 | -2.2 | 2094 | 7.00 | 3.58 | |
| 10:30 | Pump 2140 102.45 | | | | 29.6 | 7.36 | -6.1 | 2138 | 4.97 | 3.76 | |
| 10:35 | Pump 2206 102.35 | | | | 29.6 | 7.37 | -4.2 | 2172 | 3.70 | 3.87 | 790 total gallons |
| 10:36 | Pump off | | | | | | | | | | |
| 10:43 | Javier prepping for next surge; removing parts - PFS Adding 6ft Rod. | | | | | | | | | | |
| 10:57 | Intake will be at w 122 ft btpoc | | | | | | | | | | |
| 11:04 | Surge 1 | | | | | | | | | | |
| 11:07 | Surge 2 | | | | | | | | | | |
| 11:11 | Surge 3 | | | | | | | | | | |
| 11:13 | Surge 4 | | | | | | | | | | |
| 11:16 | Surge 5 | | | | | | | | | | |
| 11:26 | Tag - 98.85 | | | | | | | | | | |
| 11:30 | Pump on w 20 gpm | | | | | | | | | | |
| 11:31 | Pump 2098 set | | | | | | | | | | |
| 11:35 | Pump 2090 101.41 | | | | 29.7 | 7.42 | -10.3 | 2231 | 18.8 | 4.02 | |
| 11:40 | Pump 2124 101.65 | | | | 29.7 | 7.42 | -19.5 | 2187 | 21.7 | 4.35 | 1056.64 g |
| 11:45 | Pump 2124 101.76 | | | | 29.7 | 7.42 | -22.6 | 2217 | 27.3 | 4.51 | 1161.79 g |
| 11:50 | Pump 2140 101.85 | | | | 29.7 | 7.41 | -22.3 | 2229 | 8.98 | 4.61 | 1259.48 |
| 11:55 | Pump 2124 101.91 | | | | 29.7 | 7.41 | -23.1 | 2246 | 4.88 | 4.60 | 1395.70 |
| 12:00 | Pump 2140 101.94 | | | | 29.7 | 7.41 | -25.6 | 2250 | 4.00 | 4.74 | 1489.44 |

FW-02B - Well Development Record

ARCADIS

Well Development Record

Project Name: PG&E Topock Phase 2A GW Remedy

PG

8 of 11
3 of 6
5/11/19/22

Date(s) 11/16/22 - 11/19/22

Project # 30126255

Arcadis Oversight:

Diana Fropo

Well ID

FW-02B

| Time | Task | GPM | DTW (ft. BMP) | Total Depth (ft. BMP) | Temp °C | pH (+1.0) | ORP (mV) (+10.0 mV) | Cond. (µS/cm) (+3%) | Turb NTU (<10.0 NTU) | DO (mg/L) (+0.3 mg/L) | Notes/Gallons Removed/Water Clarity |
|--|---------------|--------|---------------|---|---------|-----------|---------------------|---------------------|----------------------|-----------------------|-------------------------------------|
| 12:05 | Pump | 21.24 | 101.97 | Pump intake 122ft btrc | 29.7 | 7.41 | -24.8 | 2270 | 6.54 | 4.77 | 1586.80 |
| 12:06 | Pump off | | | | | | | | | | |
| 12:45 | Attaching | | | 21' rod, removed 6' & 10' rod | | | | | | | |
| 13:14 | 131' ft total | | | w 127ft btrc intake location | | | | | | | |
| 13:27 | tag | | 98.79' | | | | | | | | |
| 13:30 | Surge #1 | | | | | | | | | | |
| 13:32 | Surge #2 | | | | | | | | | | |
| 13:35 | Surge #3 | | | | | | | | | | |
| 13:37 | Surge #4 | | | | | | | | | | |
| 13:39 | Surge #5 | | | | | | | | | | |
| 13:45 | Pump on | | | w 20 gpm intake w 127ft btrc | | | | | | | |
| 13:50 | Pump | 21.74 | 101.38 | Pump intake 127ft btrc | 29.6 | 7.44 | 140.7 | 2271 | 19.8 | 4.82 | 1749.27 |
| 13:55 | Pump | 10.60 | 21.74 | | 29.6 | 7.44 | 85.1 | 2264 | 15.4 | 5.05 | 1862.87 |
| 14:00 | Pump | 21.57 | 101.73 | | 29.6 | 7.44 | 74.4 | 2271 | 10.3 | 5.09 | 1971.79 |
| 14:05 | Pump | 21.90 | 101.81 | | 29.6 | 7.44 | 67.0 | 2266 | 5.02 | 6.08 | 2086.98 |
| 14:10 | Pump | 21.90 | 101.87 | | 29.6 | 7.44 | 62.3 | 2283 | 4.34 | 5.11 | 2190.55 |
| 14:15 | Pump | 21.74 | 101.89 | | 29.6 | 7.43 | 58.0 | 2297 | 3.85 | 5.16 | 2304.95 |
| 14:20 | Pump | 21.74 | 101.94 | | 29.6 | 7.43 | 55.4 | 2287 | 2.96 | 5.13 | 2401.26 |
| 14:21 | Pump off | | | waiting for recharge to conduct baseline specific cap. test | | | | | | | |
| 14:52 | Tag | | 98.85' | | | | | | | | |
| 15:27 | Pump off | | | from baseline specific capacity test | | | | | | | |
| End of Day 11/16/22 | | | | | | | | | | | |
| 11/17/22 | 08:15 | Tag | 98.69' | no pump or rod, TD 140.61', DTW 98.69' | | | | | | | |
| | 08:20 | Adding | | swab tool into well | | | | | | | |
| | 08:25 | Begin | | swabbing lower screen, 132'-122' | | | | | | | |
| | 09:17 | Stop | | swabbing 132'-122' | | | | | | | |
| Stopped at 0920 due to Air Quality - End Day | | | | | | | | | | | |
| 11/18/2022 | | | | | | | | | | | |
| | 7:03 | DTW | 98.66 | TD 144.60', no equipment | | | | | | | |
| | 7:23 | Start | | swabbing 102'-112' | | | | | | | |
| | 7:17 | Start | | swabbing 95'-102', ended 102'-112' ended | | | | | | | |
| | 8:58 | End | | of swabbing 95'-102' | | | | | | | |

FW-02B - Well Development Record

9 of 11
PG 4 of 6
5/11/22

ARCADIS
Well Development Record
Date(s) 11/05/22 - 11/19/22
Project # 30126255
Project Name: PG&E Topock Phase 2A GW Remedy
Arcadis Oversight: Diana Frazee
Well ID: FW-02B

| Time | Task | GPM | DTW (ft. BMP) | Total Depth (ft. BMP) | Temp °C | pH (+1.0) | ORP (mV) (+10.0 mV) | Cond. (µS/cm) (+3%) | Turb NTU (<10.0 NTU) | DO (mg/L) (+0.3 mg/L) | Notes/Gallons Removed/Water Clarity |
|-----------------------|-------------------------|-----|------------------------|-----------------------|----------------------------|-----------|---------------------|---------------------|----------------------|-----------------------|-------------------------------------|
| 0904 | DTW 98.60' | | | TD 144.60' | | | | | | | after swabbing; no equipment |
| 0922 | Bailer in well | | | 140.60' | | | | | | | |
| 0929 | Bailing #1 | | | Sand | NO MICABLE SAND | | | Total solids | 360 mL/L | | |
| 0939 | Bailing #2 | | | | | | | | | | |
| 0945 | Bailing #3 | | | | | | | | | | |
| 0948 | Bailing #4 | | | | | | | | | | |
| 0953 | Bailing #5 | | | Sand | 35 mL/L | | | Total solids | 360 mL/L | | |
| 0958 | Tag | | 98.60' DTW, 140.61' TD | | | | | | | | (Hard bottom) |
| 1014 | Begin swabbing | | | | | | | screen interval | 122-132' | | |
| 1104 | End swabbing | | | | | | | screen interval | 122-132' | | |
| 1110 | Begin swabbing | | | | | | | screen interval | 112-122' | | |
| 1202 | Begin AFS End swabbing | | | | | | | screen interval | 112-122' | | |
| 1202 | Begin swabbing interval | | | | | | | screen interval | 102-95' | | |
| 1241 | End swabbing | | | | | | | screen interval | 102-95' | | |
| 1308 | DTW 98.53' | | | TD 140.59' | | | | | | | Soft bottom |
| 1323 | Bailing #1 | | | Sand: | cannot clearly distinguish | | | Total solids: | 475 mL/L | | |
| 1329 | Bailing #2 | | | | | | | | | | |
| 1333 | Bailing #3 | | | | | | | | | | |
| 1337 | Bailing #4 | | | | | | | | | | |
| 1344 | Bailing #5 | | | Sand | 0.5 mL/L | | | Total solids | > 200 mL/L | | |
| 1349 | DTW 98.53' | | | TD 140.61' | | | | | | | |
| 1543 | Well installed | | | @ 116.5 ft btoe | | | | | | | |
| End of day 11/18/22 | | | | | | | | | | | |
| Start of Day 11/19/22 | | | | | | | | | | | |
| 0724 | DTW 98.81, | | | | | | | | | | |
| 0809 | Pump on | | | | | | | | | | |
| 0810 | Surge 1 | | | | | | | | | | |
| 0813 | Surge 2 | | | | | | | | | | |
| 0816 | Surge 3 | | | | | | | | | | |
| 0818 | Surge 4 | | | | | | | | | | |
| 0820 | Surge 5 | | | | | | | | | | |
| 0825 | Pump on | | | w 20 gpm | | | | intake at | ~ 116.5 ft btoe | | |

FW-02B - Well Development Record

ARCADIS Well Development Record

Project Name: PG&E Topock Phase 2A GW Remedy

PG 5 of 11
10 of 11
6 SM 11/14/22
ARCADIS Job Title: Env. Geologist

Date(s) 11/06/22 - 11/19/22

Project # 30126255

Arcadis Oversight: Diana Freygo - Sanchez

ARCADIS Job Title: Env. Geologist

| Time | Task | GPM | DTW (ft. BMP) | Total Depth (ft. BMP) | Temp °C | pH (+1.0) | ORP (mV) (+10.0 mV) | Cond. (µS/cm) (+3%) | Turb NTU (<10.0 NTU) | DO (mg/L) (+0.3 mg/L) | Notes/Gallons Removed/Water Clarity |
|------|--|-----------------|---------------|------------------------|---------|-----------|---------------------|---------------------|----------------------|-----------------------|-------------------------------------|
| 0826 | Gpm | w 22.00 GPM set | | | | | | | | | RS 11/19/22 |
| 0830 | Pump | 22.23 | 101.92 | Intake Pump w 116.5 ft | 29.6 | 7.26 | 174.4 | 2299 | 37.1 | 46.4 | 199 gal |
| 0835 | Pump | 21.19 | 101.97 | | 29.7 | 7.39 | 90.5 | 2279 | 29.4 | 4.22 | 330 gal |
| 0840 | Pump | 22.06 | 102.04 | | 29.7 | 7.40 | 72.7 | 2279 | 15.0 | 4.38 | 413 gal |
| 0845 | Pump | 22.06 | 102.09 | | 29.7 | 7.42 | 60.7 | 2322 | 11.2 | 4.47 | 515 gal |
| 0850 | Pump | 22.23 | 102.14 | | 29.7 | 7.42 | 51.4 | 2370 | 6.63 | 4.51 | 636 gal |
| 0855 | Pump | 22.23 | 102.19 | | 29.7 | 7.43 | 44.8 | 2388 | 4.89 | 4.56 | 754 gal |
| 0900 | Pump | 22.06 | 102.22 | | 29.7 | 7.43 | 37.0 | 2415 | 3.77 | 4.66 | 857 gal |
| 0905 | Pump | 22.23 | 102.25 | | 29.7 | 7.44 | 26.4 | 2459 | 2.26 | 4.78 | Total gal produced 982 gal |
| 0906 | Pump off | | | | | | | | | | |
| 0914 | Add 6' Rod; Pump w 122.5 ft | | | | | | | | | | |
| 0922 | Tag DTW 99.09' | | | | | | | | | | |
| 0924 | Surge 1 | | | | | | | | | | |
| 0929 | Surge 2 | | | | | | | | | | |
| 0931 | Surge 3 | | | | | | | | | | |
| 0933 | Surge 4 | | | | | | | | | | |
| 0936 | Surge 5 | | | | | | | | | | |
| 0937 | Tag DTW 98.50 | | | | | | | | | | |
| 0943 | Tag DTW 98.94 | | | | | | | | | | |
| 0945 | Pump on w 20 gpm; intake at w 122.5 ft | | | | | | | | | | |
| 0946 | Pump set w 22.73 gpm | | | | | | | | | | |
| 0950 | Pump | 22.06 | 101.45 | | 29.6 | 7.58 | 143.0 | 2474 | 11.8 | 5.05 | |
| 0955 | Pump | 22.06 | 101.64 | | 29.7 | 7.47 | 64.8 | 2466 | 10.7 | 5.12 | 1236 gal |
| 1000 | Pump | 22.06 | 101.99 | | 29.7 | 7.46 | 35.5 | 2475 | 7.56 | 5.23 | 1349 |
| 1005 | Pump | 22.06 | 101.85 | | 29.7 | 7.45 | 26.6 | 2510 | 5.03 | 5.20 | 1460 |
| 1010 | Pump | 22.06 | 101.90 | | 29.7 | 7.45 | 18.6 | 2497 | 3.23 | 5.33 | 1555 |

Sample ID and Time: See Page 1

Total gallons removed at completion of development: 982

Arcadis Staff: " "



Well Development Record

Project Name: PG&E Topock Phase 2A GW Remedy

PG 6 of 11 to 5/11/22

Date(s) 11/19/22 - 11/19/22

Project # 30126255

Arcadis Oversight: Diana Fregoso-Sanchez

ARCADIS Job Title: Env. Geologist

| Time | Task | GPM | DTW (ft. BMP) | Total Depth (ft. BMP) | Temp °C | pH (+1.0) | ORP (mV) (+10.0 mV) | Cond. (µS/cm) (+3%) | Turb NTU (<10.0 NTU) | DO (mg/L) (+0.3 mg/L) | Notes/Gallons Removed/Water Clarity |
|-------|---|------------------|---------------|---|---------|-----------|---------------------|---------------------|----------------------|-----------------------|-------------------------------------|
| 1015 | Pump | 2206 | 101.94 | Intake at 22.5 ft. pipe | 29.6 | 7.45 | 11.1 | 2511 | 2.41 | 5.26 | 1688 |
| 1020 | Pump | 2223 | 101.96 | | 29.7 | 7.45 | 9.4 | 2529 | 1.64 | 5.21 | Total produced from test 816 gal |
| 1024 | Pump off | | | | | | | | | | |
| 1033 | Removing | | | 10 ft & 6 ft Rod to replace with 21 ft Rod + 2 ft Rod | | | | | | | |
| 1113 | Surge 1 | | | | | | | | | | |
| 1116 | Surge 2 | | | | | | | | | | |
| 1118 | Surge 3 | | | | | | | | | | |
| 1120 | Surge 4 | | | | | | | | | | |
| 1122 | Surge 5 | | | | | | | | | | |
| 1125 | DTW | 98.84 | | | | | | | | | |
| 1125 | Pump on | W 90 gpm | | | | | | | | | intake at +20 ft 129 ft |
| 1137 | Pump | off at 22.06 gpm | | | | | | | | | |
| 1130 | Pump | 2223 | 101.35 | Intake at 22.5 ft. pipe | 29.6 | 7.57 | 151.8 | 2562 | 9.39 | 5.16 | 1924 |
| 1135 | Pump | 2240 | 101.59 | Intake at 22.5 ft. pipe | 29.7 | 7.48 | 112.8 | 2527 | 5.32 | 5.13 | 2012 |
| 1140 | Pump | 2240 | 101.72 | | 29.7 | 7.47 | 100.2 | 2501 | 4.72 | 5.31 | 2132 |
| 1145 | Pump | 2240 | 101.79 | | 29.7 | 7.47 | 94.3 | 2531 | 3.54 | 5.35 | 2237 |
| 1150 | Pump | 2240 | 101.84 | | 29.7 | 7.46 | 88.4 | 2529 | 2.33 | 5.36 | 2358 |
| 11:55 | Pump | 2240 | 101.89 | | 29.7 | 7.46 | 85.9 | 2536 | 2.71 | 5.40 | 2450 |
| 12:00 | Pump | 2240 | 101.91 | | 29.6 | 7.46 | 84.8 | 2537 | 2.25 | 5.40 | total produced |
| 12:01 | Pump off | | | | | | | | | | |
| 12:29 | 98.93 | | | | | | | | | | |
| 1235 | Going to start Baseline Specific Capacity Test | | | | | | | | | | |
| 1335 | End of Capacity test; taking sample, pump still on. | | | | | | | | | | |
| 1336 | | 24.39 | | | 29.4 | 7.48 | 189.7 | 2577 | 0.50 | 5.74 | |
| 1341 | Sampled Turb | | | | 0.50 | | | | | | |
| 1343 | Pump off | | | | | | | | | | End of Testing |

Sample ID and Time: FW-02B-111922-21341

Total gallons removed at completion of development: 9776 gal


Arcadis Staff: Diana Fregoso-Sanchez

Total Gallons produced 11/19/22 4270 gallons

Attachment 7

Specific Capacity Testing Package

Specific Capacity Test

| | |
|---------------------------------|---|
| Location/Well ID | FW-02B |
| Date | 11/20/2022 |
| Screened Interval Tested | 95-132 ft bgs |
| Packer Set Depth | N/A - Single Screen |
| Packer Seal Test | N/A - Single Screen |
| Tests Conducted | Four-step specific capacity test (25, 50, 35, and 30 gpm) |
| Purpose | Specific Capacity Test |
| Summary | Specific capacity results: 25 gpm = 6.27 gpm/ft, and 30 gpm = 1.15 gpm/ft. |
| Notes | <p>The test was limited to two distinct tests; approximately 20 minutes into the 50 gpm rate step test, the flow rates started fluctuating. The pumping rate was reduced to 35 gpm. The cause for the fluctuation was water cascading into the well from the dewatered upper screen, giving false water level readings.</p> <p>The pumping rate was further decreased to 30 gpm to prevent the water level from dropping below the transducer.</p> <p>Pumping at 30 gpm was continued through the end of the regular test time but the water level did not stabilize.</p> |
| Oversight Signature |  |
| Date | 12/6/2022 |

Acronyms & Abbreviations

bgs = below ground surface

ft = feet

gpm = gallons per minute

IM = interim measure

Specific Capacity Test

| | |
|--|-----------------------|
| Location/Well ID | FW-02B |
| Date | 11/20/2022 |
| Screened Interval | 95-132 bgs |
| Pump Depth (ft btoc) | 129 ft bgs |
| Packer Depth (ft btoc) | N/A - Single Screen |
| Packer Leak Test (Pass/Fail) | N/A - Single Screen |
| Initial Water Level (ft btoc) | 98.86 |
| Initial Totalizer Reading (gal) | 307428.00 |
| Final Totalizer Reading (gal) | 320102 |
| Approx Pumped Volume (gal) | 12674.00 |
| Calculated Volume Purged (gal) | 12312.50 |
| Difference in Volume Pumped vs. Calculated | 361.50 |
| Number of Specific Capacity Steps | 4 |
| Pumping Rates (in order) | 25, 50, 35 and 30 gpm |

| Step 1 (25 GPM) Time (HR:MN:SEC) | Change in Time Between Measurements (min) | Elapsed Time (min) | Pumping Rate (gpm) | Total Volume Pumped (gal) | Depth to Water (ft) | Drawdown (ft) |
|---|--|--------------------------|--------------------------|------------------------------|------------------------|------------------|
| 8:35:00 | 0.00 | 0.00 | 0.00 | 0.00 | 98.86 | 0.00 |
| 8:40:00 | 5.00 | 0.00 | 0.00 | 0.00 | 98.86 | 0.00 |
| 8:41:00 | 1.00 | 1.00 | 27.61 | 27.61 | 101.61 | 2.75 |
| 8:42:00 | 1.00 | 2.00 | 24.56 | 52.17 | - | - |
| 8:43:00 | 1.00 | 3.00 | 25.00 | 77.17 | 101.78 | 2.92 |
| 8:44:00 | 1.00 | 4.00 | 26.22 | 103.39 | 101.87 | 3.01 |
| 8:45:00 | 1.00 | 5.00 | 25.06 | 128.45 | 101.95 | 3.09 |
| 8:46:00 | 1.00 | 6.00 | 24.88 | 153.33 | 102.04 | 3.18 |
| 8:47:00 | 1.00 | 7.00 | 25.06 | 178.39 | 102.08 | 3.22 |
| 8:48:00 | 1.00 | 8.00 | 24.88 | 203.27 | 102.08 | 3.22 |
| 8:49:00 | 1.00 | 9.00 | 25.06 | 228.33 | 102.15 | 3.29 |
| 8:50:00 | 1.00 | 10.00 | 25.06 | 253.39 | 102.19 | 3.33 |
| 8:52:00 | 2.00 | 12.00 | 25.06 | 303.51 | 102.25 | 3.39 |
| 8:54:00 | 2.00 | 14.00 | 25.06 | 353.63 | 102.31 | 3.45 |
| 8:56:00 | 2.00 | 16.00 | 24.88 | 403.39 | 102.35 | 3.49 |
| 8:58:00 | 2.00 | 18.00 | 24.88 | 453.15 | 102.37 | 3.51 |
| 9:00:00 | 2.00 | 20.00 | 24.88 | 502.91 | 102.40 | 3.54 |
| 9:02:00 | 2.00 | 22.00 | 25.06 | 553.03 | 102.44 | 3.58 |
| 9:04:00 | 2.00 | 24.00 | 24.88 | 602.79 | 102.47 | 3.61 |
| 9:06:00 | 2.00 | 26.00 | 25.06 | 652.91 | 102.49 | 3.63 |
| 9:08:00 | 2.00 | 28.00 | 24.88 | 702.67 | 102.51 | 3.65 |
| 9:10:00 | 2.00 | 30.00 | 24.88 | 752.43 | 102.54 | 3.68 |
| 9:15:00 | 5.00 | 35.00 | 25.06 | 877.73 | 102.57 | 3.71 |
| 9:20:00 | 5.00 | 40.00 | 24.88 | 1002.13 | 102.61 | 3.75 |
| 9:25:00 | 5.00 | 45.00 | 25.06 | 1127.43 | 102.65 | 3.79 |
| 9:30:00 | 5.00 | 50.00 | 24.88 | 1251.83 | 102.67 | 3.81 |
| 9:35:00 | 5.00 | 55.00 | 25.06 | 1377.13 | 102.69 | 3.83 |
| 9:40:00 | 5.00 | 60.00 | 24.88 | 1501.53 | 102.72 | 3.86 |
| 9:50:00 | 10.00 | 70.00 | 24.88 | 1750.33 | 102.75 | 3.89 |
| 10:00:00 | 10.00 | 80.00 | 24.72 | 1997.53 | 102.79 | 3.93 |
| 10:10:00 | 10.00 | 90.00 | 24.88 | 2246.33 | 102.81 | 3.95 |
| 10:20:00 | 10.00 | 100.00 | 24.88 | 2495.13 | 102.84 | 3.98 |
| 10:30:00 | 10.00 | 110.00 | 25.06 | 2745.73 | 102.86 | 4.00 |
| Total Volume Pumped for Step 1 (gal) | | | | 2745.73 | | |
| Average Pumping Rate (gpm) | | | | 25.07 | | |
| Specific Capacity (gpm/ft) | | | | 6.27 | | |

Specific Capacity Test

| | |
|--|-----------------------|
| Location/Well ID | FW-02B |
| Date | 11/20/2022 |
| Screened Interval | 95-132 bgs |
| Pump Depth (ft btoc) | 129 ft bgs |
| Packer Depth (ft btoc) | N/A - Single Screen |
| Packer Leak Test (Pass/Fail) | N/A - Single Screen |
| Initial Water Level (ft btoc) | 98.86 |
| Initial Totalizer Reading (gal) | 307428.00 |
| Final Totalizer Reading (gal) | 320102 |
| Approx Pumped Volume (gal) | 12674.00 |
| Calculated Volume Purged (gal) | 12312.50 |
| Difference in Volume Pumped vs. Calculated | 361.50 |
| Number of Specific Capacity Steps | 4 |
| Pumping Rates (in order) | 25, 50, 35 and 30 gpm |

| Step 2 (50 GPM) Time (HR:MN:SEC) | Change in Time Between measurements (min) | Elapsed Time from Test Start (min) | Pumping Rate (gpm) | Total Volume Pumped (gal) | Depth to Water (ft) | Drawdown (ft) | Elapsed Time from Step 2 Start (min) |
|---|--|---|--------------------------|------------------------------|------------------------|------------------|---|
| 10:30:00 | 0.00 | 110.00 | 25.06 | 2745.73 | 102.86 | 4.00 | 0.00 |
| 10:40:05 | 10.08 | 120.08 | - | 2745.73 | 103.52 | 4.66 | 10.08 |
| 10:40:11 | 0.10 | 120.18 | - | 2745.73 | 103.76 | 4.90 | 10.18 |
| 10:40:22 | 0.18 | 120.37 | - | 2745.73 | 103.76 | 4.90 | 10.37 |
| 10:40:33 | 0.18 | 120.55 | - | 2745.73 | 104.05 | 5.19 | 10.55 |
| 10:40:55 | 0.37 | 120.92 | - | 2745.73 | 104.45 | 5.59 | 10.92 |
| 10:41:00 | 0.08 | 121.00 | 50.73 | 2749.96 | 104.59 | 5.73 | 11.00 |
| 10:42:00 | 1.00 | 122.00 | 50.56 | 2800.52 | 105.60 | 6.74 | 12.00 |
| 10:43:00 | 1.00 | 123.00 | 50.56 | 2851.08 | 107.72 | 8.86 | 13.00 |
| 10:44:00 | 1.00 | 124.00 | 50.24 | 2901.32 | 108.71 | 9.85 | 14.00 |
| 10:45:00 | 1.00 | 125.00 | 49.91 | 2951.23 | 109.61 | 10.75 | 15.00 |
| 10:46:00 | 1.00 | 126.00 | 49.42 | 3000.65 | 110.46 | 11.60 | 16.00 |
| 10:47:00 | 1.00 | 127.00 | 49.10 | 3049.75 | 111.70 | 12.84 | 17.00 |
| 10:48:00 | 1.00 | 128.00 | 48.97 | 3098.72 | 112.91 | 14.05 | 18.00 |
| 10:49:00 | 1.00 | 129.00 | 48.20 | 3146.92 | 114.27 | 15.41 | 19.00 |
| 10:50:00 | 1.00 | 130.00 | 44.85 | 3191.77 | 114.45 | 15.59 | 20.00 |
| 10:52:00 | 2.00 | 132.00 | 47.22 | 3286.21 | 114.61 | 15.75 | 22.00 |
| 10:54:00 | 2.00 | 134.00 | 47.06 | 3380.33 | 114.72 | 15.86 | 24.00 |
| 10:56:00 | 2.00 | 136.00 | 46.90 | 3474.13 | 114.64 | 15.78 | 26.00 |
| 10:58:00 | 2.00 | 138.00 | 46.50 | 3567.13 | 114.55 | 15.69 | 28.00 |
| 11:00:00 | 2.00 | 140.00 | 50.90 | 3668.93 | 114.64 | 15.78 | 30.00 |
| 11:02:00 | 2.00 | 142.00 | 46.56 | 3762.05 | 114.61 | 15.75 | 32.00 |
| 11:04:00 | 2.00 | 144.00 | 44.50 | 3851.05 | 112.54 | 13.68 | 34.00 |
| 11:06:00 | 2.00 | 146.00 | 44.35 | 3939.75 | 112.61 | 13.75 | 36.00 |
| 11:08:00 | 2.00 | 148.00 | 41.61 | 4022.97 | 114.05 | 15.19 | 38.00 |
| 11:10:00 | 2.00 | 150.00 | 39.84 | 4102.65 | 110.14 | 11.28 | 40.00 |
| Total Volume Pumped for Step 2 (gal) | | | 1356.92 | | | | |
| Average Pumping Rate (gpm) | | | 47.40 | | | | |
| Specific Capacity (gpm/ft) | | | 3.12 | | | | |

| | |
|--|-----------------------|
| Location/Well ID | FW-02B |
| Date | 11/20/2022 |
| Screened Interval | 95-132 bgs |
| Pump Depth (ft btoc) | 129 ft bgs |
| Packer Depth (ft btoc) | N/A - Single Screen |
| Packer Leak Test (Pass/Fail) | N/A - Single Screen |
| Initial Water Level (ft btoc) | 98.86 |
| Initial Totalizer Reading (gal) | 307428.00 |
| Final Totalizer Reading (gal) | 320102 |
| Approx Pumped Volume (gal) | 12674.00 |
| Calculated Volume Purged (gal) | 12312.50 |
| Difference in Volume Pumped vs. Calculated | 361.50 |
| Number of Specific Capacity Steps | 4 |
| Pumping Rates (in order) | 25, 50, 35 and 30 gpm |

| Step 3 (35 gpm) Time (HR:MN:SEC) | Change in Time Between Measurements (min) | Elapsed Time from Test Start (min) | Pumping Rate (gpm) | Total Volume Pumped (Gallons) | Depth to Water (ft) | Drawdown (ft) | Elapsed Time from Step 3 Start (min) |
|---|--|---|--------------------------|-------------------------------------|------------------------|------------------|---|
| 11:10:00 | 0.00 | 150.00 | 39.84 | 4102.65 | 110.14 | 11.28 | 0.00 |
| 11:15:45 | 5.75 | 155.75 | 35.04 | 4304.13 | 114.36 | 15.50 | 5.75 |
| 11:20:33 | 4.80 | 160.55 | 35.68 | 4475.39 | - | - | - |
| 11:25:00 | 4.45 | 165.00 | 35.68 | 4634.17 | 114.00 | 15.14 | 15.00 |
| 11:31:45 | 6.75 | 171.75 | 35.68 | 4875.01 | 114.70 | 15.84 | 21.75 |
| 11:35:00 | 3.25 | 175.00 | 35.84 | 4991.49 | 114.80 | 15.94 | 25.00 |
| 11:40:00 | 5.00 | 180.00 | 35.84 | 5170.69 | 114.90 | 16.04 | 30.00 |
| 11:47:00 | 7.00 | 187.00 | 35.52 | 5419.33 | 123.81 | 24.95 | 37.00 |
| 11:55:00 | 8.00 | 195.00 | 35.53 | 5703.57 | 124.39 | 25.53 | 45.00 |
| 12:00:00 | 5.00 | 200.00 | 35.53 | 5881.22 | 124.42 | 25.56 | 50.00 |
| 12:05:34 | 5.57 | 205.57 | 35.65 | 6079.67 | 125.20 | 26.34 | 55.57 |
| Total Volume Pumped for Step 3 (gal) | | | 1977.02 | | | | |
| Average Pumping Rate (gpm) | | | 35.60 | | | | |
| Specific Capacity (gpm/ft) | | | 1.35 | | | | |

| Step 4 (30 gpm) Time (HR:MN:SEC) | Change in Time Between Measurements (min) | Elapsed Time from Test Start (min) | Pumping Rate (gpm) | Total Volume Pumped (Gallons) | Depth to Water (ft) | Drawdown (ft) | Elapsed Time from Step 3 Start (min) |
|---|--|---|--------------------------|-------------------------------------|------------------------|------------------|---|
| 12:05:34 | 0.00 | 205.57 | 35.65 | 6079.67 | 125.20 | 26.34 | 0.00 |
| 12:12:00 | 6.43 | 212.00 | 30.80 | 6277.82 | 121.00 | 22.14 | 6.43 |
| 12:17:00 | 5.00 | 217.00 | 30.96 | 6432.62 | 119.71 | 20.85 | 11.43 |
| 12:20:00 | 3.00 | 220.00 | 30.96 | 6525.50 | 119.05 | 20.19 | 14.43 |
| 12:30:00 | 10.00 | 230.00 | 30.80 | 6833.50 | 118.41 | 19.55 | 24.43 |
| 12:40:00 | 10.00 | 240.00 | 31.13 | 7144.80 | 118.52 | 19.66 | 34.43 |
| 12:50:00 | 10.00 | 250.00 | 30.80 | 7452.80 | 118.95 | 20.09 | 44.43 |
| 13:00:00 | 10.00 | 260.00 | 30.84 | 7761.20 | 119.49 | 20.63 | 54.43 |
| 13:10:00 | 10.00 | 270.00 | 30.84 | 8069.60 | 119.92 | 21.06 | 64.43 |
| 13:20:00 | 10.00 | 280.00 | 30.80 | 8377.60 | 120.41 | 21.55 | 74.43 |
| 13:30:00 | 10.00 | 290.00 | 30.84 | 8686.00 | 120.90 | 22.04 | 84.43 |
| 13:40:00 | 10.00 | 300.00 | 30.30 | 8989.00 | 121.28 | 22.42 | 94.43 |
| 13:50:00 | 10.00 | 310.00 | 30.64 | 9295.40 | 121.78 | 22.92 | 104.43 |
| 14:00:00 | 10.00 | 320.00 | 30.30 | 9598.40 | 122.06 | 23.20 | 114.43 |
| 14:10:00 | 10.00 | 330.00 | 30.30 | 9901.40 | 122.50 | 23.64 | 124.43 |
| 14:20:00 | 10.00 | 340.00 | 30.64 | 10207.80 | 122.85 | 23.99 | 134.43 |
| 14:30:00 | 10.00 | 350.00 | 30.30 | 10510.80 | 123.01 | 24.15 | 144.43 |
| 14:40:00 | 10.00 | 360.00 | 30.14 | 10812.20 | 123.40 | 24.54 | 154.43 |
| 14:50:00 | 10.00 | 370.00 | 30.14 | 11113.60 | 123.84 | 24.98 | 164.43 |
| 15:00:00 | 10.00 | 380.00 | 29.97 | 11413.30 | 124.36 | 25.50 | 174.43 |
| 15:10:00 | 10.00 | 390.00 | 30.14 | 11714.70 | 124.72 | 25.86 | 184.43 |
| 15:20:00 | 10.00 | 400.00 | 29.98 | 12014.50 | 124.80 | 25.94 | 194.43 |
| 15:30:00 | 10.00 | 410.00 | 29.80 | 12312.50 | 125.51 | 26.65 | 204.43 |
| 15:30:49 | 0.82 | 410.82 | 0.00 | 12312.50 | 119.70 | 20.84 | 205.25 |
| 15:31:00 | 0.18 | 411.00 | 0.00 | 12312.50 | 116.96 | 18.10 | 205.43 |
| 15:31:31 | 0.52 | 411.52 | 0.00 | 12312.50 | 114.50 | 15.64 | 205.95 |
| 15:31:42 | 0.18 | 411.70 | 0.00 | 12312.50 | 113.05 | 14.19 | 206.13 |

| | |
|---|-----------------------|
| Location/Well ID | FW-02B |
| Date | 11/20/2022 |
| Screened Interval | 95-132 bgs |
| Pump Depth (ft btoc) | 129 ft bgs |
| Packer Depth (ft btoc) | N/A - Single Screen |
| Packer Leak Test (Pass/Fail) | N/A - Single Screen |
| Initial Water Level (ft btoc) | 98.86 |
| Initial Totalizer Reading (gal) | 307428.00 |
| Final Totalizer Reading (gal) | 320102 |
| Approx Pumped Volume (gal) | 12674.00 |
| Calculated Volume Purged (gal) | 12312.50 |
| Difference in Volume Pumped vs. Calculated | 361.50 |
| Number of Specific Capacity Steps | 4 |
| Pumping Rates (in order) | 25, 50, 35 and 30 gpm |

| | | | | | | | |
|---|------|--------|------|----------------|--------|-------|--------|
| 15:32:00 | 0.30 | 412.00 | 0.00 | 12312.50 | 110.91 | 12.05 | 206.43 |
| 15:33:00 | 1.00 | 413.00 | 0.00 | 12312.50 | - | - | - |
| 15:35:00 | 2.00 | 415.00 | 0.00 | 12312.50 | - | - | - |
| 15:37:00 | 2.00 | 417.00 | 0.00 | 12312.50 | 105.29 | 6.43 | 211.43 |
| 15:38:00 | 1.00 | 418.00 | 0.00 | 12312.50 | 103.58 | 4.72 | 212.43 |
| 15:39:00 | 1.00 | 419.00 | 0.00 | 12312.50 | 102.81 | 3.95 | 213.43 |
| 15:40:00 | 1.00 | 420.00 | 0.00 | 12312.50 | 102.11 | 3.25 | 214.43 |
| 15:41:00 | 1.00 | 421.00 | 0.00 | 12312.50 | 101.48 | 2.62 | 215.43 |
| 15:42:25 | 1.42 | 422.42 | 0.00 | 12312.50 | 100.96 | 2.10 | 216.85 |
| 15:43:34 | 1.15 | 423.57 | 0.00 | 12312.50 | 100.59 | 1.73 | 218.00 |
| 15:44:15 | 0.68 | 424.25 | 0.00 | 12312.50 | 100.43 | 1.57 | 218.68 |
| 15:45:00 | 0.75 | 425.00 | 0.00 | 12312.50 | 100.23 | 1.37 | 219.43 |
| 15:54:00 | 9.00 | 434.00 | 0.00 | 12312.50 | 99.42 | 0.56 | 228.43 |
| Total Volume Pumped for Step 4 (gal) | | | | 6232.83 | | | |
| Average Pumping Rate (gpm) | | | | 30.52 | | | |
| Specific Capacity (gpm/ft) | | | | 1.15 | | | |

Acronyms & Abbreviations

bgs = below ground surface

btoc = below top of casing

ft = feet

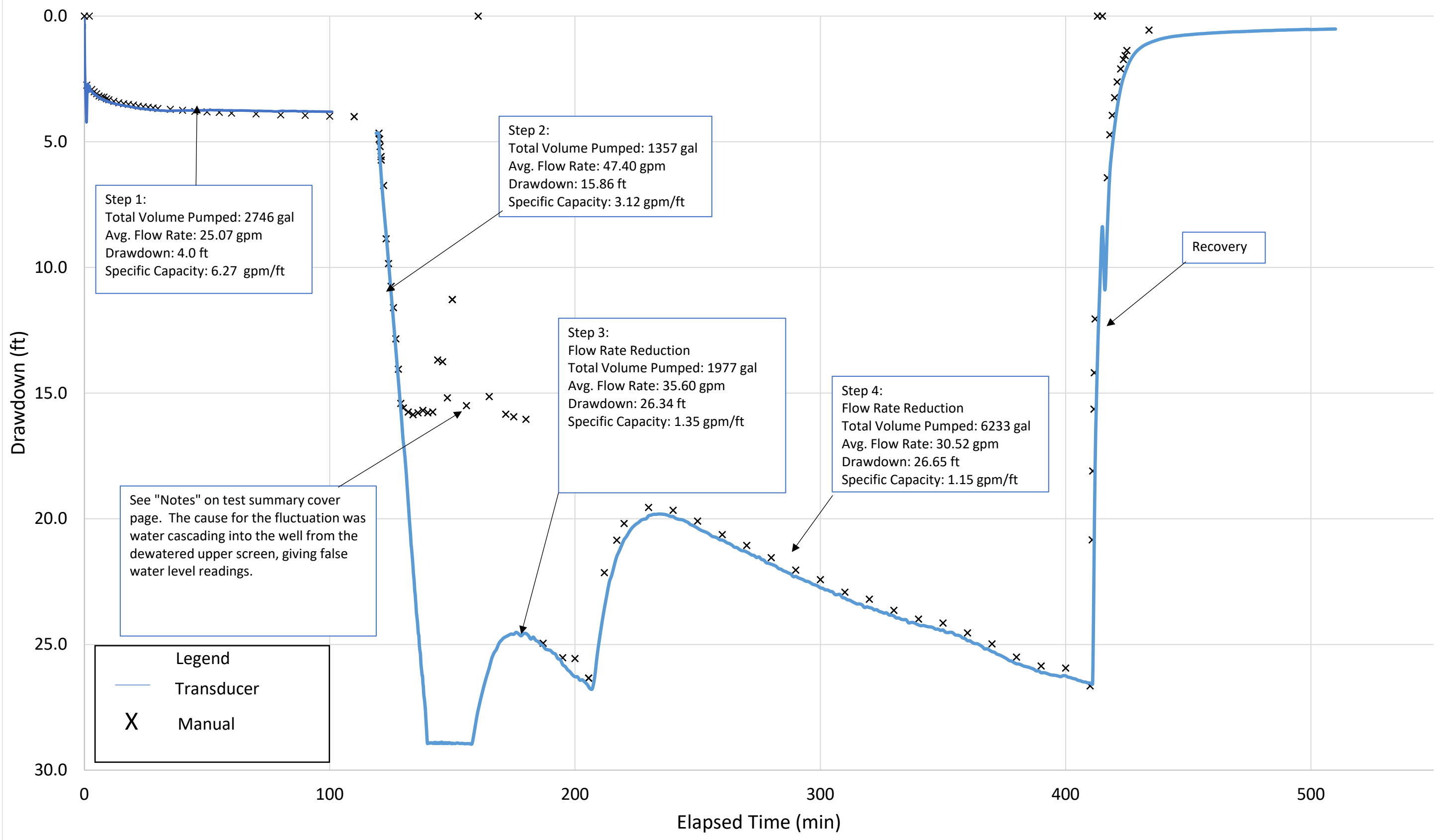
gal = gallons

gpm = gallons per minute

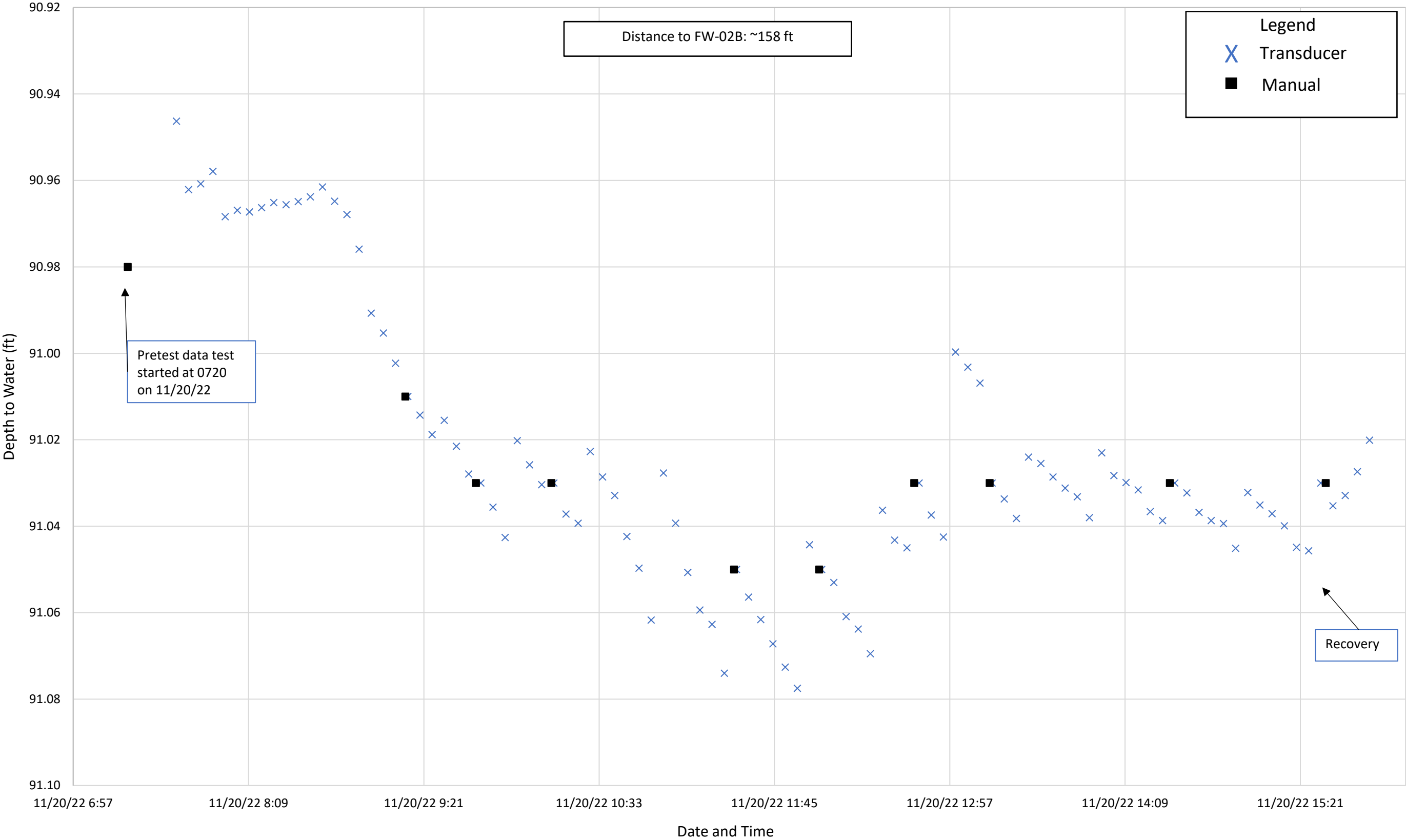
min = minutes

- = no data

FW-02B Specific Capacity Test: Linear Drawdown Plot




MW-88-107 During FW-02B Specific Capacity Test On 11/20/22



Attachment 8

Specific Injectivity Package

Specific Capacity Test

| | |
|---------------------------------|--|
| Location/Well ID | FW-02B |
| Date | 11/21/2022 |
| Screened Interval Tested | 95-132 ft bgs |
| Packer Set Depth | N/A |
| Packer Seal Test | N/A |
| Tests Conducted | Three-step injectivity test (25, 50, and 75 gpm) |
| Purpose | Well injectivity test |
| Summary | Specific injectivity: 25 gpm = 3.95 gpm/ft, 50 gpm = 2.0 gpm/ft, and 75 gpm = 1.33 gpm/ft. |
| Notes | The brief increase of the water level in Step 3 was caused by a drop in the pumping rate. The 75 gpm flow rate step test was stopped prior to achieving stabilization because the test could not be extended before it got dark. |
| Oversight Signature |  |
| Date | 1/9/2023 |

Acronyms & Abbreviations

bgs = below ground surface

ft = feet

gpm = gallons per minute

IM = interim measure

| | |
|--|-------------------|
| Location/Well ID | FW-02B |
| Date | 11/21/2022 |
| Screened Interval | 95-132 ft. |
| Injection Outlet Depth (ft btoc) | 130 ft bgs |
| Packer Depth (ft btoc) | N/A |
| Packer Leak Test (Pass/Fail) | N/A |
| Initial Water Level (ft btoc) | 98.85 |
| Initial Totalizer Reading (gal) | 320146.00 |
| Final Totalizer Reading (gal) | 339579 |
| Approx Pumped Volume (gal) | 19740.27 |
| Calculated Volume Purged (gal) | 19433.00 |
| Difference in Volume Pumped vs. Calculated | 307.27 |
| Number of Specific Capacity Steps | 3 |
| Pumping Rates (in order) | 25, 50 and 75 gpm |

| Step 1 (25 GPM) Time (HR:MN:SEC) | Change in Time Between Measurements (min) | Elapsed Time (min) | Pumping Rate (gpm) | Total Volume Pumped (gal) | Depth to Water (ft) | Mounding (ft) |
|---|--|--------------------------|--------------------------|------------------------------|------------------------|------------------|
| 9:35:00 | 0.00 | 0.00 | 0.00 | 0.00 | 98.85 | 0.00 |
| 9:37:15 | 2.25 | 2.25 | 25.22 | 56.74 | 94.57 | 4.28 |
| 9:38:00 | 0.75 | 3.00 | 25.22 | 75.66 | - | - |
| 9:38:20 | 0.33 | 3.33 | 25.22 | 84.07 | 94.67 | 4.18 |
| 9:39:00 | 0.67 | 4.00 | 25.22 | 100.88 | 94.62 | 4.23 |
| 9:40:04 | 1.07 | 5.07 | 25.06 | 127.61 | 94.53 | 4.32 |
| 9:41:09 | 1.08 | 6.15 | 25.06 | 154.76 | 94.45 | 4.40 |
| 9:42:10 | 1.02 | 7.17 | 25.22 | 180.40 | 94.37 | 4.48 |
| 9:42:12 | 0.03 | 7.20 | 25.22 | 181.24 | 94.32 | 4.53 |
| 9:44:00 | 1.80 | 9.00 | 25.22 | 226.64 | 94.28 | 4.57 |
| 9:45:09 | 1.15 | 10.15 | 25.06 | 255.45 | 94.23 | 4.62 |
| 9:47:20 | 2.18 | 12.33 | 25.06 | 310.17 | 94.13 | 4.72 |
| 9:49:32 | 2.20 | 14.53 | 25.09 | 365.37 | 94.02 | 4.83 |
| 9:51:00 | 1.47 | 16.00 | 25.22 | 402.36 | 93.95 | 4.90 |
| 9:53:00 | 2.00 | 18.00 | 25.06 | 452.48 | 93.88 | 4.97 |
| 9:55:14 | 2.23 | 20.23 | 25.06 | 508.44 | 93.82 | 5.03 |
| 9:57:14 | 2.00 | 22.23 | 25.06 | 558.56 | 93.75 | 5.10 |
| 9:59:00 | 1.77 | 24.00 | 25.06 | 602.84 | 93.68 | 5.17 |
| 10:01:00 | 2.00 | 26.00 | 25.06 | 652.96 | 93.62 | 5.23 |
| 10:03:11 | 2.18 | 28.18 | 25.22 | 708.02 | 93.57 | 5.28 |
| 10:05:00 | 1.82 | 30.00 | 25.06 | 753.55 | 93.53 | 5.32 |
| 10:10:00 | 5.00 | 35.00 | 25.06 | 878.85 | 93.40 | 5.45 |
| 10:15:00 | 5.00 | 40.00 | 25.06 | 1004.15 | 93.31 | 5.54 |
| 10:20:00 | 5.00 | 45.00 | 24.88 | 1128.55 | 93.25 | 5.60 |
| 10:25:00 | 5.00 | 50.00 | 25.06 | 1253.85 | 93.14 | 5.71 |
| 10:30:00 | 5.00 | 55.00 | 24.88 | 1378.25 | 93.05 | 5.80 |
| 10:35:00 | 5.00 | 60.00 | 25.72 | 1506.85 | 93.00 | 5.85 |
| 10:45:00 | 10.00 | 70.00 | 24.88 | 1755.65 | 92.87 | 5.98 |
| 10:55:00 | 10.00 | 80.00 | 24.88 | 2004.45 | 92.77 | 6.08 |
| 11:05:00 | 10.00 | 90.00 | 24.88 | 2253.25 | 92.70 | 6.15 |
| 11:15:00 | 10.00 | 100.00 | 24.56 | 2498.85 | 92.63 | 6.22 |
| 11:25:00 | 10.00 | 110.00 | 24.72 | 2746.05 | 92.56 | 6.29 |
| 11:34:00 | 9.00 | 119.00 | 24.56 | 2967.09 | 92.51 | 6.34 |
| Total Volume Pumped for Step 1 (gal) | | | 2967.09 | | | |
| Average Pumping Rate (gpm) | | | 25.06 | | | |
| Specific Injectivity (gpm/ft) | | | 3.95 | | | |

| | |
|--|-------------------|
| Location/Well ID | FW-02B |
| Date | 11/21/2022 |
| Screened Interval | 95-132 ft. |
| Injection Outlet Depth (ft btoc) | 130 ft bgs |
| Packer Depth (ft btoc) | N/A |
| Packer Leak Test (Pass/Fail) | N/A |
| Initial Water Level (ft btoc) | 98.85 |
| Initial Totalizer Reading (gal) | 320146.00 |
| Final Totalizer Reading (gal) | 339579 |
| Approx Pumped Volume (gal) | 19740.27 |
| Calculated Volume Purged (gal) | 19433.00 |
| Difference in Volume Pumped vs. Calculated | 307.27 |
| Number of Specific Capacity Steps | 3 |
| Pumping Rates (in order) | 25, 50 and 75 gpm |

| Step 2 (50 GPM) Time (HR:MN:SEC) | Change in Time Between measurements (min) | Elapsed Time from Test Start (min) | Pumping Rate (gpm) | Total Volume Pumped (gal) | Depth to Water (ft) | Mounding (ft) | Elapsed Time from Step 2 Start (min) |
|---|--|---|--------------------------|------------------------------|------------------------|------------------|---|
| 11:34:00 | 0.00 | 119.00 | 24.56 | 2967.09 | 92.51 | 6.34 | 0.00 |
| 11:35:07 | 1.12 | 120.12 | - | 2967.09 | 92.51 | 6.34 | 1.12 |
| 11:35:12 | 0.08 | 120.20 | - | 2967.09 | 92.31 | 6.54 | 1.20 |
| 11:35:30 | 0.30 | 120.50 | - | 2967.09 | 91.21 | 7.64 | 1.50 |
| 11:35:38 | 0.13 | 120.63 | - | 2967.09 | 90.91 | 7.94 | 1.63 |
| 11:35:43 | 0.08 | 120.72 | 50.56 | 2971.30 | 90.45 | 8.40 | 1.72 |
| 11:36:00 | 0.28 | 121.00 | 50.73 | 2985.68 | 89.61 | 9.24 | 2.00 |
| 11:37:00 | 1.00 | 122.00 | 50.73 | 3036.41 | 87.65 | 11.20 | 3.00 |
| 11:38:00 | 1.00 | 123.00 | 50.56 | 3086.97 | 86.32 | 12.53 | 4.00 |
| 11:39:00 | 1.00 | 124.00 | 50.73 | 3137.70 | 85.42 | 13.43 | 5.00 |
| 11:40:00 | 1.00 | 125.00 | 50.56 | 3188.26 | 84.59 | 14.26 | 6.00 |
| 11:41:00 | 1.00 | 126.00 | 50.90 | 3239.16 | 83.86 | 14.99 | 7.00 |
| 11:42:00 | 1.00 | 127.00 | 50.73 | 3289.89 | 83.81 | 15.04 | 8.00 |
| 11:43:00 | 1.00 | 128.00 | 50.56 | 3340.45 | 82.81 | 16.04 | 9.00 |
| 11:44:00 | 1.00 | 129.00 | 50.73 | 3391.18 | 82.41 | 16.44 | 10.00 |
| 11:45:00 | 1.00 | 130.00 | 50.56 | 3441.74 | 82.05 | 16.80 | 11.00 |
| 11:47:00 | 2.00 | 132.00 | 50.56 | 3542.86 | 81.39 | 17.46 | 13.00 |
| 11:49:00 | 2.00 | 134.00 | 50.56 | 3643.98 | 80.88 | 17.97 | 15.00 |
| 11:51:00 | 2.00 | 136.00 | 50.40 | 3744.78 | 80.45 | 18.40 | 17.00 |
| 11:53:00 | 2.00 | 138.00 | 50.40 | 3845.58 | 80.05 | 18.80 | 19.00 |
| 11:55:00 | 2.00 | 140.00 | 50.40 | 3946.38 | 79.67 | 19.18 | 21.00 |
| 11:57:00 | 2.00 | 142.00 | 50.40 | 4047.18 | 79.26 | 19.59 | 23.00 |
| 11:59:00 | 2.00 | 144.00 | 50.56 | 4148.30 | 78.94 | 19.91 | 25.00 |
| 12:01:00 | 2.00 | 146.00 | 50.40 | 4249.10 | 78.68 | 20.17 | 27.00 |
| 12:03:00 | 2.00 | 148.00 | 50.40 | 4349.90 | 78.43 | 20.42 | 29.00 |
| 12:05:00 | 2.00 | 150.00 | 50.24 | 4450.38 | 78.20 | 20.65 | 31.00 |
| 12:10:00 | 5.00 | 155.00 | 50.24 | 4701.58 | 77.77 | 21.08 | 36.00 |
| 12:15:00 | 5.00 | 160.00 | 50.08 | 4951.98 | 77.35 | 21.50 | 41.00 |
| 12:20:00 | 5.00 | 165.00 | 50.24 | 5203.18 | 77.04 | 21.81 | 46.00 |
| 12:25:00 | 5.00 | 170.00 | 50.08 | 5453.58 | 76.67 | 22.18 | 51.00 |
| 12:30:00 | 5.00 | 175.00 | 49.91 | 5703.13 | 76.45 | 22.40 | 56.00 |
| 12:35:00 | 5.00 | 180.00 | 50.90 | 5957.63 | 75.84 | 23.01 | 61.00 |
| 12:45:00 | 10.00 | 190.00 | 50.90 | 6466.63 | 75.31 | 23.54 | 71.00 |
| 12:55:00 | 10.00 | 200.00 | 50.73 | 6973.93 | 74.86 | 23.99 | 81.00 |
| 13:05:00 | 10.00 | 210.00 | 50.90 | 7482.93 | 74.55 | 24.30 | 91.00 |
| 13:15:00 | 10.00 | 220.00 | 50.56 | 7988.53 | 74.26 | 24.59 | 101.00 |
| 13:25:00 | 10.00 | 230.00 | 50.73 | 8495.83 | 74.11 | 24.74 | 111.00 |
| 13:35:00 | 10.00 | 240.00 | 50.56 | 9001.43 | 74.00 | 24.85 | 121.00 |
| 13:45:00 | 10.00 | 250.00 | 50.56 | 9507.03 | 73.84 | 25.01 | 131.00 |
| 13:50:00 | 5.00 | 255.00 | 50.56 | 9759.83 | 73.75 | 25.10 | 136.00 |
| 13:55:00 | 10.00 | 260.00 | 50.40 | 10263.83 | 73.58 | 25.27 | 141.00 |
| Total Volume Pumped for Step 2 (gal) | | | 7296.74 | | | | |
| Average Pumping Rate (gpm) | | | 50.53 | | | | |
| Specific Injectivity (gpm/ft) | | | 2.00 | | | | |

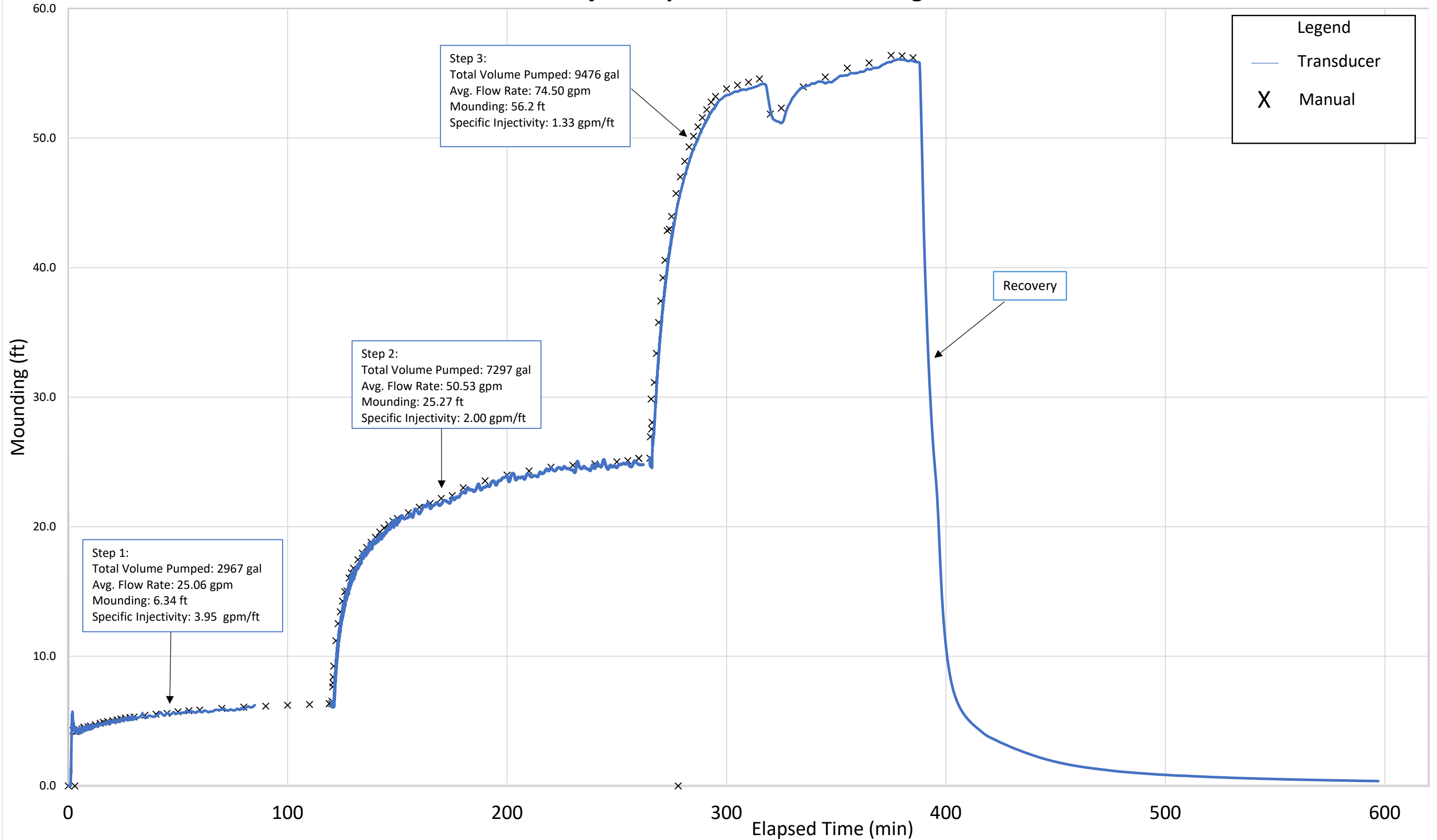
| | |
|--|-------------------|
| Location/Well ID | FW-02B |
| Date | 11/21/2022 |
| Screened Interval | 95-132 ft. |
| Injection Outlet Depth (ft btoc) | 130 ft bgs |
| Packer Depth (ft btoc) | N/A |
| Packer Leak Test (Pass/Fail) | N/A |
| Initial Water Level (ft btoc) | 98.85 |
| Initial Totalizer Reading (gal) | 320146.00 |
| Final Totalizer Reading (gal) | 339579 |
| Approx Pumped Volume (gal) | 19740.27 |
| Calculated Volume Purged (gal) | 19433.00 |
| Difference in Volume Pumped vs. Calculated | 307.27 |
| Number of Specific Capacity Steps | 3 |
| Pumping Rates (in order) | 25, 50 and 75 gpm |

| Step 3 (75 gpm) Time (HR:MN:SEC) | Change in Time Between Measurements (min) | Elapsed Time from Test Start (min) | Pumping Rate (gpm) | Total Volume Pumped (Gallons) | Depth to Water (ft) | Drawdown (ft) | Elapsed Time from Step 3 Start (min) |
|---|--|---|--------------------------|-------------------------------------|------------------------|------------------|---|
| 13:55:00 | 0.00 | 260.00 | 50.40 | 10263.83 | 73.58 | 25.27 | 0.00 |
| 14:00:04 | 5.07 | 265.07 | 86.28 | 10700.98 | 73.55 | 25.30 | 5.07 |
| 14:00:19 | 0.25 | 265.32 | 69.94 | 10718.46 | 71.91 | 26.94 | 5.32 |
| 14:00:38 | 0.32 | 265.63 | 60.66 | 10737.67 | 69.00 | 29.85 | 5.63 |
| 14:00:54 | 0.27 | 265.90 | 63.79 | 10754.68 | 71.31 | 27.54 | 5.90 |
| 14:01:07 | 0.22 | 266.12 | 69.68 | 10769.78 | 70.80 | 28.05 | 6.12 |
| 14:02:08 | 1.02 | 267.13 | 75.73 | 10846.77 | 67.71 | 31.14 | 7.13 |
| 14:03:00 | 0.87 | 268.00 | 75.57 | 10912.27 | 65.47 | 33.38 | 8.00 |
| 14:04:00 | 1.00 | 269.00 | 75.57 | 10987.84 | 63.08 | 35.77 | 9.00 |
| 14:05:00 | 1.00 | 270.00 | 75.73 | 11063.57 | 61.44 | 37.41 | 10.00 |
| 14:06:00 | 1.00 | 271.00 | 75.73 | 11139.30 | 59.64 | 39.21 | 11.00 |
| 14:07:00 | 1.00 | 272.00 | 75.89 | 11215.19 | 58.29 | 40.56 | 12.00 |
| 14:08:00 | 1.00 | 273.00 | 75.57 | 11290.76 | 56.00 | 42.85 | 13.00 |
| 14:09:00 | 1.00 | 274.00 | 75.57 | 11366.33 | 55.89 | 42.96 | 14.00 |
| 14:10:00 | 1.00 | 275.00 | 75.57 | 11441.90 | 54.90 | 43.95 | 15.00 |
| 14:12:00 | 2.00 | 277.00 | 75.73 | 11593.36 | 53.14 | 45.71 | 17.00 |
| 14:13:00 | 1.00 | 278.00 | 75.88 | 11669.24 | - | - | 18.00 |
| 14:14:00 | 1.00 | 279.00 | 75.57 | 11744.81 | 51.85 | 47.00 | 19.00 |
| 14:16:00 | 2.00 | 281.00 | 75.57 | 11895.95 | 50.65 | 48.20 | 21.00 |
| 14:18:00 | 2.00 | 283.00 | 75.73 | 12047.41 | 49.54 | 49.31 | 23.00 |
| 14:20:00 | 2.00 | 285.00 | 75.57 | 12198.55 | 48.71 | 50.14 | 25.00 |
| 14:22:00 | 2.00 | 287.00 | 75.57 | 12349.69 | 47.99 | 50.86 | 27.00 |
| 14:24:00 | 2.00 | 289.00 | 75.57 | 12500.83 | 47.28 | 51.57 | 29.00 |
| 14:26:00 | 2.00 | 291.00 | 75.57 | 12651.97 | 46.67 | 52.18 | 31.00 |
| 14:28:00 | 2.00 | 293.00 | 75.40 | 12802.77 | 46.09 | 52.76 | 33.00 |
| 14:30:00 | 2.00 | 295.00 | 75.40 | 12953.57 | 45.65 | 53.20 | 35.00 |
| 14:35:00 | 5.00 | 300.00 | 75.40 | 13330.57 | 45.05 | 53.80 | 40.00 |
| 14:40:00 | 5.00 | 305.00 | 75.08 | 13705.97 | 44.77 | 54.08 | 45.00 |
| 14:45:00 | 5.00 | 310.00 | 75.08 | 14081.37 | 44.55 | 54.30 | 50.00 |
| 14:50:00 | 5.00 | 315.00 | 74.97 | 14456.22 | 44.29 | 54.56 | 55.00 |
| 14:55:00 | 5.00 | 320.00 | 74.92 | 14830.82 | 47.00 | 51.85 | 60.00 |
| 15:00:00 | 5.00 | 325.00 | 75.57 | 15208.67 | 46.55 | 52.30 | 65.00 |
| 15:10:00 | 10.00 | 335.00 | 75.73 | 15965.97 | 44.91 | 53.94 | 75.00 |
| 15:20:00 | 10.00 | 345.00 | 75.40 | 16719.97 | 44.14 | 54.71 | 85.00 |
| 15:30:00 | 10.00 | 355.00 | 75.57 | 17475.67 | 43.46 | 55.39 | 95.00 |
| 15:40:00 | 10.00 | 365.00 | 75.08 | 18226.47 | 43.06 | 55.79 | 105.00 |
| 15:50:00 | 10.00 | 375.00 | 75.73 | 18983.77 | 42.47 | 56.38 | 115.00 |
| 15:55:00 | 5.00 | 380.00 | 75.73 | 19362.42 | 42.51 | 56.34 | - |
| 16:00:00 | 5.00 | 385.00 | 75.57 | 19740.27 | 42.65 | 56.20 | 125.00 |
| Total Volume Pumped for Step 3 (gal) | | | 9476.44 | | | | |
| Average Pumping Rate (gpm) | | | 74.50 | | | | |
| Specific Injectivity (gpm/ft) | | | 1.33 | | | | |

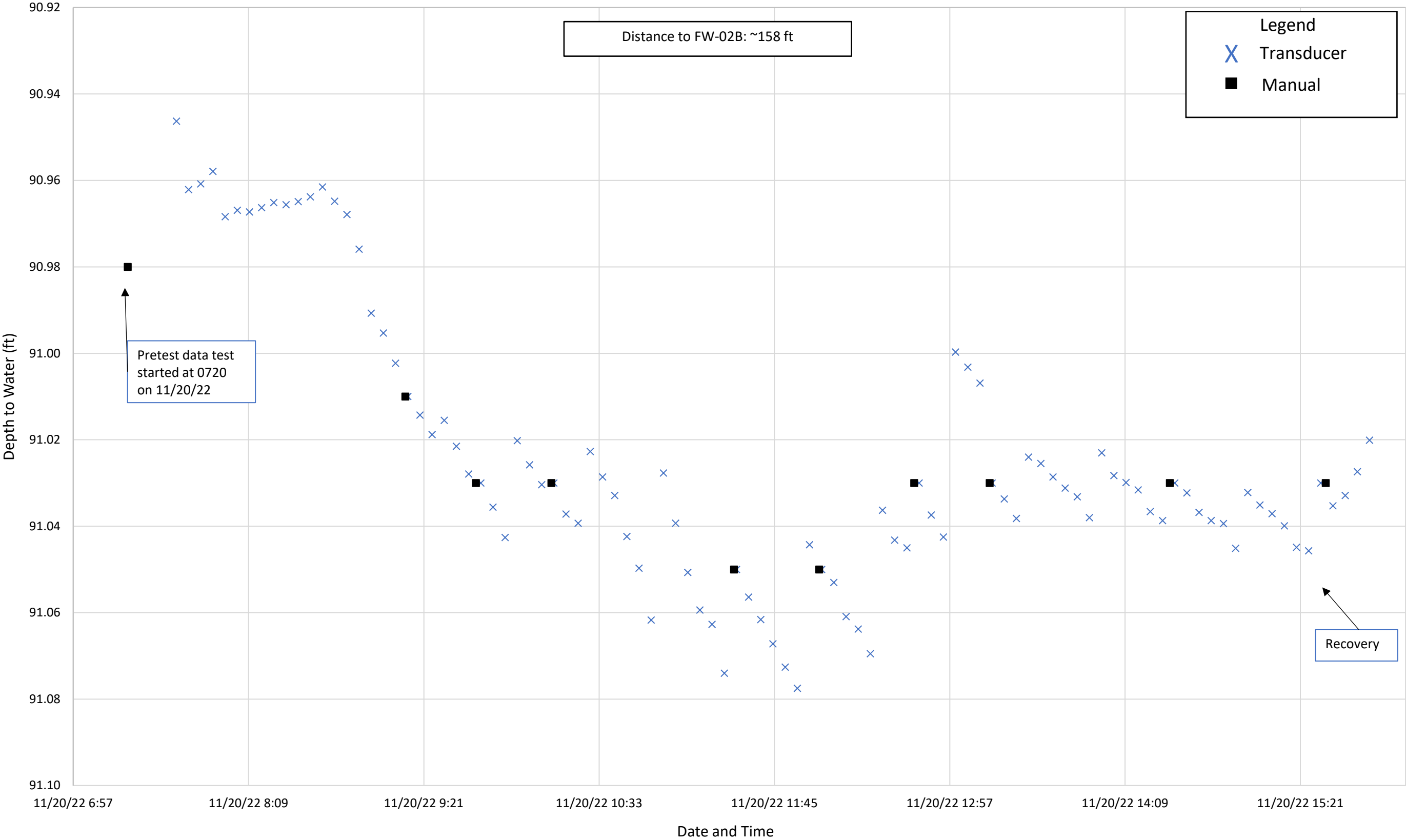
Abbreviations

- = no data

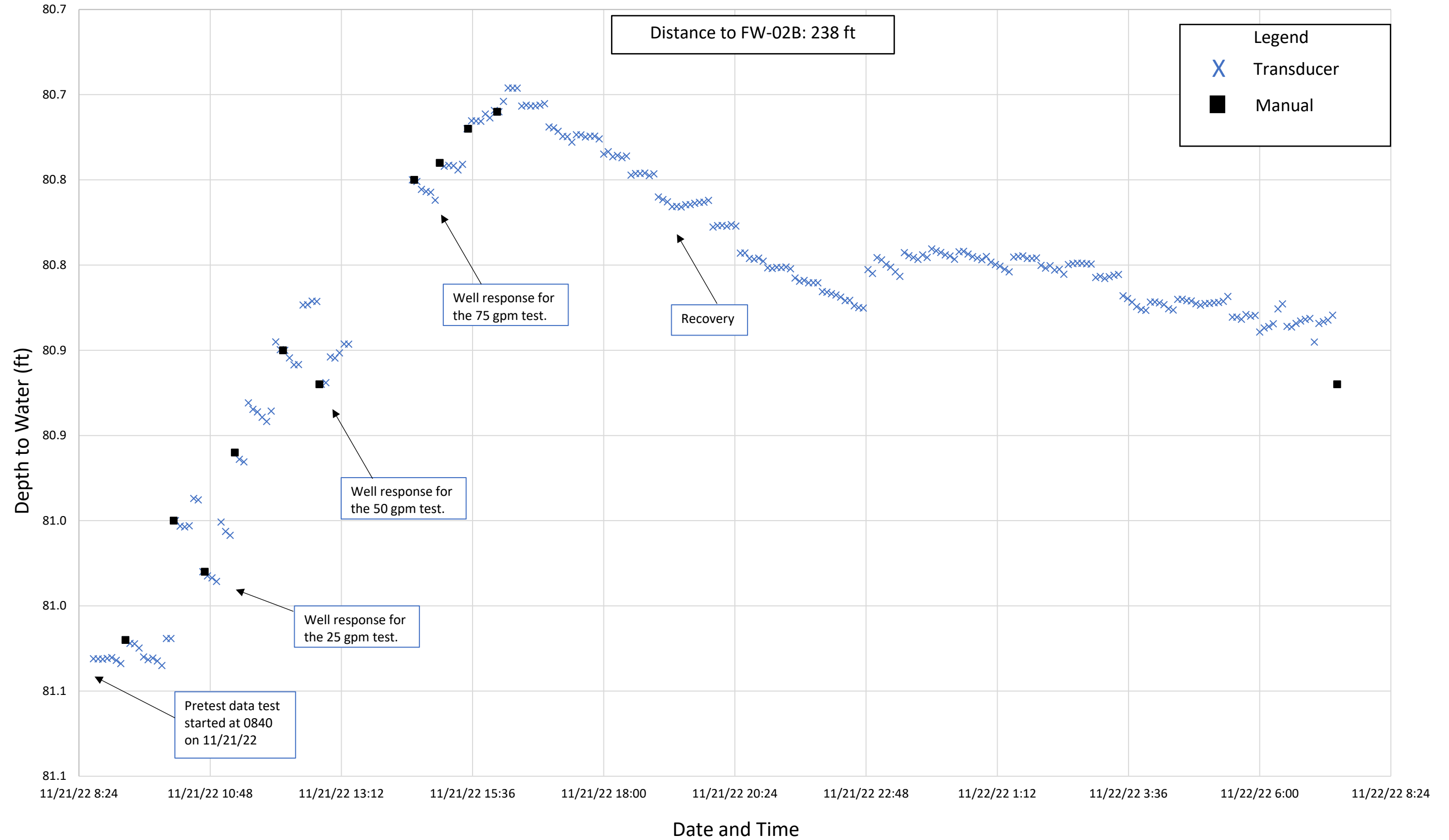
FW-02B Injectivity Test: Linear Mounding Plot



MW-88-107 During FW-02B Specific Capacity Test On 11/20/22



MW-09 During FW-02B Injectivity Test From 11/21/22 to 11/22/22



Attachment 9

Photo Logs

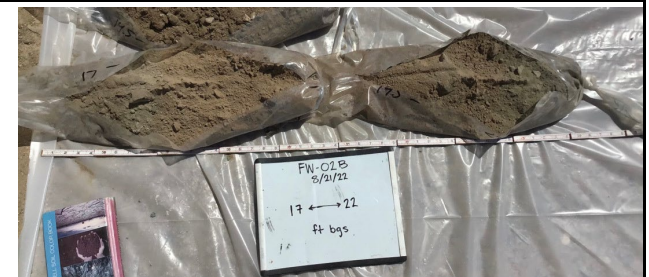
| | | |
|--|--|---|
| <p>CLIENT NAME: PG&E</p> | <p>WELL CORE PHOTO LOG</p> <p>FW-02B Pilot 0 to 142 ft</p> | <p>PROJECT NAME / LOCATION: Topock Compressor Station, Needles, California</p> |
| <p>Arcadis PROJECT NO: 30126255</p> | | <p>PHOTOS LAST ADDED: 8/31/2022</p> |



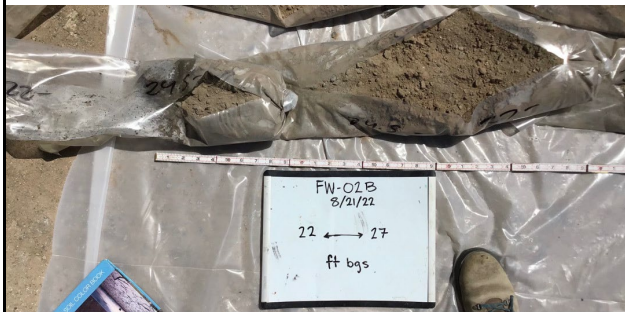
Core Depth: 7 to 8 ft bgs
Description: Samples 0-5 ft bgs previously collected for logging during air knifing activities. No recovery from 5 to 7 ft bgs.
Date: 8/21/2022



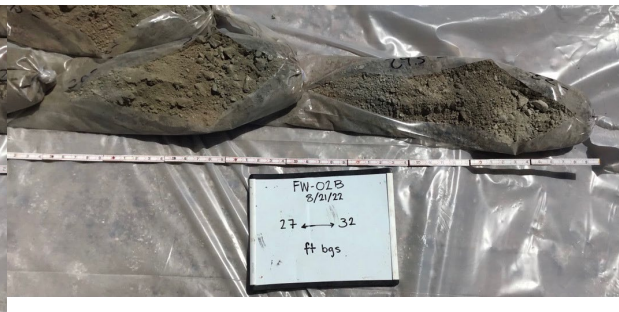
Core Depth: 8 to 10.5 ft bgs
Description: Depths on wipe board are not correct.
Date: 8/21/2022



Core Depth: 17 to 22 ft bgs
Date: 8/21/2022



Core Depth: 22 to 27 ft bgs
Date: 8/21/2022



Core Depth: 27 to 32 ft bgs
Date: 8/21/2022



Core Depth: 32 to 37 ft bgs
Date: 8/21/2022

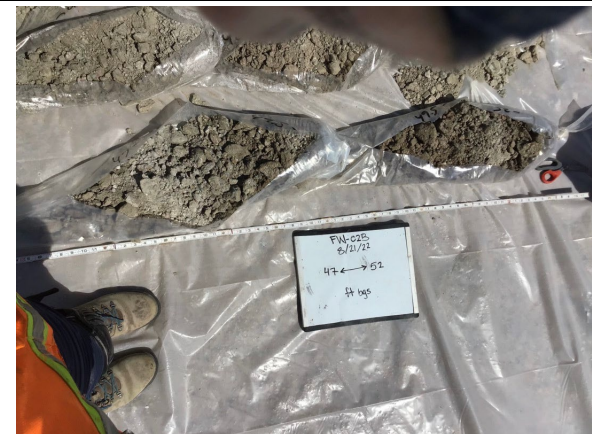
| | | |
|-------------------------------------|---|---|
| CLIENT NAME: PG&E | WELL CORE PHOTO LOG FW-02B Pilot 0 to 142 ft | PROJECT NAME / LOCATION: Topock Compressor Station, Needles, California |
| Arcadis PROJECT NO: 30126255 | | PHOTOS LAST ADDED: 8/31/2022 |



Core Depth: 37 to 42 ft bgs
Date: 8/21/2022



Core Depth: 42 to 47 ft bgs
Date: 8/21/2022



Core Depth: 47 to 52 ft bgs
Date: 8/21/2022



Core Depth: 52 to 55 ft bgs
Date: 8/21/2022



Core Depth: 52 to 55 ft bgs
Date: 8/21/2022

| | | |
|-------------------------------------|---|---|
| CLIENT NAME: PG&E | WELL CORE PHOTO LOG FW-02B Pilot 0 to 142 ft | PROJECT NAME / LOCATION: Topock Compressor Station, Needles, California |
| Arcadis PROJECT NO: 30126255 | | PHOTOS LAST ADDED: 8/31/2022 |



Core Depth: 55 to 60 ft bgs
Date: 8/21/2022



Core Depth: 60 to 65 ft bgs
Description: No recovery from 65 to 67 feet bgs.
Date: 8/21/2022



Core Depth: 67 to 72 ft bgs
Date: 8/22/2022



Core Depth: 72 to 77 ft bgs
Date: 8/22/2022



Core Depth: 77 to 82 ft bgs
Date: 8/22/2022



Core Depth: 82 to 87 ft bgs
Date: 8/22/2022

| | | |
|-------------------------------------|---|---|
| CLIENT NAME: PG&E | WELL CORE PHOTO LOG FW-02B Pilot 0 to 142 ft | PROJECT NAME / LOCATION: Topock Compressor Station, Needles, California |
| Arcadis PROJECT NO: 30126255 | | PHOTOS LAST ADDED: 8/31/2022 |



Core Depth: 87 to 92 ft bgs
Date: 8/22/2022



Core Depth: 92 to 97 ft bgs
Date: 8/22/2022



Core Depth: 97 to 102 ft bgs
Date: 8/22/2022



Core Depth: 102 to 107 ft bgs
Date: 8/22/2022



Core Depth: 107 to 112 ft bgs
Date: 8/23/2022



Core Depth: 112 to 117 ft bgs
Date: 8/24/2022

| | | |
|-------------------------------------|---|---|
| CLIENT NAME: PG&E | WELL CORE PHOTO LOG FW-02B Pilot 0 to 142 ft | PROJECT NAME / LOCATION: Topock Compressor Station, Needles, California |
| Arcadis PROJECT NO: 30126255 | | PHOTOS LAST ADDED: 8/31/2022 |



Core Depth: 117 to 122 ft bgs
Date: 8/24/2022



Core Depth: 122 to 124.5 ft bgs
Date: 8/30/2022



Core Depth: 124.5 to 127 ft bgs
Date: 8/30/2022



Core Depth: 127 to 129.5 ft bgs
Date: 8/30/2022



Core Depth: 129.5 to 132 ft bgs
Date: 8/30/2022



Core Depth: 132 to 142 ft bgs
Date: 8/31/2022

| | | |
|-------------------------------------|---------------------------------|---|
| CLIENT NAME: PG&E | WELL CORE PHOTO LOG | PROJECT NAME / LOCATION: Topock Compressor Station, Needles, California |
| Arcadis PROJECT NO: 30126255 | FW-02B Pilot 0 to 142 ft | PHOTOS LAST ADDED: 8/31/2022 |



Core Depth: 132 to 142 ft bgs
Description: First bag approx. 132 to 134.5 ft bgs, second bag approx. 134.5 to 137 ft bgs
Date: 8/31/2022



Core Depth: 132 to 142 ft bgs
Description: First bag approx. 134.5 to 137 ft bgs, second bag approx. 137 to 139.5 ft bgs.
Date: 8/31/2022



Core Depth: 132 to 142 ft bgs
Description: First bag approx. 137 to 139.5 ft bgs, second bag approx. 139.5 to 142 ft bgs.
Date: 8/31/2022



Core Depth: 132 to 142 ft bgs
Date: 8/31/2022

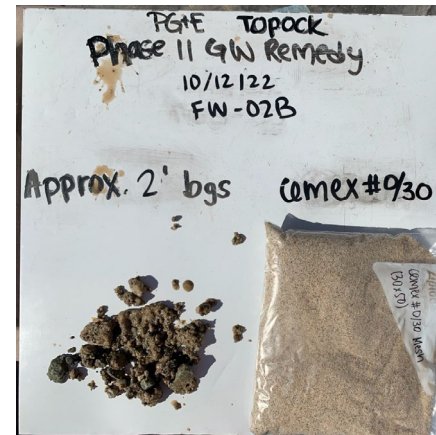
| | | |
|-------------------------------------|---|--|
| CLIENT NAME: PG&E | PILOT BOREHOLE OVERDRILL: TEMPORARY BACKFILL REMOVAL VERIFICATION PHOTO LOG FW-02B 0 to 140 ft | PROJECT NAME / LOCATION: Topock Compressor Station, Needles, California |
| Arcadis PROJECT NO: 30126255 | | PHOTOS LAST ADDED: 10/21/2022 |



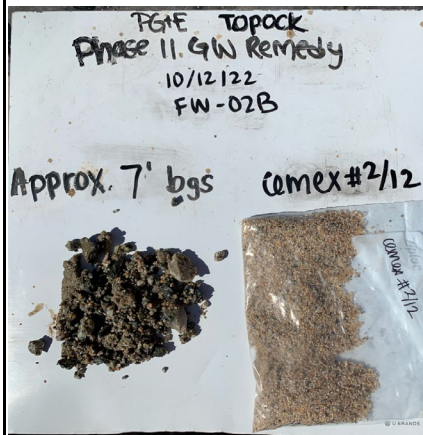
Core Depth: 0
Description: DR Rig centered over pilot borehole.
Date: 10/12/2022



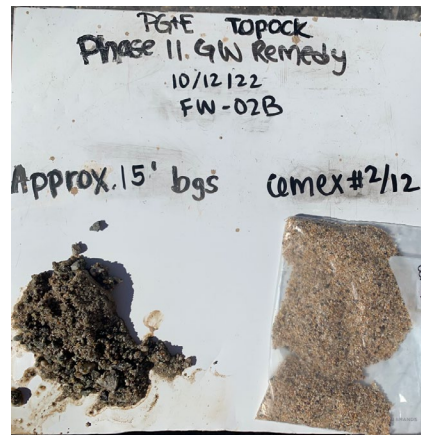
Core Depth: 0 to 0.5
Description: DR drill casing centered over pilot borehole.
Date: 10/12/2022



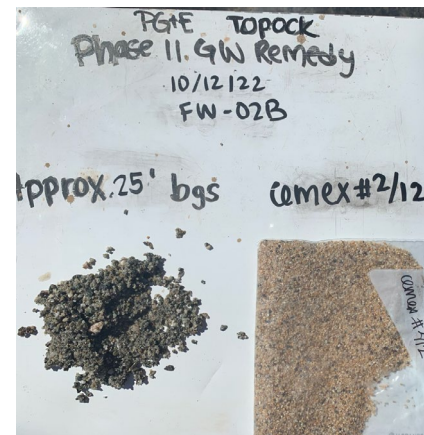
Core Depth: Approx. 2' bgs
Description:
Date: 10/12/2022



Core Depth: Approx. 7' bgs
Description: Confirmation of Cemex #0/30 Lapis Lustre Sand in drill cuttings.
Date: 10/12/2022

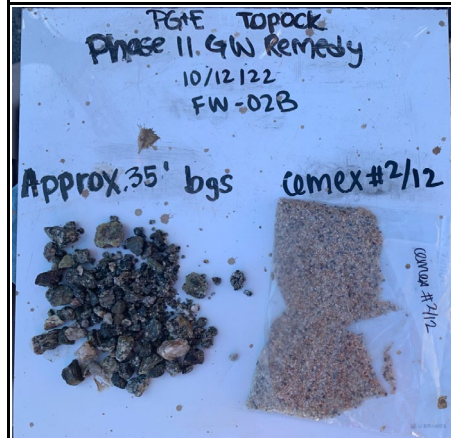


Core Depth: Approx. 15' bgs
Description: Confirmation of Cemex #2/12 Lapis Lustre Sand in drill cuttings.
Date: 10/12/2022

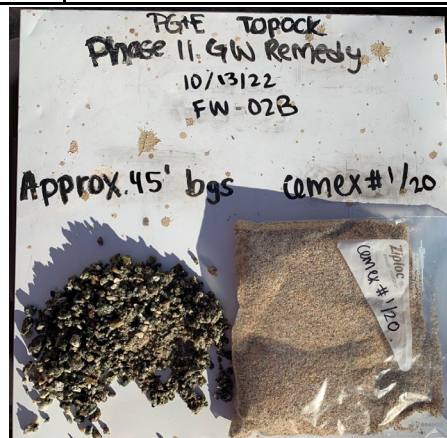


Core Depth: Approx. 25' bgs
Description: Confirmation of Cemex #2/12 Lapis Lustre Sand in drill cuttings.
Date: 10/12/2022

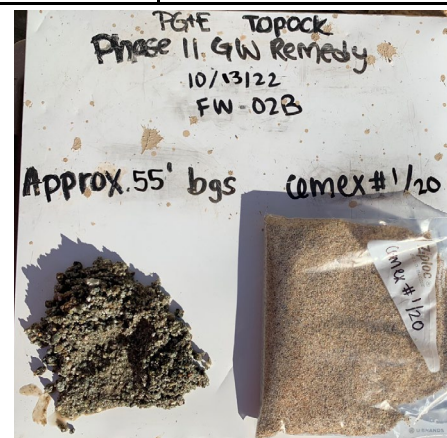
| | | |
|-------------------------------------|--|--|
| CLIENT NAME: PG&E | PILOT BOREHOLE OVERDRILL: TEMPORARY BACKFILL REMOVAL VERIFICATION PHOTO LOG | PROJECT NAME / LOCATION: Topock Compressor Station, Needles, California |
| Arcadis PROJECT NO: 30126255 | | PHOTOS LAST ADDED: 10/21/2022 |



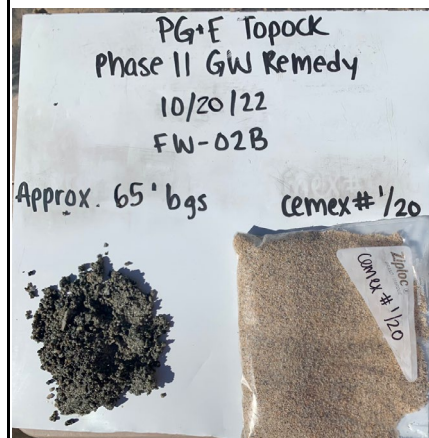
Core Depth: Approx. 35' bgs
Description: Confirmation of Cemex #2/12
 Lapis Lustre Sand in drill cuttings.
Date: 10/12/2022



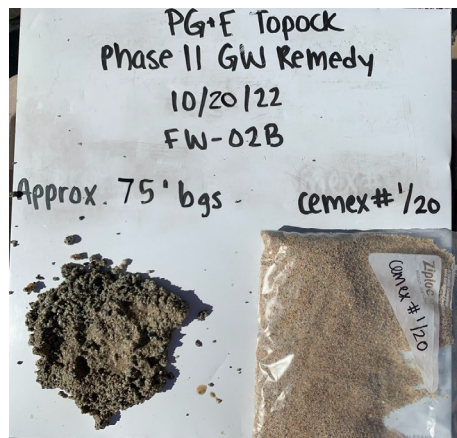
Core Depth: Approx. 45' bgs
Description: Confirmation of Cemex #1/20
 Lapis Lustre Sand in drill cuttings.
Date: 10/13/2022



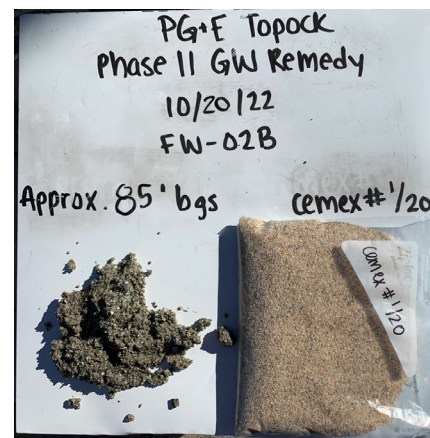
Core Depth: Approx. 55' bgs
Description: Confirmation of Cemex #1/20
 Lapis Lustre Sand in drill cuttings.
Date: 10/13/2022



Core Depth: Approx. 65' bgs
Description: Confirmation of Cemex #1/20
 Lapis Lustre Sand in drill cuttings.
Date: 10/20/2022

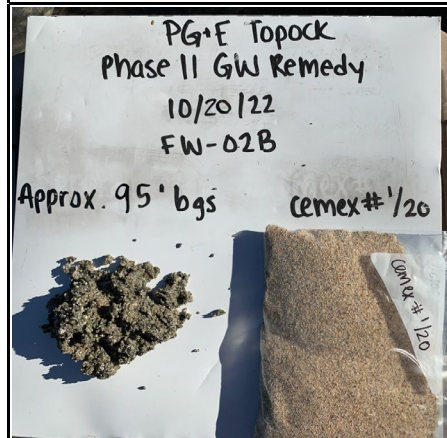


Core Depth: Approx. 75' bgs
Description: Confirmation of Cemex #1/20
 Lapis Lustre Sand in drill cuttings.
Date: 10/20/2022



Core Depth: Approx. 85' bgs
Description: Confirmation of Cemex #1/20
 Lapis Lustre Sand in drill cuttings.
Date: 10/20/2022

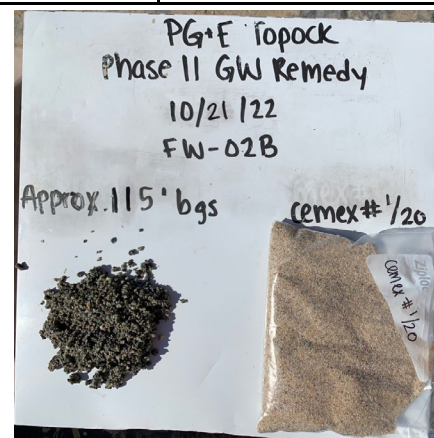
| | | |
|-------------------------------------|--|--|
| CLIENT NAME: PG&E | PILOT BOREHOLE OVERDRILL: TEMPORARY BACKFILL REMOVAL VERIFICATION PHOTO LOG | PROJECT NAME / LOCATION: Topock Compressor Station, Needles, California |
| Arcadis PROJECT NO: 30126255 | | PHOTOS LAST ADDED: 10/21/2022 |



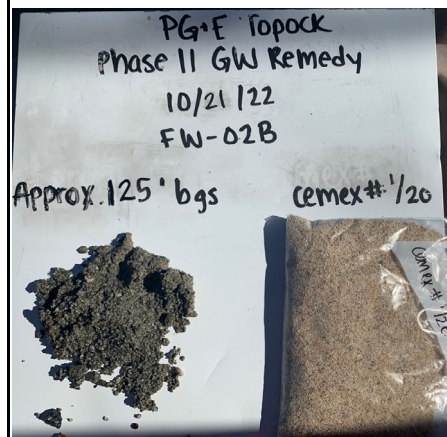
Core Depth: Approx. 95' bgs
Description: Confirmation of Cemex #1/20
 Lapis Lustre Sand in drill cuttings.
Date: 10/20/2022



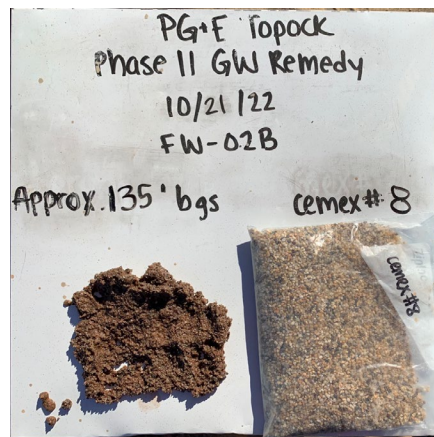
Core Depth: Approx. 105' bgs
Description: Confirmation of Cemex #1/20
 Lapis Lustre Sand in drill cuttings.
Date: 10/21/2022



Core Depth: Approx. 115' bgs
Description: Confirmation of Cemex #1/20
 Lapis Lustre Sand in drill cuttings.
Date: 10/21/2022



Core Depth: Approx. 125' bgs
Description: Confirmation of Cemex #1/20
 Lapis Lustre Sand in drill cuttings.
Date: 10/21/2022



Core Depth: Approx. 135' bgs
Description: Confirmation of Cemex 8 Mesh
 Lapis Lustre Sand in drill cuttings.
Date: 10/21/2022

CLIENT NAME: PG&E

**WELL CONSTRUCTION
PHOTO LOG**

PROJECT NAME / LOCATION: Final Groundwater Remedy,
PG&E Topock Compressor Station/Needles, CA

Arcadis PROJECT NO: 30126255

WELL ID: FW-02B



**10/22/2022 – FW-02B:
Confirmation of 35-slot size on 316L Stainless
Steel Wire Wrapped Screen (Upper Screen)**



**10/22/2022 – FW-02B:
Confirmation of 15-slot size on 316L Stainless
Steel Wire Wrapped Screen (Lower Screen)**

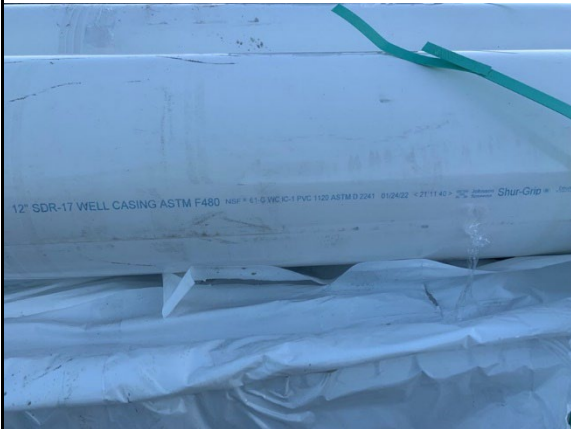


**10/22/2022 – FW-02B:
Confirmation of outer diameter of well 1.07 feet
(12.84-inches)**

| | | |
|-------------------------------------|--|---|
| CLIENT NAME: PG&E | WELL CONSTRUCTION PHOTO LOG | PROJECT NAME / LOCATION: Final Groundwater Remedy, PG&E Topock Compressor Station/Needles, CA |
| Arcadis PROJECT NO: 30126255 | | WELL ID: FW-02B |



10/22/2022 – FW-02B:
Confirmation of inner diameter of well 0.94 feet
(11.28-inches)



10/22/2022 – FW-02B:
Confirmation of Shur-Grip SDR-17 PVC well casing



10/22/2022 – FW-02B:
316L Stainless Steel End Cap

CLIENT NAME: PG&E

**WELL CONSTRUCTION
PHOTO LOG**

PROJECT NAME / LOCATION: Final Groundwater Remedy,
PG&E Topock Compressor Station/Needles, CA

Arcadis PROJECT NO: 30126255

WELL ID: FW-02B



**10/22/2022 – FW-02B:
316L Stainless Steel End Cap**



**10/22/2022 – FW-02B:
Kwik-Zip centralizers**

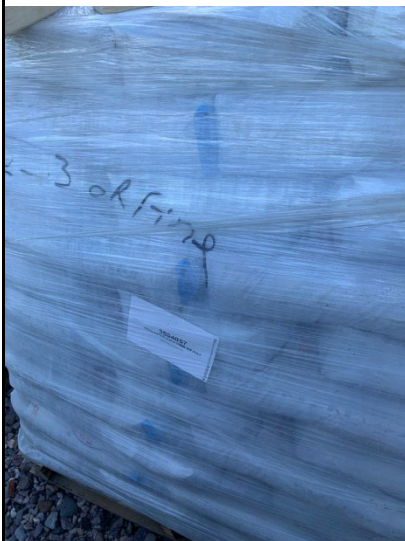


**10/22/2022 – FW-02B:
Kwik-Zip centralizers**

| | | |
|-------------------------------------|--|---|
| CLIENT NAME: PG&E | WELL CONSTRUCTION PHOTO LOG | PROJECT NAME / LOCATION: Final Groundwater Remedy, PG&E Topock Compressor Station/Needles, CA |
| Arcadis PROJECT NO: 30126255 | | WELL ID: FW-02B |



**10/22/2022 – FW-02B:
Upper screen Red Flint 0.80-1.20 MM Filter
Pack Sand**



**10/22/2022 – FW-02B:
Red Flint 0.20-0.30 MM Transition Sand**



**10/22/2022 – FW-02B:
Lower Screen Red Flint 0.35-0.45 MM Filter
Pack Sand**

| | | |
|-------------------------------------|------------------------------------|--|
| CLIENT NAME: PG&E | WELL CONSTRUCTION PHOTO LOG | PROJECT NAME / LOCATION: Final Groundwater Remedy, PG&E Topock Compressor Station/Needles, CA |
| Arcadis PROJECT NO: 30126255 | | WELL ID: FW-02B |



**10/22/2022 – FW-02B:
Shur-Grip SDR-17 PVC Cap**



**10/23/2022 – FW-02B:
Stainless Steel Cap and Shur-Grip SDR-17 PVC Sump (#1)**



**10/23/2022 – FW-02B:
Centralizer on sump (#1), set at approximately 134.5 ft. bgs**

| | | |
|-------------------------------------|--|---|
| CLIENT NAME: PG&E | WELL CONSTRUCTION PHOTO LOG | PROJECT NAME / LOCATION: Final Groundwater Remedy, PG&E Topock Compressor Station/Needles, CA |
| Arcadis PROJECT NO: 30126255 | | WELL ID: FW-02B |



**10/23/2022 – FW-02B:
12-inch 15-slot Type 316L Stainless Steel Wire
Wrap Screen (#2)**



**10/23/2022 – FW-02B:
Shur-Grip SDR-17 PVC Well Casing (#3)**



**10/23/2022 – FW-02B:
Centralizer on Well Casing (#3), set at
approximately 116 ft. bgs**

CLIENT NAME: PG&E

**WELL CONSTRUCTION
PHOTO LOG**

PROJECT NAME / LOCATION: Final Groundwater Remedy,
PG&E Topock Compressor Station/Needles, CA

Arcadis PROJECT NO: 30126255

WELL ID: FW-02B



**10/23/2022 – FW-02B:
12-inch 35-slot Type 316L Stainless Steel Wire
Wrap Screen (#4)**



**10/23/2022 – FW-02B:
Shur-Grip SDR-17 PVC Well Casing (#5)**



**10/23/2022 – FW-02B:
Shur-Grip SDR-17 PVC Well Casing (#6) with
centralizer set at approximately 92.5 ft. bgs**

CLIENT NAME: PG&E

**WELL CONSTRUCTION
PHOTO LOG**

PROJECT NAME / LOCATION: Final Groundwater Remedy,
PG&E Topock Compressor Station/Needles, CA

Arcadis PROJECT NO: 30126255

WELL ID: FW-02B



**10/23/2022 – FW-02B:
Shur-Grip SDR-17 PVC Well Casing (#7)**



**10/23/2022 – FW-02B:
Shur-Grip SDR-17 PVC Well Casing (#8)**



**10/23/2022 – FW-02B:
Centralizer on Well Casing (#8), set at
approximately 54 ft. bgs**

CLIENT NAME: PG&E

**WELL CONSTRUCTION
PHOTO LOG**

PROJECT NAME / LOCATION: Final Groundwater Remedy,
PG&E Topock Compressor Station/Needles, CA

Arcadis PROJECT NO: 30126255

WELL ID: FW-02B



**10/23/2022 – FW-02B:
Shur-Grip SDR-17 PVC Well Casing (#9)**



**10/23/2022 – FW-02B:
Shur-Grip SDR-17 PVC Well Casing (#10)**



**10/23/2022 – FW-02B:
Centralizer on Well Casing (#10), set at
approximately 14 ft. bgs**

| | | |
|-------------------------------------|--|---|
| CLIENT NAME: PG&E | WELL CONSTRUCTION PHOTO LOG | PROJECT NAME / LOCATION: Final Groundwater Remedy, PG&E Topock Compressor Station/Needles, CA |
| Arcadis PROJECT NO: 30126255 | | WELL ID: FW-02B |



10/24/2022 – FW-02B:
Cemex #1/20 Mesh (20x40) Lapis Lustre Sand
 used for backfilling below the bottom of the
 lower well screen



10/24/2022 – FW-02B:
Lower Screen Red Flint 0.35-0.45 MM Filter
Pack Sand



10/24/2022 – FW-02B:
Lower Screen Red Flint 0.35-0.45 MM Filter
Pack Sand

CLIENT NAME: PG&E

**WELL CONSTRUCTION
PHOTO LOG**

PROJECT NAME / LOCATION: Final Groundwater Remedy,
PG&E Topock Compressor Station/Needles, CA

Arcadis PROJECT NO: 30126255

WELL ID: FW-02B



**10/24/2022 – FW-02B:
Lower Screen Red Flint 0.35-0.45 MM Filter
Pack Sand**



**10/25/2022 – FW-02B:
Red Flint Sand 0.20-0.30 MM Transition Sand**



**10/25/2022 – FW-02B:
Upper Screen Red Flint Sand 0.80-1.20 MM
Filter Pack Sand**

CLIENT NAME: PG&E

**WELL CONSTRUCTION
PHOTO LOG**

PROJECT NAME / LOCATION: Final Groundwater Remedy,
PG&E Topock Compressor Station/Needles, CA

Arcadis PROJECT NO: 30126255

WELL ID: FW-02B



**10/25/2022 – FW-02B:
Bentonite Seal Pel-Plug 3/8" TR30 Pellets**



**10/25/2022 – FW-02B:
Swab block used to promote filter pack settling
during installation**



**10/26/2022 – FW-02B:
Swabbing upper screen**

| | | |
|-------------------------------------|------------------------------------|--|
| CLIENT NAME: PG&E | WELL CONSTRUCTION PHOTO LOG | PROJECT NAME / LOCATION: Final Groundwater Remedy, PG&E Topock Compressor Station/Needles, CA |
| Arcadis PROJECT NO: 30126255 | | WELL ID: FW-02B |



**10/26/2022 – FW-02B:
Bentonite Seal Cetco Puregold Medium Chips**



**10/26/2022 – FW-02B:
Red Flint Sand 0.20-0.30 MM Transition Sand**



**10/26/2022 – FW-02B:
Red Flint Sand 0.20-0.30 MM Transition Sand**

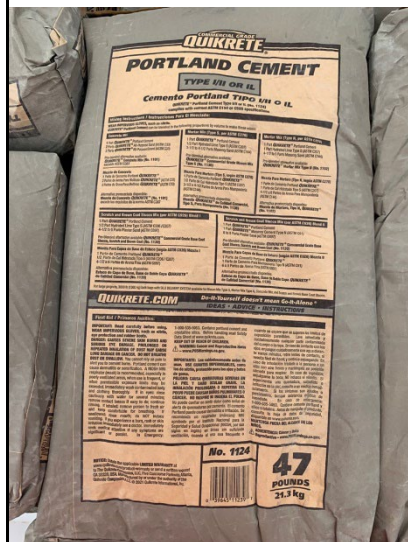
| | | |
|-------------------------------------|------------------------------------|--|
| CLIENT NAME: PG&E | WELL CONSTRUCTION PHOTO LOG | PROJECT NAME / LOCATION: Final Groundwater Remedy, PG&E Topock Compressor Station/Needles, CA |
| Arcadis PROJECT NO: 30126255 | | WELL ID: FW-02B |



11/1/2022 – FW-02B:
 Cemex #60 (40x70) Lapis Lustré Transition Sand



11/1/2022 – FW-02B:
 Cemex #60 (40x70) Lapis Lustré Transition Sand



11/2/2022 – FW-02B:
 Quikrete Portland Cement Type I, II and IV used in grout seal

| | | |
|-------------------------------------|------------------------------------|--|
| CLIENT NAME: PG&E | WELL CONSTRUCTION PHOTO LOG | PROJECT NAME / LOCATION: Final Groundwater Remedy, PG&E Topock Compressor Station/Needles, CA |
| Arcadis PROJECT NO: 30126255 | | WELL ID: FW-02B |



11/2/2022 – FW-02B:
 Quikrete Portland Cement Type I, II and IV used in grout seal



11/2/2022 – FW-02B:
 Halliburton Quik-Gel High Yield Bentonite used in grout (up to 6%)



11/2/2022 – FW-02B:
 Halliburton Quik-Gel High Yield Bentonite used in grout (up to 6%)

CLIENT NAME: PG&E

**WELL CONSTRUCTION
PHOTO LOG**

PROJECT NAME / LOCATION: Final Groundwater Remedy,
PG&E Topock Compressor Station/Needles, CA

Arcadis PROJECT NO: 30126255

WELL ID: FW-02B



**11/2/2022 – FW-02B:
Pulling casing after installing grout**



**11/4/2022 – FW-02B:
Mixing grout**



**11/4/2022 – FW-02B:
Purged water at start of airlifting**

CLIENT NAME: PG&E

**WELL CONSTRUCTION
PHOTO LOG**

PROJECT NAME / LOCATION: Final Groundwater Remedy,
PG&E Topock Compressor Station/Needles, CA

Arcadis PROJECT NO: 30126255

WELL ID: FW-02B



**11/4/2022 – FW-02B:
Purge water at end of airlifting**



**11/4/2022 – FW-02B:
Cured grout samples**



**11/5/2022 – FW-02B:
Upper 2 ft. temporary backfilled in with Red
Flint Sand 0.80-1.20 MM. Vault to be installed
at later date.**

CLIENT NAME: PG&E

**WELL CONSTRUCTION
PHOTO LOG**

PROJECT NAME / LOCATION: Final Groundwater Remedy,
PG&E Topock Compressor Station/Needles, CA

Arcadis PROJECT NO: 30126255

WELL ID: FW-02B



**11/5/2022 – FW-02B:
Measuring preliminary alignment/dummy tool
outer diameter**



**11/5/2022 – FW-02B:
Measuring preliminary alignment/dummy tool
inner diameter**



**11/5/2022 – FW-02B:
Running preliminary alignment/dummy tool**

| | | |
|-------------------------------------|--|---|
| CLIENT NAME: PG&E | WELL CONSTRUCTION PHOTO LOG | PROJECT NAME / LOCATION: Final Groundwater Remedy, PG&E Topock Compressor Station/Needles, CA |
| Arcadis PROJECT NO: 30126255 | | WELL ID: FW-02B |



11/5/2022 – FW-02B:
Final well with coupling and riser added on for development



11/22/2022 – FW-02B:
Measuring outer diameter of dummy tool used for alignment test



11/22/2022 – FW-02B:
Conducting alignment test using dummy tool

CLIENT NAME: PG&E

**WELL CONSTRUCTION
PHOTO LOG**

PROJECT NAME / LOCATION: Final Groundwater Remedy,
PG&E Topock Compressor Station/Needles, CA

Arcadis PROJECT NO: 30126255

WELL ID: FW-02B



**11/22/2022 – FW-02B:
Conducting alignment test**

Attachment 10

Video Survey Report

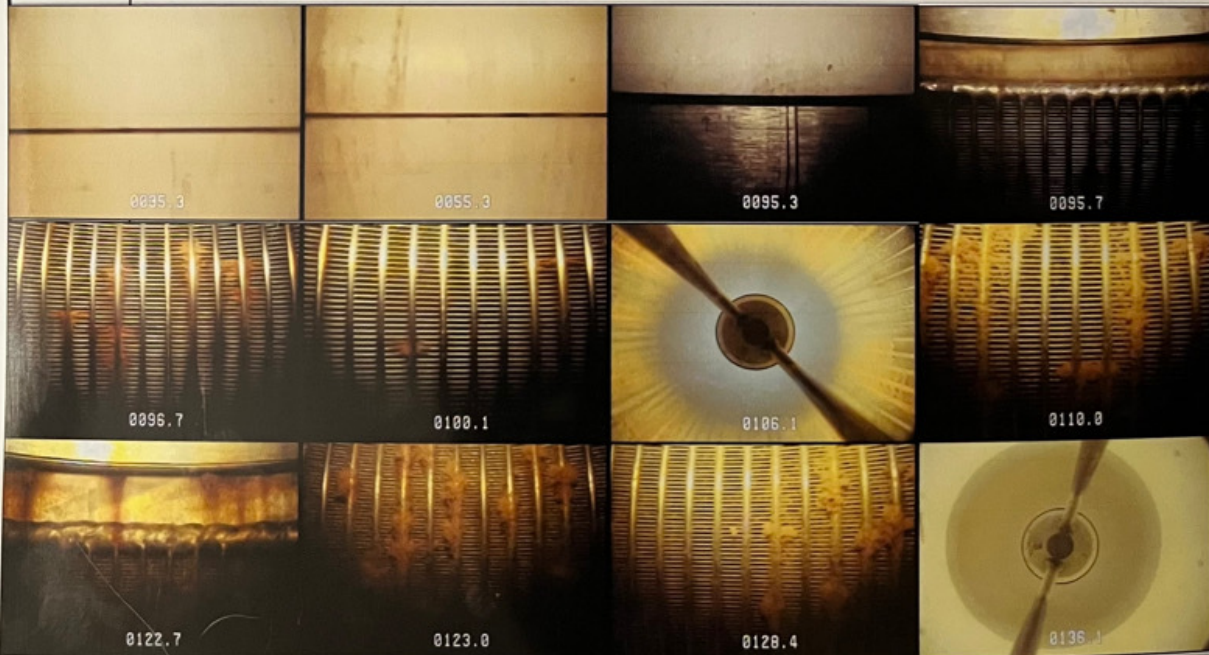
Pacific Surveys

a full service geophysical well logging company

Video Survey Report

| | | |
|---|------------------------------|----------------------------|
| Company: Cascade Drilling | Date: 02-Dec-22 | Truck: PS-6 |
| Well: FW-02B | Run No.: One | |
| Field: Topock | Job Ticket: 30505 | |
| State: Arizona | Total Depth: 137.9 ft | |
| Location: 145453 National Trails Hwy. | Water Level: 96.0 ft | SWL: |
| | Oil on Water: No | Amount: N/A |
| GPS: 34.7142278, -114.4956363 | Operator: Conner | |
| Zero Datum: Ground Level | Tool Zero: Side-Scan | Dead Space: 1.25 ft |
| Reason for Survey: New Well Construction | Guides Set: 12 in | |

| Depth | Observations | Well Details | |
|----------|--|-------------------------|------------------------|
| | | Perforation: | From Survey |
| 0.0 ft | Began survey at ground level. | Wire-Wrap | 95.00 ft to 112.00 ft |
| 15.2 ft | First joint in casing; appears to be tight and uniform. | | 122.00 ft to 132.00 ft |
| 35.3 ft | Second joint in casing; appears to be tight and uniform. | | |
| 55.3 ft | Third joint in casing; appears to be tight and uniform. | | |
| 95.3 ft | Top of screened interval; appears to be open. | | |
| 96.0 ft | SWL; water is cloudy. | | |
| 112.2 ft | Bottom of screened interval. | | |
| 122.2 ft | Top of screened interval; appears to be open. | | |
| 132.2 ft | Bottom of screened interval. | | |
| 137.9 ft | Camera light bar tags bottom. Survey ends. | | |
| | | Casing Size (in) | From Survey |
| | | OD ID | |
| | | 12.000 N/A | 0.00 ft to 137.00 ft |
| | | Casing Material | PVC |
| | | Screen Material | Stainless Steel |



800.919.7555
909.625.6262

1785 w. arrow rte., bldg. d, ste. 3,4
upland, ca 91786
www.pacificsurveys.com

fax: 909.399.3180

TCS-1 - Pacific Surveys video log description