

MONTEREY PENINSULA WATER SUPPLY PROJECT

Monitoring Network Quarterly Monitoring Report No. 181 20-October-22 - 12-January-23

January 17, 2023

PREPARED FOR:
California American Water



CALIFORNIA
AMERICAN WATER

GEOSCIENCE Support Services, Inc., Ground Water Resources Development
P.O. Box 220, Claremont, CA 91711 | P (909) 451-6650 | F (909) 451-6638 |
www.gssiwater.com

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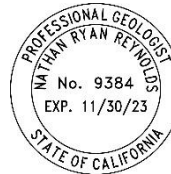
THIS REPORT HAS BEEN PREPARED BY OR UNDER THE DIRECTION OF THE FOLLOWING DESIGN PROFESSIONAL LICENSED BY THE STATE OF CALIFORNIA AND BASED ON THE MOST RECENT AVAILABLE INFORMATION.



Brian Villalobos, CEG, CHG
Senior Geohydrologist



Nathan Reynolds, PG
Project Manager



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1	General Technical Description of Monitoring Wells
2	Summary of Test Slant Well Laboratory Water Quality Results
3	Summary of Quarterly and Semiannual Monitoring Well Laboratory Water Quality Results Following Long-Term Pumping Test

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Description

- A-1 Coastal Development Permit #A-3-MRA-14-0050
- A-2 Coastal Development Permit Amendment No. A-3-MRA-14-0050-A1
- B Groundwater Level and Salinity Instrument Data for the Period 28-Jul-22 through 20-Oct-22
- C Conversion of Transducer Pressure Measurements to Groundwater Elevations
- D Estimating Total Dissolved Solids from Electrical Conductivity (EC) Measurements

Note: As they become available additional data will be added to Appendices with each subsequent report

www.watersupplyproject.org

MONTEREY PENINSULA WATER SUPPLY PROJECT

MONITORING NETWORK QUARTERLY MONITORING REPORT NO. 181 20-OCTOBER-22 – 12-JANUARY-23

1.0 GENERAL

1.1 Purpose and Scope

Coastal Development Permit #A-3-MRA-14-0050 dated 8-Dec-14 granted California American Water Company (CalAm) permission for development consisting of: Construction, operation and decommissioning of a test slant well at the CEMEX sand mining facility in the City of Marina and beneath Monterey Bay in the County of Monterey. Special condition 11, “Protection of Nearby Wells”, of that permit required that groundwater monitoring of a minimum of four wells on the CEMEX site within 2,000 ft of the test well and one or more offsite wells to record water and salinity levels (see Appendix A-1). Monitoring was conducted for permit compliance from April of 2015 through February 2018.

On February 28, 2018 the Coastal Development Permit (CDP) expired and pumping ceased at the Test Slant Well. California American Water has elected to continue with the monitoring program for the purpose of collecting additional data of aquifer conditions during the extended non-pumping period. Monitoring of water levels and salinity will continue at the Test Slant Well and monitoring well sites during this new stage of non-pumping. The purpose of this report is to present data that reflects aquifer conditions during both Test Slant Well pumping (April 2015 through February 2018) and the on-going non-pumping periods for comparative purposes. Monitoring Report 169 is the first quarterly report presenting twelve weeks of data. Report 169 and each subsequent quarterly report will be provided in two parts with the first part consisting of the Text, Figures, and Tables and the second part providing the Appendices.

1.2 Monitoring Well Construction

During the period from December 2014 to March 2015, four monitoring well clusters were constructed (MW-1, MW-3, MW-4, and MW-5) with each cluster consisting of three monitoring wells completed at different depth intervals. In addition, four monitoring well clusters (MW-6, MW-8, MW-9, and MW-7) were completed on 5-Apr-15, 29-May-15, 30-Jun-15, and 9-Aug-15. An additional cluster had been

planned for construction (MW-10), however, due to inaccessibility the proposed cluster was removed from the proposed monitoring network. The naming convention for the monitoring wells in each cluster is as follows: MW-1S, MW-1M and MW-1D refer to shallow, middle, and deep monitoring zones, respectively, for monitoring well cluster MW-1. In addition, there are several existing wells that were monitored for water level and salinity for several months in 2015: one well at the Monterey Regional Water Pollution Control Agency Plant (MRWPCA Well 1); and one existing well on the CEMEX property (CEMEX North Well). In addition to the constructed and existing groundwater monitoring wells, a stilling well was installed at the north end of CEMEX's dredge pond (CP-1) and was also monitored. However, the transducer installed in the dredge pond was buried in sand due to winter storms surges in December 2015. Transducer data from MRWPCA Well 1, CEMEX North Well, and CP-1 are not included in this report as these locations are no longer being monitored due to environmental or access issues. Previous data and figures for these sites can be found in Test Slant Well Long Term Pumping Report No. 145 or earlier.

Table 1 summarizes general technical details of the monitoring wells and Figure 1-1 shows the monitoring well locations.

2.0 BACKGROUND OF MONITORING PROGRAM

2.1 Baseline Water Level and Water Quality Weekly Monitoring Reports

As part of the long term pumping program weekly reports containing baseline water levels and water quality data were completed. A total of seven weekly reports were produced providing data for the period: February 19, 2015 through April 22, 2015. These initial Monitoring Reports (Nos. 1 through 7), providing baseline data collected prior to the initiation of the long term pumping test, can be found on the CalAm project website.

2.2 Test Slant Well Baseline Water Level and Quality Data

A report entitled "TECHNICAL MEMORANDUM - Monterey Peninsula Water Supply Project Baseline Water and Total Dissolved Solids Levels Test Slant Well Area" was prepared on April 20, 2015 and submitted to the Hydrogeologic Working Group (HWG) for review and concurrence. The report provided observations of the trends in water levels and water quality from the data provided weekly in the monitoring reports and included recommendations for a methodology to evaluate changes in water level and water quality trends at MW-4 series in order to comply with the conditions of Coastal Development Permit #A-3-MRA-14-0050. The report is available at: www.watersupplyproject.org

2.3 Test Slant Well Long Term Pumping Test Monitoring Reports

The long term pumping test of the Test Slant Well commenced on April 22, 2015. In adherence with the Coastal Development Permit #A-3-MRA-14-0050 for the Test Slant Well project a second set of weekly monitoring reports were required during the pumping period from April 22, 2015 to February 28, 2018, providing water level and water quality data from the project monitoring wells. Figure 1-1 shows the location of the monitoring wells.

On June 5, 2015, the Test Slant Well was voluntarily shut off so that the HWG could evaluate regional trends in water levels and salinity. During the shut off period, the California Coastal Commission allowed for weekly maintenance pumping of 6-hours per week to maintain the Test Slant Well (TSW) in an operational condition. Long term pumping of the Test Slant Well resumed on October 27, 2015 under Coastal Development Permit Amendment No. A-3-MRA-14-0050-A1 dated 13-Oct-15 (Appendix A-2).

In addition to the weekly reports, monthly reports were prepared by the HWG for submittal to the California Coastal Commission. The focus of the reports was water level and conductivity responses in MW-4 (permit threshold well) to comply with the CDP. However, the reports summarized water level and water quality data from the Test Slant Well and entire monitoring network in addition to MW-4. Twenty-eight (28) monthly reports were prepared during the TSW pumping period, which concluded on February 28, 2018. These monthly reports are available on the CalAm project website.

The last effective date of the coastal development permit was February 28, 2018. On February 28, 2018 5:47 pm the TSW pump was turned off, concluding the MPWSP Test Slant Well Long Term Pumping Test and the required reporting period set forth by the CCC. Report No. 1 through Report No. 145 provide the weekly results of monitoring during the baseline and long term pumping test. The reports are available on the CalAm project website. Report Nos. 146 through 181 have been issued since the TSW has been shut off. This report summarizes monitoring performed for the period of October 20, 2022 through January 12, 2023 during the post-pumping period but is presented with data collected since the start of the long term pumping test. This report is the thirteenth (13th) quarterly report prepared after completion of the long term pumping test and follows two biweekly report Nos. 146 and 147 and twenty-one monthly reports Nos. 148 - 168. Twelve weeks of transducer data has been included in Appendix B.

3.0 MONITORING PROGRAM DURING CURRENT NON-PUMPING PERIOD

Since turning off the Test Slant Well pump at the end of February 2018 and ending the Long Term Test, CalAm has voluntarily elected to continue the monitoring program and issuing monitoring reports to compare water level and water quality trends during pumping and non-pumping periods. The March 2018 monitoring reports were issued as biweekly (every two weeks) and provided an additional

14 days of data. Report No. 148 through No. 168 were issued as monthly reports and provided four-week periods of data. Going forward, beginning with Report No. 169, twelve weeks of data will be presented in each quarterly report. This report covers the twelve-week period from October 20, 2022 through January 12, 2023. The post pumping reports will be available on the project website.

3.1 Water Levels

All downloaded pressure transducer data as well as specific conductivity (EC) during the monitoring period are included in Appendix B. Appendix B data is cumulative and only the appended data will be printed in this report or in subsequent quarterly monitoring reports. Figures 2-1 to 2-8 show graphical plots of groundwater elevations for the eight monitoring well clusters (MW-1, MW-3, MW-4, MW-5, MW-6, MW-7, MW-8, and MW-9). Figures 3-1 through 3-8 show corresponding graphical plots of the specific conductivity for the above-mentioned wells. Figures 2-9a and 3-9a show the water level and conductivity for the TSW respectively since the TSW was shut-off. For comparison of water levels and conductivity during long term testing and the current non-pumping period, Figures 2-9b and 3-9b show water levels and specific conductivity, respectively, from April 2015. A summary of the method used to convert transducer pressure measurements to groundwater elevations can be found in Appendix C.

3.2 Test Slant Well Water Quality

Groundwater quality samples were collected from the Test Slant Well on April 8, 2015, prior to initiation of the long term pumping operations, on April 29, 2015, weekly during the month of May and on June 3, 2015. A summary of the water quality laboratory results from the Test Slant Well are included in Table 2. Since October 27, 2015, water quality data had been collected weekly on average while the well was in operation and the data are presented in Table 2. TSW water quality samples will not be collected during the current non-pumping period (after February 28, 2018) since the well is off. However, electrical conductivity measurements from a downhole transducer in the TSW will be reported in this and subsequent reports.

3.2.1 Specific Conductivity in the Test Slant Well

During Test Slant Well pumping periods between the start of the Long Term Pumping Test on April 22, 2015 until the completion of the test on February 28, 2018 specific conductivity of the well discharge was monitored for analytical and permit compliance purposes using water quality field instruments (Horiba U-50 or YSI Pro Plus) installed along the TSW discharge line. These EC readings represent a mixed water sample from the TSW screens which span both the shallow Dune Sand Aquifer and 180 FTE. Specific conductance during non-pumping periods has been continuously recorded using a

data logger (In Situ Aqua TROLL 200) installed inside the TSW at a lineal depth of 305 ft bgs MD (lineal feet at 19 degrees from ground surface) above the submersible pump. The EC data recorded by this instrument represents a depth specific sample of water column during non-pumping conditions. Beginning in Monitoring Report No. 146 conductivity during pumping and non-pumping periods is presented in Figure 3-9a and 3-9b. Figure 3-9a provides a plot of conductivity with primary focus during the current non-pumping period while Figure 3-9b, for comparison provides a plot of conductivity for the entire study period beginning in April 2015. A summary of the method used to estimate total dissolved solids from electrical conductivity (EC) measurements can be found in Appendix D.

3.3 Monitoring Well Water Quality

Groundwater quality samples were collected from the MPWSP monitoring wells in April 2018, following the completion of the Test Slant Well Long Term Pumping Test on February 28, 2018. Semiannual (twice a year) samples are planned to be collected from the monitoring wells through 2022 during the period of TSW non-pumping. The most recent set of semiannual samples was collected from October 17 to 20, 2022. Previous semiannual sample sets were collected from April 23 to 26, 2018, October 8 to 12, 2018, April 8 to 10, 2019, October 14 to 17, 2019, April 6 to 8, 2020, October 12 to 15, 2020, April 12 to 15, 2021, October 11 to 14, 2021, and April 11 to 14, 2022. A summary of the water quality laboratory results was first reported as part of Table 3 in Monitoring Report No. 149. Subsequent Monitoring Reports will continue to show the laboratory results in Table 3 along with the addition of monitoring well water quality results as samples are collected in the future.

Samples were collected from the MW-4 monitoring wells following the completion of the Test Slant Well Long Term Pumping Test on February 28, 2018. Samples were collected quarterly through October 2020 and then semiannually through the year 2022. A summary of the available water quality laboratory results for the MW-4 monitoring wells sampling events, since the conclusion of the Long Term Pumping Test, are reported in Table 3. MW-4 samples were collected on April 27, 2018, July 25, 2018, October 11 to 12, 2018, January 23, 2019, April 11, 2019, July 24 to 25, 2019, October 16, 2019, January 15, 2020, April 8, 2020, June 30, 2020, October 15, 2020, April 15, 2021, October 14, 2021, April 14, 2022, and October 20, 2022. Specific conductivity and TDS results from quarterly sampling of the MW-4 monitoring wells taken during the Long Term Pumping Test were reported in Table 2 of the MPWSP Test Slant Well Long Term Pumping Monthly Monitoring Reports. Table 2 in the final Monthly Monitoring Report 28 contains the full record of specific conductance and TDS for the MW-4 monitoring wells sampling for the duration of the Long Term Pumping Test, from April 22, 2015 to February 28, 2018.

Laboratory water quality results will be posted in future monitoring reports as they become available.

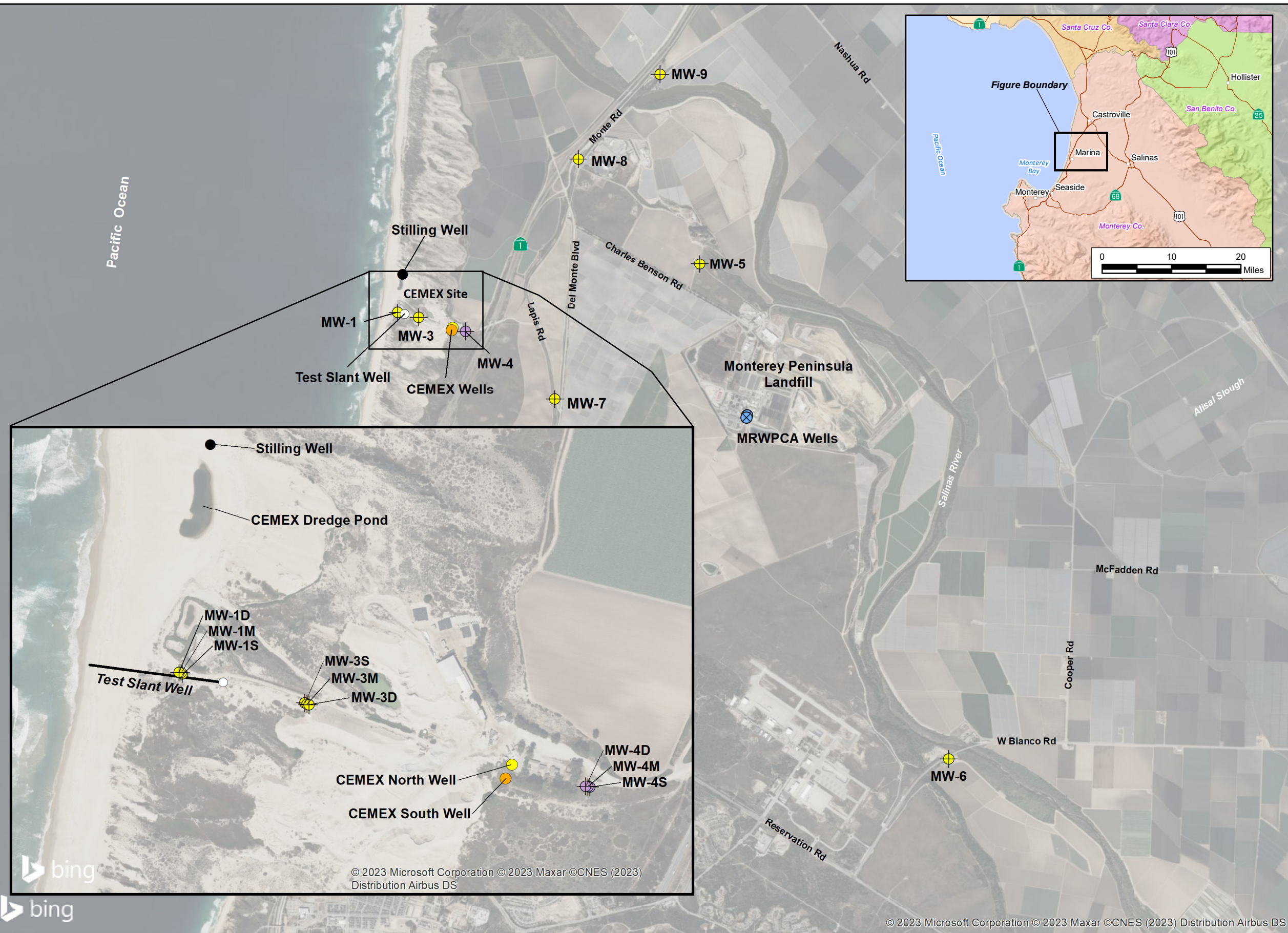
3.4 Periodic Pumping for Well Maintenance

On February 28, 2018 the Test Slant Well pump was turned off, concluding the Long Term Pumping Test. Going forward maintenance pumping of the Test Slant Well will be performed on an approximately monthly basis. The purpose of this short-term pumping is to preserve the pump and to circulate water through the well screen to help prevent biological growth and encrustation that may form during stagnant conditions. These periods of temporary pumping are summarized in the table in Figure 2-9a and Figure 3-9a.

FIGURES

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EXPLANATION

- Monitoring Well Cluster
- Compliance Monitoring Well Cluster
- Inactive Production Well
- CEMEX Well - Inactive
- CEMEX Well - Active
- Stilling Well
- Test Slant Well

Jan-23

MPWSP GROUNDWATER MONITORING NETWORK

FIGURE 1-1

Groundwater Elevation in MPWSP MW-1

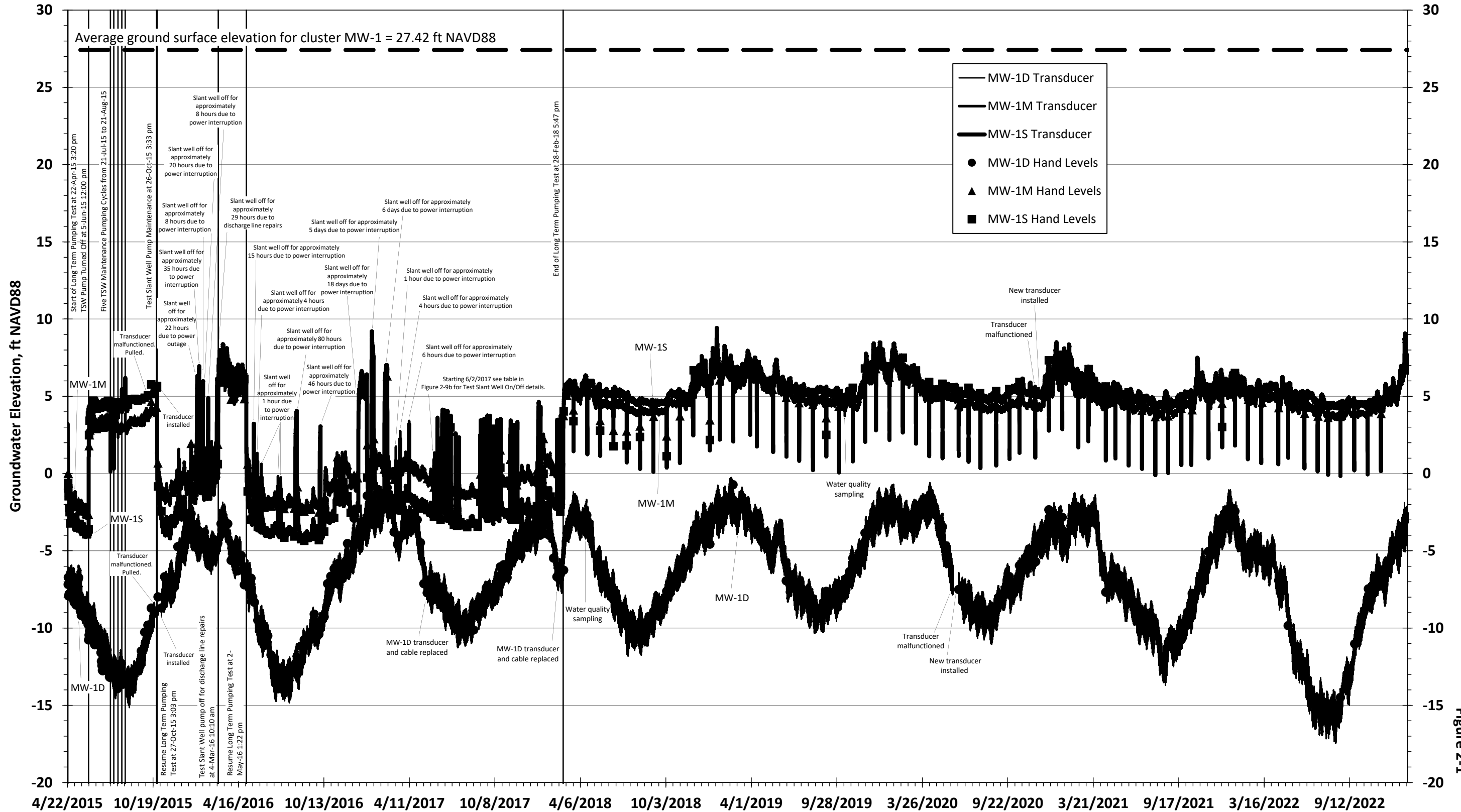


Figure 2-1

Groundwater Elevation in MPWSP MW-3

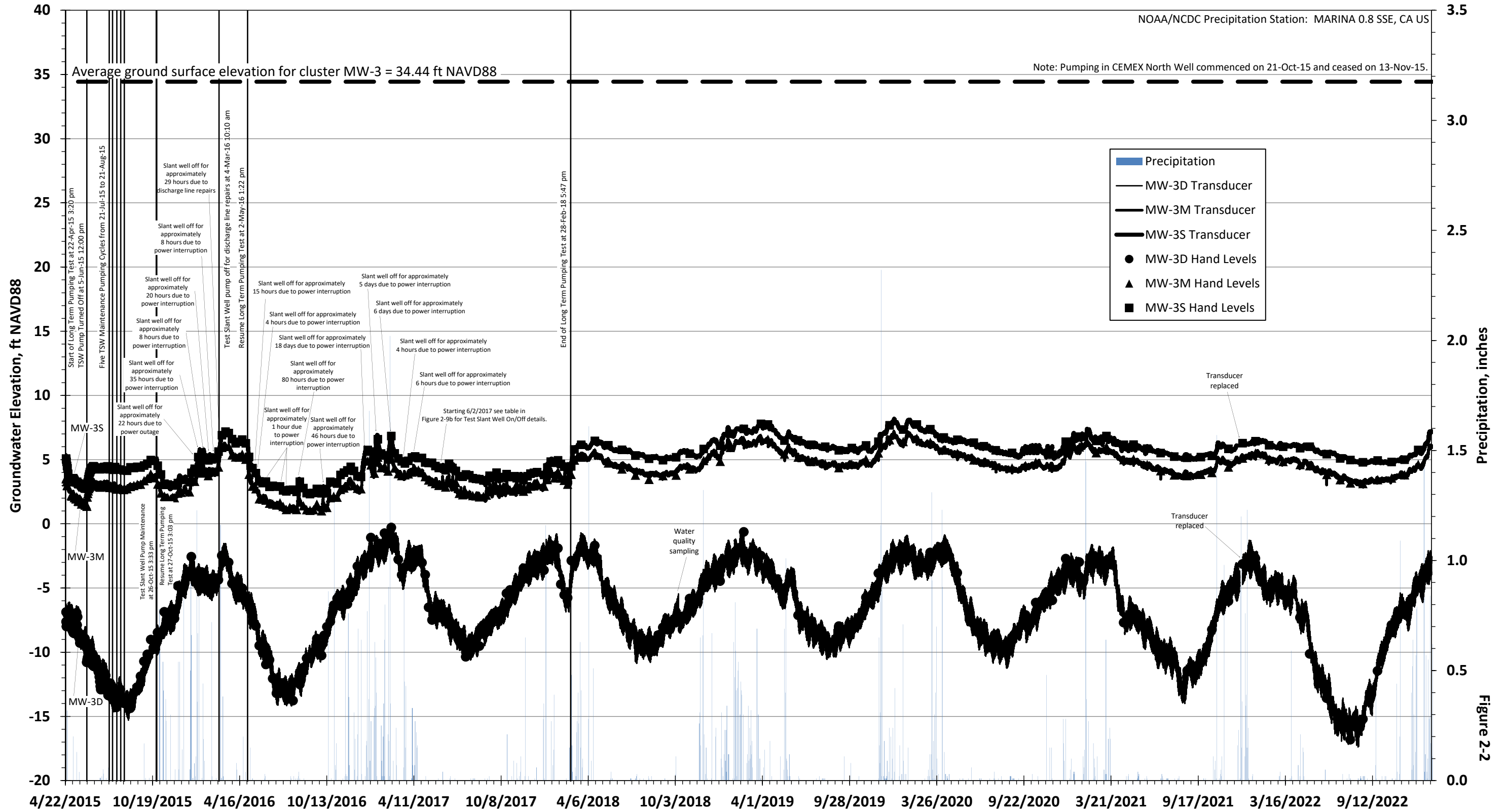
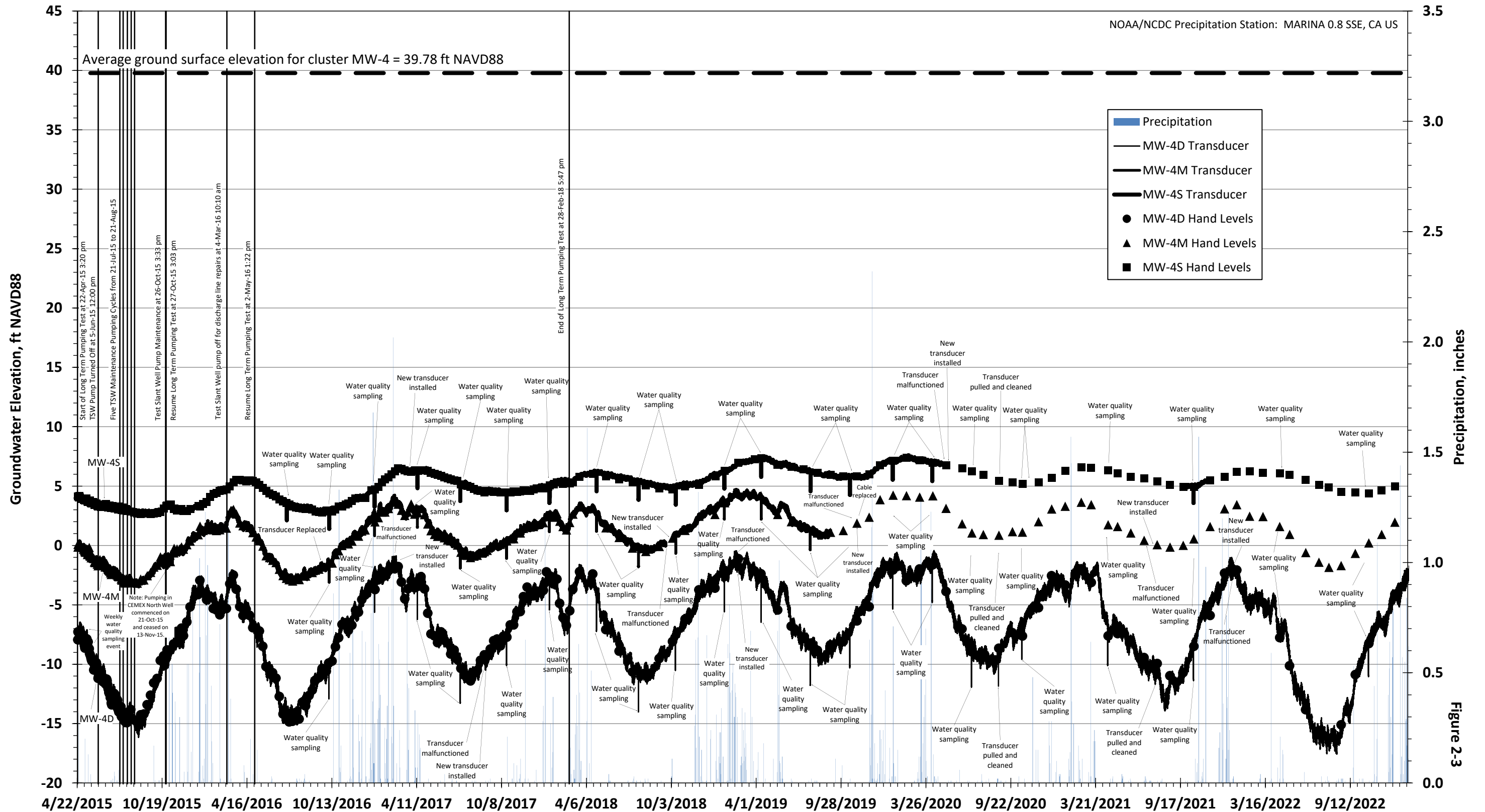


Figure 2-2

Groundwater Elevation in MPWSP MW-4



Groundwater Elevation in MPWSP MW-5

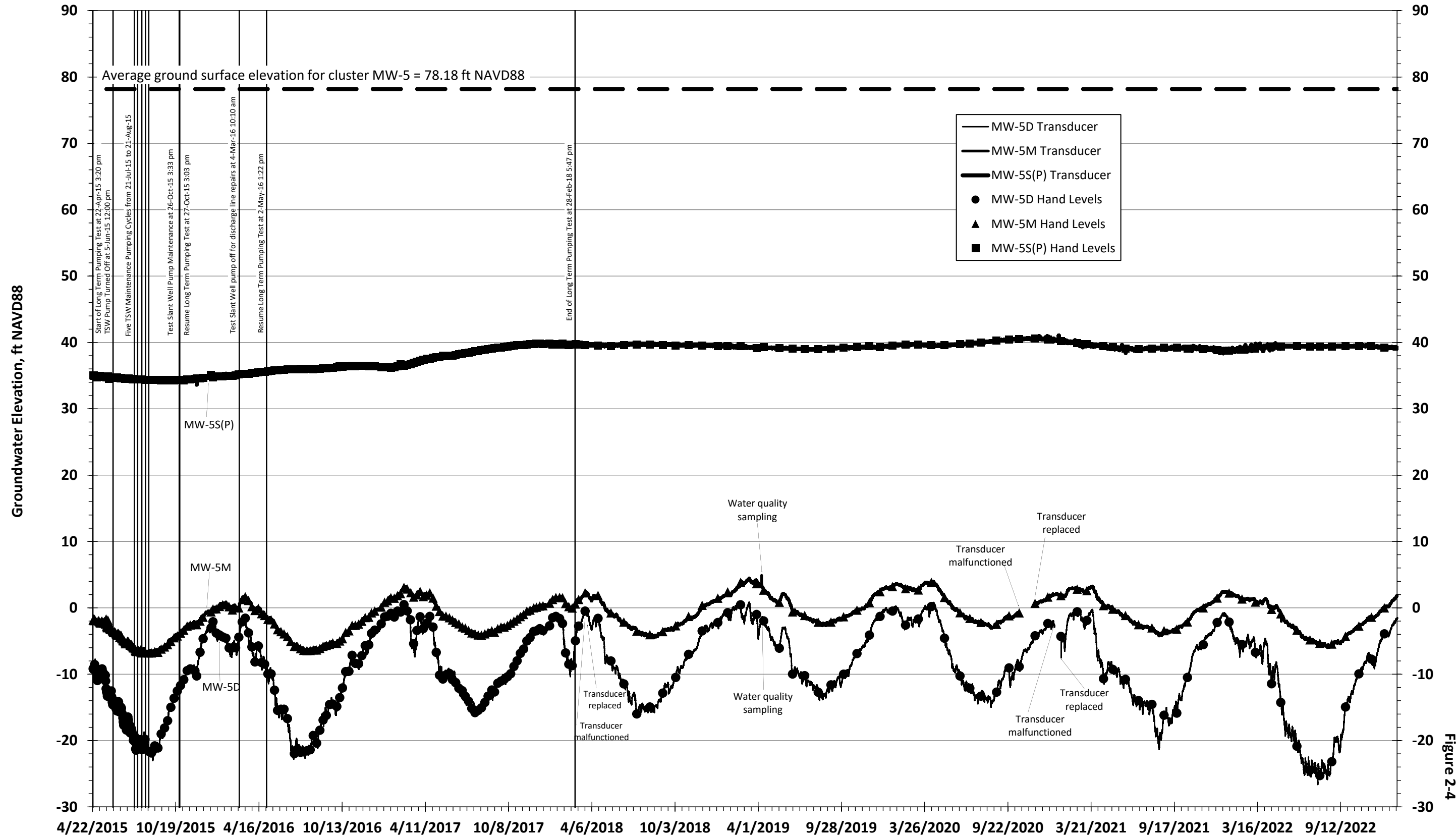


Figure 2-4

Groundwater Elevation in MPWSP MW-6

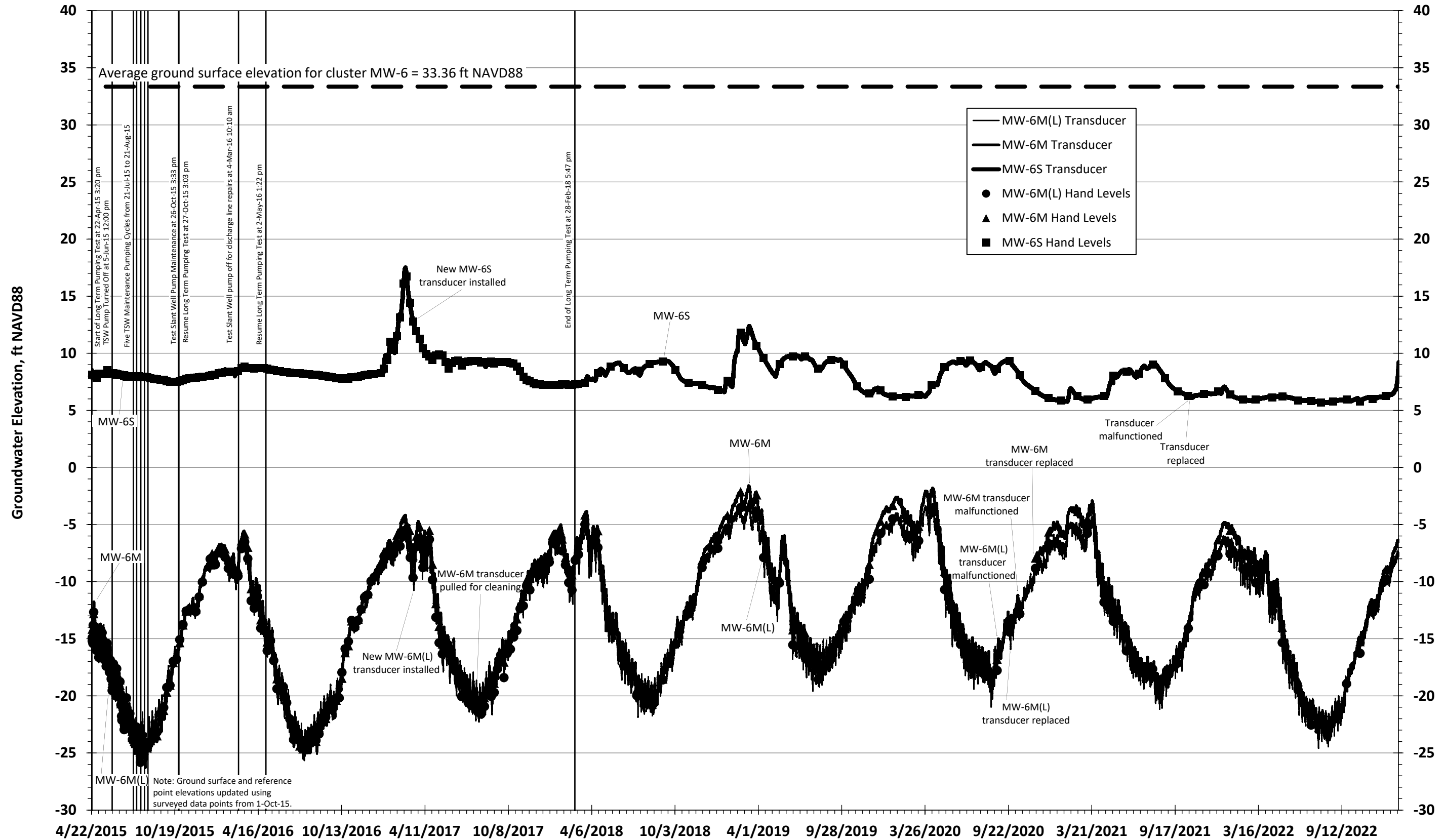


Figure 2-5

Groundwater Elevation in MPWSP MW-7

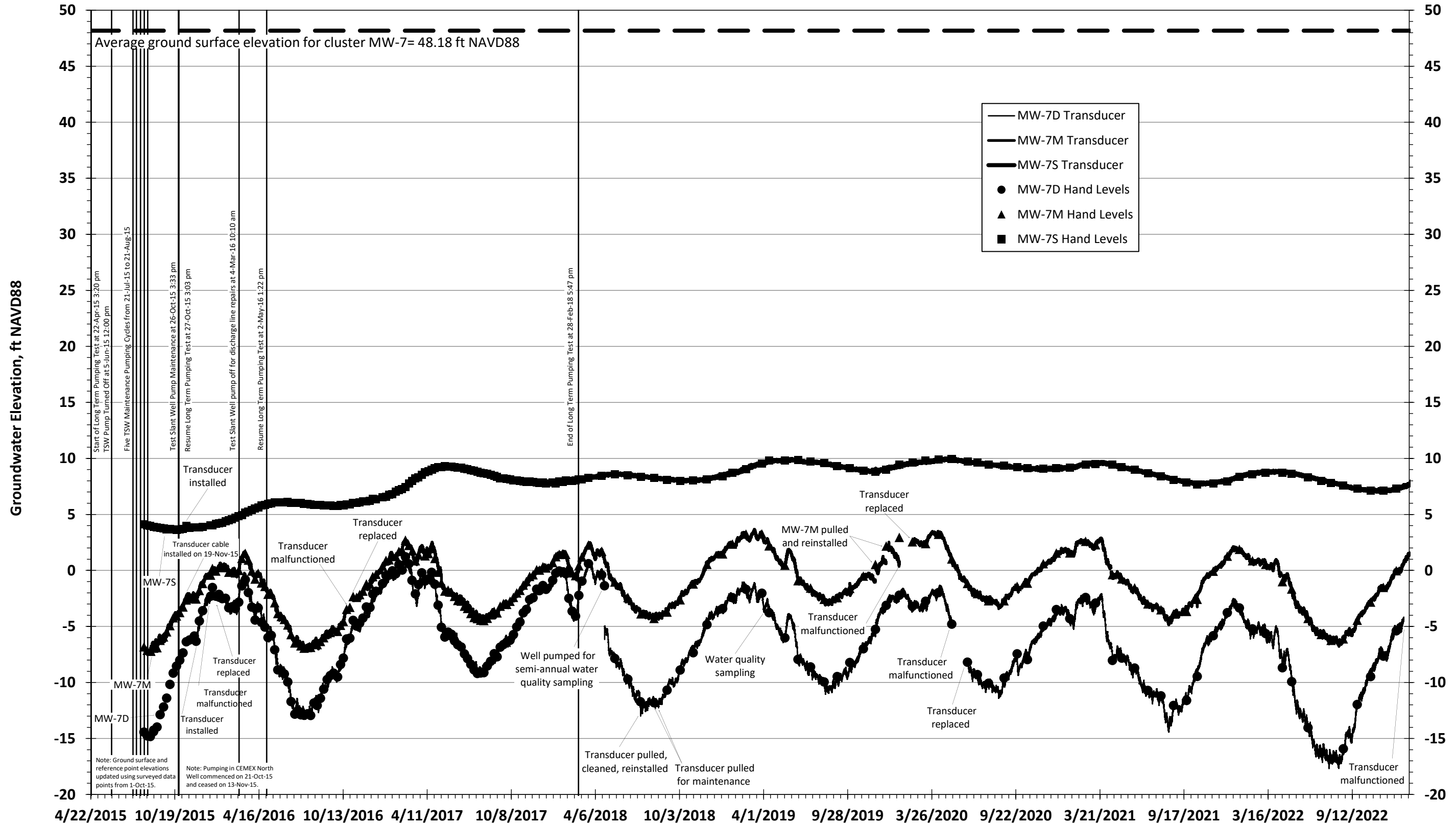


Figure 2-6

Groundwater Elevation in MPWSP MW-8

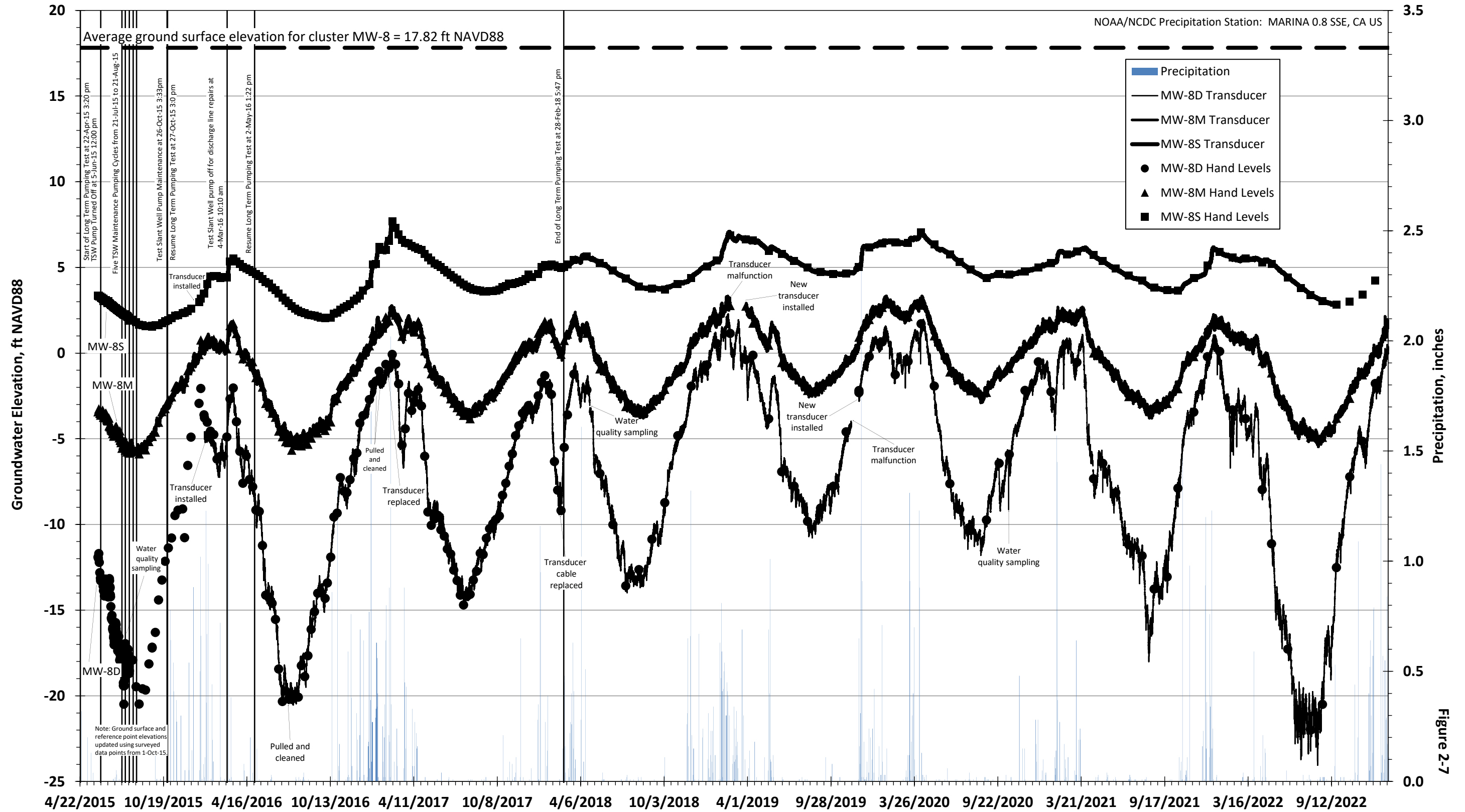


Figure 2-7

Groundwater Elevation in MPWSP MW-9

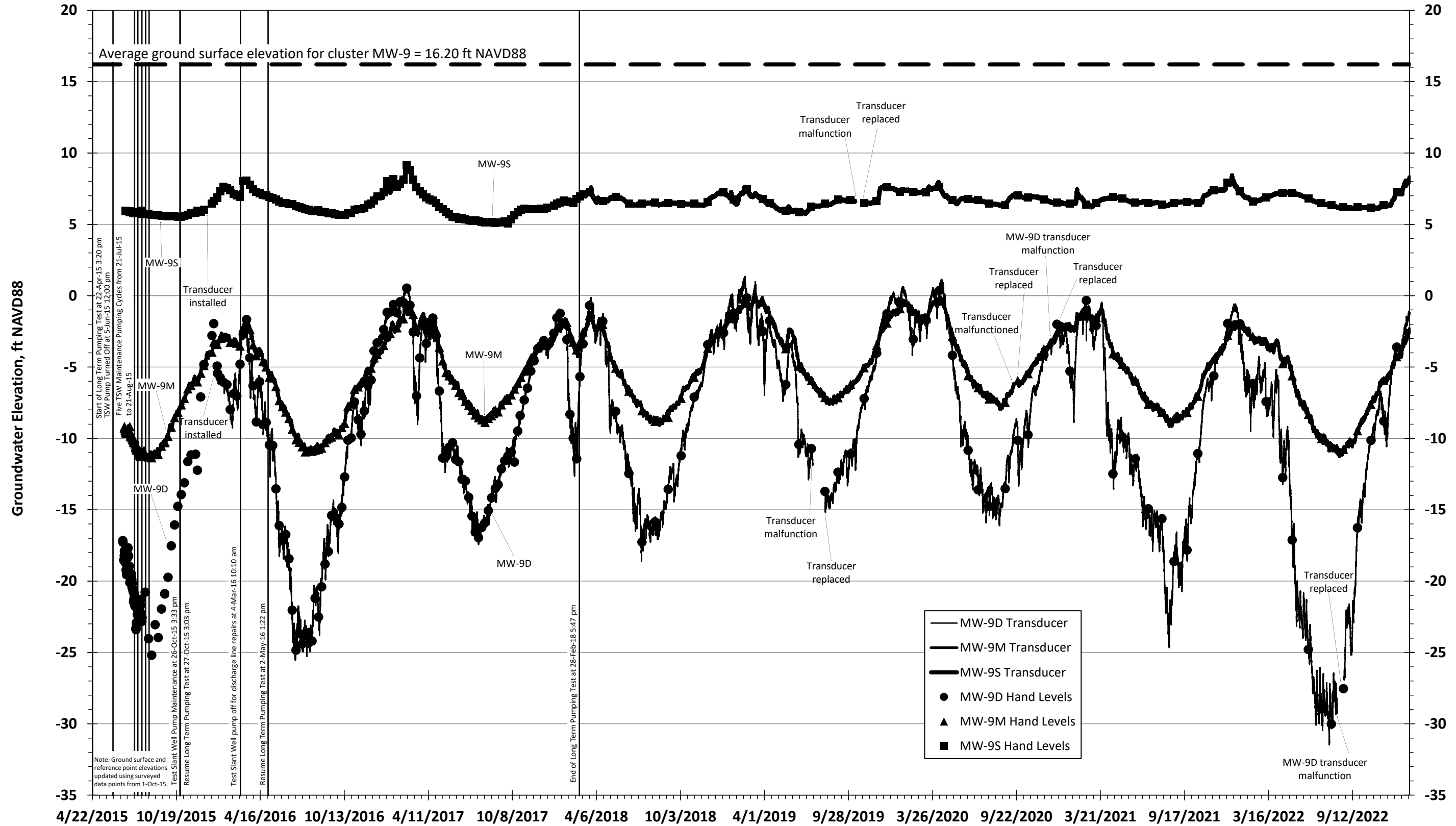


Figure 2-8

Groundwater Elevation in MPWSP Test Slant Well

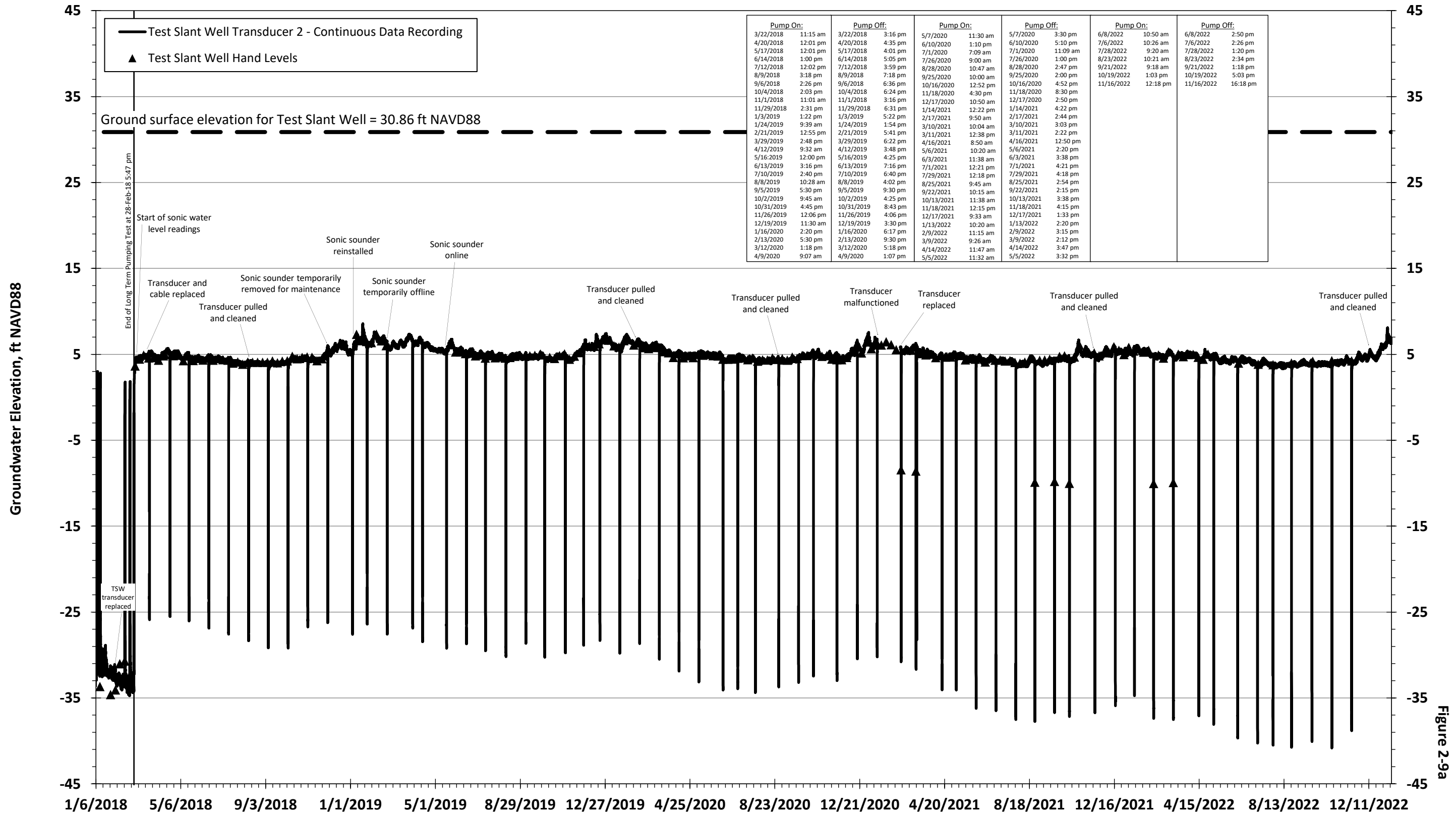


Figure 2-9a

Groundwater Elevation in MPWSP Test Slant Well During and After Long-Term Pumping Test

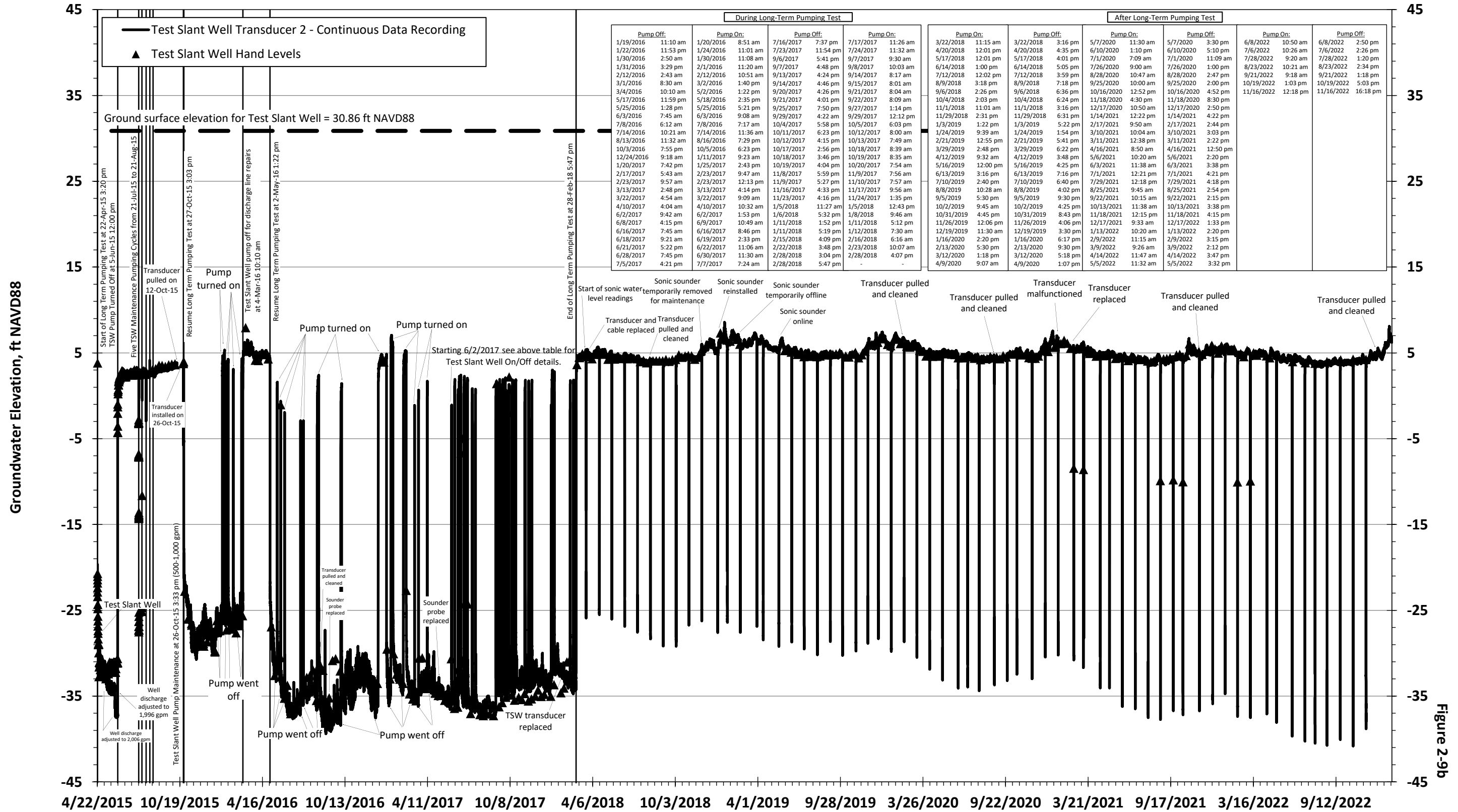


Figure 2-9b

Specific Conductivity in MPWSP MW-1

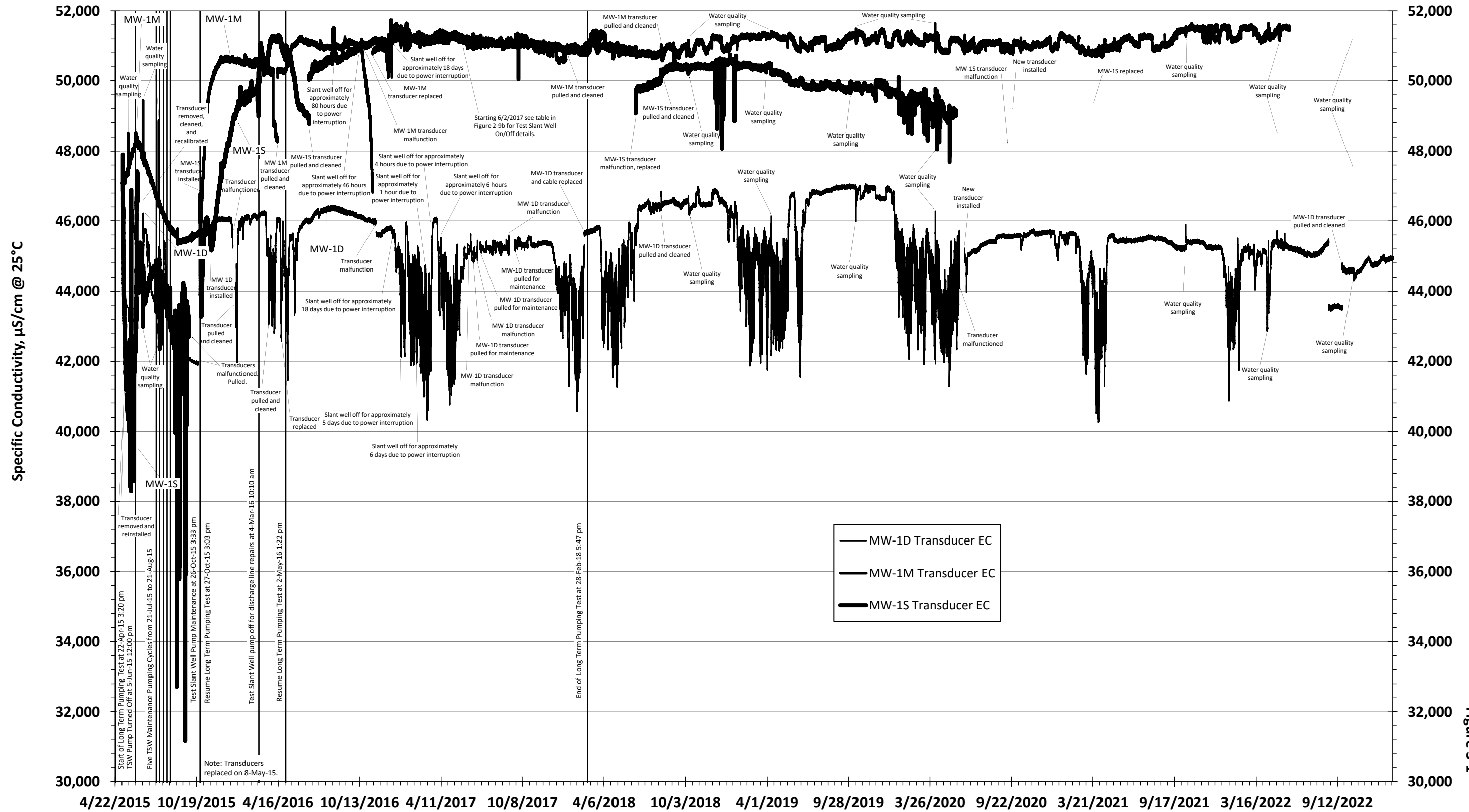


Figure 3-1

Specific Conductivity in MPWSP MW-3

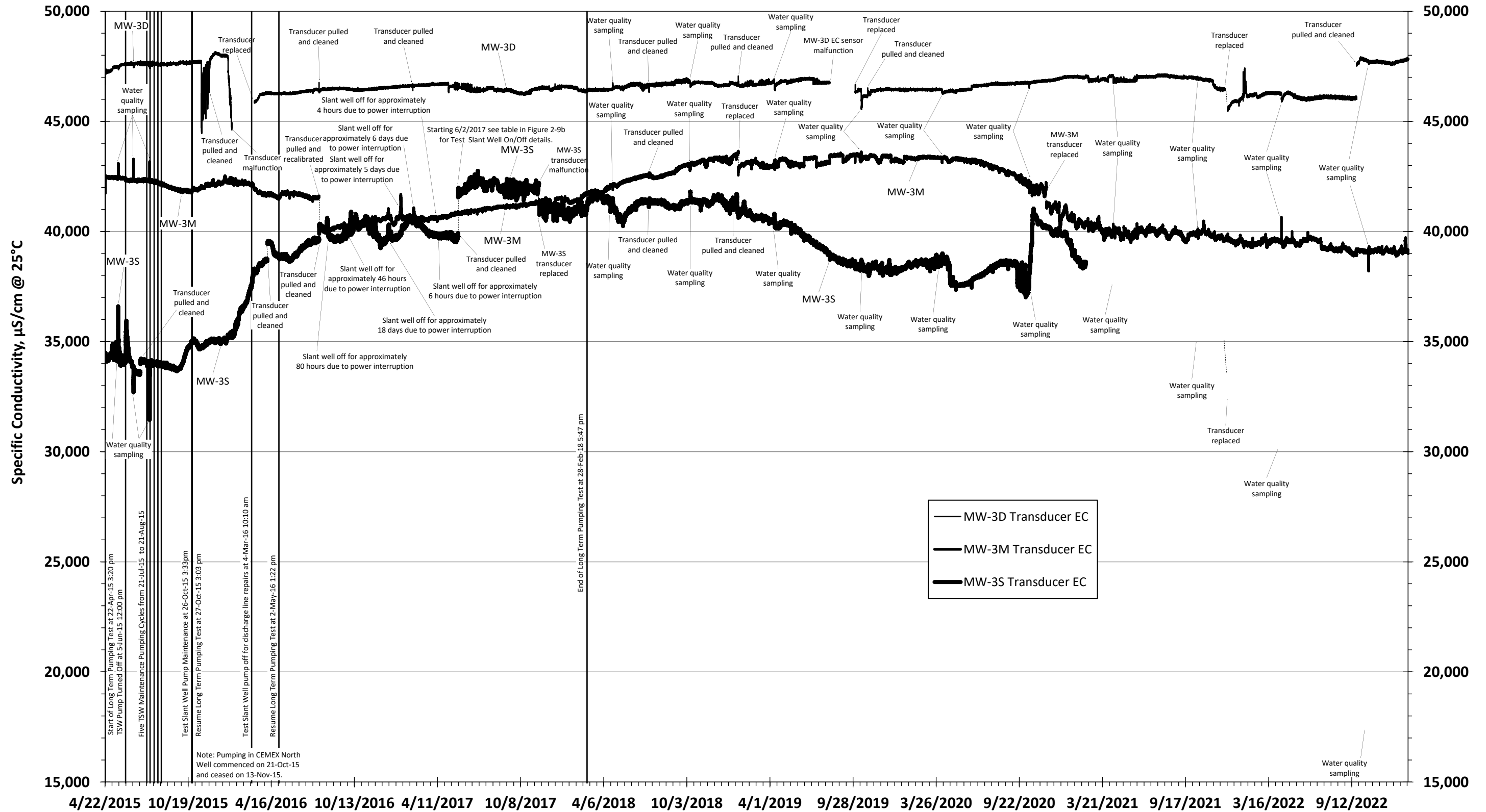


Figure 3-2

Specific Conductivity in MPWSP MW-4

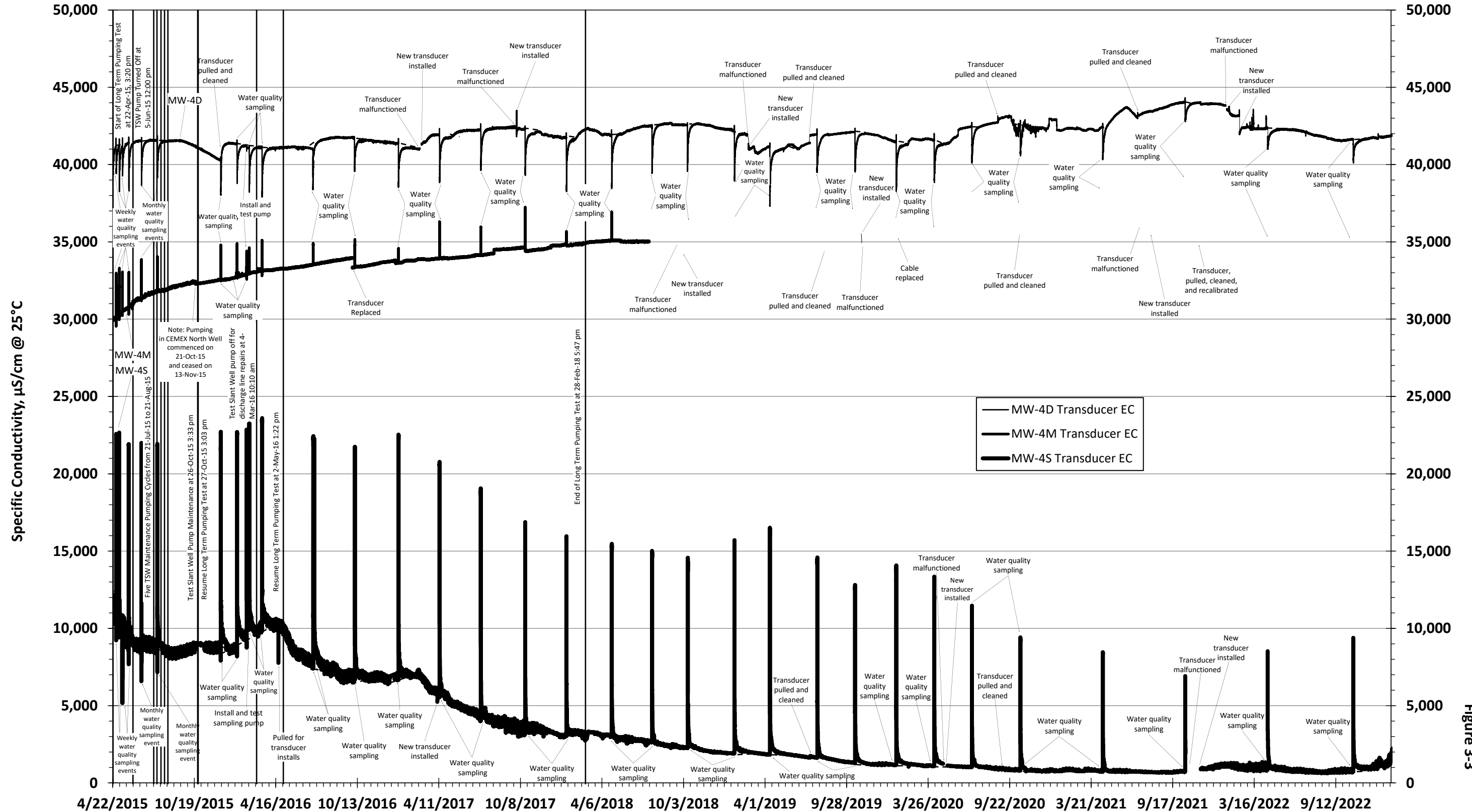


Figure 3-3

Specific Conductivity in MPWSP MW-5

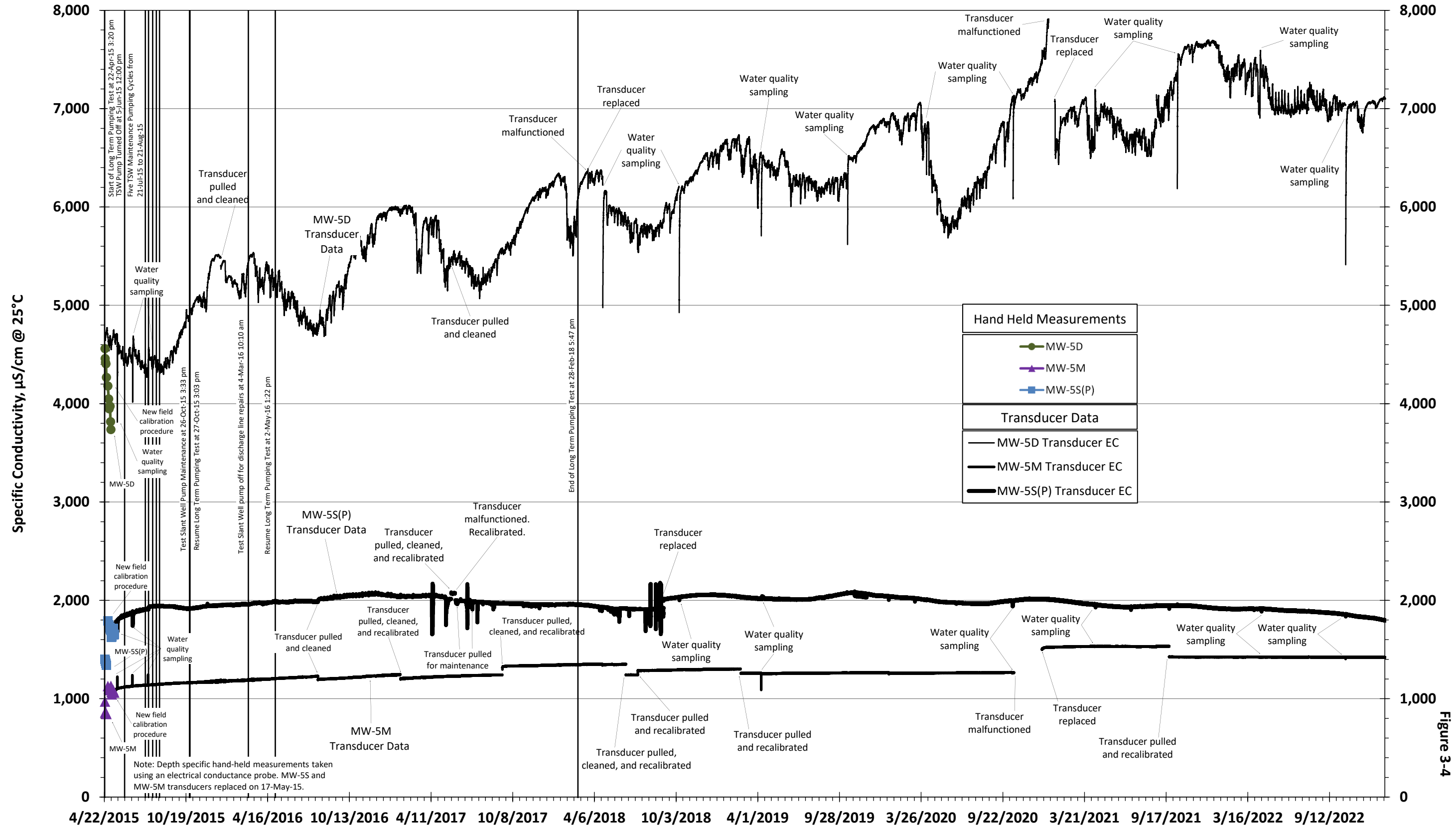


Figure 3-4

Specific Conductivity in MPWSP MW-6

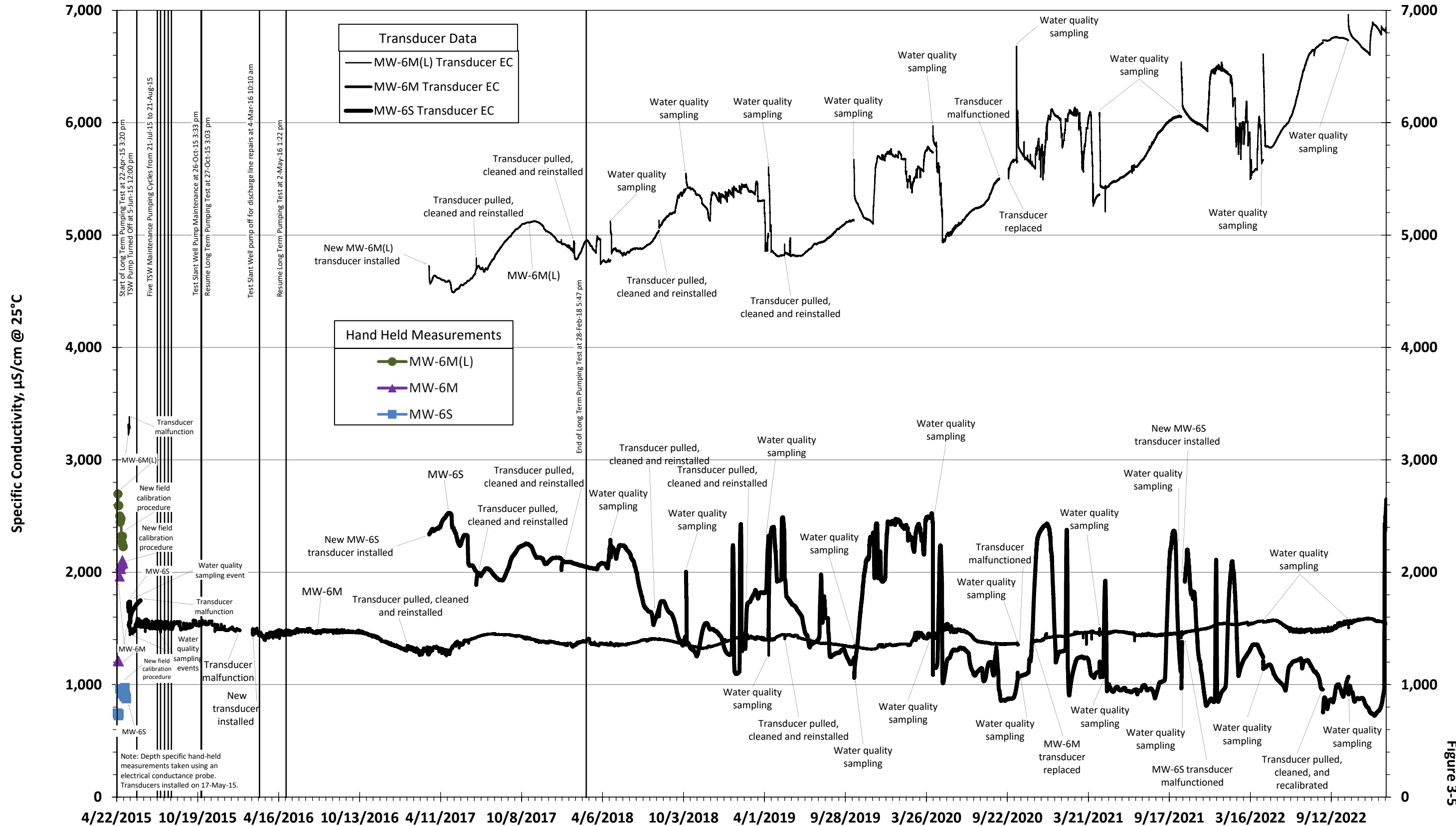


Figure 3-5

Specific Conductivity in MPWSP MW-7

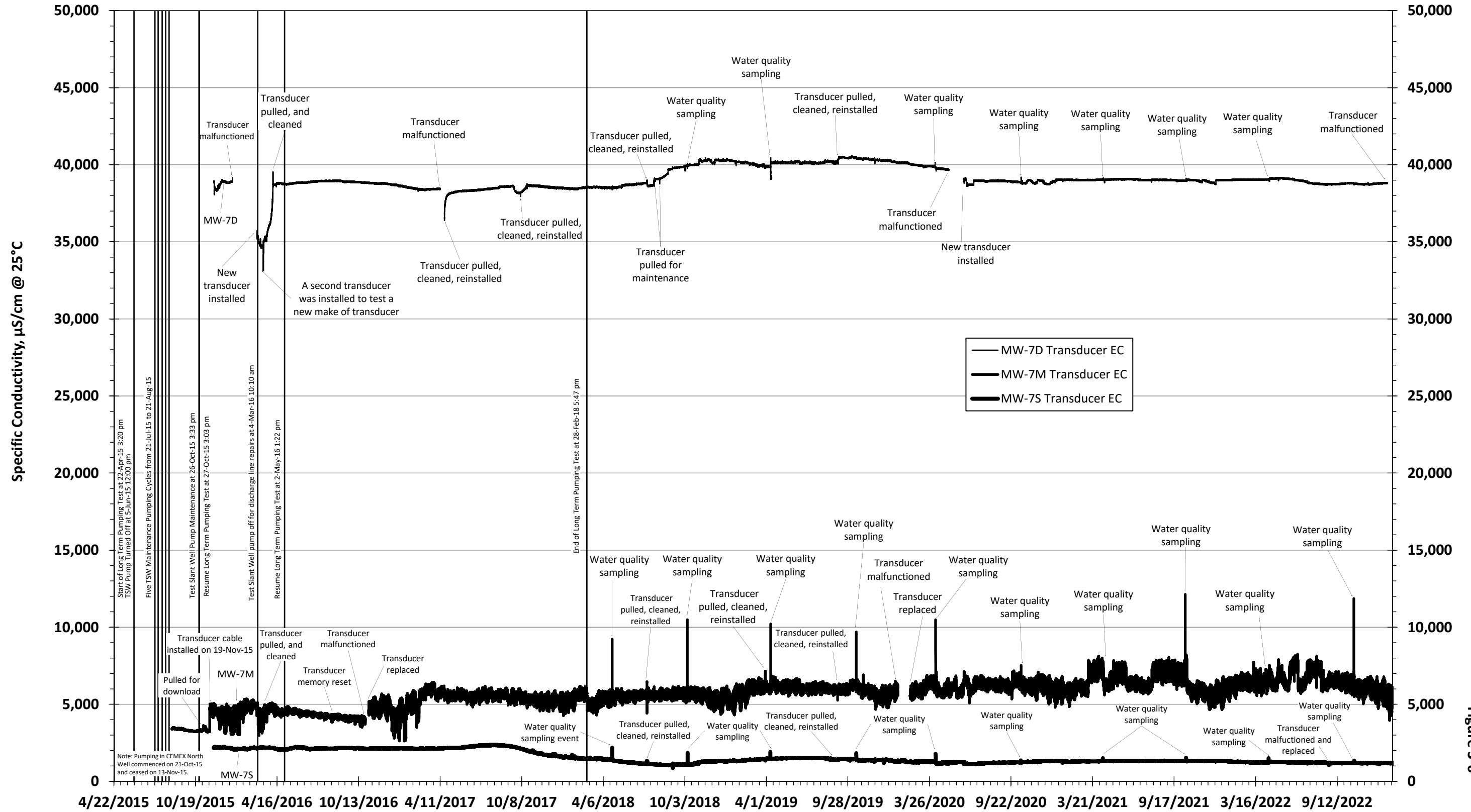


Figure 3-6

Specific Conductivity in MPWSP MW-8

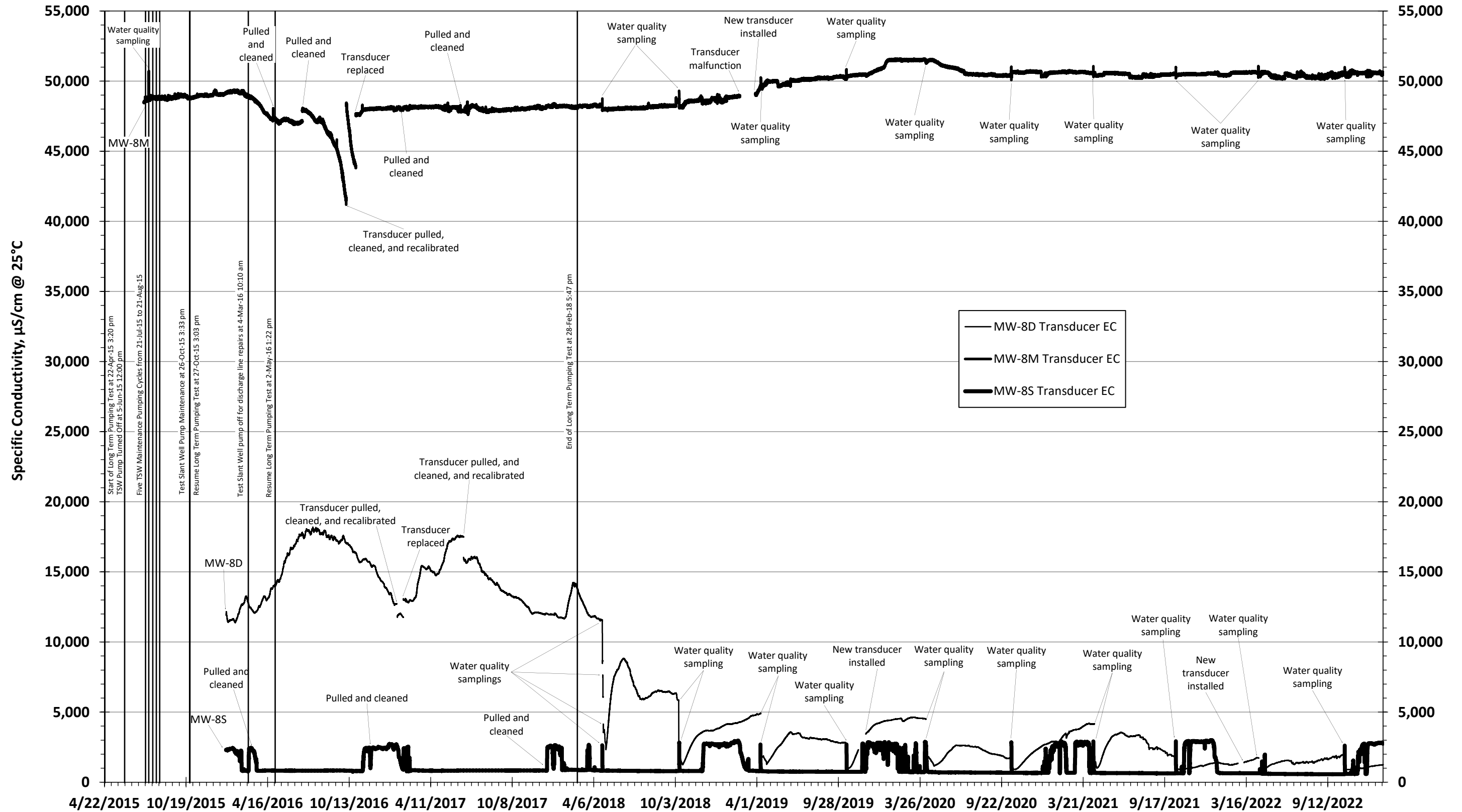


Figure 3-7

Specific Conductivity in MPWSP MW-9

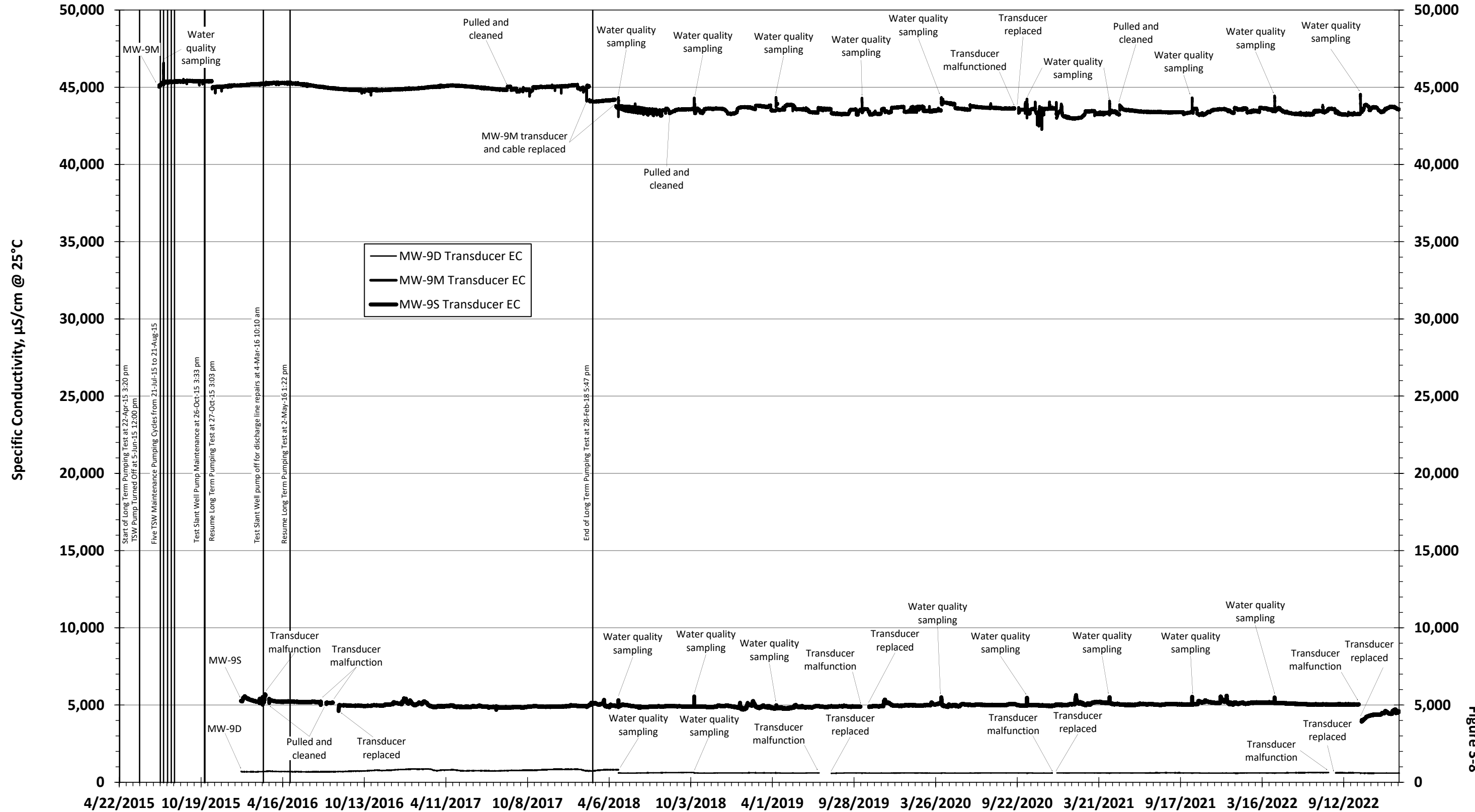


Figure 3-8

Specific Conductivity in MPWSP Test Slant Well

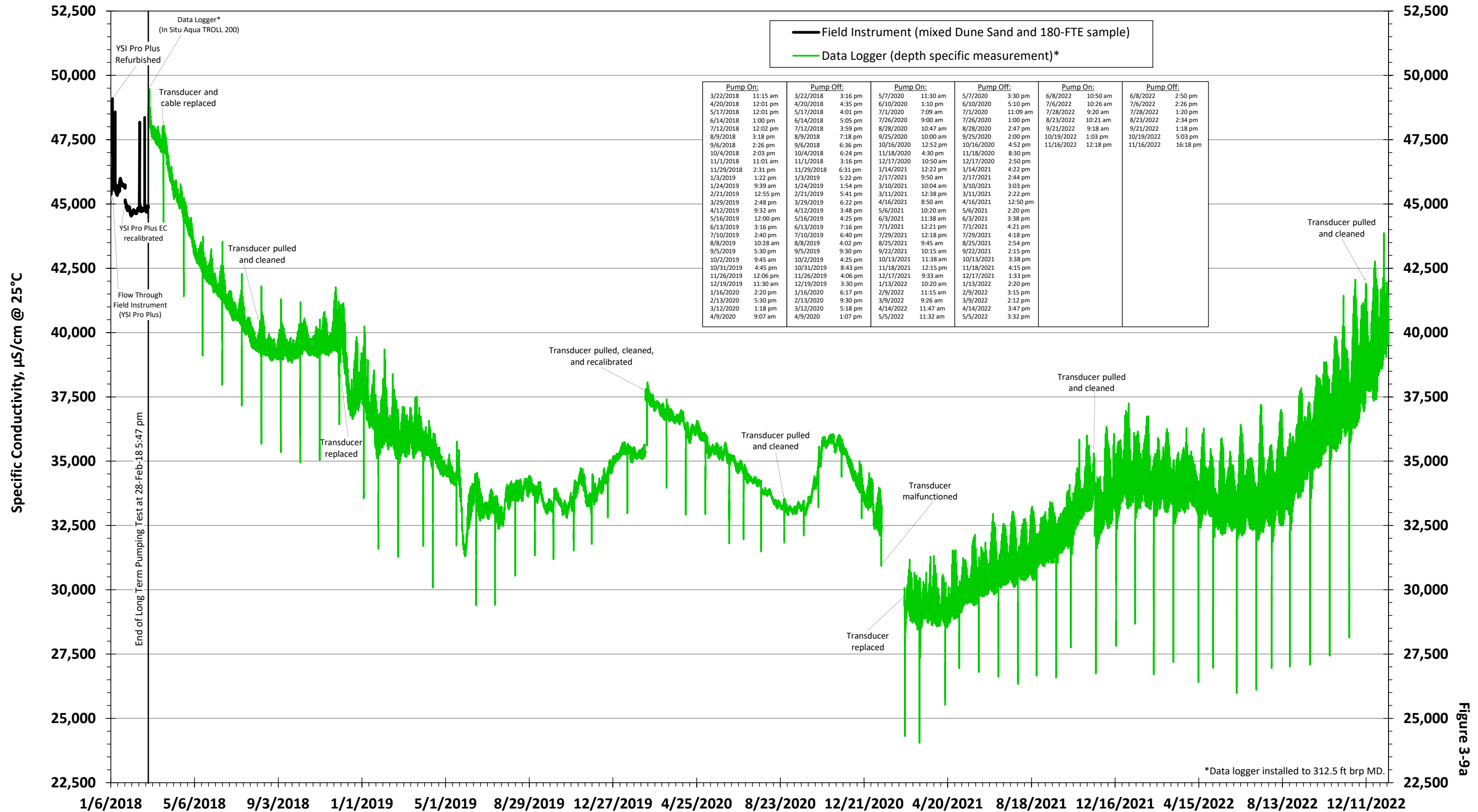


Figure 3-9a

*Data logger installed to 312.5 ft brp MD.

Specific Conductivity in MPWSP Test Slant Well During and After Long-Term Pumping Test

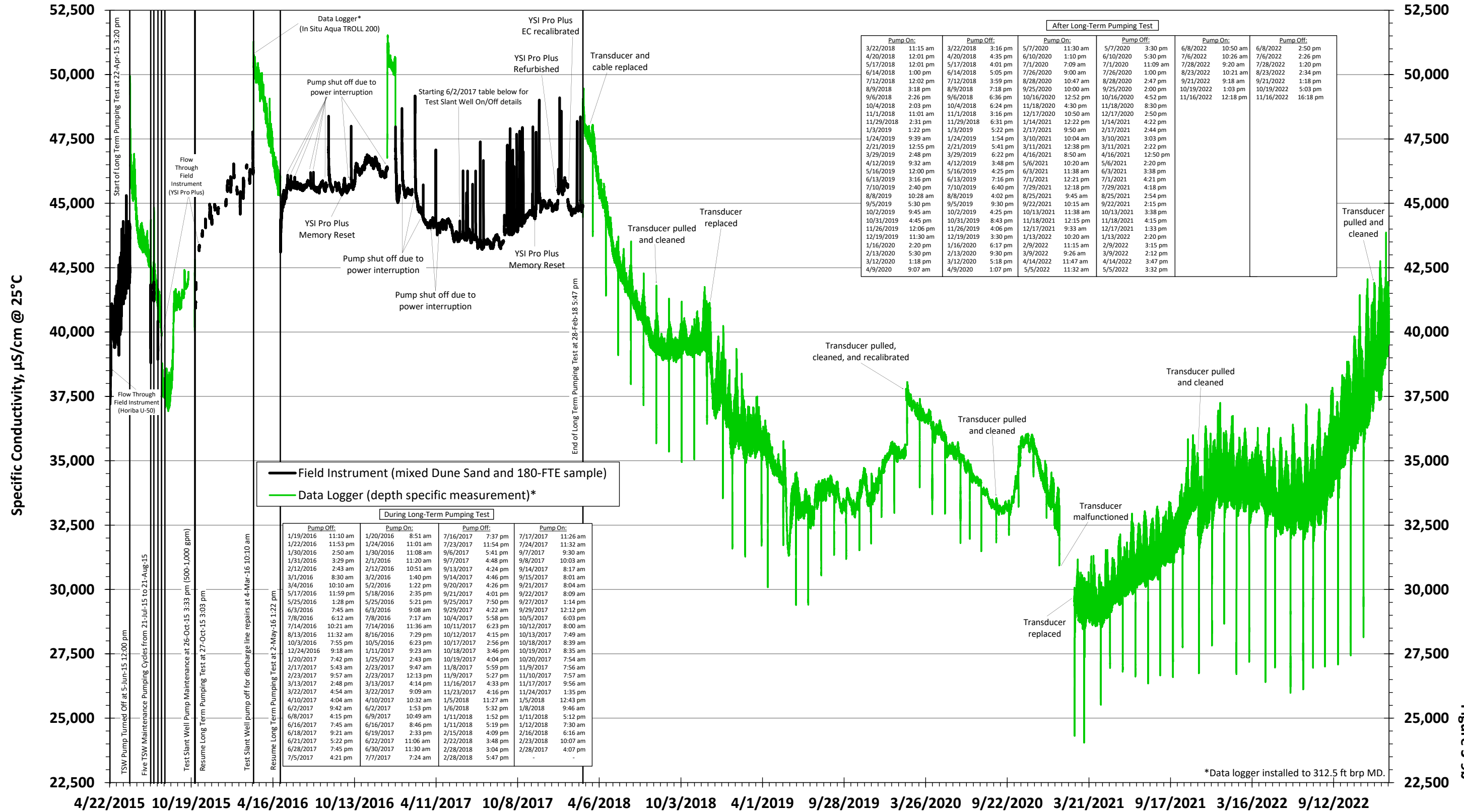


Figure 3-9b

TABLES

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Table 1: Well Information Table

State Plane Coordinates													
Well Name	Cluster	Reference Point (RP)	Northing	Easting	RP Elevation ft NAVD88	RP Height (ft above GS)	Distance of RP from Slant Well Head (ft)	Top of Screen Interval (ft below GS)	Bottom of Screen Interval (ft below GS)	Transducer Installed Depth (ft below RP)	Survey Date	Data Logging Start Date	Data Collected
MW-1S	MW-1	Top of ABS Transducer Mount	2,154,745.35	5,739,355.82	30.51 ¹	2.65 ¹	211	55	95	76	26-Mar-15	19-Feb-15	Level, Conductivity
MW-1M	MW-1	Top of ABS Transducer Mount	2,154,751.93	5,739,347.94	29.86	2.48	220	115	225	182	26-Mar-15	19-Feb-15	Level, Conductivity
MW-1D	MW-1	Top of ABS Transducer Mount	2,154,753.60	5,739,337.98	29.68 ¹	2.65 ¹	230	277	327	309	26-Mar-15	19-Feb-15	Level, Conductivity
MW-3S	MW-3	Top of ABS Transducer Mount	2,154,599.85	5,739,977.02	37.16	2.66	428	50	90	76	26-Mar-15	4-Mar-15	Level, Conductivity
MW-3M	MW-3	Top of ABS Transducer Mount	2,154,592.96	5,739,988.54	37.35	2.73	441	105	215	182	26-Mar-15	4-Mar-15	Level, Conductivity
MW-3D	MW-3	Top of ABS Transducer Mount	2,154,589.81	5,739,998.68	36.93	2.74	451	285	330	321	26-Mar-15	4-Mar-15	Level, Conductivity
MW-4S	MW-4	Top of ABS Transducer Mount	2,154,170.90	5,741,427.62	41.96	2.26	1,940	60	100	66	26-Mar-15	9-Mar-15	Level, Conductivity
MW-4M	MW-4	Top of ABS Transducer Mount	2,154,172.79	5,741,416.78	41.99	2.15	1,929	130	260	208	26-Mar-15	9-Mar-15	Level, Conductivity
MW-4D	MW-4	Top of ABS Transducer Mount	2,154,174.30	5,741,406.08	41.95	2.15	1,918	290	330	317	26-Mar-15	20-Feb-15	Level, Conductivity
MW-5S(P)	MW-5	Top of ABS Transducer Mount	2,156,239.19	5,748,566.86	80.25 ¹	2.20 ¹	9,135	43	83	71	26-Mar-15	10-Mar-15	Level, Conductivity
MW-5M	MW-5	Top of ABS Transducer Mount	2,156,230.38	5,748,564.26	80.48 ¹	2.31 ¹	9,131	100	310	171	26-Mar-15	10-Mar-15	Level, Conductivity
MW-5D	MW-5	Top of ABS Transducer Mount	2,156,220.77	5,748,560.95	80.06	1.97	9,126	395	435	417	26-Mar-15	19-Feb-15	Level, Conductivity
MW-6S	MW-6	Top of ABS Transducer Mount	2,141,142.87	5,756,164.01	35.89	2.45 ¹	21,436	30	60	54	1-Oct-15	22-Apr-15	Level, Conductivity
MW-6M	MW-6	Top of ABS Transducer Mount	2,141,138.40	5,756,154.35	35.68	2.44 ¹	21,431	150	210	184	1-Oct-15	22-Apr-15	Level, Conductivity
MW-6M(L)	MW-6	Top of ABS Transducer Mount	2,141,133.06	5,756,144.94	35.82	2.42 ¹	21,427	255	325	315	1-Oct-15	22-Apr-15	Level, Conductivity
MW-7S	MW-7	Top of ABS Transducer Mount	2,152,099.25	5,744,148.10	50.64	2.06	5,274	60	80	72	1-Oct-15	13-Aug-15	Level, Conductivity
MW-7M	MW-7	Top of ABS Transducer Mount	2,152,110.46	5,744,146.08	50.29	2.09	5,266	130	220	187	1-Oct-15	13-Aug-15	Level, Conductivity
MW-7D	MW-7	Top of ABS Transducer Mount	2,152,120.50	5,744,144.38	50.24	2.24	5,260	295	345	322	1-Oct-15	13-Aug-15	Level, Conductivity
MW-8S	MW-8	Top of ABS Transducer Mount	2,159,440.33	5,744,871.52	19.96	2.14 ³	7,116	40	80	61	1-Oct-15	30-May-15	Level, Conductivity
MW-8M	MW-8	Top of ABS Transducer Mount	2,159,430.86	5,744,866.05	19.99	2.17 ²	7,106	125	215	181	1-Oct-15	30-May-15	Level, Conductivity
MW-8D	MW-8	Top of ABS Transducer Mount	2,159,421.47	5,744,861.04	20.08	2.10 ³	7,096	300	350	326	1-Oct-15	30-May-15	Level, Conductivity
MW-9S	MW-9	Top of ABS Transducer Mount	2,162,010.77	5,747,345.03	18.42	2.16 ³	10,677	30	110	71	1-Oct-15	1-Jul-15	Level, Conductivity
MW-9M	MW-9	Top of ABS Transducer Mount	2,162,016.58	5,747,353.64	18.32	2.13 ²	10,687	145	225	182	1-Oct-15	29-Jun-15	Level, Conductivity
MW-9D	MW-9	Top of ABS Transducer Mount	2,162,022.89	5,747,362.25	18.32	2.15 ³	10,697	353	393	377	1-Oct-15	26-Jun-15	Level, Conductivity
Well No. 1 ⁴	MRWPCA	Well Cover	2,151,622.14	5,750,015.59	114 ft amsl (GS)	1.60	10,898	260	340	299	-	19-Feb-15	Level, Conductivity
Well No. 2 ⁴	MRWPCA	Well Cover	2,151,550.18	5,749,987.41	115 ft amsl (GS)	1.65	10,892	260	340	319	-	19-Feb-15	Level, Conductivity
CEMEX Dredge Pond	CEMEX	Top of ABS Transducer Mount	2,155,912.41	5,739,497.26	14.14	8.92 [*]	1,212	-	-	-	26-Mar-15	8-Mar-15	Level, Conductivity
Test Slant Well	CEMEX	Near Ground Surface	2,154,702.56	5,739,561.92	30.86	0	0	46 ^{**}	231 ^{**}	305MD	26-Mar-15	1-Apr-15	Level, Conductivity
CEMEX North Well	CEMEX	Well Cover	2,154,284.48	5,741,032.07	39.20	0.25	1,529	244	481	150	1-Oct-15	1-Apr-15	Level, Conductivity
CEMEX South Well ⁴	CEMEX	Ground Surface	2,154,213.90	5,740,998.57	31 ft amsl (GS)	0	1,518	400	506	-	-	-	-

Horizontal Datum: NAD83 State Plane Zone 4
Vertical Datum: NAVD88
* RP height above pond water level 5.22 ft NAVD88 (8-11 am 26-Mar-15)
** Top of 18 in. screen = 140 ft x Sin(19) = 46 ft TVD, Bottom of 14 in. screen = 710 x Sin(19) = 231 ft TVD
¹ RP/elevation change on May 17, 2015 - New caps
² RP/elevation change on July 17, 2015 - New caps
³ RP/elevation change on September 24, 2015 - New caps
⁴ Estimated - not surveyed.
MD: Measured Depth - lineal feet along the angle of the slant well
GS: Ground Surface - approximate ground surface elevation based on Google Earth

Table 2: Summary of Test Slant Well Laboratory Water Quality Results

Constituent	Method	Units	Sample Collection Date:									
			8-Apr-15	29-Apr-15	6-May-15	13-May-15	20-May-15	27-May-15	3-Jun-15	28-Oct-15	12-Nov-15	19-Nov-15
Alkalinity, Total (as CaCO3)	SM2320B	mg/L	117	-	121	120	121	118	124	-	-	117
Aluminum, Total	EPA 200.8	µg/L	ND	-	70	ND	ND	321	ND	-	-	ND
Ammonia-N, Dissolved	SM4500NH3 D & EPA 350.1	mg/L	ND	-	ND	ND	ND	ND	ND	ND	-	ND
Arsenic, Total ¹	EPA 200.8	µg/L	33	-	31	31	38	38	37	-	-	38
Arsenic, Total	EPA 1640	µg/L	-	-	-	-	-	-	-	-	-	-
Barium, Dissolved	EPA 200.8	µg/L	95	-	106	106	100	110	87	-	-	88
Bicarbonate (as HCO3-)	SM2320B	mg/L	143	-	148	146	148	144	151	-	-	143
Boron, Dissolved	EPA 200.7	mg/L	2.6	-	2.51	3.10	2.88	2.71	2.86	-	-	3.37
Bromide, Dissolved	EPA 300.0	mg/L	37.0	-	45	45	48.7	48	47.4	-	-	53.6
Calcium	EPA 200.7	mg/L	349	-	621	606	607	587	598	-	-	541
Calcium, Dissolved	EPA 200.7	mg/L	371	-	581	660	595	584	583	-	-	551
Carbamates by HPLC (EPA 531)	EPA 531	µg/L	ND	-	-	-	-	-	-	-	-	-
Carbonate as CaCO3	SM2320B	mg/L	ND	-	ND	ND	ND	ND	ND	-	-	ND
Chloride, Dissolved	EPA 300.0	mg/L	13,830	-	14,476	14,344	15,724	15,721	15,869	-	-	14,186
Chlorinated Pesticides and PCB (EPA 508)	EPA 508	µg/L	ND	-	-	-	-	-	-	-	-	-
Color, Apparent (Unfiltered)	SM2120B	Color Units	4	-	4	ND	ND	ND	ND	6	-	4
Copper	EPA 200.7	µg/L	-	-	-	-	-	ND	ND	-	-	ND
Copper, Total	EPA 200.8	µg/L	44	-	75	74	40	-	-	-	-	-
DBCP & EDB	EPA 504.1	µg/L	ND	-	-	-	-	-	-	-	-	-
Dioxin	EPA 1613	pg/L	ND	-	-	-	-	-	-	-	-	-
Diquat (EPA 549)	EPA 549	µg/L	ND	-	-	-	-	-	-	-	-	-
Dissolved Anions	Calculation	Meq/L	431.33	-	453.50	451.38	491.70	491.97	496.41	-	-	447.47
Total Anions	Calculation	Meq/L	431.33	-	453.50	451.38	491.70	491.97	496.41	-	-	447.47
Dissolved Cations	Calculation	Meq/L	455.09	-	435.45	479.03	508.91	458.32	460.38	-	-	494.88
Total Cations	Calculation	Meq/L	430.99	-	477.91	445.16	524.66	458.67	465.32	-	-	483.86
Fluoride, Dissolved	EPA 300.0	mg/L	0.2	-	0.7	ND	ND	0.7	ND	-	-	0.8
Hardness (as CaCO3)	SM2340B/Calc	mg/L	4,751	-	5,879	5,796	6,066	5,748	5,924	-	-	5,798
Hydroxide	SM2320B	mg/L	ND	-	ND	ND	ND	ND	ND	-	-	ND
Iodide	EPA 9056M	µg/L	ND	-	ND	ND	ND	ND	ND	-	-	ND
Iron	EPA 200.7	µg/L	69	-	99	ND	ND	ND	ND	-	-	ND
Iron, Dissolved	EPA 200.7	µg/L	65	-	ND	ND	ND	ND	ND	-	-	ND
Total Kjeldahl Nitrogen, Dissolved	SM4500-NH3 B,C,E & EPA 350.1	mg/L	ND	-	ND	ND	ND	ND	ND	-	-	ND
Lead, Total	EPA 200.8	µg/L	ND	-	ND	ND	ND	ND	ND	-	-	ND
Lithium	EPA 200.8	µg/L	152	-	169	144	165	250	212	-	-	106
Magnesium	EPA 200.7	mg/L	942	-	1,050	1,040	1,100	1,040	1,080	-	-	1,080
Magnesium, Dissolved	EPA 200.7	mg/L	989	-	970	1,110	1,080	1,040	1,060	-	-	1,110
Manganese, Dissolved	EPA 200.7	µg/L	26	-	ND	ND	ND	ND	ND	-	-	ND
Manganese, Total	EPA 200.7	µg/L	26	-	ND	ND	ND	ND	ND	-	-	ND
MBAS (Surfactants)	SM5540C	mg/L	ND	-	ND	ND	ND	ND	ND	-	-	ND
Nitrate as N	EPA 300.0	mg/L	-	-	-	-	-	-	-	-	-	-
Nitrate as NO3	EPA 300.0	mg/L	5	-	7	8	ND	6	8	-	-	6
Nitrate+Nitrite as N	EPA 300.0	mg/L	1.0	-	1.9	1.8	1.8	1.8	1.7	-	-	1.4
Nitrite as NO2-N, Dissolved	EPA 300.0	mg/L	ND	-	0.2	ND	ND	0.3	ND	-	-	ND
Odor Threshold at 60 C	SM2150B	TON	2	-	1	1	1	1	1	-	-	2
o-Phosphate-P	Hach 8048 & EPA 365.1	mg/L	0.10	-	0.12	0.13	0.12	0.11	0.13	-	-	0.14
pH (Field Test)	SM4500-H+B	pH	7.03	6.86	6.84	6.85	6.94	6.91	6.94	7.01	7.05	7.04
pH (Laboratory)	SM4500-H+B	pH (H)	7.2	-	7.4	7.4	7.4	7.4	7.4	7.2	-	7.1
Phenoxy Acid Herbicides (515.3)	EPA 515.3	µg/L	ND	-	-	-	-	-	-	-	-	-
Phosphorus, Dissolved Total	HACH 8190 & EPA 365.1	mg/L	0.09	-	0.10	0.13	0.13	0.07	0.14	-	-	0.10
Potassium	EPA 200.7	mg/L	203	-	212	209	231	220	226	-	-	256
Potassium, Dissolved	EPA 200.7	mg/L	213	-	185	230	227	219	220	-	-	263
QC Ratio TDS/SEC	Calculation	-	0.67	0.66	0.64	0.66	0.67	0.67	0.68	0.67	0.67	0.68
Reg. Org. Compounds (EPA 525)	EPA 525	µg/L	ND	-	-	-	-	-	-	-	-	-
Salinity	SM2520B	psu	-	-	-	-	-	-	-	-	-	-
Silica as SiO2, Dissolved	EPA 200.7	mg/L	20	-	16	22	19	17	20	-	-	19
Sodium	EPA 200.7	mg/L	7,606	-	8,163	7,448	9,148	7,774	7,835	-	-	8,309
Sodium, Dissolved	EPA 200.7	mg/L	8,040	-	7,400	8,020	8,840	7,770	7,780	-	-	8,490
Specific Conductance (E.C)	SM2510B	µmhos/cm	37,860	39,500	41,110	41,800	42,100	42,410	42,950	41,400	43,940	43,730
Specific Conductance (E.C) (Field)	SM2510B	µmhos/cm	38,097	40,100	40,600	42,400	41,900	42,400	43,300	40,915	43,940	44,222
Strontium, Dissolved	EPA 200.8	µg/L	7,440	-	7,820	8,008	8,349	7,734	7,900	-	-	7,670
Sulfate, Dissolved	EPA 300.0	mg/L	1,840	-	2,018	2,096	2,160	2,181	2,188	-	-	1,973
Temperature (Field)	SM2550	° C	17.20	16.79	16.71	16.86	16.63	16.35	16.68	18.4	17.1	17.1
Total Diss. Solids	SM2540C	mg/L	25,400	26,000	26,300	27,600	28,400	28,500	29,100	27,700	29,400	29,800
Turbidity	EPA 180.1	NTU	0.40	-	0.30	0.30	0.25	0.25	0.15	0.5	-	0.30
Turbidity (Field)	EPA 180.1	NTU	0.74	0.84	0.69	0.76	0.30	0.29	0.353	0.59	0.98	0.61
Volatile Org. Compounds (524)	EPA 524	µg/L	ND	-	-	-	-	-	-	-	-	-
Zinc	EPA 200.7	µg/L	-	-	-	-	-	142	ND	-	-	ND
Zinc, Total	EPA 200.8	µg/L	ND	-	158	ND	209	-	-	-	-	-
PCBs, Total	EPA 508	µg/L	ND	-	-	-	-	-	-	-	-	-
Total PCB	EPA 1668C	pg/L	-	-	7.68	-	ND	12.2	0.766	-	-	-

Notes:

°C = Degrees Celsius
 CU = Color Units
 Meq/L = Milliequivalents per Liter
 mg/L = Milligrams per Liter
 NTU = Nephelometric Turbidity Units
 pg/L = Picograms per Liter
 TON = Threshold Odor Number
 µg/L = Micrograms per Liter
 µmhos/cm = Micromhos per Centimeter

ND = NOT DETECTED at or above the Reporting Limit (RL) or Practical Quantitation Limit (PQL). See laboratory water quality reports for RL and PQL values.

¹ Using EPA Method 200.8, Arsenic values are overstated due to matrix interference caused by high chloride levels. The overstated values are in laboratory reports through February 11, 2016. Going forward, EPA Method 1640 will be used for Arsenic analysis only.

Table 2: Summary of Test Slant Well Laboratory Water Quality Results

Constituent	Method	Units	Sample Collection Date:									
			30-Nov-15	3-Dec-15	10-Dec-15	17-Dec-15	4-Jan-16	14-Jan-16	21-Jan-16	28-Jan-16	4-Feb-16	11-Feb-16
Alkalinity, Total (as CaCO3)	SM2320B	mg/L	114	111	113	112	111	110	111	110	109	110
Aluminum, Total	EPA 200.8	µg/L	ND	ND	53	ND	ND	ND	ND	ND	ND	ND
Ammonia-N, Dissolved	SM4500NH3 D & EPA 350.1	mg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic, Total ¹	EPA 200.8	µg/L	45	42	42	40	47	ND	48	50	46	42
Arsenic, Total	EPA 1640	µg/L	-	-	-	-	-	-	-	-	-	0.39
Barium, Dissolved	EPA 200.8	µg/L	81	88	82	78	78	74	82	74	69	ND
Bicarbonate (as HCO3-)	SM2320B	mg/L	139	135	138	137	135	134	135	134	133	134
Boron, Dissolved	EPA 200.7	mg/L	3.38	3.16	3.14	3.97	3.21	3.71	3.48	3.35	3.33	3.41
Bromide, Dissolved	EPA 300.0	mg/L	53	52.6	50.2	50.2	50.0	52.4	48.2	51.3	50.1	51.8
Calcium	EPA 200.7	mg/L	582	538	511	657	515	531	493	523	522	523
Calcium, Dissolved	EPA 200.7	mg/L	577	532	518	686	511	537	532	523	526	533
Carbamates by HPLC (EPA 531)	EPA 531	µg/L	ND	-	-	-	-	-	-	ND	-	-
Carbonate as CaCO3	SM2320B	mg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloride, Dissolved	EPA 300.0	mg/L	16,111	16,383	16,257	16,579	16,510	16,972	15,685	16,798	17,195	16,980
Chlorinated Pesticides and PCB (EPA 508)	EPA 508	µg/L	ND	-	-	-	-	-	-	ND	-	-
Color, Apparent (Unfiltered)	SM2120B	Color Units	7	4	ND	ND	3	5	ND	ND	ND	5
Copper	EPA 200.7	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Copper, Total	EPA 200.8	µg/L	-	-	-	-	-	-	-	-	-	-
DBCP & EDB	EPA 504.1	µg/L	ND	-	-	-	-	-	-	ND	-	-
Dioxin	EPA 1613	pg/L	ND	-	-	-	-	-	-	ND	-	-
Diquat (EPA 549)	EPA 549	µg/L	ND	-	-	-	-	-	-	ND	-	-
Dissolved Anions	Calculation	Meq/L	503.06	503.06	507.53	516.55	514.28	529.53	493.46	524.48	535.83	529.87
Total Anions	Calculation	Meq/L	503.06	510.47	507.53	516.55	514.28	529.53	493.46	524.48	535.83	529.87
Dissolved Cations	Calculation	Meq/L	526.37	498.07	506.84	484.86	457.70	533.96	514.92	523.20	521.97	537.19
Total Cations	Calculation	Meq/L	544.39	500.67	500.01	510.72	466.00	526.46	484.44	516.68	524.71	526.05
Fluoride, Dissolved	EPA 300.0	mg/L	0.8	0.8	ND	ND	ND	ND	ND	ND	ND	ND
Hardness (as CaCO3)	SM2340B/Calc	mg/L	6,383	5,890	5,756	6,710	5,651	5,938	5,909	5,918	5,940	5,972
Hydroxide	SM2320B	mg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iodide	EPA 9056M	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iron	EPA 200.7	µg/L	ND	ND	ND	96	ND	ND	ND	ND	ND	ND
Iron, Dissolved	EPA 200.7	µg/L	ND	ND	ND	126	ND	ND	ND	ND	ND	ND
Total Kjeldahl Nitrogen, Dissolved	SM4500-NH3 B,C,E & EPA 351	mg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Lead, Total	EPA 200.8	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Lithium	EPA 200.8	µg/L	135	131	142	149	133	160	129	128	117	170
Magnesium	EPA 200.7	mg/L	1,200	1,100	1,090	1,230	1,060	1,120	1,140	1,120	1,130	1,130
Magnesium, Dissolved	EPA 200.7	mg/L	1,170	1,090	1,100	1,310	1,050	1,150	1,190	1,130	1,130	1,150
Manganese, Dissolved	EPA 200.7	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Manganese, Total	EPA 200.7	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MBAS (Surfactants)	SM5540C	mg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrate as N	EPA 300.0	mg/L	-	-	-	-	-	-	-	-	-	-
Nitrate as NO3	EPA 300.0	mg/L	6	6	2	9	8	8	8	8	8	8
Nitrate+Nitrite as N	EPA 300.0	mg/L	1.4	1.3	2.0	2.0	1.9	1.9	1.8	1.8	1.8	1.8
Nitrite as NO2-N, Dissolved	EPA 300.0	mg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Odor Threshold at 60 C	SM2150B	TON	2	2	3	1	2	2	1	1	2	1
o-Phosphate-P	Hach 8048 & EPA 365.1	mg/L	0.15	0.15	0.14	0.13	0.13	0.12	0.11	0.12	0.12	0.13
pH (Field Test)	SM4500-H+B	pH	7.06	8.14	7.10	7.08	7.11	7.07	7.08	7.06	7.04	7.05
pH (Laboratory)	SM4500-H+B	pH (H)	7.1	7.1	7.1	7.1	7.1	7.3	7.2	7.2	7.1	7.2
Phenoxy Acid Herbicides (515.3)	EPA 515.3	µg/L	ND	-	-	-	-	-	-	ND	-	-
Phosphorus, Dissolved Total	HACH 8190 & EPA 365.1	mg/L	0.14	0.13	0.13	0.13	0.10	0.10	0.10	0.11	0.09	0.10
Potassium	EPA 200.7	mg/L	284	268	266	293	256	275	271	267	270	268
Potassium, Dissolved	EPA 200.7	mg/L	281	268.0	266	308	254	278	282	272	269	276
QC Ratio TDS/SEC	Calculation	-	0.68	0.69	0.68	0.67	0.66	0.69	0.67	0.67	0.67	0.69
Reg. Org. Compounds (EPA 525)	EPA 525	µg/L	ND	-	-	-	-	-	-	ND	-	-
Salinity	SM2520B	psu	-	-	-	-	-	-	-	-	-	-
Silica as SiO2, Dissolved	EPA 200.7	mg/L	18	16	16	20	16	20	17	15	14	14
Sodium	EPA 200.7	mg/L	9,410	8,654	8,691	8,488	7,966	9,213	8,255	9,002	9,167	9,198
Sodium, Dissolved	EPA 200.7	mg/L	9,060	8,620	8,820	7,700	7,800	9,320	8,810	9,130	9,100	9,400
Specific Conductance (E.C)	SM2510B	µmhos/cm	44,110	44,470	44,380	44,870	45,370	45,720	46,900	45,720	45,790	45,650
Specific Conductance (E.C) (Field)	SM2510B	µmhos/cm	44,835	44,246	44,834	44,649	45,090	45,937	46,026	45,487	45,392	45,697
Strontium, Dissolved	EPA 200.8	µg/L	7,767	7,668	7,444	7,194	7,306	7,800	7,481	7,503	5,865	5,796
Sulfate, Dissolved	EPA 300.0	mg/L	2,187	2,177	2,204	2,202	2,188	2,294	2,307	2,288	2,297	2,300
Temperature (Field)	SM2550	°C	16.3	16.9	16.9	16.7	15.6	15.2	15.5	15.3	15.5	15.9
Total Diss. Solids	SM2540C	mg/L	29,800	30,900	30,200	30,200	30,100	31,700	31,400	30,600	30,500	31,400
Turbidity	EPA 180.1	NTU	0.30	0.15	0.40	0.25	0.30	0.35	0.30	0.10	0.15	0.25
Turbidity (Field)	EPA 180.1	NTU	1.15	0.64	0.67	0.36	0.31	0.37	0.09	0.11	0.64	0.35
Volatile Org. Compounds (524)	EPA 524	µg/L	ND	-	-	-	-	-	-	ND	-	-
Zinc	EPA 200.7	µg/L	ND	ND	204	ND	ND	ND	ND	ND	ND	ND
Zinc, Total	EPA 200.8	µg/L	-	-	-	-	-	-	-	-	-	-
PCBs, Total	EPA 508	µg/L	ND	-	-	-	-	-	-	ND	-	-
Total PCB	EPA 1668C	pg/L	25.8	-	-	-	-	-	-	7.73	-	-

Notes:

°C = Degrees Celsius
 CU = Color Units
 Meq/L = Milliequivalents per Liter
 mg/L = Milligrams per Liter
 NTU = Nephelometric Turbidity Units
 pg/L = Picograms per Liter
 TON = Threshold Odor Number
 µg/L = Micrograms per Liter
 µmhos/cm = Micromhos per Centimeter

ND = NOT DETECTED at or above the Reporting Limit (RL) or Practical Quantitation Limit (PQL). See laboratory water quality reports for RL and PQL values.

¹ Using EPA Method 200.8, Arsenic values are overstated due to matrix interference caused by high chloride levels. The overstated values are in laboratory reports through February 11, 2016. Going forward, EPA Method 1640 will be used for Arsenic analysis only.

Table 2: Summary of Test Slant Well Laboratory Water Quality Results

Constituent	Method	Units	Sample Collection Date:									
			18-Feb-16	25-Feb-16	3-Mar-16	3-May-16	12-May-16	19-May-16	26-May-16	2-Jun-16	9-Jun-16	16-Jun-16
Alkalinity, Total (as CaCO3)	SM2320B	mg/L	110	110	110	108	110	114	112	111	110	112
Aluminum, Total	EPA 200.8	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ammonia-N, Dissolved	SM4500NH3 D & EPA 350.1	mg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic, Total ¹	EPA 200.8	µg/L	-	-	-	-	-	-	-	-	-	-
Arsenic, Total	EPA 1640	µg/L	0.28	0.30	0.28	0.32	0.26	0.24	0.29	0.28	0.27	0.30
Barium, Dissolved	EPA 200.8	µg/L	ND	71	75	ND	ND	74	ND	ND	62	ND
Bicarbonate (as HCO3-)	SM2320B	mg/L	134	134	134	132	134	139	137	135	134	137
Boron, Dissolved	EPA 200.7	mg/L	3.19	3.31	3.43	3.62	3.30	3.54	3.11	3.18	3.47	3.38
Bromide, Dissolved	EPA 300.0	mg/L	52.6	52.6	52.3	50.3	43.2	59.4	59.6	50.5	40.1	35.4
Calcium	EPA 200.7	mg/L	497	510	493	458	489	542	430	469	506	498
Calcium, Dissolved	EPA 200.7	mg/L	503	510	502	456	496	528	396	479	506	499
Carbamates by HPLC (EPA 531)	EPA 531	µg/L	-	-	-	-	-	-	-	-	-	-
Carbonate as CaCO3	SM2320B	mg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloride, Dissolved	EPA 300.0	mg/L	17,243	17,186	17,337	15,946	15,872	16,965	16,326	16,326	16,807	16,547
Chlorinated Pesticides and PCB (EPA 508)	EPA 508	µg/L	-	-	-	-	-	-	-	-	-	-
Color, Apparent (Unfiltered)	SM2120B	Color Units	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Copper	EPA 200.7	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Copper, Total	EPA 200.8	µg/L	-	-	-	-	-	-	-	-	-	-
DBCP & EDB	EPA 504.1	µg/L	-	-	-	-	-	-	-	-	-	-
Dioxin	EPA 1613	pg/L	-	-	-	-	-	-	-	-	-	-
Diquat (EPA 549)	EPA 549	µg/L	-	-	-	-	-	-	-	-	-	-
Dissolved Anions	Calculation	Meq/L	538.01	536.27	541.32	499.99	499.14	530.65	509.47	510.34	528.27	520.48
Total Anions	Calculation	Meq/L	538.01	536.27	541.32	499.99	499.14	530.65	509.47	510.34	528.27	520.48
Dissolved Cations	Calculation	Meq/L	522.84	541.86	557.28	520.85	514.63	529.51	491.98	515.26	496.63	479.25
Total Cations	Calculation	Meq/L	520.40	544.60	540.75	516.58	507.73	540.16	497.14	507.81	493.75	481.32
Fluoride, Dissolved	EPA 300.0	mg/L	ND	ND	1.1	1.0	ND	ND	ND	ND	ND	ND
Hardness (as CaCO3)	SM2340B/Calc	mg/L	5,870	6,112	5,901	5,739	5,776	6,316	5,492	5,656	5,822	5,732
Hydroxide	SM2320B	mg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iodide	EPA 9056M	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iron	EPA 200.7	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iron, Dissolved	EPA 200.7	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Kjeldahl Nitrogen, Dissolved	SM4500-NH3 B,C,E & EPA 350.1	mg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Lead, Total	EPA 200.8	µg/L	ND	ND	4	ND	ND	5	ND	ND	ND	ND
Lithium	EPA 200.8	µg/L	154	164	166	153	149	145	164	159	177	132
Magnesium	EPA 200.7	mg/L	1,120	1,180	1,130	1,120	1,110	1,200	1,070	1,090	1,110	1,090
Magnesium, Dissolved	EPA 200.7	mg/L	1,120	1,170	1,180	1,120	1,120	1,180	1,040	1,100	1,110	1,090
Manganese, Dissolved	EPA 200.7	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Manganese, Total	EPA 200.7	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MBAS (Surfactants)	SM5540C	mg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrate as N	EPA 300.0	mg/L	-	-	-	-	-	-	-	-	-	-
Nitrate as NO3	EPA 300.0	mg/L	8	8	8	6	6	3	ND	ND	1	ND
Nitrate+Nitrite as N	EPA 300.0	mg/L	1.8	1.8	1.8	1.4	1.3	0.7	ND	ND	0.2	ND
Nitrite as NO2-N, Dissolved	EPA 300.0	mg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Odor Threshold at 60 C	SM2150B	TON	1	1	1	1	1	1	1	1	1	1
o-Phosphate-P	Hach 8048 & EPA 365.1	mg/L	0.11	0.12	0.11	0.11	0.12	0.12	0.12	0.11	0.11	0.11
pH (Field Test)	SM4500-H+B	pH	7.11	7.12	7.14	7.25	7.10	7.07	7.16	7.04	7.17	7.07
pH (Laboratory)	SM4500-H+B	pH (H)	7.3	6.8	7.3	7.3	7.2	7.2	7.2	7.3	7.3	7.4
Phenoxy Acid Herbicides (515.3)	EPA 515.3	µg/L	-	-	-	-	-	-	-	-	-	-
Phosphorus, Dissolved Total	HACH 8190 & EPA 365.1	mg/L	0.11	0.10	0.10	0.13	0.11	0.10	0.12	0.11	0.09	0.09
Potassium	EPA 200.7	mg/L	261	271	273	310	276	287	257	258	264	261
Potassium, Dissolved	EPA 200.7	mg/L	261	271	280	309	277	280	252	263	266	260
QC Ratio TDS/SEC	Calculation	-	0.67	0.67	0.69	0.68	0.68	0.70	0.70	0.68	0.69	0.68
Reg. Org. Compounds (EPA 525)	EPA 525	µg/L	-	-	-	-	-	-	-	-	-	-
Salinity	SM2520B	psu	-	-	-	28.8	29.1	29.4	29.6	29.7	29.7	29.3
Silica as SiO2, Dissolved	EPA 200.7	mg/L	12	12	14	ND	13	10	12	13	17	16
Sodium	EPA 200.7	mg/L	9,121	9,543	9,401	9,049	8,849	9,357	8,760	8,922	8,515	8,278
Sodium, Dissolved	EPA 200.7	mg/L	9,170	9,480	9,680	9,150	8,980	9,170	8,740	9,060	8,580	8,230
Specific Conductance (E.C)	SM2510B	µmhos/cm	45,560	46,190	46,380	44,530	45,030	45,430	45,730	45,880	45,800	45,340
Specific Conductance (E.C) (Field)	SM2510B	µmhos/cm	46,403	46,259	46,381	44,112	45,258	45,810	45,693	45,759	45,762	45,685
Strontium, Dissolved	EPA 200.8	µg/L	7,671	7,823	7,910	7,601	7,910	7,976	7,515	7,735	7,600	7,377
Sulfate, Dissolved	EPA 300.0	mg/L	2,334	2,328	2,366	2,270	2,332	2,353	2,206	2,254	2,470	2,450
Temperature (Field)	SM2550	°C	15.1	15.0	15.0	15.1	15.4	15.5	15.4	15.6	15.8	15.9
Total Diss. Solids	SM2540C	mg/L	30,700	30,800	31,800	30,200	30,800	31,900	32,200	31,300	31,600	30,900
Turbidity	EPA 180.1	NTU	0.10	0.10	0.30	1.6	0.35	0.30	0.35	0.20	0.25	0.25
Turbidity (Field)	EPA 180.1	NTU	0.33	0.15	0.08	0.29	0.37	0.10	0.30	0.12	0.19	0.31
Volatile Org. Compounds (524)	EPA 524	µg/L	-	-	-	-	-	-	-	-	-	-
Zinc	EPA 200.7	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Zinc, Total	EPA 200.8	µg/L	-	-	-	-	-	-	-	-	-	-
PCBs, Total	EPA 508	µg/L	-	-	-	-	-	-	-	-	-	-
Total PCB	EPA 1668C	pg/L	-	-	-	-	-	-	-	-	-	-

Notes:

°C = Degrees Celsius
 CU = Color Units
 Meq/L = Milliequivalents per Liter
 mg/L = Milligrams per Liter
 NTU = Nephelometric Turbidity Units
 pg/L = Picograms per Liter
 TON = Threshold Odor Number
 µg/L = Micrograms per Liter
 µmhos/cm = Micromhos per Centimeter

ND = NOT DETECTED at or above the Reporting Limit (RL) or Practical Quantitation Limit (PQL). See laboratory water quality reports for RL and PQL values.

¹ Using EPA Method 200.8, Arsenic values are overstated due to matrix interference caused by high chloride levels. The overstated values are in laboratory reports through February 11, 2016. Going forward, EPA Method 1640 will be used for Arsenic analysis only.

Table 2: Summary of Test Slant Well Laboratory Water Quality Results

Constituent	Method	Units	Sample Collection Date:									
			23-Jun-16	30-Jun-16	7-Jul-16	15-Jul-16	21-Jul-16	28-Jul-16	4-Aug-16	10-Aug-16	18-Aug-16	25-Aug-16
Alkalinity, Total (as CaCO3)	SM2320B	mg/L	113	114	113	114	113	114	115	114	113	116
Aluminum, Total	EPA 200.8	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ammonia-N, Dissolved	SM4500NH3 D & EPA 350.1	mg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic, Total ¹	EPA 200.8	µg/L	-	-	-	-	-	-	-	-	-	-
Arsenic, Total	EPA 1640	µg/L	0.33	0.30	0.27	0.27	0.28	0.18	0.27	0.23	0.22	0.24
Barium, Dissolved	EPA 200.8	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bicarbonate (as HCO3-)	SM2320B	mg/L	138	139	138	139	138	139	140	139	138	142
Boron, Dissolved	EPA 200.7	mg/L	3.46	3.58	3.21	3.18	3.53	3.40	3.54	3.18	3.61	3.37
Bromide, Dissolved	EPA 300.0	mg/L	37.3	40.2	50.8	39.8	44.6	52.9	31.2	27.8	31.3	48.9
Calcium	EPA 200.7	mg/L	489	510	482	471	559	495	486	520	505	490
Calcium, Dissolved	EPA 200.7	mg/L	494	515	467	481	531	493	506	504	510	470
Carbamates by HPLC (EPA 531)	EPA 531	µg/L	-	-	-	-	-	-	-	-	-	-
Carbonate as CaCO3	SM2320B	mg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloride, Dissolved	EPA 300.0	mg/L	17,230	17,425	17,982	16,795	17,100	18,028	18,231	18,374	17,490	17,636
Chlorinated Pesticides and PCB (EPA 508)	EPA 508	µg/L	-	-	-	-	-	-	-	-	-	-
Color, Apparent (Unfiltered)	SM2120B	Color Units	ND	ND	ND	ND	3	ND	ND	ND	ND	ND
Copper	EPA 200.7	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Copper, Total	EPA 200.8	µg/L	-	-	-	-	-	-	-	-	-	-
DBCP & EDB	EPA 504.1	µg/L	-	-	-	-	-	-	-	-	-	-
Dioxin	EPA 1613	pg/L	-	-	-	-	-	-	-	-	-	-
Diquat (EPA 549)	EPA 549	µg/L	-	-	-	-	-	-	-	-	-	-
Dissolved Anions	Calculation	Meq/L	536.91	541.24	558.08	524.21	532.46	563.12	564.83	568.56	545.43	546.73
Total Anions	Calculation	Meq/L	536.91	541.24	558.08	524.21	532.46	563.12	564.83	568.56	545.43	546.73
Dissolved Cations	Calculation	Meq/L	505.36	544.69	514.15	518.34	556.30	517.87	529.65	512.33	531.64	494.71
Total Cations	Calculation	Meq/L	495.32	523.17	511.63	499.31	583.22	514.08	509.12	523.03	528.35	527.38
Fluoride, Dissolved	EPA 300.0	mg/L	ND	1.2	ND	1	1.1	0.5	1.2	1.1	1.3	ND
Hardness (as CaCO3)	SM2340B/Calc	mg/L	5,907	6,009	5,799	5,611	6,531	5,918	5,785	6,038	6,310	5,671
Hydroxide	SM2320B	mg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iodide	EPA 9056M	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iron	EPA 200.7	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iron, Dissolved	EPA 200.7	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Kjeldahl Nitrogen, Dissolved	SM4500-NH3 B,C,E & EPA 350.1	mg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Lead, Total	EPA 200.8	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Lithium	EPA 200.8	µg/L	145	162	128	142	150	135	145	142	152	162
Magnesium	EPA 200.7	mg/L	1,140	1,150	1,120	1,080	1,250	1,140	1,110	1,150	1,230	1,080
Magnesium, Dissolved	EPA 200.7	mg/L	1,150	1,160	1,100	1,090	1,200	1,140	1,160	1,150	1,200	1,010
Manganese, Dissolved	EPA 200.7	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Manganese, Total	EPA 200.7	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MBAS (Surfactants)	SM5540C	mg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrate as N	EPA 300.0	mg/L	-	-	-	-	-	-	-	-	-	-
Nitrate as NO3	EPA 300.0	mg/L	3	3	3	3	3	4	3	3	3	2
Nitrate+Nitrite as N	EPA 300.0	mg/L	0.7	0.7	0.7	0.7	0.7	0.8	0.6	0.6	0.6	0.4
Nitrite as NO2-N, Dissolved	EPA 300.0	mg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Odor Threshold at 60 C	SM2150B	TON	1	1	1	1	1	1	1	1	1	1
o-Phosphate-P	Hach 8048 & EPA 365.1	mg/L	0.11	0.11	0.10	0.11	0.10	0.10	0.10	0.11	0.11	0.10
pH (Field Test)	SM4500-H+B	pH	7.17	7.11	7.14	7.65	7.10	7.10	7.15	7.15	7.08	7.05
pH (Laboratory)	SM4500-H+B	pH (H)	7.3	7.2	7.3	7.2	7.2	7.3	7.2	7.2	7.2	7.3
Phenoxy Acid Herbicides (515.3)	EPA 515.3	µg/L	-	-	-	-	-	-	-	-	-	-
Phosphorus, Dissolved Total	HACH 8190 & EPA 365.1	mg/L	0.10	0.09	0.09	0.09	0.05	0.14	0.09	0.11	0.10	0.10
Potassium	EPA 200.7	mg/L	262	276	262	279	317	273	285	285	306	285
Potassium, Dissolved	EPA 200.7	mg/L	264	282.9	260.2	276	305	277.1	291	279	300	277
QC Ratio TDS/SEC	Calculation	-	0.69	0.65	0.68	0.66	0.68	0.69	0.69	0.68	0.67	0.67
Reg. Org. Compounds (EPA 525)	EPA 525	µg/L	-	-	-	-	-	-	-	-	-	-
Salinity	SM2520B	psu	29.3	29.4	29.7	29.3	29.1	29.1	28.6	29.4	29.8	29.2
Silica as SiO2, Dissolved	EPA 200.7	mg/L	10	16	14	12	14	9.0	12	14	12	11
Sodium	EPA 200.7	mg/L	8,515	9,104	8,936	8,731	10,215	8,933	8,879	9,084	9,060	9,351
Sodium, Dissolved	EPA 200.7	mg/L	8,720	9,570	9,050	9,140	9,730	9,020	9,230	8,860	9,190	8,760
Specific Conductance (E.C)	SM2510B	µmhos/cm	45,330	45,380	45,800	45,240	45,000	45,070	44,370	45,360	46,050	45,200
Specific Conductance (E.C) (Field)	SM2510B	µmhos/cm	45,663	45,769	45,763	45,620	45,544	45,613	45,770	45,632	46,081	45,509
Strontium, Dissolved	EPA 200.8	µg/L	7,438	7,460	7,791	7,147	7,366	7,164	7,552	7,884	7,620	7,785
Sulfate, Dissolved	EPA 300.0	mg/L	2,309	2,250	2,299	2,286	2,267	2,476	2,296	2,282	2,370	2,221
Temperature (Field)	SM2550	°C	15.9	15.8	15.9	15.9	16.2	16.1	15.9	16.0	15.9	15.9
Total Diss. Solids	SM2540C	mg/L	31,300	29,700	31,000	29,800	30,700	30,900	30,800	30,800	30,800	30,200
Turbidity	EPA 180.1	NTU	0.15	0.30	0.20	.10	0.30	0.25	0.40	0.10	0.30	0.05
Turbidity (Field)	EPA 180.1	NTU	0.34	0.26	0.21	0.16	0.17	0.33	0.27	0.14	0.12	0.24
Volatile Org. Compounds (524)	EPA 524	µg/L	-	-	-	-	-	-	-	-	-	-
Zinc	EPA 200.7	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Zinc, Total	EPA 200.8	µg/L	-	-	-	-	-	-	-	-	-	-
PCBs, Total	EPA 508	µg/L	-	-	-	-	-	-	-	-	-	-
Total PCB	EPA 1668C	pg/L	-	-	-	-	-	-	-	-	-	-

Notes:

°C = Degrees Celsius
 CU = Color Units
 Meq/L = Milliequivalents per Liter
 mg/L = Milligrams per Liter
 NTU = Nephelometric Turbidity Units
 pg/L = Picograms per Liter
 TON = Threshold Odor Number
 µg/L = Micrograms per Liter
 µmhos/cm = Micromhos per Centimeter

ND = NOT DETECTED at or above the Reporting Limit (RL) or Practical Quantitation Limit (PQL). See laboratory water quality reports for RL and PQL values.

¹ Using EPA Method 200.8, Arsenic values are overstated due to matrix interference caused by high chloride levels. The overstated values are in laboratory reports through February 11, 2016. Going forward, EPA Method 1640 will be used for Arsenic analysis only.

Table 2: Summary of Test Slant Well Laboratory Water Quality Results

Constituent	Method	Units	Sample Collection Date:									
			1-Sep-16	8-Sep-16	15-Sep-16	22-Sep-16	30-Sep-16	7-Oct-16	13-Oct-16	20-Oct-16	27-Oct-16	3-Nov-16
Alkalinity, Total (as CaCO3)	SM2320B	mg/L	116	117	116	115	117	115	113	118	116	114
Aluminum, Total	EPA 200.8	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ammonia-N, Dissolved	SM4500NH3 D & EPA 350.1	mg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic, Total ¹	EPA 200.8	µg/L	-	-	-	-	-	-	-	-	-	-
Arsenic, Total	EPA 1640	µg/L	0.27	0.23	0.22	0.22	0.22	0.21	0.25	0.27	0.23	0.46
Barium, Dissolved	EPA 200.8	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bicarbonate (as HCO3-)	SM2320B	mg/L	142	143	142	140	143	140	138	144	142	139
Boron, Dissolved	EPA 200.7	mg/L	3.20	3.23	3.20	3.17	3.41	3.36	3.40	3.34	3.33	3.19
Bromide, Dissolved	EPA 300.0	mg/L	56.4	51.8	47.2	54.0	50	50.0	50.4	50.9	51.2	50.6
Calcium	EPA 200.7	mg/L	461	461	460	494	492	508	510	471	493	488
Calcium, Dissolved	EPA 200.7	mg/L	467	457	454	488	495	458	473	472	492	488
Carbamates by HPLC (EPA 531)	EPA 531	µg/L	-	-	-	-	-	-	-	-	-	-
Carbonate as CaCO3	SM2320B	mg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloride, Dissolved	EPA 300.0	mg/L	16,683	16,820	15,643	16,179	16,705	16,568	16,897	17,065	17,350	16,949
Chlorinated Pesticides and PCB (EPA 508)	EPA 508	µg/L	-	-	-	-	-	-	-	-	-	-
Color, Apparent (Unfiltered)	SM2120B	Color Units	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Copper	EPA 200.7	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Copper, Total	EPA 200.8	µg/L	-	-	-	-	-	-	-	-	-	-
DBCP & EDB	EPA 504.1	µg/L	-	-	-	-	-	-	-	-	-	-
Dioxin	EPA 1613	pg/L	-	-	-	-	-	-	-	-	-	-
Diquat (EPA 549)	EPA 549	µg/L	-	-	-	-	-	-	-	-	-	-
Dissolved Anions	Calculation	Meq/L	521.27	526.22	493.31	508.70	523.28	519.14	532.46	535.53	543.47	532.28
Total Anions	Calculation	Meq/L	521.27	526.22	493.31	508.70	523.28	519.14	532.46	535.53	543.47	532.28
Dissolved Cations	Calculation	Meq/L	501.83	487.61	466.60	537.27	528.58	521.64	545.47	503.68	542.16	496.51
Total Cations	Calculation	Meq/L	512.46	489.96	483.65	530.53	543.94	537.38	544.72	516.26	549.54	534.35
Fluoride, Dissolved	EPA 300.0	mg/L	0.8	1.1	0.9	1.0	0.9	1.1	0.9	1.0	0.9	0.8
Hardness (as CaCO3)	SM2340B/Calc	mg/L	5,286	5,619	5,534	5,924	5,874	5,918	5,964	5,764	5,781	5,728
Hydroxide	SM2320B	mg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iodide	EPA 9056M	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iron	EPA 200.7	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iron, Dissolved	EPA 200.7	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Kjeldahl Nitrogen, Dissolved	SM4500-NH3 B,C,E & EPA 350.1	mg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Lead, Total	EPA 200.8	µg/L	ND	ND	ND	ND	ND	6	ND	ND	ND	ND
Lithium	EPA 200.8	µg/L	166	156	153	132	138	124	141	149	140	141
Magnesium	EPA 200.7	mg/L	1,000	1,080	1,060	1,140	1,130	1,130	1,140	1,110	1,100	1,100
Magnesium, Dissolved	EPA 200.7	mg/L	968	1,060	1,040	1,060	1,130	1,090	1,120	1,110	1,090	1,100
Manganese, Dissolved	EPA 200.7	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Manganese, Total	EPA 200.7	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MBAS (Surfactants)	SM5540C	mg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrate as N	EPA 300.0	mg/L	-	-	-	-	-	-	-	-	-	-
Nitrate as NO3	EPA 300.0	mg/L	3	5	4	4	5	4	4	4	4	4
Nitrate+Nitrite as N	EPA 300.0	mg/L	0.6	1.1	1.1	1.0	1.1	1.0	1.2	1.1	1.3	1.1
Nitrite as NO2-N, Dissolved	EPA 300.0	mg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Odor Threshold at 60 C	SM2150B	TON	1	1	1	1	1	1	1	1	1	1
o-Phosphate-P	Hach 8048 & EPA 365.1	mg/L	0.11	0.10	0.10	0.10	0.10	0.09	0.08	0.09	0.09	0.09
pH (Field Test)	SM4500-H+B	pH	7.06	7.06	7.08	7.09	7.09	7.10	7.02	7.02	7.03	7.04
pH (Laboratory)	SM4500-H+B	pH (H)	7.2	7.2	7.1	7.2	7.0	7.2	7.2	7.2	7.2	7.2
Phenoxy Acid Herbicides (515.3)	EPA 515.3	µg/L	-	-	-	-	-	-	-	-	-	-
Phosphorus, Dissolved Total	HACH 8190 & EPA 365.1	mg/L	0.10	0.07	0.11	0.08	0.07	0.10	0.06	0.09	0.11	0.11
Potassium	EPA 200.7	mg/L	269	273	273	271	283	286	285	328	304	308
Potassium, Dissolved	EPA 200.7	mg/L	271.0	272	269	278	282	276	286	321	301	292
QC Ratio TDS/SEC	Calculation	-	0.69	0.66	0.67	0.66	0.68	0.69	0.67	0.66	0.66	0.69
Reg. Org. Compounds (EPA 525)	EPA 525	µg/L	-	-	-	-	-	-	-	-	-	-
Salinity	SM2520B	psu	29.4	29.3	29.3	29.6	29.4	29.4	29.5	29.8	29.7	29.8
Silica as SiO2, Dissolved	EPA 200.7	mg/L	12	12	13	12	13	11	14	12	15	15
Sodium	EPA 200.7	mg/L	9,202	8,531	8,425	9,567	9,636	9,467	9,613	9,035	9,808	9,462
Sodium, Dissolved	EPA 200.7	mg/L	9,010	8,520	8,080	9,680	9,280	9,240	9,710	8,750	9,660	8,590
Specific Conductance (E.C)	SM2510B	µmhos/cm	45,450	45,260	45,250	45,680	45,380	45,420	45,610	46,000	45,800	45,980
Specific Conductance (E.C) (Field)	SM2510B	µmhos/cm	45,669	45,720	45,362	45,682	45,648	45,682	45,775	46,308	46,223	46,352
Strontium, Dissolved	EPA 200.8	µg/L	7,458	7,875	7,415	7,158	7,293	7,430	7,259	7,542	7,275	7,302
Sulfate, Dissolved	EPA 300.0	mg/L	2,285	2,337	2,355	2,365	2,353	2,342	2,537	2,452	2,448	2,457
Temperature (Field)	SM2550	°C	16.1	16.2	16.1	16.1	16.1	16.4	16.3	16.2	16.3	16.3
Total Diss. Solids	SM2540C	mg/L	31,200	30,000	30,200	30,300	30,800	31,400	30,500	30,500	30,400	31,700
Turbidity	EPA 180.1	NTU	0.25	0.15	0.25	0.20	0.15	0.10	0.20	0.10	0.20	0.10
Turbidity (Field)	EPA 180.1	NTU	0.34	0.21	0.11	0.13	0.09	0.25	0.27	0.08	0.10	0.29
Volatile Org. Compounds (524)	EPA 524	µg/L	-	-	-	-	-	-	-	-	-	-
Zinc	EPA 200.7	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Zinc, Total	EPA 200.8	µg/L	-	-	-	-	-	-	-	-	-	-
PCBs, Total	EPA 508	µg/L	-	-	-	-	-	-	-	-	-	-
Total PCB	EPA 1668C	pg/L	-	-	-	-	-	-	-	-	-	-

Notes:

°C = Degrees Celsius
 CU = Color Units
 Meq/L = Milliequivalents per Liter
 mg/L = Milligrams per Liter
 NTU = Nephelometric Turbidity Units
 pg/L = Picograms per Liter
 TON = Threshold Odor Number
 µg/L = Micrograms per Liter
 µmhos/cm = Micromhos per Centimeter

ND = NOT DETECTED at or above the Reporting Limit (RL) or Practical Quantitation Limit (PQL). See laboratory water quality reports for RL and PQL values.

¹ Using EPA Method 200.8, Arsenic values are overstated due to matrix interference caused by high chloride levels. The overstated values are in laboratory reports through February 11, 2016. Going forward, EPA Method 1640 will be used for Arsenic analysis only.

Table 2: Summary of Test Slant Well Laboratory Water Quality Results

Constituent	Method	Units	Sample Collection Date:									
			10-Nov-16	17-Nov-16	23-Nov-16	1-Dec-16	8-Dec-16	15-Dec-16	21-Dec-16	12-Jan-17	19-Jan-17	26-Jan-17
Alkalinity, Total (as CaCO3)	SM2320B	mg/L	113	115	114	112	106	111	112	107	112	117
Aluminum, Total	EPA 200.8	µg/L	ND	ND	ND	ND	ND	ND	55	160	ND	ND
Ammonia-N, Dissolved	SM4500NH3 D & EPA 350.1	mg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic, Total ¹	EPA 200.8	µg/L	-	-	-	-	-	-	-	-	-	-
Arsenic, Total	EPA 1640	µg/L	0.25	0.27	0.27	0.26	0.21	0.22	0.26	0.20	0.21	0.28
Barium, Dissolved	EPA 200.8	µg/L	ND	ND	ND	ND	69	ND	65	66	ND	ND
Bicarbonate (as HCO3-)	SM2320B	mg/L	138	140	139	137	129	135	137	131	137	143
Boron, Dissolved	EPA 200.7	mg/L	3.73	3.84	3.29	3.42	3.09	3.10	3.73	3.2	3.30	3.42
Bromide, Dissolved	EPA 300.0	mg/L	53.0	50	52	54	51	54	57	56.7	55.8	58.6
Calcium	EPA 200.7	mg/L	493	517	462	532	540	549	542	407	481	467
Calcium, Dissolved	EPA 200.7	mg/L	503	531	453	536	539	529	543	401	485	466
Carbamates by HPLC (EPA 531)	EPA 531	µg/L	-	-	-	-	-	-	-	-	-	-
Carbonate as CaCO3	SM2320B	mg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloride, Dissolved	EPA 300.0	mg/L	17,651	17,082	17,145	17,215	17,283	18,271	16,460	16,984	16,509	17,164
Chlorinated Pesticides and PCB (EPA 508)	EPA 508	µg/L	-	-	-	-	-	-	-	-	-	-
Color, Apparent (Unfiltered)	SM2120B	Color Units	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Copper	EPA 200.7	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Copper, Total	EPA 200.8	µg/L	-	-	-	-	-	-	-	-	-	-
DBCP & EDB	EPA 504.1	µg/L	-	-	-	-	-	-	-	-	-	-
Dioxin	EPA 1613	pg/L	-	-	-	-	-	-	-	-	-	-
Diquat (EPA 549)	EPA 549	µg/L	-	-	-	-	-	-	-	-	-	-
Dissolved Anions	Calculation	Meq/L	540.88	527.60	533.74	528.40	541.73	569.71	518.18	532.63	523.58	537.43
Total Anions	Calculation	Meq/L	540.88	527.60	533.74	528.40	541.73	569.71	518.18	532.63	523.58	537.43
Dissolved Cations	Calculation	Meq/L	545.78	565.18	540.61	582.47	562.53	557.54	555.00	506.56	514.77	517.04
Total Cations	Calculation	Meq/L	536.10	570.96	527.00	558.83	559.45	569.62	580.06	509.59	505.75	518.85
Fluoride, Dissolved	EPA 300.0	mg/L	0.5	0.8	0.9	0.5	1.0	0.9	1.2	0.9	ND	1.0
Hardness (as CaCO3)	SM2340B/Calc	mg/L	6,185	6,401	5,601	6,344	6,451	6,452	6,542	5,678	5,961	6,050
Hydroxide	SM2320B	mg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iodide	EPA 9056M	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iron	EPA 200.7	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iron, Dissolved	EPA 200.7	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Kjeldahl Nitrogen, Dissolved	SM4500-NH3 B,C,E & EPA 350.1	mg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Lead, Total	EPA 200.8	µg/L	ND	ND	ND	4	ND	ND	-	ND	ND	ND
Lithium	EPA 200.8	µg/L	146	162	139	141	146	148	ND	ND	161	165
Magnesium	EPA 200.7	mg/L	1,200	1,240	1,080	1,220	1,240	1,230	1,260	1,130	1,160	1,190
Magnesium, Dissolved	EPA 200.7	mg/L	1,220	1,250	1,070	1,260	1,240	1,210	1,240	1,140	1,150	1,170
Manganese, Dissolved	EPA 200.7	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Manganese, Total	EPA 200.7	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MBAS (Surfactants)	SM5540C	mg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrate as N	EPA 300.0	mg/L	-	-	-	-	-	-	-	-	-	-
Nitrate as NO3	EPA 300.0	mg/L	ND	4	4	4	5	4	4	3	2	2
Nitrate+Nitrite as N	EPA 300.0	mg/L	0.7	1.0	0.8	0.8	1.1	1.0	0.9	0.6	0.6	0.4
Nitrite as NO2-N, Dissolved	EPA 300.0	mg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Odor Threshold at 60 C	SM2150B	TON	1	1	1	1	1	1	1	1	1	1
o-Phosphate-P	Hach 8048 & EPA 365.1	mg/L	0.09	0.10	0.09	0.09	0.09	0.10	0.09	0.09	0.09	0.09
pH (Field Test)	SM4500-H+B	pH	7.05	7.05	7.05	7.07	7.07	7.07	7.07	7.37	6.94	7.23
pH (Laboratory)	SM4500-H+B	pH (H)	7.2	7.2	7.2	7.2	7.3	7.1	7.2	7.3	7.2	7.3
Phenoxy Acid Herbicides (515.3)	EPA 515.3	µg/L	-	-	-	-	-	-	-	-	-	-
Phosphorus, Dissolved Total	HACH 8190 & EPA 365.1	mg/L	0.09	0.09	0.09	0.09	0.09	0.08	0.08	0.09	0.08	0.09
Potassium	EPA 200.7	mg/L	314	331	284	317	316	313	322	334	286	304
Potassium, Dissolved	EPA 200.7	mg/L	326	338	279	326	319	308	323	331	285	303
QC Ratio TDS/SEC	Calculation	-	0.67	0.67	0.69	0.68	0.68	0.66	0.66	0.66	0.70	0.67
Reg. Org. Compounds (EPA 525)	EPA 525	µg/L	-	-	-	-	-	-	-	-	-	-
Salinity	SM2520B	psu	30.0	30.1	30.0	30.2	30.0	29.7	29.7	29.9	29.3	29.6
Silica as SiO2, Dissolved	EPA 200.7	mg/L	16	17	12	20	11	ND	13	ND	11	9.0
Sodium	EPA 200.7	mg/L	9,304	9,992	9,375	9,742	9,710	9,954	10,140	8,910	8,712	8,962
Sodium, Dissolved	EPA 200.7	mg/L	9,470	9,820	9,720	10,200	9,780	9,740	9,600	8,830	8,770	8,960
Specific Conductance (E.C)	SM2510B	µmhos/cm	46,230	46,370	46,270	46,540	46,330	45,810	45,840	46,060	45,310	45,700
Specific Conductance (E.C) (Field)	SM2510B	µmhos/cm	46,803	46,648	46,445	46,511	46,179	46,097	46,063	46,477	45,300	46,236
Strontium, Dissolved	EPA 200.8	µg/L	7,700	7,183	7,212	7,624	7,583	7,530	6,800	6,700	7,229	7,372
Sulfate, Dissolved	EPA 300.0	mg/L	1,920	2,052	2,262	1,911	2,466	2,465	2,441	2,431	2,363	2,408
Temperature (Field)	SM2550	°C	16.4	16.1	16.1	15.9	15.6	15.6	15.4	15.3	15.3	15.1
Total Diss. Solids	SM2540C	mg/L	30,900	31,000	31,800	31,500	31,600	30,400	30,200	30,500	31,700	30,800
Turbidity	EPA 180.1	NTU	0.25	0.10	0.20	0.35	0.15	0.10	0.40	0.45	0.15	0.20
Turbidity (Field)	EPA 180.1	NTU	1.06	0.18	0.24	0.41	0.17	0.12	0.14	0.25	0.29	0.16
Volatile Org. Compounds (524)	EPA 524	µg/L	-	-	-	-	-	-	-	-	-	-
Zinc	EPA 200.7	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Zinc, Total	EPA 200.8	µg/L	-	-	-	-	-	-	-	-	-	-
PCBs, Total	EPA 508	µg/L	-	-	-	-	-	-	-	-	-	-
Total PCB	EPA 1668C	pg/L	-	-	-	-	-	-	-	-	-	-

Notes:

°C = Degrees Celsius
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 Meq/L = Milliequivalents per Liter
 mg/L = Milligrams per Liter
 NTU = Nephelometric Turbidity Units
 pg/L = Picograms per Liter
 TON = Threshold Odor Number
 µg/L = Micrograms per Liter
 µmhos/cm = Micromhos per Centimeter

ND = NOT DETECTED at or above the Reporting Limit (RL) or Practical Quantitation Limit (PQL). See laboratory water quality reports for RL and PQL values.

¹ Using EPA Method 200.8, Arsenic values are overstated due to matrix interference caused by high chloride levels. The overstated values are in laboratory reports through February 11, 2016. Going forward, EPA Method 1640 will be used for Arsenic analysis only.

Table 2: Summary of Test Slant Well Laboratory Water Quality Results

Constituent	Method	Units	Sample Collection Date:									
			2-Feb-17	9-Feb-17	15-Feb-17	24-Feb-17	1-Mar-17	8-Mar-17	15-Mar-17	23-Mar-17	29-Mar-17	5-Apr-17
Alkalinity, Total (as CaCO3)	SM2320B	mg/L	114	117	113	110	113	112	110	109	107	108
Aluminum, Total	EPA 200.8	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ammonia-N, Dissolved	SM4500NH3 D & EPA 350.1	mg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic, Total ¹	EPA 200.8	µg/L	-	-	-	-	-	-	-	-	-	-
Arsenic, Total	EPA 1640	µg/L	0.26	0.20	0.24	0.30	0.30	0.29	0.26	0.28	0.29	0.30
Barium, Dissolved	EPA 200.8	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	68	ND
Bicarbonate (as HCO3-)	SM2320B	mg/L	139	143	138	134	138	137	134	133	131	132
Boron, Dissolved	EPA 200.7	mg/L	3.36	3.37	3.31	3.51	3.56	3.25	3.27	3.11	3.44	3.21
Bromide, Dissolved	EPA 300.0	mg/L	55.4	55.2	55.6	56.1	55.7	55.1	53.7	52.3	54.1	52.2
Calcium	EPA 200.7	mg/L	486	497	467	492	464	459	478	405	398	415
Calcium, Dissolved	EPA 200.7	mg/L	487	484	466	481	473	477	464	420	420	406
Carbamates by HPLC (EPA 531)	EPA 531	µg/L	-	-	-	-	-	-	-	-	-	-
Carbonate as CaCO3	SM2320B	mg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloride, Dissolved	EPA 300.0	mg/L	16,638	16,746	16,794	17,028	16,860	16,522	16,264	16,086	16,048	16,370
Chlorinated Pesticides and PCB (EPA 508)	EPA 508	µg/L	-	-	-	-	-	-	-	-	-	-
Color, Apparent (Unfiltered)	SM2120B	Color Units	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Copper	EPA 200.7	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Copper, Total	EPA 200.8	µg/L	-	-	-	-	-	-	-	-	-	-
DBCP & EDB	EPA 504.1	µg/L	-	-	-	-	-	-	-	-	-	-
Dioxin	EPA 1613	pg/L	-	-	-	-	-	-	-	-	-	-
Diquat (EPA 549)	EPA 549	µg/L	-	-	-	-	-	-	-	-	-	-
Dissolved Anions	Calculation	Meq/L	521.35	524.61	526.53	532.85	525.63	516.22	508.39	502.66	503.45	512.21
Total Anions	Calculation	Meq/L	521.35	524.61	526.53	532.85	525.63	516.22	508.39	502.66	503.45	512.21
Dissolved Cations	Calculation	Meq/L	516.21	512.58	496.59	497.38	492.63	488.89	494.69	495.32	500.18	483.86
Total Cations	Calculation	Meq/L	530.41	541.45	489.87	501.11	490.19	489.96	488.39	485.02	462.87	492.88
Fluoride, Dissolved	EPA 300.0	mg/L	0.7	0.9	0.9	0.8	0.8	0.9	0.8	0.9	ND	0.7
Hardness (as CaCO3)	SM2340B/Calc	mg/L	6,258	6,273	5,609	5,927	5,903	5,692	5,843	5,327	5,515	5,714
Hydroxide	SM2320B	mg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iodide	EPA 9056M	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iron	EPA 200.7	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iron, Dissolved	EPA 200.7	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Kjeldahl Nitrogen, Dissolved	SM4500-NH3 B,C,E & EPA 350.1	mg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Lead, Total	EPA 200.8	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Lithium	EPA 200.8	µg/L	188	97	155	146	144	151	155	224	182	186
Magnesium	EPA 200.7	mg/L	1,220	1,220	1,080	1,140	1,150	1,100	1,130	1,050	1,100	1,140
Magnesium, Dissolved	EPA 200.7	mg/L	1,210	1,190	1,090	1,130	1,180	1,120	1,130	1,090	1,150	1,120
Manganese, Dissolved	EPA 200.7	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Manganese, Total	EPA 200.7	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MBAS (Surfactants)	SM5540C	mg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrate as N	EPA 300.0	mg/L	-	-	-	-	-	-	-	-	-	-
Nitrate as NO3	EPA 300.0	mg/L	3	3	2	3	5	4	5	5	3	3
Nitrate+Nitrite as N	EPA 300.0	mg/L	0.7	0.8	0.8	0.8	1.1	1.0	1.0	1.0	0.7	0.7
Nitrite as NO2-N, Dissolved	EPA 300.0	mg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Odor Threshold at 60 C	SM2150B	TON	1	1	1	1	1	1	1	1	1	1
o-Phosphate-P	Hach 8048 & EPA 365.1	mg/L	0.09	0.08	0.08	0.10	0.10	0.10	0.09	0.09	0.11	0.08
pH (Field Test)	SM4500-H+B	pH	7.07	7.01	7.00	7.13	7.09	7.08	7.00	7.22	7.22	7.07
pH (Laboratory)	SM4500-H+B	pH (H)	7.2	7.3	7.2	7.3	7.2	7.2	7.2	7.3	7.3	7.2
Phenoxy Acid Herbicides (515.3)	EPA 515.3	µg/L	-	-	-	-	-	-	-	-	-	-
Phosphorus, Dissolved Total	HACH 8190 & EPA 365.1	mg/L	0.09	0.09	0.10	0.08	0.08	0.08	0.08	0.08	0.09	0.09
Potassium	EPA 200.7	mg/L	306	301	285	299	284	272	278	272	276	289
Potassium, Dissolved	EPA 200.7	mg/L	305	301	288	297	289	277	276	277	291	287
QC Ratio TDS/SEC	Calculation	-	0.66	0.65	0.66	0.69	0.65	0.67	0.65	0.67	0.69	0.66
Reg. Org. Compounds (EPA 525)	EPA 525	µg/L	-	-	-	-	-	-	-	-	-	-
Salinity	SM2520B	psu	29.3	29.7	29.4	29.3	29.0	28.8	28.9	28.4	28.5	28.5
Silica as SiO2, Dissolved	EPA 200.7	mg/L	12	13	14	13	13	10	ND	12	13	12
Sodium	EPA 200.7	mg/L	9,148	9,392	8,515	8,623	8,394	8,496	8,378	8,539	7,941	8,528
Sodium, Dissolved	EPA 200.7	mg/L	8,840	8,800	8,650	8,570	8,380	8,410	8,540	8,680	8,670	8,370
Specific Conductance (E.C)	SM2510B	µmhos/cm	45,270	45,820	45,460	45,310	44,910	44,540	44,710	44,060	44,140	44,200
Specific Conductance (E.C) (Field)	SM2510B	µmhos/cm	45,256	45,414	45,429	45,816	44,951	44,725	44,351	44,064	44,279	44,184
Strontium, Dissolved	EPA 200.8	µg/L	7,066	7,254	7,194	7,238	7,093	7,271	7,197	8,222	7,208	7,922
Sulfate, Dissolved	EPA 300.0	mg/L	2,352	2,359	2,390	2,379	2,256	2,264	2,240	2,208	2,298	2,284
Temperature (Field)	SM2550	°C	15.3	15.2	15.3	15.0	15	15.1	15.0	15.2	15.2	15.0
Total Diss. Solids	SM2540C	mg/L	29,900	29,800	30,000	31,100	29,100	29,700	29,100	29,400	30,600	29,000
Turbidity	EPA 180.1	NTU	0.30	0.25	0.15	0.10	0.20	0.25	0.25	0.50	0.35	0.15
Turbidity (Field)	EPA 180.1	NTU	0.41	0.08	0.15	0.17	0.10	0.37	0.14	0.17	0.44	0.09
Volatile Org. Compounds (524)	EPA 524	µg/L	-	-	-	-	-	-	-	-	-	-
Zinc	EPA 200.7	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Zinc, Total	EPA 200.8	µg/L	-	-	-	-	-	-	-	-	-	-
PCBs, Total	EPA 508	µg/L	-	-	-	-	-	-	-	-	-	-
Total PCB	EPA 1668C	pg/L	-	-	-	-	-	-	-	-	-	-

Notes:

°C = Degrees Celsius
 CU = Color Units
 Meq/L = Milliequivalents per Liter
 mg/L = Milligrams per Liter
 NTU = Nephelometric Turbidity Units
 pg/L = Picograms per Liter
 TON = Threshold Odor Number
 µg/L = Micrograms per Liter
 µmhos/cm = Micromhos per Centimeter

ND = NOT DETECTED at or above the Reporting Limit (RL) or Practical Quantitation Limit (PQL). See laboratory water quality reports for RL and PQL values.

¹ Using EPA Method 200.8, Arsenic values are overstated due to matrix interference caused by high chloride levels. The overstated values are in laboratory reports through February 11, 2016. Going forward, EPA Method 1640 will be used for Arsenic analysis only.

Table 2: Summary of Test Slant Well Laboratory Water Quality Results

Constituent	Method	Units	Sample Collection Date:									
			13-Apr-17	19-Apr-17	26-Apr-17	3-May-17	10-May-17	18-May-17	24-May-17	31-May-17	8-Jun-17	14-Jun-17
Alkalinity, Total (as CaCO3)	SM2320B	mg/L	107	108	108	109	108	108	108	111	113	113
Aluminum, Total	EPA 200.8	µg/L	ND	116	106	ND	ND	ND	ND	ND	ND	ND
Ammonia-N, Dissolved	SM4500NH3 D & EPA 350.1	mg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic, Total ¹	EPA 200.8	µg/L	-	-	-	-	-	-	-	-	-	-
Arsenic, Total	EPA 1640	µg/L	0.29	0.29	0.30	0.33	0.34	0.29	0.32	0.32	0.30	0.30
Barium, Dissolved	EPA 200.8	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	72	ND
Bicarbonate (as HCO3-)	SM2320B	mg/L	131	132	132	133	132	132	132	135	138	138
Boron, Dissolved	EPA 200.7	mg/L	2.87	3.06	2.86	3.2	3.13	3.34	3.33	2.77	3.55	2.84
Bromide, Dissolved	EPA 300.0	mg/L	51.9	55.3	54.5	54.1	55.9	55.7	56.6	53.9	62.2	57
Calcium	EPA 200.7	mg/L	442	460	439	439	464	462	456	521	500	494
Calcium, Dissolved	EPA 200.7	mg/L	450	418	429	433	464	469	478	526	496	490
Carbamates by HPLC (EPA 531)	EPA 531	µg/L	-	-	-	-	-	-	-	-	-	-
Carbonate as CaCO3	SM2320B	mg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloride, Dissolved	EPA 300.0	mg/L	16,528	16,171	15,973	15,733	16,016	15,903	15,975	15,393	16,064	15,908
Chlorinated Pesticides and PCB (EPA 508)	EPA 508	µg/L	-	-	-	-	-	-	-	-	-	-
Color, Apparent (Unfiltered)	SM2120B	Color Units	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Copper	EPA 200.7	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Copper, Total	EPA 200.8	µg/L	-	-	-	-	-	-	-	-	-	-
DBCP & EDB	EPA 504.1	µg/L	-	-	-	-	-	-	-	-	-	-
Dioxin	EPA 1613	pg/L	-	-	-	-	-	-	-	-	-	-
Diquat (EPA 549)	EPA 549	µg/L	-	-	-	-	-	-	-	-	-	-
Dissolved Anions	Calculation	Meq/L	516.78	506.03	500.60	493.11	501.27	498.04	499.89	482.94	502.84	498.13
Total Anions	Calculation	Meq/L	516.78	506.03	500.60	493.11	501.27	498.04	499.89	482.94	502.84	498.13
Dissolved Cations	Calculation	Meq/L	496.81	518.02	487.93	457.64	483.41	511.09	529.98	511.80	539.35	538.05
Total Cations	Calculation	Meq/L	479.82	531.51	486.29	470.10	483.80	499.09	514.21	502.48	540.68	555.31
Fluoride, Dissolved	EPA 300.0	mg/L	ND	0.8	0.9	0.7	0.8	0.8	0.8	0.8	0.8	0.8
Hardness (as CaCO3)	SM2340B/Calc	mg/L	5,403	5,378	5,268	5,255	5,503	5,675	5,796	5,790	5,745	5,916
Hydroxide	SM2320B	mg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iodide	EPA 9056M	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iron	EPA 200.7	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iron, Dissolved	EPA 200.7	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Kjeldahl Nitrogen, Dissolved	SM4500-NH3 B,C,E & EPA 350.1	mg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Lead, Total	EPA 200.8	µg/L	ND	ND	ND	ND	ND	ND	ND	-	ND	ND
Lithium	EPA 200.8	µg/L	184	177	187	154	158	160	145	134	175	173
Magnesium	EPA 200.7	mg/L	1,040	1,030	1,010	1,010	1,060	1,100	1,130	1,090	1,090	1,140
Magnesium, Dissolved	EPA 200.7	mg/L	1,080	1,150	921	973	1,051	1,130	1,120	1,120	1,120	1,120
Manganese, Dissolved	EPA 200.7	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Manganese, Total	EPA 200.7	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MBAS (Surfactants)	SM5540C	mg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrate as N	EPA 300.0	mg/L	-	-	-	-	-	-	-	-	-	-
Nitrate as NO3	EPA 300.0	mg/L	3	7	7	4	4	4	4	4	4	4
Nitrate+Nitrite as N	EPA 300.0	mg/L	0.8	1.5	1.5	1.1	0.9	1.0	0.9	0.9	0.9	0.9
Nitrite as NO2-N, Dissolved	EPA 300.0	mg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Odor Threshold at 60 C	SM2150B	TON	1	1	1	1	1	1	1	2	1	1
o-Phosphate-P	Hach 8048 & EPA 365.1	mg/L	0.09	0.08	0.08	0.08	0.08	0.09	0.08	0.08	0.08	0.08
pH (Field Test)	SM4500-H+B	pH	7.08	7.08	7.08	7.08	7.08	7.01	7.02	7.02	6.98	7.16
pH (Laboratory)	SM4500-H+B	pH (H)	6.8	7.1	7.2	7.3	7.3	7.3	7.2	7.1	7.3	7.2
Phenoxy Acid Herbicides (515.3)	EPA 515.3	µg/L	-	-	-	-	-	-	-	-	-	-
Phosphorus, Dissolved Total	HACH 8190 & EPA 365.1	mg/L	0.08	0.08	0.09	0.08	0.06	0.09	0.07	0.08	0.09	0.06
Potassium	EPA 200.7	mg/L	272	273	272	314	276	288	291	324	384	319
Potassium, Dissolved	EPA 200.7	mg/L	275	278	259	264	276	295	300	295	325	320
QC Ratio TDS/SEC	Calculation	-	0.65	0.67	0.67	0.68	0.67	0.68	0.68	0.67	0.67	0.68
Reg. Org. Compounds (EPA 525)	EPA 525	µg/L	-	-	-	-	-	-	-	-	-	-
Salinity	SM2520B	psu	28.4	28.4	28.4	28.5	28.7	28.2	28.2	28.2	28.5	28.3
Silica as SiO2, Dissolved	EPA 200.7	mg/L	ND	14	11	ND	13	15	15	20	17	ND
Sodium	EPA 200.7	mg/L	8,396	9,582	8,605	8,208	8,422	8,693	8,989	8,701	9,568	9,855
Sodium, Dissolved	EPA 200.7	mg/L	8,700	9,090	8,830	8,270	8,430	8,900	9,340	8,870	9,520	9,500
Specific Conductance (E.C)	SM2510B	µmhos/cm	44,010	44,100	44,020	44,120	44,420	43,820	43,730	43,740	44,180	43,840
Specific Conductance (E.C) (Field)	SM2510B	µmhos/cm	44,004	44,144	44,093	44,202	44,254	43,823	43,689	43,626	43,677	43,625
Strontium, Dissolved	EPA 200.8	µg/L	7,948	7,160	7,098	7,256	6,858	6,773	6,865	6,810	7,575	7,244
Sulfate, Dissolved	EPA 300.0	mg/L	2,290	2,252	2,260	2,226	2,235	2,233	2,224	2,197	2,237	2,225
Temperature (Field)	SM2550	°C	15.0	15.3	15.3	15.4	15.2	15.2	15.3	15.4	15.3	15.4
Total Diss. Solids	SM2540C	mg/L	28,800	29,600	29,400	29,900	29,800	29,600	29,600	29,300	29,600	30,000
Turbidity	EPA 180.1	NTU	0.20	0.20	0.25	0.25	1.5	0.60	0.25	0.20	0.15	0.15
Turbidity (Field)	EPA 180.1	NTU	0.12	0.15	0.22	0.25	0.21	0.21	0.13	0.14	0.18	0.21
Volatile Org. Compounds (524)	EPA 524	µg/L	-	-	-	-	-	-	-	-	-	-
Zinc	EPA 200.7	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Zinc, Total	EPA 200.8	µg/L	-	-	-	-	-	-	-	-	-	-
PCBs, Total	EPA 508	µg/L	-	-	-	-	-	-	-	-	-	-
Total PCB	EPA 1668C	pg/L	-	-	-	-	-	-	-	-	-	-

Notes:

°C = Degrees Celsius
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 Meq/L = Milliequivalents per Liter
 mg/L = Milligrams per Liter
 NTU = Nephelometric Turbidity Units
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ND = NOT DETECTED at or above the Reporting Limit (RL) or Practical Quantitation Limit (PQL). See laboratory water quality reports for RL and PQL values.

¹ Using EPA Method 200.8, Arsenic values are overstated due to matrix interference caused by high chloride levels. The overstated values are in laboratory reports through February 11, 2016. Going forward, EPA Method 1640 will be used for Arsenic analysis only.

Table 2: Summary of Test Slant Well Laboratory Water Quality Results

Constituent	Method	Units	Sample Collection Date:									
			21-Jun-17	28-Jun-17	5-Jul-17	12-Jul-17	19-Jul-17	26-Jul-17	2-Aug-17	9-Aug-17	16-Aug-17	23-Aug-17
Alkalinity, Total (as CaCO3)	SM2320B	mg/L	112	114	114	115	114	114	113	114	113	114
Aluminum, Total	EPA 200.8	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ammonia-N, Dissolved	SM4500NH3 D & EPA 350.1	mg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic, Total ¹	EPA 200.8	µg/L	-	-	-	-	-	-	-	-	-	-
Arsenic, Total	EPA 1640	µg/L	0.29	0.36	0.36	0.23	0.28	0.22	0.21	0.23	0.22	0.28
Barium, Dissolved	EPA 200.8	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bicarbonate (as HCO3-)	SM2320B	mg/L	137	139	139	140	139	139	138	139	138	139
Boron, Dissolved	EPA 200.7	mg/L	3.77	3.33	3.3	2.44	3.33	3.40	2.92	3.28	3.45	3.74
Bromide, Dissolved	EPA 300.0	mg/L	51.9	51.0	52.2	55.3	56.5	57.9	59.1	55.8	54.9	39.8
Calcium	EPA 200.7	mg/L	559	490	561	523	486	504	407	489	504	738
Calcium, Dissolved	EPA 200.7	mg/L	580	482	508	541	488	506	427	483	485	740
Carbamates by HPLC (EPA 531)	EPA 531	µg/L	-	-	-	-	-	-	-	-	-	-
Carbonate as CaCO3	SM2320B	mg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloride, Dissolved	EPA 300.0	mg/L	15,110	15,550	15,817	15,996	16,292	16,572	17,007	16,452	16,738	15,992
Chlorinated Pesticides and PCB (EPA 508)	EPA 508	µg/L	-	-	-	-	-	-	-	-	-	-
Color, Apparent (Unfiltered)	SM2120B	Color Units	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Copper	EPA 200.7	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Copper, Total	EPA 200.8	µg/L	-	-	-	-	-	-	-	-	-	-
DBCP & EDB	EPA 504.1	µg/L	-	-	-	-	-	-	-	-	-	-
Dioxin	EPA 1613	pg/L	-	-	-	-	-	-	-	-	-	-
Diquat (EPA 549)	EPA 549	µg/L	-	-	-	-	-	-	-	-	-	-
Dissolved Anions	Calculation	Meq/L	475.36	488.10	495.48	496.86	509.36	518.74	531.54	514.72	524.04	500.45
Total Anions	Calculation	Meq/L	475.36	488.10	495.48	496.86	509.36	518.74	531.54	514.72	524.04	500.45
Dissolved Cations	Calculation	Meq/L	526.04	508.51	529.93	502.41	499.74	499.71	497.53	499.13	487.85	520.31
Total Cations	Calculation	Meq/L	520.58	511.83	549.43	514.48	488.40	490.03	489.71	506.68	504.92	525.08
Fluoride, Dissolved	EPA 300.0	mg/L	0.8	0.8	0.8	0.7	0.7	0.7	0.7	0.7	0.6	0.6
Hardness (as CaCO3)	SM2340B/Calc	mg/L	6,255	5,622	6,095	5,473	5,212	5,607	4,702	5,594	5,681	6,447
Hydroxide	SM2320B	mg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iodide	EPA 9056M	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iron	EPA 200.7	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iron, Dissolved	EPA 200.7	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Kjeldahl Nitrogen, Dissolved	SM4500-NH3 B,C,E & EPA 350.1	mg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Lead, Total	EPA 200.8	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Lithium	EPA 200.8	µg/L	152	166	163	182	219	116	191	177	177	192
Magnesium	EPA 200.7	mg/L	1,180	1,070	1,140	1,010	971	1,060	895	1,060	1,070	1,120
Magnesium, Dissolved	EPA 200.7	mg/L	1,200	1,070	1,140	960	975	1,080	937	1,060	1,040	1,110
Manganese, Dissolved	EPA 200.7	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Manganese, Total	EPA 200.7	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MBAS (Surfactants)	SM5540C	mg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrate as N	EPA 300.0	mg/L	-	-	-	-	-	-	-	-	-	-
Nitrate as NO3	EPA 300.0	mg/L	4	4	4	5	6	5	6	6	6	5
Nitrate+Nitrite as N	EPA 300.0	mg/L	1.1	0.9	0.9	1.2	1.3	1.2	1.3	1.3	1.3	1.0
Nitrite as NO2-N, Dissolved	EPA 300.0	mg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Odor Threshold at 60 C	SM2150B	TON	1	1	1	1	1	1	1	1	1	1
o-Phosphate-P	Hach 8048 & EPA 365.1	mg/L	0.06	0.08	0.08	0.07	0.07	0.08	0.10	0.09	0.08	0.08
pH (Field Test)	SM4500-H+B	pH	7.12	7.18	7.18	7.18	7.18	7.01	7.00	7.00	7.00	7.00
pH (Laboratory)	SM4500-H+B	pH (H)	7.2	7.3	6.9	7.2	7.3	7.2	7.3	7.2	7.4	7.2
Phenoxy Acid Herbicides (515.3)	EPA 515.3	µg/L	-	-	-	-	-	-	-	-	-	-
Phosphorus, Dissolved Total	HACH 8190 & EPA 365.1	mg/L	0.06	0.08	0.08	0.07	0.07	0.08	0.08	0.09	0.08	0.08
Potassium	EPA 200.7	mg/L	328	277	295	249	259	275	231	277	278	288
Potassium, Dissolved	EPA 200.7	mg/L	336	277	294	260	262	279	245	273	270	284
QC Ratio TDS/SEC	Calculation	-	0.64	0.67	0.66	0.67	0.66	0.68	0.67	0.69	0.68	0.70
Reg. Org. Compounds (EPA 525)	EPA 525	µg/L	-	-	-	-	-	-	-	-	-	-
Salinity	SM2520B	psu	28.3	28.1	28.3	28.0	27.9	28.1	28.4	28.0	28.7	28.5
Silica as SiO2, Dissolved	EPA 200.7	mg/L	18	12	10	11	14	17	10	13	17	15
Sodium	EPA 200.7	mg/L	8,901	9,017	9,657	9,170	8,681	8,520	8,962	8,915	8,834	8,940
Sodium, Dissolved	EPA 200.7	mg/L	8,960	8,950	9,270	8,960	8,930	8,700	9,030	8,760	8,540	8,850
Specific Conductance (E.C)	SM2510B	µmhos/cm	43,900	43,570	43,840	43,480	43,360	43,600	44,000	43,430	44,420	44,180
Specific Conductance (E.C) (Field)	SM2510B	µmhos/cm	43,687	43,633	43,501	43,353	43,305	43,451	43,437	43,266	43,408	43,583
Strontium, Dissolved	EPA 200.8	µg/L	7,297	7,718	7,210	6,593	7,967	6,799	6,348	7,320	7,406	6,853
Sulfate, Dissolved	EPA 300.0	mg/L	2,216	2,231	2,223	2,043	2,242	2,313	2,338	2,267	2,329	2,218
Temperature (Field)	SM2550	°C	15.6	15.4	16.3	15.5	15.5	15.7	15.8	15.7	15.9	15.9
Total Diss. Solids	SM2540C	mg/L	28,100	29,400	29,000	29,000	28,500	29,600	29,600	30,000	30,400	30,800
Turbidity	EPA 180.1	NTU	0.15	0.60	0.10	0.05	0.20	0.10	0.25	0.25	0.30	0.15
Turbidity (Field)	EPA 180.1	NTU	0.13	0.26	0.34	0.24	0.17	0.18	0.15	0.15	0.13	0.08
Volatile Org. Compounds (524)	EPA 524	µg/L	-	-	-	-	-	-	-	-	-	-
Zinc	EPA 200.7	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Zinc, Total	EPA 200.8	µg/L	-	-	-	-	-	-	-	-	-	-
PCBs, Total	EPA 508	µg/L	-	-	-	-	-	-	-	-	-	-
Total PCB	EPA 1668C	pg/L	-	-	-	-	-	-	-	-	-	-

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 Meq/L = Milliequivalents per Liter
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Table 2: Summary of Test Slant Well Laboratory Water Quality Results

Constituent	Method	Units	Sample Collection Date:									
			31-Aug-17	6-Sep-17	13-Sep-17	20-Sep-17	28-Sep-17	4-Oct-17	11-Oct-17	17-Oct-17	25-Oct-17	1-Nov-17
Alkalinity, Total (as CaCO3)	SM2320B	mg/L	114	115	114	114	112	113	114	113	112	113
Aluminum, Total	EPA 200.8	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ammonia-N, Dissolved	SM4500NH3 D & EPA 350.1	mg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic, Total ¹	EPA 200.8	µg/L	-	-	-	-	-	-	-	-	-	-
Arsenic, Total	EPA 1640	µg/L	0.23	0.22	0.22	0.24	0.24	0.21	0.20	0.20	0.23	0.24
Barium, Dissolved	EPA 200.8	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bicarbonate (as HCO3-)	SM2320B	mg/L	139	140	139	139	137	138	139	138	137	138
Boron, Dissolved	EPA 200.7	mg/L	3.39	3.68	3.80	2.67	3.20	3.00	3.30	3.00	3.00	2.52
Bromide, Dissolved	EPA 300.0	mg/L	53.2	56.1	56.1	53.7	56.0	56.0	57.7	57.8	55.5	55.3
Calcium	EPA 200.7	mg/L	759	404	535	535	520	440	476	580	447	392
Calcium, Dissolved	EPA 200.7	mg/L	824	456	499	515	450	410	502	458	447	400
Carbamates by HPLC (EPA 531)	EPA 531	µg/L	-	-	-	-	-	-	-	-	-	-
Carbonate as CaCO3	SM2320B	mg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloride, Dissolved	EPA 300.0	mg/L	16,661	16,432	16,200	16,100	16,500	16,100	16,500	17,100	17,000	16,400
Chlorinated Pesticides and PCB (EPA 508)	EPA 508	µg/L	-	-	-	-	-	-	-	-	-	-
Color, Apparent (Unfiltered)	SM2120B	Color Units	ND	ND	ND	ND	ND	3	ND	ND	ND	ND
Copper	EPA 200.7	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Copper, Total	EPA 200.8	µg/L	-	-	-	-	-	-	-	-	-	-
DBCP & EDB	EPA 504.1	µg/L	-	-	-	-	-	-	-	-	-	-
Dioxin	EPA 1613	pg/L	-	-	-	-	-	-	-	-	-	-
Diquat (EPA 549)	EPA 549	µg/L	-	-	-	-	-	-	-	-	-	-
Dissolved Anions	Calculation	Meq/L	520.32	512.79	506.32	503.25	515.78	504.91	515.40	532.93	531.32	513.36
Total Anions	Calculation	Meq/L	520.32	512.79	506.32	503.25	515.78	504.91	515.40	532.93	531.32	513.36
Dissolved Cations	Calculation	Meq/L	497.84	515.38	516.67	517.83	447.57	458.17	512.27	482.68	473.64	506.73
Total Cations	Calculation	Meq/L	508.00	529.94	548.05	516.68	521.57	460.18	488.57	506.41	459.71	496.32
Fluoride, Dissolved	EPA 300.0	mg/L	0.6	0.5	0.6	0.7	0.5	0.7	0.7	0.7	0.7	0.6
Hardness (as CaCO3)	SM2340B/Calc	mg/L	6,200	5,750	6,210	5,980	6,240	5,220	5,260	5,780	4,870	4,770
Hydroxide	SM2320B	mg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iodide	EPA 9056M	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iron	EPA 200.7	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iron, Dissolved	EPA 200.7	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Kjeldahl Nitrogen, Dissolved	SM4500-NH3 B,C,E & EPA 350.1	mg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Lead, Total	EPA 200.8	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Lithium	EPA 200.8	µg/L	214	226	170	153	200	169	172	171	192	227
Magnesium	EPA 200.7	mg/L	1,068	1,030	1,180	1,130	1,200	1,000	988	1,050	1,020	921
Magnesium, Dissolved	EPA 200.7	mg/L	1,024	918	1,120	1,110	990	1,000	1,050	1,020	1,030	932
Manganese, Dissolved	EPA 200.7	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Manganese, Total	EPA 200.7	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MBAS (Surfactants)	SM5540C	mg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrate as N	EPA 300.0	mg/L	1.2	1.3	1.6	1.4	1.5	1.2	1.2	1.2	1.3	1.2
Nitrate as NO3	EPA 300.0	mg/L	5	6	7	6	7	5	6	5	6	5
Nitrate+Nitrite as N	EPA 300.0	mg/L	1.2	1.3	1.6	1.4	1.5	1.2	1.2	1.2	1.3	1.2
Nitrite as NO2-N, Dissolved	EPA 300.0	mg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Odor Threshold at 60 C	SM2150B	TON	1	1	2	1	1	1	2	4	1	1
o-Phosphate-P	Hach 8048 & EPA 365.1	mg/L	0.08	0.07	0.08	0.08	0.07	0.07	0.08	0.08	0.07	0.07
pH (Field Test)	SM4500-H+B	pH	7.00	7.01	7.17	7.17	7.06	7.04	7.04	7.30	7.05	7.04
pH (Laboratory)	SM4500-H+B	pH (H)	7.4	7.2	7.2	7.2	7.2	6.7	7.2	7.2	7.1	7.1
Phenoxy Acid Herbicides (515.3)	EPA 515.3	µg/L	-	-	-	-	-	-	-	-	-	-
Phosphorus, Dissolved Total	HACH 8190 & EPA 365.1	mg/L	0.08	0.08	0.09	0.08	0.07	0.07	0.08	0.08	0.08	0.08
Potassium	EPA 200.7	mg/L	279	290	311	283	380	310	266	340	251.0	285
Potassium, Dissolved	EPA 200.7	mg/L	269	269	283	295	510	460	279	274	254.0	284
QC Ratio TDS/SEC	Calculation	-	0.67	0.68	0.68	0.66	0.67	0.66	0.69	0.70	0.70	0.68
Reg. Org. Compounds (EPA 525)	EPA 525	µg/L	-	-	-	-	-	-	-	-	-	-
Salinity	SM2520B	psu	28.2	28.2	28.4	28.4	28.4	28.4	28.5	28.4	28.6	28.8
Silica as SiO2, Dissolved	EPA 200.7	mg/L	14	12	10	13	13	13	9	ND	ND	19
Sodium	EPA 200.7	mg/L	8,623	9,600	9,570	8,960	8,900	8,000	8,660	8,790	7,980	9,050
Sodium, Dissolved	EPA 200.7	mg/L	8,404	9,430	9,020	9,040	7,600	7,900	9,050	8,480	8,270	9,260
Specific Conductance (E.C)	SM2510B	µmhos/cm	43,710	43,810	44,080	44,030	44,080	44,100	44,130	44,080	44,350	44,590
Specific Conductance (E.C) (Field)	SM2510B	µmhos/cm	43,261	43,510	43,920	43,820	43,860	44,050	44,170	44,160	44,510	44,590
Strontium, Dissolved	EPA 200.8	µg/L	6,822	7,060	6,510	5,900	7,770	8,280	7,700	7,770	7,180	7,120
Sulfate, Dissolved	EPA 300.0	mg/L	2,271	2,262	2,220	2,210	2,270	2,290	2,250	2,280	2,340	2,290
Temperature (Field)	SM2550	° C	15.9	16.0	16.1	16.3	16.2	16.1	16.1	16.2	16.2	16.2
Total Diss. Solids	SM2540C	mg/L	29,400	29,700	29,800	29,100	29,700	29,300	30,600	30,900	31,100	30,300
Turbidity	EPA 180.1	NTU	0.10	0.20	0.15	0.35	0.15	0.15	0.30	0.10	0.15	0.05
Turbidity (Field)	EPA 180.1	NTU	0.20	0.18	0.05	0.07	0.14	0.28	0.08	0.08	0.35	0.20
Volatile Org. Compounds (524)	EPA 524	µg/L	-	-	-	-	-	-	-	-	-	-
Zinc	EPA 200.7	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Zinc, Total	EPA 200.8	µg/L	-	-	-	-	-	-	-	-	-	-
PCBs, Total	EPA 508	µg/L	-	-	-	-	-	-	-	-	-	-
Total PCB	EPA 1668C	pg/L	-	-	-	-	-	-	-	-	-	-

Notes:

°C = Degrees Celsius
 CU = Color Units
 Meq/L = Milliequivalents per Liter
 mg/L = Milligrams per Liter
 NTU = Nephelometric Turbidity Units
 pg/L = Picograms per Liter
 TON = Threshold Odor Number
 µg/L = Micrograms per Liter
 µmhos/cm = Micromhos per Centimeter

ND = NOT DETECTED at or above the Reporting Limit (RL) or Practical Quantitation Limit (PQL). See laboratory water quality reports for RL and PQL values.

¹ Using EPA Method 200.8, Arsenic values are overstated due to matrix interference caused by high chloride levels. The overstated values are in laboratory reports through February 11, 2016. Going forward, EPA Method 1640 will be used for Arsenic analysis only.

Table 2: Summary of Test Slant Well Laboratory Water Quality Results

Constituent	Method	Units	Sample Collection Date:									
			8-Nov-17	15-Nov-17	22-Nov-17	30-Nov-17	6-Dec-17	13-Dec-17	20-Dec-17	4-Jan-18	10-Jan-18	17-Jan-18
Alkalinity, Total (as CaCO3)	SM2320B	mg/L	112	112	113	112	111	112	112	112	104	111
Aluminum, Total	EPA 200.8	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ammonia-N, Dissolved	SM4500NH3 D & EPA 350.1	mg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic, Total ¹	EPA 200.8	µg/L	-	-	-	-	-	-	-	-	-	-
Arsenic, Total	EPA 1640	µg/L	0.25	0.26	0.28	0.25	0.25	0.26	0.25	0.24	0.24	0.27
Barium, Dissolved	EPA 200.8	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bicarbonate (as HCO3-)	SM2320B	mg/L	137	137	138	137	135	137	137	137	127	135
Boron, Dissolved	EPA 200.7	mg/L	3.50	3.60	3.10	3.60	3.1	3.3	3.4	3.7	3.8	3.82
Bromide, Dissolved	EPA 300.0	mg/L	56.2	53.2	52.3	52.8	53.2	58.9	59.9	58.0	55.9	54.4
Calcium	EPA 200.7	mg/L	565	509	484	746	479	414	447	730	442	473
Calcium, Dissolved	EPA 200.7	mg/L	542	496	496	710	466	478	485	745	496	466
Carbamates by HPLC (EPA 531)	EPA 531	µg/L	-	-	-	-	-	-	-	-	-	-
Carbonate as CaCO3	SM2320B	mg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloride, Dissolved	EPA 300.0	mg/L	16,400	16,200	17,200	16,800	16,400	16,400	17,100	17,100	16,500	16,500
Chlorinated Pesticides and PCB (EPA 508)	EPA 508	µg/L	-	-	-	-	-	-	-	-	-	-
Color, Apparent (Unfiltered)	SM2120B	Color Units	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Copper	EPA 200.7	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Copper, Total	EPA 200.8	µg/L	-	-	-	-	-	-	-	-	-	-
DBCP & EDB	EPA 504.1	µg/L	-	-	-	-	-	-	-	-	-	-
Dioxin	EPA 1613	pg/L	-	-	-	-	-	-	-	-	-	-
Diquat (EPA 549)	EPA 549	µg/L	-	-	-	-	-	-	-	-	-	-
Dissolved Anions	Calculation	Meq/L	513.14	508.09	541.29	525.62	513.69	513.37	533.76	537.72	515.79	516.32
Total Anions	Calculation	Meq/L	513.14	508.09	541.29	525.62	513.69	513.37	533.76	537.72	515.79	516.32
Dissolved Cations	Calculation	Meq/L	512.96	491.61	467.56	510.36	490.44	510.03	522.47	517.31	498.00	509.74
Total Cations	Calculation	Meq/L	548.24	458.49	463.09	507.82	494.33	480.40	478.29	536.73	510.55	520.15
Fluoride, Dissolved	EPA 300.0	mg/L	0.7	0.9	0.7	0.5	0.6	0.9	0.7	0.4	0.8	0.5
Hardness (as CaCO3)	SM2340B/Calc	mg/L	6,250	5,440	5,060	6,290	4,820	5,030	5,180	6,510	5,370	5,930
Hydroxide	SM2320B	mg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iodide	EPA 9056M	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iron	EPA 200.7	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iron, Dissolved	EPA 200.7	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Kjeldahl Nitrogen, Dissolved	SM4500-NH3 B,C,E & EPA 350.1	mg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Lead, Total	EPA 200.8	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Lithium	EPA 200.8	µg/L	160	176	162	136	177	118	199	174	176	252
Magnesium	EPA 200.7	mg/L	1,180	969	936	1,070	1,050	972	987	1,140	1,040	1,150
Magnesium, Dissolved	EPA 200.7	mg/L	1,110	1,080	942	1,100	1,040	1,020	1,050	1,200	1,070	1,170
Manganese, Dissolved	EPA 200.7	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Manganese, Total	EPA 200.7	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MBAS (Surfactants)	SM5540C	mg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrate as N	EPA 300.0	mg/L	1.1	1.2	1.0	1.0	0.9	1.1	1.2	1.4	1.1	1.0
Nitrate as NO3	EPA 300.0	mg/L	5	5	ND	4.3	4	5	5	6	5	4
Nitrate+Nitrite as N	EPA 300.0	mg/L	1.1	1.2	1.0	1.0	0.9	1.1	1.2	1.4	1.1	1.0
Nitrite as NO2-N, Dissolved	EPA 300.0	mg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Odor Threshold at 60 C	SM2150B	TON	2	1	1	1	1	1	1	1	1	1
o-Phosphate-P	Hach 8048 & EPA 365.1	mg/L	0.08	0.07	0.08	0.08	0.08	0.08	0.08	0.07	0.07	0.07
pH (Field Test)	SM4500-H+B	pH	7.05	7.05	7.05	7.01	7.03	7.02	7.02	7.02	7.23	7.05
pH (Laboratory)	SM4500-H+B	pH (H)	7.2	7.1	7.2	7.6	7.0	7.2	7.2	7.1	7.2	7.2
Phenoxy Acid Herbicides (515.3)	EPA 515.3	µg/L	-	-	-	-	-	-	-	-	-	-
Phosphorus, Dissolved Total	HACH 8190 & EPA 365.1	mg/L	0.08	0.08	0.09	0.08	0.08	0.08	0.08	0.07	0.08	0.08
Potassium	EPA 200.7	mg/L	328	262	238	275	282	272	264	297	293	322.0
Potassium, Dissolved	EPA 200.7	mg/L	307	288	251	282.0	281	284	286	319	298	322.0
QC Ratio TDS/SEC	Calculation	-	0.67	0.68	0.68	0.69	0.68	0.68	0.67	0.66	0.69	0.67
Reg. Org. Compounds (EPA 525)	EPA 525	µg/L	-	-	-	-	-	-	-	-	-	-
Salinity	SM2520B	psu	28.8	28.5	28.5	28.7	28.8	28.8	28.7	28.7	28.8	28.9
Silica as SiO2, Dissolved	EPA 200.7	mg/L	16	22	13	11	12	16	15	15	17	29
Sodium	EPA 200.7	mg/L	9,530	7,970	8,180	8,630	8,670	8,570	8,460	9,170	9,090	9,050
Sodium, Dissolved	EPA 200.7	mg/L	8,890	8,520	8,250	8,680	8,610	9,080	9,300	8,580	8,680	8,970
Specific Conductance (E.C)	SM2510B	µmhos/cm	44,530	44,190	44,130	44,420	44,600	44,610	44,460	44,450	44,530	44,680
Specific Conductance (E.C) (Field)	SM2510B	µmhos/cm	44,580	44,520	44,490	44,790	45,010	44,930	44,980	45,050	45,660	45,600
Strontium, Dissolved	EPA 200.8	µg/L	6,200	7,130	7,900	8,250	8,110	8,970	8,830	7,480	7,740	7,060
Sulfate, Dissolved	EPA 300.0	mg/L	2,280	2,310	2,550	2,300	2,310	2,290	2,320	2,510	2,280	2,300
Temperature (Field)	SM2550	°C	16.3	16.2	16.1	16.0	15.7	15.7	15.6	15.5	15.5	15.3
Total Diss. Solids	SM2540C	mg/L	29,900	30,100	30,100	30,500	30,500	30,400	29,600	29,500	30,700	29,800
Turbidity	EPA 180.1	NTU	0.10	0.15	0.15	0.10	0.10	0.10	0.15	0.15	0.10	0.30
Turbidity (Field)	EPA 180.1	NTU	0.07	0.11	0.08	0.07	0.17	0.20	0.21	0.10	0.17	0.17
Volatile Org. Compounds (524)	EPA 524	µg/L	-	-	-	-	-	-	-	-	-	-
Zinc	EPA 200.7	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Zinc, Total	EPA 200.8	µg/L	-	-	-	-	-	-	-	-	-	-
PCBs, Total	EPA 508	µg/L	-	-	-	-	-	-	-	-	-	-
Total PCB	EPA 1668C	pg/L	-	-	-	-	-	-	-	-	-	-

Notes:

°C = Degrees Celsius
 CU = Color Units
 Meq/L = Milliequivalents per Liter
 mg/L = Milligrams per Liter
 NTU = Nephelometric Turbidity Units
 pg/L = Picograms per Liter
 TON = Threshold Odor Number
 µg/L = Micrograms per Liter
 µmhos/cm = Micromhos per Centimeter

ND = NOT DETECTED at or above the Reporting Limit (RL) or Practical Quantitation Limit (PQL). See laboratory water quality reports for RL and PQL values.

¹ Using EPA Method 200.8, Arsenic values are overstated due to matrix interference caused by high chloride levels. The overstated values are in laboratory reports through February 11, 2016. Going forward, EPA Method 1640 will be used for Arsenic analysis only.

Table 2: Summary of Test Slant Well Laboratory Water Quality Results

Constituent	Method	Units	Sample Collection Date:					
			25-Jan-18	31-Jan-18	7-Feb-18	14-Feb-18	21-Feb-18	28-Feb-18
Alkalinity, Total (as CaCO3)	SM2320B	mg/L	111	112	110	109	109	110
Aluminum, Total	EPA 200.8	µg/L	ND	ND	ND	ND	ND	ND
Ammonia-N, Dissolved	SM4500NH3 D & EPA 350.1	mg/L	ND	ND	ND	ND	ND	ND
Arsenic, Total ¹	EPA 200.8	µg/L	-	-	-	-	-	-
Arsenic, Total	EPA 1640	µg/L	0.23	0.23	0.26	0.26	0.25	0.20
Barium, Dissolved	EPA 200.8	µg/L	ND	ND	ND	ND	ND	ND
Bicarbonate (as HCO3-)	SM2320B	mg/L	135	137	134	133	133	134
Boron, Dissolved	EPA 200.7	mg/L	3.5	3.4	3.4	3.3	3.2	3.5
Bromide, Dissolved	EPA 300.0	mg/L	52.1	49.4	55.3	48.4	56.4	55.2
Calcium	EPA 200.7	mg/L	484	465	516	485	491	549
Calcium, Dissolved	EPA 200.7	mg/L	464	487	496	490	465	553
Carbamates by HPLC (EPA 531)	EPA 531	µg/L	-	-	-	-	-	-
Carbonate as CaCO3	SM2320B	mg/L	ND	ND	ND	ND	ND	ND
Chloride, Dissolved	EPA 300.0	mg/L	16,800	16,600	16,700	16,400	16,800	16,500
Chlorinated Pesticides and PCB (EPA 508)	EPA 508	µg/L	-	-	-	-	-	-
Color, Apparent (Unfiltered)	SM2120B	Color Units	ND	ND	ND	3	ND	ND
Copper	EPA 200.7	µg/L	ND	ND	ND	ND	ND	ND
Copper, Total	EPA 200.8	µg/L	-	-	-	-	-	-
DBCP & EDB	EPA 504.1	µg/L	-	-	-	-	-	-
Dioxin	EPA 1613	pg/L	-	-	-	-	-	-
Diquat (EPA 549)	EPA 549	µg/L	-	-	-	-	-	-
Dissolved Anions	Calculation	Meq/L	526.03	519.31	522.37	512.05	523.30	517.56
Total Anions	Calculation	Meq/L	526.03	519.31	522.37	512.05	523.30	517.56
Dissolved Cations	Calculation	Meq/L	509.32	509.73	529.93	534.21	506.57	524.34
Total Cations	Calculation	Meq/L	489.40	477.11	542.33	518.66	533.73	525.01
Fluoride, Dissolved	EPA 300.0	mg/L	0.5	0.5	0.5	0.7	0.7	0.7
Hardness (as CaCO3)	SM2340B/Calc	mg/L	5,600	5,560	5,980	5,530	5,580	6,070
Hydroxide	SM2320B	mg/L	ND	ND	ND	ND	ND	ND
Iodide	EPA 9056M	µg/L	ND	ND	ND	ND	ND	ND
Iron	EPA 200.7	µg/L	ND	ND	ND	ND	ND	ND
Iron, Dissolved	EPA 200.7	µg/L	ND	ND	ND	ND	ND	ND
Total Kjeldahl Nitrogen, Dissolved	SM4500-NH3 B,C,E & EPA 350.1	mg/L	ND	ND	ND	ND	ND	ND
Lead, Total	EPA 200.8	µg/L	ND	ND	ND	ND	ND	ND
Lithium	EPA 200.8	µg/L	87	179	170	180	163	157
Magnesium	EPA 200.7	mg/L	1,070	1,070	1,140	1,050	1,060	1,140
Magnesium, Dissolved	EPA 200.7	mg/L	1,120	1,120	1,120	1,060	1,010	1,130
Manganese, Dissolved	EPA 200.7	µg/L	ND	ND	ND	ND	ND	ND
Manganese, Total	EPA 200.7	µg/L	ND	ND	ND	ND	ND	ND
MBAS (Surfactants)	SM5540C	mg/L	ND	ND	ND	ND	ND	ND
Nitrate as N	EPA 300.0	mg/L	1.3	1.0	1.0	0.8	0.8	0.9
Nitrate as NO3	EPA 300.0	mg/L	5.6	4	4	3.6	4	4
Nitrate+Nitrite as N	EPA 300.0	mg/L	1.3	1.0	1.0	0.8	0.8	0.9
Nitrite as NO2-N, Dissolved	EPA 300.0	mg/L	ND	ND	ND	ND	ND	ND
Odor Threshold at 60 C	SM2150B	TON	1	1	1	1	1	1
o-Phosphate-P	Hach 8048 & EPA 365.1	mg/L	0.07	0.07	0.07	0.07	0.07	0.07
pH (Field Test)	SM4500-H+B	pH	7.06	7.09	7.08	7.09	7.10	7.10
pH (Laboratory)	SM4500-H+B	pH (H)	7.4	7.2	7.3	7.2	7.1	7.3
Phenoxy Acid Herbicides (515.3)	EPA 515.3	µg/L	-	-	-	-	-	-
Phosphorus, Dissolved Total	HACH 8190 & EPA 365.1	mg/L	0.08	0.08	0.07	0.07	0.08	0.08
Potassium	EPA 200.7	mg/L	274	273	304	290	291	294
Potassium, Dissolved	EPA 200.7	mg/L	285	290	297	295	274	292
QC Ratio TDS/SEC	Calculation	-	0.67	0.69	0.67	0.67	0.71	0.69
Reg. Org. Compounds (EPA 525)	EPA 525	µg/L	-	-	-	-	-	-
Salinity	SM2520B	psu	28.8	28.8	28.8	28.8	28.5	28.8
Silica as SiO2, Dissolved	EPA 200.7	mg/L	16	15	17	15	14	18
Sodium	EPA 200.7	mg/L	8,510	8,250	9,540	9,210	9,530	9,110
Sodium, Dissolved	EPA 200.7	mg/L	8,890	8,870	9,320	9,540	9,040	9,100
Specific Conductance (E.C)	SM2510B	µmhos/cm	44,640	44,570	44,560	44,520	44,120	44,520
Specific Conductance (E.C) (Field)	SM2510B	µmhos/cm	45,680	44,890	44,750	44,840	44,770	44,930
Strontium, Dissolved	EPA 200.8	µg/L	7,280	7,440	7,520	7,390	7,130	7,180
Sulfate, Dissolved	EPA 300.0	mg/L	2,360	2,310	2,320	2,250	2,230	2,360
Temperature (Field)	SM2550	° C	15.1	15.1	15.3	15.2	15.1	15.1
Total Diss. Solids	SM2540C	mg/L	29,900	30,600	30,000	29,900	31,300	30,600
Turbidity	EPA 180.1	NTU	0.20	0.05	0.15	0.25	0.15	0.15
Turbidity (Field)	EPA 180.1	NTU	0.13	0.14	0.08	0.09	0.11	0.08
Volatile Org. Compounds (524)	EPA 524	µg/L	-	-	-	-	-	-
Zinc	EPA 200.7	µg/L	ND	ND	ND	ND	ND	ND
Zinc, Total	EPA 200.8	µg/L	-	-	-	-	-	-
PCBs, Total	EPA 508	µg/L	-	-	-	-	-	-
Total PCB	EPA 1668C	pg/L	-	-	-	-	-	-

Notes:

°C = Degrees Celsius
 CU = Color Units
 Meq/L = Milliequivalents per Liter
 mg/L = Milligrams per Liter
 NTU = Nephelometric Turbidity Units
 pg/L = Picograms per Liter
 TON = Threshold Odor Number
 µg/L = Micrograms per Liter
 µmhos/cm = Micromhos per Centimeter

ND = NOT DETECTED at or above the Reporting Limit (RL) or Practical Quantitation Limit (PQL). See laboratory water quality reports for RL and PQL values.

¹ Using EPA Method 200.8, Arsenic values are overstated due to matrix interference caused by high chloride levels. The overstated values are in laboratory reports through February 11, 2016. Going forward, EPA Method 1640 will be used for Arsenic analysis only.

**Table 3: Summary of Quarterly and Semiannual Monitoring Well
 Laboratory Water Quality Results Following Long-Term Pumping Test**

Monitoring Well Name:			MW-1S										MW-1M		
Sample Collection Date:			24-Apr-18	9-Oct-18	9-Apr-19	14-Oct-19	7-Apr-20	12-Oct-20	14-Apr-21	12-Oct-21	12-Apr-22	17-Oct-22	24-Apr-18	9-Oct-18	9-Apr-19
Constituent	Method	Units	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result
Alkalinity, Total (as CaCO3)	SM2320B	mg/L	103	106	110	108	120	110	112	114	101	98	106	103	103
Aluminum, Total	EPA 200.8	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ammonia-N, Dissolved	SM4500NH3 D & EPA 350.1	mg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic, Total ¹	EPA 200.8	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
Arsenic, Total	EPA 1640	µg/L	0.13	0.13	0.17	0.14	0.14	0.17	0.16	0.17	0.15	0.18	0.13	0.12	0.14
Barium, Dissolved	EPA 200.8	µg/L	ND	53.0	51.3	63	57	52	55.9	61	56.6	59	ND	65.0	58.2
Bicarbonate (as HCO3-)	SM2320B	mg/L	126	129	134	132	139	134	137	139	123	120	129	126	126
Boron, Dissolved	EPA 200.7	mg/L	4.01	3.87	4.0	3.5	3.10	3	2.77	3.5	4.2	4.2	3.91	3.71	3.95
Bromide, Dissolved	EPA 300.0	mg/L	47.6	59.1	65.1	58.2	51.9	53.8	63.8	55.9	88.3	62.2	54.4	62.8	64.8
Calcium	EPA 200.7	mg/L	411	376	410	382	357	384	299	415	415	367	445	510	419
Calcium, Dissolved	EPA 200.7	mg/L	390	379	408	382	372	377	306	403	422	370	442	501	420
Carbamates by HPLC (EPA 531)	EPA 531	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
Carbonate as CaCO3	SM2320B	mg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloride, Dissolved	EPA 300.0	mg/L	17,200	18,100	19,200	15,800	15,900	15,300	15,300	16,400	17,600	18,000	19,400	19,200	18,800
Chlorinated Pesticides and PCB (EPA 508)	EPA 508	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
Color, Apparent (Unfiltered)	SM2120B	Color Units	ND	ND	3	ND	-	-	ND	ND	ND	ND	ND	ND	ND
Color, True ²	SM2120C	Color Units	-	-	-	-	3	ND	-	-	-	-	-	-	-
Copper	EPA 200.7	µg/L	ND	ND	ND	8	ND	ND	ND	ND	ND	ND	ND	ND	ND
Copper, Total	EPA 200.8	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
DBCP & EDB	EPA 504.1	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
Dioxin	EPA 1613	pg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
Diquat (EPA 549)	EPA 549	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
Dissolved Anions	Calculation	Meq/L	571.07	566.33	601.52	495.34	498.09	480.61	478.43	515.42	546.04	555.22	605.32	600.48	591.74
Total Anions	Calculation	Meq/L	571.07	566.33	601.52	495.34	498.09	480.61	478.43	515.42	546.04	555.22	605.32	600.48	591.74
Dissolved Cations	Calculation	Meq/L	552.35	529.36	568.66	494.77	489.55	474.91	409.62	485.26	575.36	553.40	650.58	572.23	594.23
Total Cations	Calculation	Meq/L	557.83	541.00	571.37	486.66	468.29	539.77	402.54	504.79	572.41	550.51	659.35	583.20	598.66
Fluoride, Dissolved	EPA 300.0	mg/L	0.2	0.8	0.5	1.0	0.5	1.1	1.9	6.6	0.6	0.5	0.1	0.4	0.4
Hardness (as CaCO3)	SM2340B/Calc, EPA200.7	mg/L	6,690	5,680	5,880	5,310	5,020	5,480	4,120	5,470	5,980	5,940	6,600	6,260	6,150
Hydroxide	SM2320B	mg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iodide	EPA 9056M, 314.0, 331.0M, & 332.0M	µg/L	ND	ND	ND	ND	15	3.9	5.0	ND	ND	ND	ND	ND	ND
Iron	EPA 200.7	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	532
Iron, Dissolved	EPA 200.7	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Kjeldahl Nitrogen, Dissolved	SM4500-NH3 B,C,E & EPA 351.2	mg/L	ND	ND	ND	ND	ND	ND	0.2	0.2	ND	ND	ND	ND	ND
Lead, Total	EPA 200.8	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Lithium	EPA 200.8	µg/L	193	201	222	241	172	201	137	162	119	196	197	215	236
Magnesium	EPA 200.7	mg/L	1,380	1,150	1,180	1,060	1,000	976	820	1,080	1,200	1,220	1,330	1,210	1,240
Magnesium, Dissolved	EPA 200.7	mg/L	1,310	1,120	1,200	1,000	1,030	967	835	1,040	1,210	1,230	1,330	1,190	1,240
Manganese, Dissolved	EPA 200.7	µg/L	ND	ND	ND	ND	ND	ND	42	ND	ND	ND	ND	ND	ND
Manganese, Total	EPA 200.7	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MBAS (Surfactants)	SM5540C	mg/L	ND	ND	ND	ND	ND	0.14	0.06	0.07	0.14	0.04	ND	ND	ND
Nitrate as N	EPA 300.0	mg/L	1.0	0.7	0.5	1.3	1.0	1.5	1.2	1.2	0.8	0.7	1.0	0.2	0.2
Nitrate as NO3	EPA 300.0	mg/L	4.4	3.1	2.2	5.7	4.4	6.9	5.2	5.1	3.4	3.2	4.3	0.9	ND
Nitrate+Nitrite as N	EPA 300.0	mg/L	1.0	0.7	0.5	1.3	1.0	1.5	1.2	1.2	0.8	0.7	1.0	0.2	0.2
Nitrite as NO2-N, Dissolved	EPA 300.0	mg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Odor Threshold at 60 C	SM2150B	TON	ND	1	1	1	1	1	ND	ND	ND	ND	ND	1	1
o-Phosphate-P	Hach 8048 & EPA 365.1	mg/L	0.04	0.03	0.05	0.05	0.05	0.04	0.04	0.04	0.06	0.06	0.05	0.04	0.05
pH (Field Test)	SM4500-H+B	pH	6.96	7.00	7.28	7.21	7.07	7.41	7.03	7.07	6.48	7.05	6.64	6.84	7.05
pH (Laboratory)	SM4500-H+B	pH (H)	7.1	7.3	7.3	7.6	7.3	7.2	7.5	7.5	7.4	7.3	7.1	7.1	7.1
Phenoxy Acid Herbicides (515.3)	EPA 515.3	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
Phosphorus, Dissolved Total	HACH 8190 & EPA 365.1	mg/L	0.03	0.04	0.05	0.06	0.06	0.03	0.03	0.05	0.92	0.06	0.04	0.05	0.05
Potassium	EPA 200.7	mg/L	428	391	395	313	279	394	244	321	365	402	393	396.0	401
Potassium, Dissolved	EPA 200.7	mg/L	400	367	399	313	287	367	248	311	373	409	396	389	396
QC Ratio TDS/SEC	Calculation	-	0.67	0.68	0.72	0.70	0.67	0.68	0.69	0.72	0.72	0.68	0.68	0.70	0.72
Reg. Org. Compounds (EPA 525)	EPA 525	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
Salinity	SM2520B	psu	36.4	31.3	35.1	32.0	27.8	26.4	26.0	27.4	28.7	31.2	36.2	32.9	36.1
Silica as SiO2, Dissolved	EPA 200.7	mg/L	13	12	12	15	12	15.4	11.1	15.6	17.7	18.0	19	17	17
Sodium	EPA 200.7	mg/L	9,490	9,600	10,200	8,560	8,300	9,890	7,220	8,900	10,200	9,690	11,900	10,300	10,700
Sodium, Dissolved	EPA 200.7	mg/L	9,540	9,400	10,100	8,860	8,710	8,440	7,340	8,540	10,200	9,730	11,700	10,100	10,600
Specific Conductance (E.C)	SM2510B	µmhos/cm	49,600	48,000	48,000	43,700	43,200	41,200	40,700	42,700	44,500	47,900	49,430	50,200	49,300
Specific Conductance (E.C) (Field)	SM2510B	µmhos/cm	50,930	50,160	49,800	44,600	45,840	41,770	43,920	45,057	45,000	45,615	50,580	51,860	50,990
Strontium, Dissolved	EPA 200.8	µg/L	6,600	6,050	7,620	6,910	6,910	6,180	6,900	6,790	6,870	3,020	7,010	6,590	7,490
Sulfate, Dissolved	EPA 300.0	mg/L	2,700	2,540	2,730	2,240	2,230	2,210	2,160	2,360	2,290	2,290	2,650	2,690	2,810
Temperature (Field)	SM2550	°C	14.5	15.5	15.7	16.7	15.1	18.3	16.9	16.4	16.5	16.3	16.0	15.9	15.7
Total Diss. Solids	SM2540C	mg/L	33,200	32,600	34,400	30,400	29,100	28,100	28,000	30,700	31,900	32,500	33,600	34,900	35,300
Turbidity	EPA 180.1	NTU	0.60	0.10	0.05	ND	0.10	0.05	ND	ND	ND	ND	0.10	0.05	0.10
Turbidity (Field)	EPA 180.1	NTU	0.19	0.39	0.29	0.41	0.53	0.87	0.4	0.54	0.51	0.5	0.21	0.42	0.26
Volatile Org. Compounds (524)	EPA 524	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
Zinc	EPA 200.7	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Zinc, Total	EPA 200.8	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
PCBs, Total	EPA 508	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
Total PCB	EPA 1668C	pg/L	-	-	-	-	-	-	-	-	-	-	-	-	-

Notes:

- °C = Degrees Celsius
- CU = Color Units
- Meq/L = Milliequivalents per Liter
- mg/L = Milligrams per Liter
- NTU = Nephelometric Turbidity Units
- pg/L = Picograms per Liter
- TON = Threshold Odor Number
- µg/L = Micograms per Liter
- µmhos/cm = Micromhos per Centimeter

ND = NOT DETECTED at or above the Reporting Limit (RL) or Practical Quantitation Limit (PQL). See laboratory water quality reports for RL and PQL values.

¹ Using EPA Method 200.8, Arsenic values are overstated due to matrix interference caused by high chloride levels. The overstated values are in laboratory reports through February 11, 2016. Going forward, EPA Method 1640 will be used for Arsenic analysis only.

² EPA Methods 2120B and C are both applicable to measure color caused primarily by natural organic matter. Both methods are suitable for true color measurements but for apparent color measurements only Method 2120B is used.

³ The reported gravimetric method TDS result exceeds the calculated TDS using ion summation. The laboratory attributes the elevated level to the possibility of water trapped in salt crystals. MBAS calculated values: MW-3D (4/13/21) = 29,600 mg/L; MW-4D (4/15/21) = 24,000 mg/L

⁴ MW-6 headers were corrected in Report No. 174. Header previously labeled MW-6M(L) was corrected to MW-6M and header previously labeled MW-6D was corrected to MW-6M(L).

Table 3: Summary of Quarterly and Semiannual Monitoring Well Laboratory Water Quality Results Following Long-Term Pumping Test

Monitoring Well Name:			MW-1M							MW-1D					
Sample Collection Date:			14-Oct-19	6-Apr-20	12-Oct-20	14-Apr-21	12-Oct-21	12-Apr-22	17-Oct-22	24-Apr-18	9-Oct-18	9-Apr-19	14-Oct-19	6-Apr-20	12-Oct-20
Constituent	Method	Units	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	
Alkalinity, Total (as CaCO ₃)	SM2320B	mg/L	96	86	107	102	102	97	91	119	118	120	114	119	118
Aluminum, Total	EPA 200.8	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ammonia-N, Dissolved	SM4500NH ₃ D & EPA 350.1	mg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic, Total ¹	EPA 200.8	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
Arsenic, Total	EPA 1640	µg/L	0.18	0.12	0.13	0.14	0.13	0.13	0.14	0.67	0.50	0.76	0.57	1.8	0.62
Barium, Dissolved	EPA 200.8	µg/L	74	56	53	60.0	66	62.0	51	ND	123	108	108	111	100
Bicarbonate (as HCO ₃ ⁻)	SM2320B	mg/L	117	105	131	124	125	119	111	145	144	146	139	145	144
Boron, Dissolved	EPA 200.7	mg/L	3.8	3.7	3.9	3.27	4.1	4.2	4.4	1.33	1.38	1.49	1.5	1.3	1.4
Bromide, Dissolved	EPA 300.0	mg/L	70.4	78.9	59.8	67.6	66.1	66.9	66.3	46.8	55.5	50.3	65.6	58.8	61.0
Calcium	EPA 200.7	mg/L	404	409	416	320	410	376	377	2,400	2,430	2,300	2,330	2,260	2,190
Calcium, Dissolved	EPA 200.7	mg/L	404	392	402	311	404	378	386	2,460	2,390	2,260	2,320	2,240	2,230
Carbamates by HPLC (EPA 531)	EPA 531	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
Carbonate as CaCO ₃	SM2320B	mg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloride, Dissolved	EPA 300.0	mg/L	18,900	18,600	18,400	17,900	18,400	18,400	19,000	16,900	17,100	16,400	17,500	16,800	17,100
Chlorinated Pesticides and PCB (EPA 508)	EPA 508	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
Color, Apparent (Unfiltered)	SM2120B	Color Units	ND	-	-	ND	ND	ND	ND	4	5	6	ND	-	-
Color, True ²	SM2120C	Color Units	-	ND	ND	-	-	-	-	-	-	-	-	ND	ND
Copper	EPA 200.7	µg/L	11	ND	ND	ND	ND	ND	ND	ND	ND	ND	35	ND	ND
Copper, Total	EPA 200.8	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
DBCP & EDB	EPA 504.1	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
Dioxin	EPA 1613	pg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
Diquat (EPA 549)	EPA 549	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
Dissolved Anions	Calculation	Meq/L	591.37	581.23	576.50	561.99	575.98	574.35	555.22	528.28	533.96	516.48	546.56	525.20	533.42
Total Anions	Calculation	Meq/L	591.37	581.23	576.50	561.99	575.98	574.35	555.22	528.28	533.96	516.48	546.56	525.20	533.42
Dissolved Cations	Calculation	Meq/L	582.86	555.71	629.95	494.23	577.19	593.88	590.87	533.55	536.30	514.56	530.01	500.13	528.68
Total Cations	Calculation	Meq/L	574.95	538.75	645.63	504.08	586.41	584.60	579.87	529.97	538.36	528.42	541.27	504.93	530.35
Fluoride, Dissolved	EPA 300.0	mg/L	0.2	0.3	0.4	0.7	6.6	0.5	0.2	0.2	0.1	0.1	0.5	0.1	1.3
Hardness (as CaCO ₃)	SM2340B/Calc, EPA200.7	mg/L	6,130	5,900	6,390	5,080	6,090	6,500	6,240	11,300	11,100	10,800	11,100	10,600	10,300
Hydroxide	SM2320B	mg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iodide	EPA 9056M, 314.0, 331.0M, & 332.0M	µg/L	ND	14	1.2	4.1	ND	ND	0.87	ND	ND	ND	3.8	5.5	0.65
Iron	EPA 200.7	µg/L	ND	ND	ND	ND	ND	ND	ND	261	219	205	215	104	ND
Iron, Dissolved	EPA 200.7	µg/L	27	ND	ND	ND	ND	ND	ND	189	194	123	130	ND	ND
Total Kjeldahl Nitrogen, Dissolved	SM4500-NH ₃ B,C,E & EPA 351.2	mg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Lead, Total	EPA 200.8	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Lithium	EPA 200.8	µg/L	302	262	271	176	198	133	233	273	316	322	438	335	317
Magnesium	EPA 200.7	mg/L	1,240	1,190	1,150	1,040	1,230	1,350	1,290	1,290	1,220	1,230	1,270	1,190	1,170
Magnesium, Dissolved	EPA 200.7	mg/L	1,230	1,190	1,130	1,010	1,220	1,300	1,310	1,380	1,220	1,220	1,250	1,160	1,220
Manganese, Dissolved	EPA 200.7	µg/L	ND	ND	ND	43	ND	448	602	ND	49	ND	114	79	85
Manganese, Total	EPA 200.7	µg/L	ND	ND	ND	ND	ND	464	575	68	51	64	113	77	137
MBAS (Surfactants)	SM5540C	mg/L	ND	ND	0.14	0.06	0.07	0.06	0.04	ND	ND	ND	ND	ND	0.16
Nitrate as N	EPA 300.0	mg/L	0.3	0.3	ND	0.2	0.5	0.2	0.3	0.8	0.05	ND	0.3	1.0	0.2
Nitrate as NO ₃	EPA 300.0	mg/L	1.3	1.3	ND	ND	2.1	0.9	1.2	3.6	0.2	ND	1.3	4.4	0.9
Nitrate+Nitrite as N	EPA 300.0	mg/L	0.3	0.3	ND	0.2	0.5	ND	ND	0.8	0.05	ND	0.3	1.0	0.2
Nitrite as NO ₂ -N, Dissolved	EPA 300.0	mg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Odor Threshold at 60 C	SM2150B	TON	1	1	1	ND	ND	ND	ND	2	1	1	3	1	2
o-Phosphate-P	Hach 8048 & EPA 365.1	mg/L	0.05	0.05	0.04	0.04	0.04	0.06	0.05	0.02	0.02	0.02	0.03	0.03	0.02
pH (Field Test)	SM4500-H+B	pH	6.94	6.81	7.41	6.87	6.90	6.31	6.85	6.16	6.28	6.59	6.35	6.30	6.69
pH (Laboratory)	SM4500-H+B	pH (H)	7.4	7.1	7.2	7.3	7.3	7.3	7.1	6.7	6.7	6.7	7.0	6.9	6.9
Phenoxy Acid Herbicides (515.3)	EPA 515.3	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
Phosphorus, Dissolved Total	HACH 8190 & EPA 365.1	mg/L	0.06	0.06	0.03	0.04	0.06	0.16	0.05	ND	0.03	0.03	0.04	0.05	ND
Potassium	EPA 200.7	mg/L	354	314	492	312	380	398	438	67.5	86.2	72	64.2	58	113
Potassium, Dissolved	EPA 200.7	mg/L	355	313	481	307	374	397	446	73.3	83.4	66	64.9	57	115
QC Ratio TDS/SEC	Calculation	-	0.71	0.70	0.74	0.73	0.69	0.74	0.66	0.70	0.69	0.72	0.71	0.70	0.76
Reg. Org. Compounds (EPA 525)	EPA 525	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
Salinity	SM2520B	psu	37.4	31.4	31.9	31.2	31.9	31.1	33.0	31.5	28.9	31.2	36.2	27.3	28.2
Silica as SiO ₂ , Dissolved	EPA 200.7	mg/L	19	18	19.5	13.5	19.9	21.3	23.7	34	33	40	35	33	33.3
Sodium	EPA 200.7	mg/L	10,200	9,480	11,900	9,070	10,500	10,500	10,200	6,950	7,230	7,140	7,330	6,730	7,400
Sodium, Dissolved	EPA 200.7	mg/L	10,400	9,890	11,600	8,910	10,300	10,200	10,400	6,790	7,230	6,890	7,120	6,700	7,220
Specific Conductance (E.C)	SM2510B	µmhos/cm	50,200	48,200	48,800	47,900	48,800	47,800	50,400	43,640	44,660	43,220	44,800	42,500	43,700
Specific Conductance (E.C) (Field)	SM2510B	µmhos/cm	51,070	49,960	49,520	51,650	51,663	48,520	47,289	44,580	46,290	43,710	45,560	43,750	44,760
Strontium, Dissolved	EPA 200.8	µg/L	7,900	7,370	7,060	7,790	7,460	7,180	5,900	14,300	13,500	15,200	16,000	15,500	14,700
Sulfate, Dissolved	EPA 300.0	mg/L	2,660	2,570	2,620	2,600	2,650	2,520	2,470	2,330	2,440	2,390	2,390	2,250	2,300
Temperature (Field)	SM2550	°C	16.0	15.4	17.5	15.7	16.0	15.7	16.3	19.3	18.0	19.2	19.1	18.5	20.8
Total Diss. Solids	SM2540C	mg/L	35,600	33,500	35,900	35,100	33,900	35,200	33,100	30,700	30,800	31,000	31,700	29,600	33,100
Turbidity	EPA 180.1	NTU	0.30	0.10	0.05	ND	0.10	ND	0.35	1.10	0.85	0.30	0.35	1.3	
Turbidity (Field)	EPA 180.1	NTU	0.97	0.47	0.76	0.04	0.6	0.52	0.69	0.77	0.51	0.870	0.7	0.98	0.61
Volatile Org. Compounds (524)	EPA 524	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
Zinc	EPA 200.7	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Zinc, Total	EPA 200.8	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
PCBs, Total	EPA 508	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
Total PCB	EPA 1668C	pg/L	-	-	-	-	-	-	-	-	-	-	-	-	-

Notes:

°C = Degrees Celsius
CU = Color Units
Meq/L = Milliequivalents per Liter
mg/L = Milligrams per Liter
NTU = Nephelometric Turbidity Units
pg/L = Picograms per Liter
TON = Threshold Odor Number
µg/L = Micograms per Liter
µmhos/cm = Micromhos per Centimeter

ND = NOT DETECTED at or above the Reporting Limit (RL) or Practical Quantitation Limit (PQL). See laboratory water quality reports for RL and PQL values.

¹ Using EPA Method 200.8, Arsenic values are overstated due to matrix interference caused by high chloride levels. The overstated values are in laboratory reports through February 11, 2016. Going forward, EPA Method 1640 will be used for Arsenic analysis only.

² EPA Methods 2120B and C are both applicable to measure color caused primarily by natural organic matter. Both methods are suitable for true color measurements but for apparent color measurements only Method 2120B is used.

³ The reported gravimetric method TDS result exceeds the calculated TDS using ion summation. The laboratory attributes the elevated level to the possibility of water trapped in salt crystals. MBAS calculated values: MW-3D (4/13/21) = 29,600 mg/L; MW-4D (4/15/21) = 24,000 mg/L

⁴ MW-6 headers were corrected in Report No. 174. Header previously labeled MW-6M(L) was corrected to MW-6M and header previously labeled MW-6D was corrected to MW-6M(L).

Table 3: Summary of Quarterly and Semiannual Monitoring Well Laboratory Water Quality Results Following Long-Term Pumping Test

Monitoring Well Name:			MW-3D								MW-4S				
Sample Collection Date:			15-Oct-19	7-Apr-20	13-Oct-20	13-Apr-21	12-Oct-21	12-Apr-22	18-Oct-22	27-Apr-18 13:04	27-Apr-18 13:19	27-Apr-18 13:34	25-Jul-18 13:40	25-Jul-18 13:55	
Constituent	Method	Units	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	
Alkalinity, Total (as CaCO3)	SM2320B	mg/L	101	117	121	117	117	114	108	70	70	68	68	68	
Aluminum, Total	EPA 200.8	µg/L	ND	ND	ND	ND	ND	ND	11	ND	ND	ND	ND	ND	
Ammonia-N, Dissolved	SM4500NH3 D & EPA 350.1	mg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Arsenic, Total ¹	EPA 200.8	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	
Arsenic, Total	EPA 1640	µg/L	0.52	0.53	0.55	0.53	0.50	0.53	0.66	0.2	0.18	0.18	0.22	0.20	
Barium, Dissolved	EPA 200.8	µg/L	140	117	113	119	120	106	118	ND	ND	ND	ND	ND	
Bicarbonate (as HCO3-)	SM2320B	mg/L	123	143	148	143	143	140	132	85	85	83	83	83	
Boron, Dissolved	EPA 200.7	mg/L	1.5	1.30	1.4	1.56	1.8	1.59	1.8	0.73	0.74	0.75	0.69	0.61	
Bromide, Dissolved	EPA 300.0	mg/L	59.3	49.6	59.9	59.2	58.0	60.3	90.6	12.9	13.0	12.7	12.7	12.5	
Calcium	EPA 200.7	mg/L	2,110	2,040	2,130	1,960	2,200	2,100	1,900	427	432	443	419	389	
Calcium, Dissolved	EPA 200.7	mg/L	2,130	2,020	1,960	1,990	2,020	2,100	1,940	429	434	444	388	343	
Carbamates by HPLC (EPA 531)	EPA 531	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	
Carbonate as CaCO3	SM2320B	mg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Chloride, Dissolved	EPA 300.0	mg/L	17,300	15,000	16,900	16,800	17,400	16,900	17,500	4,290	4,340	4,300	4,150	4,130	
Chlorinated Pesticides and PCB (EPA 508)	EPA 508	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	
Color, Apparent (Unfiltered)	SM2120B	Color Units	5	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Color, True ²	SM2120C	Color Units	-	ND	ND	-	-	-	-	-	-	-	-	-	
Copper	EPA 200.7	µg/L	ND	ND	ND	ND	ND	76	ND	ND	ND	ND	ND	ND	
Copper, Total	EPA 200.8	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	
DBCP & EDB	EPA 504.1	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	
Dioxin	EPA 1613	pg/L	-	-	-	-	-	-	-	-	-	-	-	-	
Diquat (EPA 549)	EPA 549	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	
Dissolved Anions	Calculation	Meq/L	540.42	474.83	531.57	524.67	541.83	527.3	544.70	135.18	136.36	135.19	130.73	130.60	
Total Anions	Calculation	Meq/L	540.42	474.83	531.57	524.67	541.83	527.3	544.70	135.18	136.36	135.19	130.73	130.60	
Dissolved Cations	Calculation	Meq/L	511.11	514.48	532.28	519.70	530.75	552.85	539.46	139.50	136.36	142.77	127.80	113.22	
Total Cations	Calculation	Meq/L	502.09	510.75	572.53	510.87	548.60	551.73	545.37	139.55	140.52	141.91	126.22	109.34	
Fluoride, Dissolved	EPA 300.0	mg/L	0.1	0.1	1.2	0.4	0.9	ND	ND	0.1	ND	ND	ND	ND	
Hardness (as CaCO3)	SM2340B/Calc, EPA200.7	mg/L	10,400	10,100	10,800	9,940	10,900	10,600	10,200	2,420	2,420	2,490	2,050	1,850	
Hydroxide	SM2320B	mg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Iodide	EPA 9056M, 314.0, 331.0M, & 332.0M	µg/L	2.5	3.0	2.0	2.8	0.82	2.2	2.8	ND	ND	ND	ND	ND	
Iron	EPA 200.7	µg/L	141	145	84	ND	ND	154	130	ND	ND	ND	ND	ND	
Iron, Dissolved	EPA 200.7	µg/L	132	108	ND	ND	ND	138	103	ND	ND	ND	ND	ND	
Total Kjeldahl Nitrogen, Dissolved	SM4500-NH3 B,C,E & EPA 351.2	mg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Lead, Total	EPA 200.8	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Lithium	EPA 200.8	µg/L	434	300	371	274	273	191	443	15	15	14	17	17	
Magnesium	EPA 200.7	mg/L	1,240	1,220	1,320	1,220	1,300	1,310	1,330	328	326	336	244	212	
Magnesium, Dissolved	EPA 200.7	mg/L	1,270	1,240	1,190	1,140	1,280	1,310	1,350	326	327	335	314	287	
Manganese, Dissolved	EPA 200.7	µg/L	33	ND	ND	66	ND	ND	ND	ND	ND	ND	ND	ND	
Manganese, Total	EPA 200.7	µg/L	30	ND	ND	74	ND	ND	ND	ND	ND	ND	ND	ND	
MBAS (Surfactants)	SM5540C	mg/L	ND	ND	ND	0.09	0.05	0.08	0.02	ND	ND	ND	ND	ND	
Nitrate as N	EPA 300.0	mg/L	0.2	ND	0.3	0.1	0.4	ND	0.2	5.0	5.0	5.0	5.3	5.2	
Nitrate as NO3	EPA 300.0	mg/L	0.8	4.4	ND	0.5	1.7	ND	0.8	22	22	22	23	23	
Nitrate+Nitrite as N	EPA 300.0	mg/L	0.2	ND	0.3	0.1	0.4	ND	ND	5.0	5.0	5.0	5.3	5.2	
Nitrite as NO2-N, Dissolved	EPA 300.0	mg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Odor Threshold at 60 C	SM2150B	TON	1	1	1	ND	ND	ND	<1	ND	ND	ND	ND	ND	
o-Phosphate-P	Hach 8048 & EPA 365.1	mg/L	0.03	0.03	0.03	0.03	0.04	0.03	0.04	0.07	0.07	0.07	0.07	0.08	
pH (Field Test)	SM4500-H+B	pH	6.37	6.26	7.00	6.37	6.5	5.86	6.48	6.92	6.90	6.90	6.98	6.96	
pH (Laboratory)	SM4500-H+B	pH (H)	7.1	6.8	7.1	7.1	7.0	7.0	7.7	7.1	7.1	7.2	7.1	7.1	
Phenoxy Acid Herbicides (515.3)	EPA 515.3	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	
Phosphorus, Dissolved Total	HACH 8190 & EPA 365.1	mg/L	0.05	0.04	ND	ND	0.03	0.10	0.03	0.06	0.06	0.06	0.06	0.06	
Potassium	EPA 200.7	mg/L	61.3	56.8	109	64.5	64.1	68.2	70.8	30.2	30.7	31.6	32.8	27.6	
Potassium, Dissolved	EPA 200.7	mg/L	61.6	58.0	97	65.3	62.8	68.3	71.8	30.8	31.1	32.4	31.9	27.8	
QC Ratio TDS/SEC	Calculation	-	0.69	0.73	0.75	0.86	0.73	0.74	0.69	0.72	0.71	0.65	0.65	0.69	
Reg. Org. Compounds (EPA 525)	EPA 525	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	
Salinity	SM2520B	psu	32.4	31.3	28.2	28.2	28.2	27.6	29.6	8.3	8.2	8.2	7.9	7.8	
Silica as SiO2, Dissolved	EPA 200.7	mg/L	34	31	32.9	31.4	36.3	37.9	39.9	28	29	30	23	20	
Sodium	EPA 200.7	mg/L	6,740	7,060	8,160	7,140	7,590	7,770	7,800	2,080	2,100	2,100	1,940	1,650	
Sodium, Dissolved	EPA 200.7	mg/L	6,860	7,130	7,680	7,480	7,430	7,780	7,580	2,080	2,080	2,120	1,880	1,650	
Specific Conductance (E.C)	SM2510B	µmhos/cm	44,400	43,300	43,800	43,700	43,800	42,900	45,700	12,910	12,770	12,760	12,350	12,230	
Specific Conductance (E.C) (Field)	SM2510B	µmhos/cm	45,440	44,460	44,490	46,170	46,170	44,350	46,200	13,020	13,000	12,990	12,510	12,490	
Strontium, Dissolved	EPA 200.8	µg/L	15,200	14,700	13,700	16,200	14,800	14,700	20,900	3,380	3,260	3,250	2,830	2,870	
Sulfate, Dissolved	EPA 300.0	mg/L	2,370	2,340	2,480	2,350	1,790	2,260	2,270	588	577	577	565	586	
Temperature (Field)	SM2550	° C	18.2	19.1	19.8	18.8	19.4	18.7	19.1	17.8	17.8	17.8	17.9	17.9	
Total Diss. Solids	SM2540C	mg/L	30,700	31,500	32,800	37,800 ³	32,000	31,700	31,500	9,300	9,100	8,300	8,000	8,400	
Turbidity	EPA 180.1	NTU	0.40	0.20	0.30	0.10	0.10	0.95	0.65	0.10	0.10	0.10	0.05	0.05	
Turbidity (Field)	EPA 180.1	NTU	0.58	0.53	0.81	0.4	0.64	0.26	0.72	0.08	0.07	0.09	0.26	0.33	
Volatile Org. Compounds (524)	EPA 524	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	
Zinc	EPA 200.7	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Zinc, Total	EPA 200.8	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	
PCBs, Total	EPA 508	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	
Total PCB	EPA 1668C	pg/L	-	-	-	-	-	-	-	-	-	-	-	-	

Notes:
 °C = Degrees Celsius
 CU = Color Units
 Meq/L = Milliequivalents per Liter
 mg/L = Milligrams per Liter
 NTU = Nephelometric Turbidity Units
 pg/L = Picograms per Liter
 TON = Threshold Odor Number
 µg/L = Micrograms per Liter
 µmhos/cm = Micromhos per Centimeter

ND = NOT DETECTED at or above the Reporting Limit (RL) or Practical Quantitation Limit (PQL). See laboratory water quality reports for RL and PQL values.

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² EPA Methods 2120B and C are both applicable to measure color caused primarily by natural organic matter. Both methods are suitable for true color measurements but for apparent color measurements only Method 2120B is used.

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⁴ MW-6 headers were corrected in Report No. 174. Header previously labeled MW-6M(L) was corrected to MW-6M and header previously labeled MW-6D was corrected to MW-6M(L).

Table 3: Summary of Quarterly and Semiannual Monitoring Well Laboratory Water Quality Results Following Long-Term Pumping Test

Monitoring Well Name:			MW-4S							
Sample Collection Date:			25-Jul-18 14:10	12-Oct-18 11:35	12-Oct-18 11:50	12-Oct-18 12:05	23-Jan-19 12:46	23-Jan-19 13:01	23-Jan-19 13:16	11-Apr-19 12:34
Constituent	Method	Units	Result	Result	Result	Result	Result	Result	Result	Result
Alkalinity, Total (as CaCO3)	SM2320B	mg/L	68	71	68	68	68	67	66	65
Aluminum, Total	EPA 200.8	µg/L	ND	ND	ND	ND	ND	ND	ND	ND
Ammonia-N, Dissolved	SM4500NH3 D & EPA 350.1	mg/L	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic, Total ¹	EPA 200.8	µg/L	-	-	-	-	-	-	-	-
Arsenic, Total	EPA 1640	µg/L	0.19	0.24	0.21	0.20	0.24	0.21	0.21	0.27
Barium, Dissolved	EPA 200.8	µg/L	ND	42.0	40.0	43.5	98.0	51.4	46.8	33.8
Bicarbonate (as HCO3-)	SM2320B	mg/L	83	87	83	83	83	82	80	79
Boron, Dissolved	EPA 200.7	mg/L	0.61	0.54	0.51	0.50	0.71	0.72	0.69	0.54
Bromide, Dissolved	EPA 300.0	mg/L	12.5	11.7	12.1	11.4	11.1	11.3	10.5	80.9
Calcium	EPA 200.7	mg/L	401	410	411	413	428	430	427	413
Calcium, Dissolved	EPA 200.7	mg/L	351	407	412	411	421	434	405	375
Carbamates by HPLC (EPA 531)	EPA 531	µg/L	-	-	-	-	-	-	-	-
Carbonate as CaCO3	SM2320B	mg/L	ND	ND	ND	ND	ND	ND	ND	ND
Chloride, Dissolved	EPA 300.0	mg/L	4,090	3,890	4,090	3,980	4,050	4,030	3,800	4,330
Chlorinated Pesticides and PCB (EPA 508)	EPA 508	µg/L	-	-	-	-	-	-	-	-
Color, Apparent (Unfiltered)	SM2120B	Color Units	ND	ND	ND	ND	ND	ND	ND	ND
Color, True ²	SM2120C	Color Units	-	-	-	-	-	-	-	-
Copper	EPA 200.7	µg/L	ND	ND	ND	ND	ND	ND	ND	ND
Copper, Total	EPA 200.8	µg/L	-	-	-	-	-	-	-	-
DBCP & EDB	EPA 504.1	µg/L	-	-	-	-	-	-	-	-
Dioxin	EPA 1613	pg/L	-	-	-	-	-	-	-	-
Diquat (EPA 549)	EPA 549	µg/L	-	-	-	-	-	-	-	-
Dissolved Anions	Calculation	Meq/L	129.01	122.84	128.42	125.32	127.90	127.28	120.61	137.67
Total Anions	Calculation	Meq/L	129.01	122.84	128.42	125.32	127.90	127.28	120.61	137.67
Dissolved Cations	Calculation	Meq/L	118.93	123.07	119.56	124.44	131.43	125.88	124.34	119.71
Total Cations	Calculation	Meq/L	115.47	117.74	123.40	121.55	129.04	132.23	128.26	124.72
Fluoride, Dissolved	EPA 300.0	mg/L	ND	ND	ND	0.1	0.1	0.1	0.1	0.1
Hardness (as CaCO3)	SM2340B/Calc, EPA200.7	mg/L	1,910	1,720	2,000	1,940	2,360	2,380	2,370	2,350
Hydroxide	SM2320B	mg/L	ND	ND	ND	ND	ND	ND	ND	ND
Iodide	EPA 9056M, 314.0, 331.0M, & 332.0M	µg/L	ND	ND	ND	ND	ND	ND	ND	ND
Iron	EPA 200.7	µg/L	ND	ND	ND	ND	ND	ND	ND	ND
Iron, Dissolved	EPA 200.7	µg/L	ND	ND	ND	ND	ND	ND	ND	ND
Total Kjeldahl Nitrogen, Dissolved	SM4500-NH3 B,C,E & EPA 351.2	mg/L	ND	1.50	1.31	1.28	ND	ND	ND	0.8
Lead, Total	EPA 200.8	µg/L	ND	ND	ND	ND	ND	ND	ND	ND
Lithium	EPA 200.8	µg/L	17	17	18	18	12.6	11.6	11.2	13
Magnesium	EPA 200.7	mg/L	221	222	274	266	315	316	317	321
Magnesium, Dissolved	EPA 200.7	mg/L	293	262	269	271	317	326	310	297
Manganese, Dissolved	EPA 200.7	µg/L	ND	ND	ND	ND	ND	ND	ND	ND
Manganese, Total	EPA 200.7	µg/L	ND	ND	ND	ND	ND	ND	ND	ND
MBAS (Surfactants)	SM5540C	mg/L	ND	ND	ND	ND	ND	ND	ND	ND
Nitrate as N	EPA 300.0	mg/L	5.2	5.3	5.4	5.4	5.1	5.1	5.1	4.4
Nitrate as NO3	EPA 300.0	mg/L	23	23	24	24	23	23	22	19.5
Nitrate+Nitrite as N	EPA 300.0	mg/L	5.2	5.3	5.4	5.4	5.1	5.1	5.1	4.4
Nitrite as NO2-N, Dissolved	EPA 300.0	mg/L	ND	ND	ND	ND	ND	ND	ND	ND
Odor Threshold at 60 C	SM2150B	TON	ND	1	1	1	1	1	1	1
o-Phosphate-P	Hach 8048 & EPA 365.1	mg/L	0.08	0.08	0.07	0.08	0.08	0.08	0.08	0.08
pH (Field Test)	SM4500-H+B	pH	6.96	7.02	7.01	7.00	7.01	6.99	6.98	7.04
pH (Laboratory)	SM4500-H+B	pH (H)	7.1	7.1	7.0	7.1	7.0	7.0	7.0	7.0
Phenoxy Acid Herbicides (515.3)	EPA 515.3	µg/L	-	-	-	-	-	-	-	-
Phosphorus, Dissolved Total	HACH 8190 & EPA 365.1	mg/L	0.06	0.08	0.09	0.09	0.08	0.07	0.08	0.08
Potassium	EPA 200.7	mg/L	27.8	28.0	28.7	29.4	33.3	31.7	32.3	27.3
Potassium, Dissolved	EPA 200.7	mg/L	29.0	28.2	28.8	28.1	32.0	32.8	29.4	27.1
QC Ratio TDS/SEC	Calculation	-	0.67	0.63	0.55	0.53	0.57	0.59	0.56	0.59
Reg. Org. Compounds (EPA 525)	EPA 525	µg/L	-	-	-	-	-	-	-	-
Salinity	SM2520B	psu	7.9	6.7	6.7	6.7	7.0	7.0	7.0	8.3
Silica as SiO2, Dissolved	EPA 200.7	mg/L	20	26	27	26	28	28	28	22
Sodium	EPA 200.7	mg/L	1,760	1,800	1,830	1,800	1,860	1,930	1,840	1,770
Sodium, Dissolved	EPA 200.7	mg/L	1,760	1,850	1,750	1,860	1,920	1,760	1,790	1,740
Specific Conductance (E.C)	SM2510B	µmhos/cm	12,300	11,780	11,740	11,730	12,300	12,300	12,300	12,890
Specific Conductance (E.C) (Field)	SM2510B	µmhos/cm	12,480	11,940	11,960	11,930	12,430	12,380	12,380	13,070
Strontium, Dissolved	EPA 200.8	µg/L	2,820	3,110	3,100	3,210	3,540	3,560	3,610	3,560
Sulfate, Dissolved	EPA 300.0	mg/L	564	536	535	536	566	564	557	619
Temperature (Field)	SM2550	° C	17.9	17.8	17.8	17.8	17.9	17.9	17.9	17.8
Total Diss. Solids	SM2540C	mg/L	8,200	7,400	6,500	6,200	6,950	7,200	6,900	7,600
Turbidity	EPA 180.1	NTU	0.05	0.10	0.10	0.10	0.05	0.05	0.05	0.10
Turbidity (Field)	EPA 180.1	NTU	0.10	0.07	0.06	0.06	0.1	0.14	0.13	0.1
Volatile Org. Compounds (524)	EPA 524	µg/L	-	-	-	-	-	-	-	-
Zinc	EPA 200.7	µg/L	ND	ND	ND	ND	ND	33	ND	ND
Zinc, Total	EPA 200.8	µg/L	-	-	-	-	-	-	-	-
PCBs, Total	EPA 508	µg/L	-	-	-	-	-	-	-	-
Total PCB	EPA 1668C	pg/L	-	-	-	-	-	-	-	-

Notes:

- °C = Degrees Celsius
- CU = Color Units
- Meq/L = Milliequivalents per Liter
- mg/L = Milligrams per Liter
- NTU = Nephelometric Turbidity Units
- pg/L = Picograms per Liter
- TON = Threshold Odor Number
- µg/L = Micograms per Liter
- µmhos/cm = Micromhos per Centimeter

ND = NOT DETECTED at or above the Reporting Limit (RL) or Practical Quantitation Limit (PQL). See laboratory water quality reports for RL and PQL values.

¹ Using EPA Method 200.8, Arsenic values are overstated due to matrix interference caused by high chloride levels. The overstated values are in laboratory reports through February 11, 2016. Going forward, EPA Method 1640 will be used for Arsenic analysis only.

² EPA Methods 2120B and C are both applicable to measure color caused primarily by natural organic matter. Both methods are suitable for true color measurements but for apparent color measurements only Method 2120B is used.

³ The reported gravimetric method TDS result exceeds the calculated TDS using ion summation. The laboratory attributes the elevated level to the possibility of water trapped in salt crystals. MBAS calculated values: MW-3D (4/13/21) = 29,600 mg/L; MW-4D (4/15/21) = 24,000 mg/L

⁴ MW-6 headers were corrected in Report No. 174. Header previously labeled MW-6M(L) was corrected to MW-6M and header previously labeled MW-6D was corrected to MW-6M(L).

Table 3: Summary of Quarterly and Semiannual Monitoring Well Laboratory Water Quality Results Following Long-Term Pumping Test

Monitoring Well Name:			MW-4S							
Sample Collection Date:			11-Apr-19 12:49	11-Apr-19 13:08	25-Jul-19 09:02	25-Jul-19 09:17	25-Jul-19 09:32	17-Oct-19 15:34	17-Oct-19 15:49	17-Oct-19 16:04
Constituent	Method	Units	Result	Result	Result	Result	Result	Result	Result	Result
Alkalinity, Total (as CaCO3)	SM2320B	mg/L	64	65	65	65	64	58	59	59
Aluminum, Total	EPA 200.8	µg/L	ND	ND	ND	ND	ND	ND	ND	ND
Ammonia-N, Dissolved	SM4500NH3 D & EPA 350.1	mg/L	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic, Total ¹	EPA 200.8	µg/L	-	-	-	-	-	-	-	-
Arsenic, Total	EPA 1640	µg/L	0.23	0.19	0.28	0.25	0.26	0.34	0.31	0.27
Barium, Dissolved	EPA 200.8	µg/L	34.4	34.2	31.2	31.5	31.6	31	30	27
Bicarbonate (as HCO3-)	SM2320B	mg/L	78	79	79	79	78	71	72	72
Boron, Dissolved	EPA 200.7	mg/L	0.56	0.56	0.47	0.47	0.48	0.62	0.12	0.13
Bromide, Dissolved	EPA 300.0	mg/L	82.2	78.9	13.7	13.3	13.1	10.9	11.2	11.1
Calcium	EPA 200.7	mg/L	442	405	319	327	344	298	287	289
Calcium, Dissolved	EPA 200.7	mg/L	409	400	313	319	333	294	287	289
Carbamates by HPLC (EPA 531)	EPA 531	µg/L	-	-	-	-	-	-	-	-
Carbonate as CaCO3	SM2320B	mg/L	ND	ND	ND	ND	ND	ND	ND	ND
Chloride, Dissolved	EPA 300.0	mg/L	4,350	4,360	3,780	3,670	3,600	3,070	3,120	3,100
Chlorinated Pesticides and PCB (EPA 508)	EPA 508	µg/L	-	-	-	-	-	-	-	-
Color, Apparent (Unfiltered)	SM2120B	Color Units	ND	ND	ND	ND	ND	ND	ND	ND
Color, True ²	SM2120C	Color Units	-	-	-	-	-	-	-	-
Copper	EPA 200.7	µg/L	ND	ND	ND	ND	ND	ND	ND	ND
Copper, Total	EPA 200.8	µg/L	-	-	-	-	-	-	-	-
DBCP & EDB	EPA 504.1	µg/L	-	-	-	-	-	-	-	-
Dioxin	EPA 1613	pg/L	-	-	-	-	-	-	-	-
Diquat (EPA 549)	EPA 549	µg/L	-	-	-	-	-	-	-	-
Dissolved Anions	Calculation	Meq/L	138.34	138.39	119.04	115.55	113.40	100.69	99.11	98.45
Total Anions	Calculation	Meq/L	138.34	138.39	119.04	115.55	113.40	100.69	99.11	98.45
Dissolved Cations	Calculation	Meq/L	125.66	125.87	106.64	109.63	115.08	102.11	102.07	100.19
Total Cations	Calculation	Meq/L	134.57	126.41	110.40	112.34	120.21	104.73	100.52	98.97
Fluoride, Dissolved	EPA 300.0	mg/L	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1
Hardness (as CaCO3)	SM2340B/Calc, EPA200.7	mg/L	2,540	2,300	1,860	1,910	2,020	1,970	1,940	1,920
Hydroxide	SM2320B	mg/L	ND	ND	ND	ND	ND	ND	ND	ND
Iodide	EPA 9056M, 314.0, 331.0M, & 332.0M	µg/L	ND	ND	ND	ND	ND	ND	ND	ND
Iron	EPA 200.7	µg/L	ND	ND	ND	ND	ND	ND	ND	ND
Iron, Dissolved	EPA 200.7	µg/L	ND	ND	ND	ND	ND	ND	ND	ND
Total Kjeldahl Nitrogen, Dissolved	SM4500-NH3 B,C,E & EPA 351.2	mg/L	0.8	1.00	0.9	1.0	1.13	ND	ND	ND
Lead, Total	EPA 200.8	µg/L	ND	ND	ND	ND	ND	ND	ND	ND
Lithium	EPA 200.8	µg/L	12	11	12.6	13.0	12.8	13.0	12.4	12.2
Magnesium	EPA 200.7	mg/L	348	312	258	266	282	247	241	241
Magnesium, Dissolved	EPA 200.7	mg/L	317	319	248	254	269	241	252	239
Manganese, Dissolved	EPA 200.7	µg/L	ND	ND	ND	ND	ND	ND	ND	ND
Manganese, Total	EPA 200.7	µg/L	ND	ND	ND	ND	ND	ND	ND	ND
MBAS (Surfactants)	SM5540C	mg/L	ND	ND	ND	ND	ND	ND	ND	ND
Nitrate as N	EPA 300.0	mg/L	4.6	4.5	5.0	4.9	4.8	5.2	5.3	5.2
Nitrate as NO3	EPA 300.0	mg/L	20.4	19.5	22	22	21	23	23	23
Nitrate+Nitrite as N	EPA 300.0	mg/L	4.6	4.5	5.0	4.9	4.8	5.2	5.3	5.2
Nitrite as NO2-N, Dissolved	EPA 300.0	mg/L	ND	ND	ND	ND	ND	ND	ND	ND
Odor Threshold at 60 C	SM2150B	TON	1	1	1	1	1	1	1	1
o-Phosphate-P	Hach 8048 & EPA 365.1	mg/L	0.08	0.09	0.09	0.09	0.09	0.13	0.14	0.12
pH (Field Test)	SM4500-H+B	pH	7.03	7.03	6.95	6.94	6.94	7.02	7.00	7.00
pH (Laboratory)	SM4500-H+B	pH (H)	7.0	7.0	7.2	7.2	7.2	7.1	7.1	7.1
Phenoxy Acid Herbicides (515.3)	EPA 515.3	µg/L	-	-	-	-	-	-	-	-
Phosphorus, Dissolved Total	HACH 8190 & EPA 365.1	mg/L	0.08	0.08	0.09	0.09	0.09	0.13	0.13	0.13
Potassium	EPA 200.7	mg/L	31.0	27.5	23.7	24.3	26.0	24.7	23.2	23.2
Potassium, Dissolved	EPA 200.7	mg/L	27.0	27.8	22.6	23.6	25.1	24.1	27.9	23.0
QC Ratio TDS/SEC	Calculation	-	0.64	0.60	0.71	0.66	0.72	0.52	0.50	0.53
Reg. Org. Compounds (EPA 525)	EPA 525	µg/L	-	-	-	-	-	-	-	-
Salinity	SM2520B	psu	8.2	8.2	6.4	6.4	6.3	6.4	6.3	6.3
Silica as SiO2, Dissolved	EPA 200.7	mg/L	24	26	23	24	25	29	29	28
Sodium	EPA 200.7	mg/L	1,910	1,840	1,670	1,690	1,820	1,580	1,510	1,470
Sodium, Dissolved	EPA 200.7	mg/L	1,800	1,820	1,610	1,660	1,740	1,540	1,520	1,510
Specific Conductance (E.C)	SM2510B	µmhos/cm	12,800	12,740	11,200	11,190	11,140	9,840	9,750	9,760
Specific Conductance (E.C) (Field)	SM2510B	µmhos/cm	13,000	12,940	11,320	11,280	11,250	9,661	9,677	9,706
Strontium, Dissolved	EPA 200.8	µg/L	3,530	3,480	2,990	3,100	3,110	2,350	2,450	2,620
Sulfate, Dissolved	EPA 300.0	mg/L	624	614	508	490	483	443	450	446
Temperature (Field)	SM2550	° C	17.8	17.8	17.8	17.8	17.8	17.7	17.7	17.7
Total Diss. Solids	SM2540C	mg/L	8,200	7,700	7,900	7,400	8,000	5,100	4,900	5,200
Turbidity	EPA 180.1	NTU	0.25	0.15	0.15	0.15	0.15	ND	ND	ND
Turbidity (Field)	EPA 180.1	NTU	0.07	0.08	0.11	0.09	0.07	0.15	0.07	0.07
Volatile Org. Compounds (524)	EPA 524	µg/L	-	-	-	-	-	-	-	-
Zinc	EPA 200.7	µg/L	ND	ND	ND	ND	ND	ND	ND	ND
Zinc, Total	EPA 200.8	µg/L	-	-	-	-	-	-	-	-
PCBs, Total	EPA 508	µg/L	-	-	-	-	-	-	-	-
Total PCB	EPA 1668C	pg/L	-	-	-	-	-	-	-	-

Notes:

°C = Degrees Celsius
 CU = Color Units
 Meq/L = Milliequivalents per Liter
 mg/L = Milligrams per Liter
 NTU = Nephelometric Turbidity Units
 pg/L = Picograms per Liter
 TON = Threshold Odor Number
 µg/L = Micograms per Liter
 µmhos/cm = Micromhos per Centimeter

ND = NOT DETECTED at or above the Reporting Limit (RL) or Practical Quantitation Limit (PQL). See laboratory water quality reports for RL and PQL values.

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² EPA Methods 2120B and C are both applicable to measure color caused primarily by natural organic matter. Both methods are suitable for true color measurements but for apparent color measurements only Method 2120B is used.

³ The reported gravimetric method TDS result exceeds the calculated TDS using ion summation. The laboratory attributes the elevated level to the possibility of water trapped in salt crystals. MBAS calculated values: MW-3D (4/13/21) = 29,600 mg/L; MW-4D (4/15/21) = 24,000 mg/L

⁴ MW-6 headers were corrected in Report No. 174. Header previously labeled MW-6M(L) was corrected to MW-6M and header previously labeled MW-6D was corrected to MW-6M(L).

Table 3: Summary of Quarterly and Semiannual Monitoring Well Laboratory Water Quality Results Following Long-Term Pumping Test

Monitoring Well Name:			MW-4S							
Sample Collection Date:			15-Jan-20 13:48	15-Jan-20 14:03	15-Jan-20 14:18	08-Apr-20 14:38	30-Jun-20 15:02	15-Oct-20 14:34	15-Apr-21 14:35	14-Oct-21 14:12
Constituent	Method	Units	Result	Result	Result	Result	Result	Result	Result	Result
Alkalinity, Total (as CaCO3)	SM2320B	mg/L	59	58	58	56	59	58	57	56
Aluminum, Total	EPA 200.8	µg/L	ND	ND	ND	ND	ND	ND	ND	ND
Ammonia-N, Dissolved	SM4500NH3 D & EPA 350.1	mg/L	ND	ND	ND	ND	0.02	ND	ND	ND
Arsenic, Total ¹	EPA 200.8	µg/L	-	-	-	-	-	-	-	-
Arsenic, Total	EPA 1640	µg/L	0.35	0.31	0.30	0.30	0.35	0.49	0.45	0.43
Barium, Dissolved	EPA 200.8	µg/L	48.1	52.4	53.5	38	21	20.0	19.2	26.4
Bicarbonate (as HCO3-)	SM2320B	mg/L	72	71	71	68	72	71	70	68
Boron, Dissolved	EPA 200.7	mg/L	0.60	0.59	0.59	0.50	0.46	0.42	0.36	ND
Bromide, Dissolved	EPA 300.0	mg/L	9.0	9.9	10.0	11.1	9.4	8.6	7.1	6.2
Calcium	EPA 200.7	mg/L	385	388	396	342	269	234	189	176
Calcium, Dissolved	EPA 200.7	mg/L	385	389	392	334	274	211	189	192
Carbamates by HPLC (EPA 531)	EPA 531	µg/L	-	-	-	-	-	-	-	-
Carbonate as CaCO3	SM2320B	mg/L	ND	ND	ND	ND	ND	ND	ND	ND
Chloride, Dissolved	EPA 300.0	mg/L	3,370	3,620	3,650	3,280	3,060	2,350	1,940	1,600
Chlorinated Pesticides and PCB (EPA 508)	EPA 508	µg/L	-	-	-	-	-	-	-	-
Color, Apparent (Unfiltered)	SM2120B	Color Units	ND	ND	ND	-	-	-	3	ND
Color, True ²	SM2120C	Color Units	-	-	-	ND	ND	ND	-	-
Copper	EPA 200.7	µg/L	ND	ND	ND	ND	ND	ND	ND	ND
Copper, Total	EPA 200.8	µg/L	-	-	-	-	-	-	-	-
DBCP & EDB	EPA 504.1	µg/L	-	-	-	-	-	-	-	-
Dioxin	EPA 1613	pg/L	-	-	-	-	-	-	-	-
Diquat (EPA 549)	EPA 549	µg/L	-	-	-	-	-	-	-	-
Dissolved Anions	Calculation	Meq/L	105.90	113.69	114.61	103.81	96.64	75.51	62.20	51.53
Total Anions	Calculation	Meq/L	105.90	113.69	114.61	103.81	96.64	75.51	62.20	51.53
Dissolved Cations	Calculation	Meq/L	116.01	115.36	116.01	105.72	89.86	72.66	58.47	53.81
Total Cations	Calculation	Meq/L	116.58	114.94	116.03	107.77	87.90	76.18	59.65	53.40
Fluoride, Dissolved	EPA 300.0	mg/L	0.1	0.1	0.1	0.1	0.1	0.5	0.2	0.1
Hardness (as CaCO3)	SM2340B/Calc, EPA200.7	mg/L	2,170	2,170	2,200	1,950	1,520	1,140	1,020	947
Hydroxide	SM2320B	mg/L	ND	ND	ND	ND	ND	ND	ND	ND
Iodide	EPA 9056M, 314.0, 331.0M, & 332.0M	µg/L	ND	ND	ND	ND	ND	ND	ND	ND
Iron	EPA 200.7	µg/L	ND	ND	ND	ND	ND	ND	ND	ND
Iron, Dissolved	EPA 200.7	µg/L	ND	ND	ND	ND	ND	ND	ND	ND
Total Kjeldahl Nitrogen, Dissolved	SM4500-NH3 B,C,E & EPA 351.2	mg/L	1.0	1.1	1.6	ND	ND	1.1	ND	0.6
Lead, Total	EPA 200.8	µg/L	ND	ND	ND	ND	ND	ND	ND	ND
Lithium	EPA 200.8	µg/L	9.3	8.9	8.6	12.2	17.6	14.7	8	8.1
Magnesium	EPA 200.7	mg/L	292	292	295	265	206	136	133	123
Magnesium, Dissolved	EPA 200.7	mg/L	291	286	292	261	211	170	123	122
Manganese, Dissolved	EPA 200.7	µg/L	ND	ND	ND	ND	ND	ND	6	ND
Manganese, Total	EPA 200.7	µg/L	ND	ND	ND	ND	11	ND	7	ND
MBAS (Surfactants)	SM5540C	mg/L	0.06	0.07	0.06	ND	ND	ND	0.05	0.04
Nitrate as N	EPA 300.0	mg/L	5.2	5.2	5.3	4.9	5.2	5.0	5.6	5.9
Nitrate as NO3	EPA 300.0	mg/L	23	23	23	22	23	22	25	26
Nitrate+Nitrite as N	EPA 300.0	mg/L	5.2	5.2	5.3	4.9	5.2	5.0	5.6	5.9
Nitrite as NO2-N, Dissolved	EPA 300.0	mg/L	ND	ND	ND	ND	ND	ND	ND	ND
Odor Threshold at 60 C	SM2150B	TON	1	1	1	1	1	1	ND	ND
o-Phosphate-P	Hach 8048 & EPA 365.1	mg/L	0.12	0.12	0.12	0.12	0.15	0.20	0.18	0.17
pH (Field Test)	SM4500-H+B	pH	6.99	6.97	6.95	7.11	7.08	7.15	7.17	7.15
pH (Laboratory)	SM4500-H+B	pH (H)	7.1	7.1	7.2	7.1	7.4	7.1	7.3	7.5
Phenoxy Acid Herbicides (515.3)	EPA 515.3	µg/L	-	-	-	-	-	-	-	-
Phosphorus, Dissolved Total	HACH 8190 & EPA 365.1	mg/L	0.11	0.12	0.11	0.12	0.14	0.19	0.19	0.18
Potassium	EPA 200.7	mg/L	25.2	25.3	25.6	23.4	21.0	21.5	17.0	17.2
Potassium, Dissolved	EPA 200.7	mg/L	25.2	24.8	25.2	22.9	21.4	23.3	16.9	15.1
QC Ratio TDS/SEC	Calculation	-	0.63	0.65	0.50	0.61	0.59	0.50	0.64	0.74
Reg. Org. Compounds (EPA 525)	EPA 525	µg/L	-	-	-	-	-	-	-	-
Salinity	SM2520B	psu	6.7	6.7	6.7	6.0	5.4	4.1	3.4	3.0
Silica as SiO2, Dissolved	EPA 200.7	mg/L	30	30	30	27	26.0	26.8	26.0	28.4
Sodium	EPA 200.7	mg/L	1,670	1,630	1,640	1,570	1,310	1,210	909	783
Sodium, Dissolved	EPA 200.7	mg/L	1,660	1,650	1,650	1,540	1,340	1,090	902	777
Specific Conductance (E.C)	SM2510B	µmhos/cm	10,540	10,740	10,750	10,590	9,250	7,370	6,240	5,550
Specific Conductance (E.C) (Field)	SM2510B	µmhos/cm	10,730	10,870	10,870	10,640	9,412	7,544	6,400	5,522
Strontium, Dissolved	EPA 200.8	µg/L	3,050	3,050	2,980	3,160	2,320	1,820	1,610	1,510
Sulfate, Dissolved	EPA 300.0	mg/L	440	476	479	447	415	318	275	229
Temperature (Field)	SM2550	° C	17.8	17.8	17.7	17.7	17.8	17.8	17.7	17.6
Total Diss. Solids	SM2540C	mg/L	6,620	7,000	5,400	6,500	5,500	3,700	4,000	4,100
Turbidity	EPA 180.1	NTU	0.05	0.05	0.05	0.05	0.05	0.10	ND	ND
Turbidity (Field)	EPA 180.1	NTU	0.07	0.08	0.09	0.07	0.1	0.11	0.08	0.06
Volatile Org. Compounds (524)	EPA 524	µg/L	-	-	-	-	-	-	-	-
Zinc	EPA 200.7	µg/L	ND	ND	ND	ND	ND	ND	ND	ND
Zinc, Total	EPA 200.8	µg/L	-	-	-	-	-	-	-	-
PCBs, Total	EPA 508	µg/L	-	-	-	-	-	-	-	-
Total PCB	EPA 1668C	pg/L	-	-	-	-	-	-	-	-

Notes:

- °C = Degrees Celsius
- CU = Color Units
- Meq/L = Milliequivalents per Liter
- mg/L = Milligrams per Liter
- NTU = Nephelometric Turbidity Units
- pg/L = Picograms per Liter
- TON = Threshold Odor Number
- µg/L = Micograms per Liter
- µmhos/cm = Micromhos per Centimeter

ND = NOT DETECTED at or above the Reporting Limit (RL) or Practical Quantitation Limit (PQL). See laboratory water quality reports for RL and PQL values.

¹ Using EPA Method 200.8, Arsenic values are overstated due to matrix interference caused by high chloride levels. The overstated values are in laboratory reports through February 11, 2016. Going forward, EPA Method 1640 will be used for Arsenic analysis only.

² EPA Methods 2120B and C are both applicable to measure color caused primarily by natural organic matter. Both methods are suitable for true color measurements but for apparent color measurements only Method 2120B is used.

³ The reported gravimetric method TDS result exceeds the calculated TDS using ion summation. The laboratory attributes the elevated level to the possibility of water trapped in salt crystals. MBAS calculated values: MW-3D (4/13/21) = 29,600 mg/L; MW-4D (4/15/21) = 24,000 mg/L

⁴ MW-6 headers were corrected in Report No. 174. Header previously labeled MW-6M(L) was corrected to MW-6M and header previously labeled MW-6D was corrected to MW-6M(L).

Table 3: Summary of Quarterly and Semiannual Monitoring Well Laboratory Water Quality Results Following Long-Term Pumping Test

Constituent	Method	Units	Monitoring Well Name: MW-4S		Monitoring Well Name: MW-4M							
			Sample Collection Date:		14-Apr-22 14:48	20-Oct-22 16:05	27-Apr-18 11:47	27-Apr-18 12:02	27-Apr-18 12:17	25-Jul-18 12:22	25-Jul-18 12:37	25-Jul-18 12:52
			Result	Result	Result	Result	Result	Result	Result	Result	Result	
Alkalinity, Total (as CaCO3)	SM2320B	mg/L	59	56	97	96	97	96	97	96		
Aluminum, Total	EPA 200.8	µg/L	ND	ND	ND	ND	ND	ND	ND	ND		
Ammonia-N, Dissolved	SM4500NH3 D & EPA 350.1	mg/L	ND	ND	ND	ND	ND	ND	ND	ND		
Arsenic, Total ¹	EPA 200.8	µg/L	-	-	-	-	-	-	-	-		
Arsenic, Total	EPA 1640	µg/L	0.38	0.32	0.089	0.094	0.090	0.09	0.09	0.09		
Barium, Dissolved	EPA 200.8	µg/L	48.1	78.8	ND	ND	ND	101	103	103		
Bicarbonate (as HCO3-)	SM2320B	mg/L	72	68	118	117	118	117	118	117		
Boron, Dissolved	EPA 200.7	mg/L	ND	0.4	1.6	1.6	1.6	1.45	1.46	1.47		
Bromide, Dissolved	EPA 300.0	mg/L	8.0	7.2	36.7	35.1	36.4	39.4	43.7	41.3		
Calcium	EPA 200.7	mg/L	265	262	1,220	1,240	1,240	1,330	1,310	1,310		
Calcium, Dissolved	EPA 200.7	mg/L	262	262	1,240	1,230	1,230	1,270	1,290	1,240		
Carbamates by HPLC (EPA 531)	EPA 531	µg/L	-	-	-	-	-	-	-	-		
Carbonate as CaCO3	SM2320B	mg/L	ND	ND	ND	ND	ND	ND	ND	ND		
Chloride, Dissolved	EPA 300.0	mg/L	2,120	2,270	12,800	12,300	12,700	12,200	14,000	12,600		
Chlorinated Pesticides and PCB (EPA 508)	EPA 508	µg/L	-	-	-	-	-	-	-	-		
Color, Apparent (Unfiltered)	SM2120B	Color Units	ND	ND	ND	ND	ND	ND	ND	ND		
Color, True ²	SM2120C	Color Units	-	-	-	-	-	-	-	-		
Copper	EPA 200.7	µg/L	9	ND	ND	ND	ND	ND	ND	ND		
Copper, Total	EPA 200.8	µg/L	-	-	-	-	-	-	-	-		
DBCP & EDB	EPA 504.1	µg/L	-	-	-	-	-	-	-	-		
Dioxin	EPA 1613	pg/L	-	-	-	-	-	-	-	-		
Diquat (EPA 549)	EPA 549	µg/L	-	-	-	-	-	-	-	-		
Dissolved Anions	Calculation	Meq/L	67.95	72.04	398.57	384.42	395.55	379.94	435.79	392.30		
Total Anions	Calculation	Meq/L	67.95	72.04	398.57	384.42	395.55	379.94	435.79	392.30		
Dissolved Cations	Calculation	Meq/L	73.97	73.15	406.67	404.78	401.27	395.61	385.43	379.71		
Total Cations	Calculation	Meq/L	74.81	72.71	403.52	409.19	404.41	407.29	379.78	383.80		
Fluoride, Dissolved	EPA 300.0	mg/L	0.1	ND	ND	ND	ND	ND	ND	ND		
Hardness (as CaCO3)	SM2340B/Calc, EPA200.7	mg/L	1,470	1,410	7,120	7,220	7,240	7,220	7,040	7,080		
Hydroxide	SM2320B	mg/L	ND	ND	ND	ND	ND	ND	ND	ND		
Iodide	EPA 9056M, 314.0, 331.0M, & 332.0M	µg/L	ND	ND	ND	ND	ND	ND	ND	ND		
Iron	EPA 200.7	µg/L	ND	12	ND	ND	ND	ND	ND	ND		
Iron, Dissolved	EPA 200.7	µg/L	ND	ND	ND	ND	ND	ND	ND	ND		
Total Kjeldahl Nitrogen, Dissolved	SM4500-NH3 B,C,E & EPA 351.2	mg/L	ND	ND	ND	ND	ND	ND	ND	ND		
Lead, Total	EPA 200.8	µg/L	ND	ND	ND	ND	ND	ND	ND	ND		
Lithium	EPA 200.8	µg/L	7.5	10.5	42	40	41	47	47	47		
Magnesium	EPA 200.7	mg/L	197	184	986	1,000	1,000	947	916	922		
Magnesium, Dissolved	EPA 200.7	mg/L	194	184	996	1,000	984	957	949	936		
Manganese, Dissolved	EPA 200.7	µg/L	ND	ND	ND	ND	ND	ND	ND	ND		
Manganese, Total	EPA 200.7	µg/L	ND	ND	ND	ND	ND	ND	ND	ND		
MBAS (Surfactants)	SM5540C	mg/L	0.03	ND	ND	ND	ND	ND	ND	ND		
Nitrate as N	EPA 300.0	mg/L	7.6	6.8	1.4	1.4	1.6	0.8	0.8	0.9		
Nitrate as NO3	EPA 300.0	mg/L	34	30	6.4	6.4	6.9	3.5	3.5	4		
Nitrate+Nitrite as N	EPA 300.0	mg/L	7.6	6.8	1.4	1.4	1.6	0.8	0.8	0.9		
Nitrite as NO2-N, Dissolved	EPA 300.0	mg/L	ND	ND	ND	ND	ND	ND	ND	ND		
Odor Threshold at 60 C	SM2150B	TON	ND	ND	ND	2	ND	ND	ND	ND		
o-Phosphate-P	Hach 8048 & EPA 365.1	mg/L	0.14	0.10	0.04	0.04	0.04	0.04	0.04	0.04		
pH (Field Test)	SM4500-H+B	pH	7.08	6.94	6.64	6.64	6.64	6.68	6.68	6.68		
pH (Laboratory)	SM4500-H+B	pH (H)	7.4	7.3	6.9	6.9	6.8	6.8	6.8	6.9		
Phenoxy Acid Herbicides (515.3)	EPA 515.3	µg/L	-	-	-	-	-	-	-	-		
Phosphorus, Dissolved Total	HACH 8190 & EPA 365.1	mg/L	0.20	0.11	0.03	0.03	0.02	0.03	0.02	0.03		
Potassium	EPA 200.7	mg/L	22.2	21.9	70.8	72.1	72.5	78.0	76.7	78.2		
Potassium, Dissolved	EPA 200.7	mg/L	21.9	21.9	71.6	72.4	71.7	80.2	77.1	78.1		
QC Ratio TDS/SEC	Calculation	-	0.66	0.54	0.68	0.68	0.67	0.74	0.74	0.70		
Reg. Org. Compounds (EPA 525)	EPA 525	µg/L	-	-	-	-	-	-	-	-		
Salinity	SM2520B	psu	3.6	3.9	23.5	23.9	23.9	23.1	23.2	22.8		
Silica as SiO2, Dissolved	EPA 200.7	mg/L	32.8	34.2	30	30	29	26	24	26		
Sodium	EPA 200.7	mg/L	1,030	1,010	5,970	6,050	5,940	6,000	5,450	5,530		
Sodium, Dissolved	EPA 200.7	mg/L	1,020	1,020	6,000	5,960	5,910	5,780	5,540	5,490		
Specific Conductance (E.C)	SM2510B	µmhos/cm	6,630	7,190	33,510	34,050	34,030	32,950	33,130	32,650		
Specific Conductance (E.C) (Field)	SM2510B	µmhos/cm	7,076	7,200	34,850	34,860	34,830	33,790	33,810	33,810		
Strontium, Dissolved	EPA 200.8	µg/L	2,140	2,180	10,400	10,300	10,300	9,450	9,530	9,330		
Sulfate, Dissolved	EPA 300.0	mg/L	303	303	1,680	1,680	1,670	1,600	1,840	1,650		
Temperature (Field)	SM2550	°C	17.6	17.6	18.0	18.0	18.0	18.0	18.0	18.0		
Total Diss. Solids	SM2540C	mg/L	4,380	3,880	22,700	23,100	22,800	24,400	24,400	22,900		
Turbidity	EPA 180.1	NTU	ND	ND	0.10	0.05	0.10	0.10	0.10	0.10		
Turbidity (Field)	EPA 180.1	NTU	0.22	0.05	0.07	0.06	0.06	0.08	0.11	0.09		
Volatile Org. Compounds (524)	EPA 524	µg/L	-	-	-	-	-	-	-	-		
Zinc	EPA 200.7	µg/L	ND	ND	ND	ND	ND	ND	ND	ND		
Zinc, Total	EPA 200.8	µg/L	-	-	-	-	-	-	-	-		
PCBs, Total	EPA 508	µg/L	-	-	-	-	-	-	-	-		
Total PCB	EPA 1668C	pg/L	-	-	-	-	-	-	-	-		

Notes:

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- mg/L = Milligrams per Liter
- NTU = Nephelometric Turbidity Units
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Table 3: Summary of Quarterly and Semiannual Monitoring Well Laboratory Water Quality Results Following Long-Term Pumping Test

Monitoring Well Name:			MW-4M							
Sample Collection Date:			12-Oct-18 10:04	12-Oct-18 10:19	12-Oct-18 10:34	23-Jan-19 11:40	23-Jan-19 11:55	23-Jan-19 12:10	11-Apr-19 11:34	11-Apr-19 11:49
Constituent	Method	Units	Result	Result	Result	Result	Result	Result	Result	Result
Alkalinity, Total (as CaCO3)	SM2320B	mg/L	97	97	97	97	97	97	96	97
Aluminum, Total	EPA 200.8	µg/L	ND	ND	ND	ND	ND	ND	ND	ND
Ammonia-N, Dissolved	SM4500NH3 D & EPA 350.1	mg/L	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic, Total ¹	EPA 200.8	µg/L	-	-	-	-	-	-	-	-
Arsenic, Total	EPA 1640	µg/L	0.088	0.087	0.088	0.10	0.098	0.094	0.11	0.11
Barium, Dissolved	EPA 200.8	µg/L	104	100	104	87.0	88.0	86.0	78	78
Bicarbonate (as HCO3-)	SM2320B	mg/L	118	118	118	118	118	118	117	118
Boron, Dissolved	EPA 200.7	mg/L	1.17	1.29	1.26	1.54	1.77	1.69	1.4	1.3
Bromide, Dissolved	EPA 300.0	mg/L	40.0	40.6	40.0	42.1	42.5	42.0	45.4	36.2
Calcium	EPA 200.7	mg/L	1,290	1,330	1,310	1,170	1,140	1,140	1,090	1,090
Calcium, Dissolved	EPA 200.7	mg/L	1,290	1,320	1,320	1,160	1,170	1,160	1,110	1,130
Carbamates by HPLC (EPA 531)	EPA 531	µg/L	-	-	-	-	-	-	-	-
Carbonate as CaCO3	SM2320B	mg/L	ND	ND	ND	ND	ND	ND	ND	ND
Chloride, Dissolved	EPA 300.0	mg/L	12,500	12,800	12,600	12,800	12,800	12,600	12,900	13,000
Chlorinated Pesticides and PCB (EPA 508)	EPA 508	µg/L	-	-	-	-	-	-	-	-
Color, Apparent (Unfiltered)	SM2120B	Color Units	ND	ND	ND	ND	ND	ND	ND	ND
Color, True ²	SM2120C	Color Units	-	-	-	-	-	-	-	-
Copper	EPA 200.7	µg/L	ND	ND	ND	ND	ND	ND	ND	ND
Copper, Total	EPA 200.8	µg/L	-	-	-	-	-	-	-	-
DBCP & EDB	EPA 504.1	µg/L	-	-	-	-	-	-	-	-
Dioxin	EPA 1613	pg/L	-	-	-	-	-	-	-	-
Diquat (EPA 549)	EPA 549	µg/L	-	-	-	-	-	-	-	-
Dissolved Anions	Calculation	Meq/L	389.68	398.15	392.30	398.80	397.97	392.53	403.09	405.82
Total Anions	Calculation	Meq/L	389.68	398.15	392.30	398.80	397.97	392.53	403.09	405.82
Dissolved Cations	Calculation	Meq/L	371.77	369.16	365.16	380.26	385.93	401.46	373.83	384.55
Total Cations	Calculation	Meq/L	375.13	370.13	379.00	393.79	376.29	381.20	370.56	367.20
Fluoride, Dissolved	EPA 300.0	mg/L	0.1	ND	ND	0.1	0.1	0.1	0.1	0.1
Hardness (as CaCO3)	SM2340B/Calc, EPA200.7	mg/L	6,370	6,340	6,410	6,790	6,590	6,710	5,820	5,740
Hydroxide	SM2320B	mg/L	ND	ND	ND	ND	ND	ND	ND	ND
Iodide	EPA 9056M, 314.0, 331.0M, & 332.0M	µg/L	ND	ND	ND	ND	ND	ND	ND	ND
Iron	EPA 200.7	µg/L	ND	ND	ND	ND	ND	ND	ND	ND
Iron, Dissolved	EPA 200.7	µg/L	ND	ND	ND	ND	ND	ND	ND	ND
Total Kjeldahl Nitrogen, Dissolved	SM4500-NH3 B,C,E & EPA 351.2	mg/L	0.5	ND	0.5	ND	ND	ND	ND	ND
Lead, Total	EPA 200.8	µg/L	ND	ND	ND	ND	ND	ND	ND	ND
Lithium	EPA 200.8	µg/L	55	54	54	39.0	39.0	37.0	41.2	38.8
Magnesium	EPA 200.7	mg/L	858	848	862	940	909	937	869	882
Magnesium, Dissolved	EPA 200.7	mg/L	855	869	874	908	934	938	875	894
Manganese, Dissolved	EPA 200.7	µg/L	ND	ND	ND	ND	ND	ND	ND	ND
Manganese, Total	EPA 200.7	µg/L	ND	ND	ND	ND	ND	ND	ND	ND
MBAS (Surfactants)	SM5540C	mg/L	ND	ND	ND	ND	ND	ND	ND	ND
Nitrate as N	EPA 300.0	mg/L	0.8	0.8	0.8	0.8	0.8	0.8	0.7	0.7
Nitrate as NO3	EPA 300.0	mg/L	3.5	3.5	ND	3.5	3.5	3.5	3.1	3.0
Nitrate+Nitrite as N	EPA 300.0	mg/L	0.8	0.8	0.8	0.8	0.8	0.8	0.7	0.7
Nitrite as NO2-N, Dissolved	EPA 300.0	mg/L	ND	ND	ND	ND	ND	ND	ND	ND
Odor Threshold at 60 C	SM2150B	TON	1	1	1	1	1	1	1	1
o-Phosphate-P	Hach 8048 & EPA 365.1	mg/L	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
pH (Field Test)	SM4500-H+B	pH	6.72	6.72	6.72	6.69	6.70	6.71	6.77	6.78
pH (Laboratory)	SM4500-H+B	pH (H)	6.8	6.8	7.0	6.8	6.8	6.8	6.7	6.8
Phenoxy Acid Herbicides (515.3)	EPA 515.3	µg/L	-	-	-	-	-	-	-	-
Phosphorus, Dissolved Total	HACH 8190 & EPA 365.1	mg/L	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04
Potassium	EPA 200.7	mg/L	86.2	83.2	83.8	89.0	90.2	90.2	75.3	72.2
Potassium, Dissolved	EPA 200.7	mg/L	83.8	82.0	79.6	90.4	89.9	91.5	76.9	72.8
QC Ratio TDS/SEC	Calculation	-	0.67	0.70	0.64	0.66	0.65	0.65	0.68	0.68
Reg. Org. Compounds (EPA 525)	EPA 525	µg/L	-	-	-	-	-	-	-	-
Salinity	SM2520B	psu	21.2	20.0	21.1	21.9	21.9	21.9	23.7	23.7
Silica as SiO2, Dissolved	EPA 200.7	mg/L	30	32	30	29	26	31	26	23
Sodium	EPA 200.7	mg/L	5,470	5,330	5,530	5,880	5,570	5,630	5,580	5,480
Sodium, Dissolved	EPA 200.7	mg/L	5,400	5,280	5,180	5,640	5,710	6,070	5,620	5,810
Specific Conductance (E.C)	SM2510B	µmhos/cm	33,760	32,090	33,720	34,850	34,780	34,810	33,760	33,760
Specific Conductance (E.C) (Field)	SM2510B	µmhos/cm	34,600	34,620	34,640	35,150	35,130	35,150	34,650	34,520
Strontium, Dissolved	EPA 200.8	µg/L	11,100	10,800	10,800	10,400	10,700	10,400	10,300	10,300
Sulfate, Dissolved	EPA 300.0	mg/L	1,660	1,660	1,650	1,690	1,650	1,660	1,760	1,760
Temperature (Field)	SM2550	° C	18.1	18.1	18.1	18.0	18.0	18.0	18.0	18.0
Total Diss. Solids	SM2540C	mg/L	22,500	22,400	21,700	23,100	22,500	22,800	22,800	22,900
Turbidity	EPA 180.1	NTU	0.05	0.05	0.05	0.05	0.05	0.05	0.15	0.15
Turbidity (Field)	EPA 180.1	NTU	0.07	0.05	0.05	0.09	0.15	0.06	0.08	0.11
Volatile Org. Compounds (524)	EPA 524	µg/L	-	-	-	-	-	-	-	-
Zinc	EPA 200.7	µg/L	ND	ND	ND	ND	ND	ND	ND	ND
Zinc, Total	EPA 200.8	µg/L	-	-	-	-	-	-	-	-
PCBs, Total	EPA 508	µg/L	-	-	-	-	-	-	-	-
Total PCB	EPA 1668C	pg/L	-	-	-	-	-	-	-	-

Notes:

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Table 3: Summary of Quarterly and Semiannual Monitoring Well Laboratory Water Quality Results Following Long-Term Pumping Test

Monitoring Well Name:			MW-4M							
Sample Collection Date:			11-Apr-19 12:04	24-Jul-19 14:48	24-Jul-19 15:03	24-Jul-19 15:18	16-Oct-19 14:01	16-Oct-19 14:16	16-Oct-19 14:36	15-Jan-20 12:40
Constituent	Method	Units	Result	Result	Result	Result	Result	Result	Result	Result
Alkalinity, Total (as CaCO3)	SM2320B	mg/L	98	98	97	94	96	92	92	91
Aluminum, Total	EPA 200.8	µg/L	ND	ND	ND	ND	ND	ND	ND	ND
Ammonia-N, Dissolved	SM4500NH3 D & EPA 350.1	mg/L	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic, Total ¹	EPA 200.8	µg/L	-	-	-	-	-	-	-	-
Arsenic, Total	EPA 1640	µg/L	0.11	0.097	0.10	0.10	0.14	0.16	0.14	0.088
Barium, Dissolved	EPA 200.8	µg/L	77	94	94	93	90	99	102	87.9
Bicarbonate (as HCO3-)	SM2320B	mg/L	120	120	118	115	117	112	112	111
Boron, Dissolved	EPA 200.7	mg/L	1.3	1.1	1.1	1.1	1.50	1.54	1.51	1.86
Bromide, Dissolved	EPA 300.0	mg/L	46.2	39.6	44.3	41.3	40.1	40.9	40.4	41.3
Calcium	EPA 200.7	mg/L	1,100	1,060	1,060	1,120	1,120	1,120	1,170	1,230
Calcium, Dissolved	EPA 200.7	mg/L	1,080	1,060	1,050	1,090	1,080	1,130	1,130	1,240
Carbamates by HPLC (EPA 531)	EPA 531	µg/L	-	-	-	-	-	-	-	-
Carbonate as CaCO3	SM2320B	mg/L	ND	ND	ND	ND	ND	ND	ND	ND
Chloride, Dissolved	EPA 300.0	mg/L	12,700	11,700	12,500	12,000	11,900	12,100	12,100	13,100
Chlorinated Pesticides and PCB (EPA 508)	EPA 508	µg/L	-	-	-	-	-	-	-	-
Color, Apparent (Unfiltered)	SM2120B	Color Units	3	ND	ND	ND	ND	ND	ND	ND
Color, True ²	SM2120C	Color Units	-	-	-	-	-	-	-	-
Copper	EPA 200.7	µg/L	ND	ND	ND	ND	ND	ND	ND	ND
Copper, Total	EPA 200.8	µg/L	-	-	-	-	-	-	-	-
DBCP & EDB	EPA 504.1	µg/L	-	-	-	-	-	-	-	-
Dioxin	EPA 1613	pg/L	-	-	-	-	-	-	-	-
Diquat (EPA 549)	EPA 549	µg/L	-	-	-	-	-	-	-	-
Dissolved Anions	Calculation	Meq/L	397.50	363.16	387.59	372.40	371.91	378.31	379.99	407.75
Total Anions	Calculation	Meq/L	397.50	363.16	387.59	372.40	371.91	378.31	379.99	407.75
Dissolved Cations	Calculation	Meq/L	367.03	356.15	350.51	356.08	361.59	382.12	366.62	411.96
Total Cations	Calculation	Meq/L	371.37	357.48	349.51	370.92	357.69	383.72	375.04	417.54
Fluoride, Dissolved	EPA 300.0	mg/L	0.1	0.2	0.1	0.1	ND	ND	ND	0.1
Hardness (as CaCO3)	SM2340B/Calc, EPA200.7	mg/L	5,780	6,140	6,090	6,450	8,470	8,500	7,890	7,210
Hydroxide	SM2320B	mg/L	ND	ND	ND	ND	ND	ND	ND	ND
Iodide	EPA 9056M, 314.0, 331.0M, & 332.0M	µg/L	ND	ND	ND	ND	ND	ND	ND	ND
Iron	EPA 200.7	µg/L	ND	ND	ND	ND	ND	ND	ND	ND
Iron, Dissolved	EPA 200.7	µg/L	ND	ND	ND	ND	ND	22	ND	ND
Total Kjeldahl Nitrogen, Dissolved	SM4500-NH3 B,C,E & EPA 351.2	mg/L	ND	ND	ND	ND	ND	ND	ND	ND
Lead, Total	EPA 200.8	µg/L	ND	ND	ND	ND	ND	ND	ND	ND
Lithium	EPA 200.8	µg/L	40.0	40	38	37	52	51	52	33.4
Magnesium	EPA 200.7	mg/L	872	847	835	883	888	942	924	1,000
Magnesium, Dissolved	EPA 200.7	mg/L	859	847	832	854	895	940	905	1,000
Manganese, Dissolved	EPA 200.7	µg/L	ND	ND	ND	ND	ND	ND	ND	ND
Manganese, Total	EPA 200.7	µg/L	ND	ND	ND	ND	ND	ND	ND	ND
MBAS (Surfactants)	SM5540C	mg/L	ND	ND	ND	ND	0.12	0.13	0.13	0.15
Nitrate as N	EPA 300.0	mg/L	0.7	0.6	0.8	0.6	0.9	0.8	1.1	0.7
Nitrate as NO3	EPA 300.0	mg/L	3.0	2.7	3.5	2.7	4	3.5	4.9	3.1
Nitrate+Nitrite as N	EPA 300.0	mg/L	0.7	0.6	0.8	0.6	0.9	0.8	1.1	0.7
Nitrite as NO2-N, Dissolved	EPA 300.0	mg/L	ND	ND	ND	ND	ND	ND	ND	ND
Odor Threshold at 60 C	SM2150B	TON	1	1	1	1	1	1	1	1
o-Phosphate-P	Hach 8048 & EPA 365.1	mg/L	0.03	0.03	0.04	0.04	0.04	0.04	0.04	0.03
pH (Field Test)	SM4500-H+B	pH	6.78	6.70	6.70	6.70	6.64	6.64	6.64	6.65
pH (Laboratory)	SM4500-H+B	pH (H)	6.7	7.0	7.0	7.0	6.8	6.8	6.8	7.2
Phenoxy Acid Herbicides (515.3)	EPA 515.3	µg/L	-	-	-	-	-	-	-	-
Phosphorus, Dissolved Total	HACH 8190 & EPA 365.1	mg/L	0.06	0.04	0.04	0.04	0.04	0.04	0.04	0.03
Potassium	EPA 200.7	mg/L	78.1	67.6	66.5	71.0	67.4	72.5	71.0	78.3
Potassium, Dissolved	EPA 200.7	mg/L	74.3	66.7	66.7	67.9	68.8	72.0	69.5	78.5
QC Ratio TDS/SEC	Calculation	-	0.66	0.60	0.63	0.60	0.63	0.67	0.66	0.64
Reg. Org. Compounds (EPA 525)	EPA 525	µg/L	-	-	-	-	-	-	-	-
Salinity	SM2520B	psu	23.8	20.7	20.7	20.5	23.2	23.3	23.3	24.0
Silica as SiO2, Dissolved	EPA 200.7	mg/L	22	25	24	26	28	29	28	30
Sodium	EPA 200.7	mg/L	5,580	5,360	5,200	5,530	5,220	5,710	5,490	6,250
Sodium, Dissolved	EPA 200.7	mg/L	5,530	5,330	5,240	5,280	5,340	5,670	5,380	6,110
Specific Conductance (E.C)	SM2510B	µmhos/cm	33,860	33,100	33,100	32,800	33,400	33,800	33,400	34,100
Specific Conductance (E.C) (Field)	SM2510B	µmhos/cm	34,580	33,660	33,660	33,650	34,030	34,020	34,030	35,290
Strontium, Dissolved	EPA 200.8	µg/L	10,100	10,700	11,000	10,900	10,300	10,300	10,600	9,980
Sulfate, Dissolved	EPA 300.0	mg/L	1,760	1,470	1,550	1,510	1,620	1,660	1,740	1,720
Temperature (Field)	SM2550	° C	18.0	18.0	18.0	18.0	17.9	17.9	17.9	17.9
Total Diss. Solids	SM2540C	mg/L	22,200	19,900	20,700	19,600	21,200	22,800	21,900	21,700
Turbidity	EPA 180.1	NTU	0.10	0.20	0.20	0.20	ND	ND	ND	0.05
Turbidity (Field)	EPA 180.1	NTU	0.06	0.1	0.16	0.07	0.060	0.070	0.070	0.19
Volatile Org. Compounds (524)	EPA 524	µg/L	-	-	-	-	-	-	-	-
Zinc	EPA 200.7	µg/L	ND	ND	ND	ND	ND	ND	ND	ND
Zinc, Total	EPA 200.8	µg/L	-	-	-	-	-	-	-	-
PCBs, Total	EPA 508	µg/L	-	-	-	-	-	-	-	-
Total PCB	EPA 1668C	pg/L	-	-	-	-	-	-	-	-

Notes:

- °C = Degrees Celsius
- CU = Color Units
- Meq/L = Milliequivalents per Liter
- mg/L = Milligrams per Liter
- NTU = Nephelometric Turbidity Units
- pg/L = Picograms per Liter
- TON = Threshold Odor Number
- µg/L = Micograms per Liter
- µmhos/cm = Micromhos per Centimeter

ND = NOT DETECTED at or above the Reporting Limit (RL) or Practical Quantitation Limit (PQL). See laboratory water quality reports for RL and PQL values.

¹ Using EPA Method 200.8, Arsenic values are overstated due to matrix interference caused by high chloride levels. The overstated values are in laboratory reports through February 11, 2016. Going forward, EPA Method 1640 will be used for Arsenic analysis only.

² EPA Methods 2120B and C are both applicable to measure color caused primarily by natural organic matter. Both methods are suitable for true color measurements but for apparent color measurements only Method 2120B is used.

³ The reported gravimetric method TDS result exceeds the calculated TDS using ion summation. The laboratory attributes the elevated level to the possibility of water trapped in salt crystals. MBAS calculated values: MW-3D (4/13/21) = 29,600 mg/L; MW-4D (4/15/21) = 24,000 mg/L

⁴ MW-6 headers were corrected in Report No. 174. Header previously labeled MW-6M(L) was corrected to MW-6M and header previously labeled MW-6D was corrected to MW-6M(L).

Table 3: Summary of Quarterly and Semiannual Monitoring Well Laboratory Water Quality Results Following Long-Term Pumping Test

Monitoring Well Name:			MW-4M							
Sample Collection Date:			15-Jan-20 12:55	15-Jan-20 13:10	08-Apr-20 13:18	30-Jun-20 14:04	15-Oct-20 13:33	15-Apr-21 13:34	14-Oct-21 13:16	14-Apr-22 13:45
Constituent	Method	Units	Result	Result	Result	Result	Result	Result	Result	Result
Alkalinity, Total (as CaCO3)	SM2320B	mg/L	90	92	90	93	106	94	92	93
Aluminum, Total	EPA 200.8	µg/L	ND	ND	ND	ND	ND	ND	ND	ND
Ammonia-N, Dissolved	SM4500NH3 D & EPA 350.1	mg/L	ND	ND	ND	ND	0.02	ND	ND	ND
Arsenic, Total ¹	EPA 200.8	µg/L	-	-	-	-	-	-	-	-
Arsenic, Total	EPA 1640	µg/L	0.089	0.10	0.097	0.090	0.11	0.10	0.096	0.11
Barium, Dissolved	EPA 200.8	µg/L	84.6	84.6	91	73	77	90.0	9.3	81
Bicarbonate (as HCO3-)	SM2320B	mg/L	110	112	110	113	129	115	112	113
Boron, Dissolved	EPA 200.7	mg/L	1.78	2.0	1.5	1.5	1.6	1.4	1.96	1.71
Bromide, Dissolved	EPA 300.0	mg/L	42.7	41.0	40.1	36.2	47.4	40.3	46.7	43.2
Calcium	EPA 200.7	mg/L	1,250	1,030	1,140	1,190	1,160	1,000	1,220	1,270
Calcium, Dissolved	EPA 200.7	mg/L	1,250	985	1,150	1,190	1,080	876	1,190	1,280
Carbamates by HPLC (EPA 531)	EPA 531	µg/L	-	-	-	-	-	-	-	-
Carbonate as CaCO3	SM2320B	mg/L	ND	ND	ND	ND	ND	ND	ND	ND
Chloride, Dissolved	EPA 300.0	mg/L	13,400	13,000	12,300	12,700	12,400	11,600	12,700	12,500
Chlorinated Pesticides and PCB (EPA 508)	EPA 508	µg/L	-	-	-	-	-	-	-	-
Color, Apparent (Unfiltered)	SM2120B	Color Units	ND	ND	-	-	-	3	ND	ND
Color, True ²	SM2120C	Color Units	-	-	ND	ND	ND	-	-	-
Copper	EPA 200.7	µg/L	ND	ND	ND	ND	ND	ND	ND	ND
Copper, Total	EPA 200.8	µg/L	-	-	-	-	-	-	-	-
DBCP & EDB	EPA 504.1	µg/L	-	-	-	-	-	-	-	-
Dioxin	EPA 1613	pg/L	-	-	-	-	-	-	-	-
Diquat (EPA 549)	EPA 549	µg/L	-	-	-	-	-	-	-	-
Dissolved Anions	Calculation	Meq/L	417.04	407.75	384.12	394.56	388.38	365.30	396.80	387.40
Total Anions	Calculation	Meq/L	417.04	407.75	384.12	394.56	388.38	365.30	396.80	387.40
Dissolved Cations	Calculation	Meq/L	423.26	431.81	409.65	383.75	391.52	352.05	394.70	412.76
Total Cations	Calculation	Meq/L	419.81	470.99	408.49	386.26	403.51	361.39	394.79	405.82
Fluoride, Dissolved	EPA 300.0	mg/L	ND	ND	0.0	ND	0.3	0.1	0.2	ND
Hardness (as CaCO3)	SM2340B/Calc, EPA200.7	mg/L	7,290	8,780	6,920	6,740	5,900	5,830	6,990	7,250
Hydroxide	SM2320B	mg/L	ND	ND	ND	ND	ND	ND	ND	ND
Iodide	EPA 9056M, 314.0, 331.0M, & 332.0M	µg/L	ND	ND	ND	ND	ND	ND	ND	ND
Iron	EPA 200.7	µg/L	ND	ND	ND	ND	ND	ND	ND	ND
Iron, Dissolved	EPA 200.7	µg/L	ND	ND	ND	ND	ND	ND	ND	ND
Total Kjeldahl Nitrogen, Dissolved	SM4500-NH3 B,C,E & EPA 351.2	mg/L	0.5	0.6	ND	ND	ND	0.1	0.4	ND
Lead, Total	EPA 200.8	µg/L	ND	ND	ND	ND	ND	ND	ND	ND
Lithium	EPA 200.8	µg/L	32.3	32.4	43	54.2	54	30	43.5	44.1
Magnesium	EPA 200.7	mg/L	1,010	1,190	987	915	727	808	956	990
Magnesium, Dissolved	EPA 200.7	mg/L	1,020	1,110	1,000	900	888	752	962	1,010
Manganese, Dissolved	EPA 200.7	µg/L	ND	ND	ND	ND	ND	32	ND	ND
Manganese, Total	EPA 200.7	µg/L	ND	ND	ND	ND	ND	ND	ND	ND
MBAS (Surfactants)	SM5540C	mg/L	0.12	0.10	0.05	ND	0.05	0.05	0.05	0.05
Nitrate as N	EPA 300.0	mg/L	0.6	0.6	0.9	0.6	0.7	0.7	0.9	0.9
Nitrate as NO3	EPA 300.0	mg/L	2.7	2.7	4	2.7	ND	3.1	4.1	4.0
Nitrate+Nitrite as N	EPA 300.0	mg/L	0.6	0.6	0.9	0.6	0.7	0.7	1.0	0.9
Nitrite as NO2-N, Dissolved	EPA 300.0	mg/L	ND	ND	ND	ND	ND	ND	ND	ND
Odor Threshold at 60 C	SM2150B	TON	1	1	1	1	1	ND	ND	ND
o-Phosphate-P	Hach 8048 & EPA 365.1	mg/L	0.03	0.03	0.03	0.04	0.04	0.03	0.04	0.05
pH (Field Test)	SM4500-H+B	pH	6.65	6.65	6.74	6.66	6.75	6.67	6.62	6.63
pH (Laboratory)	SM4500-H+B	pH (H)	7.2	7.2	6.8	7.2	6.8	7.0	7.3	7.2
Phenoxy Acid Herbicides (515.3)	EPA 515.3	µg/L	-	-	-	-	-	-	-	-
Phosphorus, Dissolved Total	HACH 8190 & EPA 365.1	mg/L	0.03	0.03	0.04	0.03	0.02	0.04	0.05	0.03
Potassium	EPA 200.7	mg/L	78.7	95.3	77.6	74.2	90.6	69.1	81.1	84.1
Potassium, Dissolved	EPA 200.7	mg/L	79.3	86.5	78.9	74.7	105	67.2	82.6	84.8
QC Ratio TDS/SEC	Calculation	-	0.70	0.66	0.66	0.71	0.66	0.67	0.71	0.77
Reg. Org. Compounds (EPA 525)	EPA 525	µg/L	-	-	-	-	-	-	-	-
Salinity	SM2520B	psu	23.8	23.7	21.8	21.6	21.3	21.0	20.9	21.7
Silica as SiO2, Dissolved	EPA 200.7	mg/L	31	36	28	29.8	28.1	23.8	32.0	34.5
Sodium	EPA 200.7	mg/L	6,260	6,164	6,170	5,740	6,510	5,590	5,820	5,950
Sodium, Dissolved	EPA 200.7	mg/L	6,320	6,650	6,160	5,710	6,020	5,620	5,840	6,060
Specific Conductance (E.C)	SM2510B	µmhos/cm	33,900	33,800	34,700	33,000	33,900	33,500	33,400	33,520
Specific Conductance (E.C) (Field)	SM2510B	µmhos/cm	35,260	35,270	35,510	34,160	35,000	34,760	34,351	34,633
Strontium, Dissolved	EPA 200.8	µg/L	9,970	10,300	10,600	10,400	10,000	12,500	11,500	11,500
Sulfate, Dissolved	EPA 300.0	mg/L	1,760	1,710	1,670	1,630	1,720	1,720	1,740	1,580
Temperature (Field)	SM2550	° C	18.0	18.0	17.9	18.0	18.0	17.9	17.9	17.9
Total Diss. Solids	SM2540C	mg/L	23,600	22,400	23,000	23,400	22,300	22,600	23,800	25,700
Turbidity	EPA 180.1	NTU	0.05	0.05	0.05	0.05	0.15	ND	0.10	ND
Turbidity (Field)	EPA 180.1	NTU	0.16	0.12	0.06	0.09	0.07	0.09	0.05	0.09
Volatile Org. Compounds (524)	EPA 524	µg/L	-	-	-	-	-	-	-	-
Zinc	EPA 200.7	µg/L	ND	ND	ND	ND	ND	ND	ND	ND
Zinc, Total	EPA 200.8	µg/L	-	-	-	-	-	-	-	-
PCBs, Total	EPA 508	µg/L	-	-	-	-	-	-	-	-
Total PCB	EPA 1668C	pg/L	-	-	-	-	-	-	-	-

Notes:

°C = Degrees Celsius
CU = Color Units
Meq/L = Milliequivalents per Liter
mg/L = Milligrams per Liter
NTU = Nephelometric Turbidity Units
pg/L = Picograms per Liter
TON = Threshold Odor Number
µg/L = Micograms per Liter
µmhos/cm = Micromhos per Centimeter

ND = NOT DETECTED at or above the Reporting Limit (RL) or Practical Quantitation Limit (PQL). See laboratory water quality reports for RL and PQL values.

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² EPA Methods 2120B and C are both applicable to measure color caused primarily by natural organic matter. Both methods are suitable for true color measurements but for apparent color measurements only Method 2120B is used.

³ The reported gravimetric method TDS result exceeds the calculated TDS using ion summation. The laboratory attributes the elevated level to the possibility of water trapped in salt crystals. MBAS calculated values: MW-3D (4/13/21) = 29,600 mg/L; MW-4D (4/15/21) = 24,000 mg/L

⁴ MW-6 headers were corrected in Report No. 174. Header previously labeled MW-6M(L) was corrected to MW-6M and header previously labeled MW-6D was corrected to MW-6M(L).

Table 3: Summary of Quarterly and Semiannual Monitoring Well Laboratory Water Quality Results Following Long-Term Pumping Test

Constituent	Method	Units	Monitoring Well Name: MW-4M							
			Sample Collection Date:							
			20-Oct-22 15:10	27-Apr-18 09:32	27-Apr-18 09:47	27-Apr-18 10:02	25-Jul-18 10:12	25-Jul-18 10:27	25-Jul-18 10:42	11-Oct-18 15:16
Alkalinity, Total (as CaCO3)	SM2320B	mg/L	85	118	116	116	114	114	114	114
Aluminum, Total	EPA 200.8	µg/L	ND	ND	ND	ND	ND	ND	ND	ND
Ammonia-N, Dissolved	SM4500NH3 D & EPA 350.1	mg/L	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic, Total ¹	EPA 200.8	µg/L	-	-	-	-	-	-	-	-
Arsenic, Total	EPA 1640	µg/L	0.12	0.36	0.36	0.35	0.36	0.35	0.35	0.34
Barium, Dissolved	EPA 200.8	µg/L	83	117	114	122	139	136	147	155
Bicarbonate (as HCO3-)	SM2320B	mg/L	104	144	142	142	139	139	139	139
Boron, Dissolved	EPA 200.7	mg/L	1.9	1.1	1.0	1.0	0.87	0.82	0.88	0.38
Bromide, Dissolved	EPA 300.0	mg/L	50.1	43.0	43.5	44.1	52.6	52.5	50.9	50.2
Calcium	EPA 200.7	mg/L	1,170	3,020	2,930	2,990	2,790	2,900	2,940	2,890
Calcium, Dissolved	EPA 200.7	mg/L	1,160	2,960	2,980	3,030	2,800	2,890	2,990	2,850
Carbamates by HPLC (EPA 531)	EPA 531	µg/L	-	-	-	-	-	-	-	-
Carbonate as CaCO3	SM2320B	mg/L	ND	ND	ND	ND	ND	ND	ND	ND
Chloride, Dissolved	EPA 300.0	mg/L	12,900	14,900	14,900	15,100	15,700	15,500	15,500	15,300
Chlorinated Pesticides and PCB (EPA 508)	EPA 508	µg/L	-	-	-	-	-	-	-	-
Color, Apparent (Unfiltered)	SM2120B	Color Units	ND	3	ND	ND	3	3	3	3
Color, True ²	SM2120C	Color Units	-	-	-	-	-	-	-	-
Copper	EPA 200.7	µg/L	ND	ND	ND	ND	ND	ND	ND	ND
Copper, Total	EPA 200.8	µg/L	-	-	-	-	-	-	-	-
DBCP & EDB	EPA 504.1	µg/L	-	-	-	-	-	-	-	-
Dioxin	EPA 1613	pg/L	-	-	-	-	-	-	-	-
Diquat (EPA 549)	EPA 549	µg/L	-	-	-	-	-	-	-	-
Dissolved Anions	Calculation	Meq/L	400.71	463.47	464.07	469.71	487.90	481.63	481.61	475.13
Total Anions	Calculation	Meq/L	400.71	463.47	464.07	469.71	487.90	481.63	481.61	475.13
Dissolved Cations	Calculation	Meq/L	413.98	482.35	492.48	490.08	449.04	460.90	467.89	436.94
Total Cations	Calculation	Meq/L	416.20	493.30	477.42	488.52	439.94	475.13	465.53	453.22
Fluoride, Dissolved	EPA 300.0	mg/L	ND	0.1	ND	ND	ND	ND	ND	0.1
Hardness (as CaCO3)	SM2340B/Calc, EPA200.7	mg/L	7,250	7,770	11,800	12,000	11,300	11,800	11,800	10,400
Hydroxide	SM2320B	mg/L	ND	ND	ND	ND	ND	ND	ND	ND
Iodide	EPA 9056M, 314.0, 331.0M, & 332.0M	µg/L	ND	ND	ND	ND	ND	3.6	3	ND
Iron	EPA 200.7	µg/L	ND	ND	33	ND	ND	ND	ND	ND
Iron, Dissolved	EPA 200.7	µg/L	ND	ND	ND	ND	ND	ND	ND	ND
Total Kjeldahl Nitrogen, Dissolved	SM4500-NH3 B,C,E & EPA 351.2	mg/L	ND	ND	ND	ND	ND	ND	ND	ND
Lead, Total	EPA 200.8	µg/L	ND	ND	ND	ND	ND	ND	ND	ND
Lithium	EPA 200.8	µg/L	45	226	218	226	307	298	308	356
Magnesium	EPA 200.7	mg/L	1,050	1,110	1,080	1,110	1,040	1,100	1,080	936
Magnesium, Dissolved	EPA 200.7	mg/L	1,040	1,090	1,090	1,120	1,040	1,070	1,100	915
Manganese, Dissolved	EPA 200.7	µg/L	ND	ND	ND	ND	ND	ND	ND	ND
Manganese, Total	EPA 200.7	µg/L	ND	ND	ND	ND	ND	ND	ND	ND
MBAS (Surfactants)	SM5540C	mg/L	ND	ND	ND	ND	ND	ND	ND	ND
Nitrate as N	EPA 300.0	mg/L	0.8	0.9	0.9	0.9	0.1	0.1	0.1	0.1
Nitrate as NO3	EPA 300.0	mg/L	3.4	3.9	3.9	3.9	ND	ND	ND	0.4
Nitrate+Nitrite as N	EPA 300.0	mg/L	0.8	0.9	0.9	0.9	0.1	0.1	0.1	0.1
Nitrite as NO2-N, Dissolved	EPA 300.0	mg/L	ND	ND	ND	ND	ND	ND	ND	ND
Odor Threshold at 60 C	SM2150B	TON	ND	ND	ND	2	ND	ND	ND	1
o-Phosphate-P	Hach 8048 & EPA 365.1	mg/L	0.04	0.02	0.02	0.02	0.02	0.02	0.02	0.02
pH (Field Test)	SM4500-H+B	pH	6.49	6.55	6.55	6.55	6.58	6.58	6.58	6.61
pH (Laboratory)	SM4500-H+B	pH (H)	7.0	6.8	6.8	6.8	6.7	6.8	6.8	6.8
Phenoxy Acid Herbicides (515.3)	EPA 515.3	µg/L	-	-	-	-	-	-	-	-
Phosphorus, Dissolved Total	HACH 8190 & EPA 365.1	mg/L	0.04	ND	ND	ND	ND	ND	ND	0.03
Potassium	EPA 200.7	mg/L	101	54.9	52.8	52.2	60.8	59.4	61.6	56.2
Potassium, Dissolved	EPA 200.7	mg/L	100	52.7	52.8	53.9	56.9	61.2	59.9	58.6
QC Ratio TDS/SEC	Calculation	-	0.63	0.75	0.72	0.74	0.81	0.80	0.81	0.68
Reg. Org. Compounds (EPA 525)	EPA 525	µg/L	-	-	-	-	-	-	-	-
Salinity	SM2520B	psu	22.0	27.9	27.8	28.0	28.0	28.1	28.1	25.3
Silica as SiO2, Dissolved	EPA 200.7	mg/L	36.1	36	34	37	31	30	32	33
Sodium	EPA 200.7	mg/L	6,180	5,740	5,540	5,670	4,910	5,480	5,250	5,300
Sodium, Dissolved	EPA 200.7	mg/L	6,160	5,600	5,810	5,640	5,110	5,220	5,210	5,010
Specific Conductance (E.C)	SM2510B	µmhos/cm	35,000	39,050	38,940	39,220	39,290	39,300	39,330	39,650
Specific Conductance (E.C) (Field)	SM2510B	µmhos/cm	35,027	40,180	40,160	40,140	40,280	40,270	40,300	40,610
Strontium, Dissolved	EPA 200.8	µg/L	10,800	15,800	15,400	15,700	15,300	14,900	15,000	17,200
Sulfate, Dissolved	EPA 300.0	mg/L	1,660	1,930	1,960	1,960	2,020	1,990	1,990	1,950
Temperature (Field)	SM2550	°C	17.9	19.9	20.0	20.0	20.0	20.0	20.0	19.9
Total Diss. Solids	SM2540C	mg/L	22,200	29,400	28,200	28,900	32,900	32,400	32,400	26,900
Turbidity	EPA 180.1	NTU	ND	0.25	0.35	0.15	0.30	0.25	0.30	0.25
Turbidity (Field)	EPA 180.1	NTU	0.11	0.07	0.1	0.14	0.13	0.130	0.09	0.10
Volatile Org. Compounds (524)	EPA 524	µg/L	-	-	-	-	-	-	-	-
Zinc	EPA 200.7	µg/L	ND	ND	ND	ND	ND	ND	ND	ND
Zinc, Total	EPA 200.8	µg/L	-	-	-	-	-	-	-	-
PCBs, Total	EPA 508	µg/L	-	-	-	-	-	-	-	-
Total PCB	EPA 1668C	pg/L	-	-	-	-	-	-	-	-

Notes:

- *C = Degrees Celsius
- CU = Color Units
- Meq/L = Milliequivalents per Liter
- mg/L = Milligrams per Liter
- NTU = Nephelometric Turbidity Units
- pg/L = Picograms per Liter
- TON = Threshold Odor Number
- µg/L = Micograms per Liter
- µmhos/cm = Micromhos per Centimeter

ND = NOT DETECTED at or above the Reporting Limit (RL) or Practical Quantitation Limit (PQL). See laboratory water quality reports for RL and PQL values.

¹ Using EPA Method 200.8, Arsenic values are overstated due to matrix interference caused by high chloride levels. The overstated values are in laboratory reports through February 11, 2016. Going forward, EPA Method 1640 will be used for Arsenic analysis only.

² EPA Methods 2120B and C are both applicable to measure color caused primarily by natural organic matter. Both methods are suitable for true color measurements but for apparent color measurements only Method 2120B is used.

³ The reported gravimetric method TDS result exceeds the calculated TDS using ion summation. The laboratory attributes the elevated level to the possibility of water trapped in salt crystals. MBAS calculated values: MW-3D (4/13/21) = 29,600 mg/L; MW-4D (4/15/21) = 24,000 mg/L

⁴ MW-6 headers were corrected in Report No. 174. Header previously labeled MW-6M(L) was corrected to MW-6M and header previously labeled MW-6D was corrected to MW-6M(L).

Table 3: Summary of Quarterly and Semiannual Monitoring Well Laboratory Water Quality Results Following Long-Term Pumping Test

Monitoring Well Name:			MW-4D							
Sample Collection Date:			11-Oct-18 15:31	11-Oct-18 15:46	23-Jan-19 09:36	23-Jan-19 09:51	23-Jan-19 10:06	11-Apr-19 09:40	11-Apr-19 09:55	11-Apr-19 10:10
Constituent	Method	Units	Result	Result	Result	Result	Result	Result	Result	Result
Alkalinity, Total (as CaCO3)	SM2320B	mg/L	113	113	116	116	116	117	117	117
Aluminum, Total	EPA 200.8	µg/L	ND	ND	ND	ND	ND	ND	ND	ND
Ammonia-N, Dissolved	SM4500NH3 D & EPA 350.1	mg/L	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic, Total ¹	EPA 200.8	µg/L	-	-	-	-	-	-	-	-
Arsenic, Total	EPA 1640	µg/L	0.32	0.35	0.40	0.48	0.37	0.52	0.52	0.55
Barium, Dissolved	EPA 200.8	µg/L	152.0	156.0	148	149	149	116	116	115
Bicarbonate (as HCO3-)	SM2320B	mg/L	138	138	142	142	142	143	143	143
Boron, Dissolved	EPA 200.7	mg/L	0.42	0.43	1.00	0.77	0.98	0.76	0.77	0.80
Bromide, Dissolved	EPA 300.0	mg/L	52.9	49.8	52.2	52.7	51.7	52.3	56.0	50.7
Calcium	EPA 200.7	mg/L	2,870	2,890	3,000	2,960	2,930	2,740	2,680	2,640
Calcium, Dissolved	EPA 200.7	mg/L	2,850	2,880	3,000	2,880	2,900	2,680	2,660	2,610
Carbamates by HPLC (EPA 531)	EPA 531	µg/L	-	-	-	-	-	-	-	-
Carbonate as CaCO3	SM2320B	mg/L	ND	ND	ND	ND	ND	ND	ND	ND
Chloride, Dissolved	EPA 300.0	mg/L	16,100	15,100	15,200	15,100	15,000	15,700	15,600	15,600
Chlorinated Pesticides and PCB (EPA 508)	EPA 508	µg/L	-	-	-	-	-	-	-	-
Color, Apparent (Unfiltered)	SM2120B	Color Units	3	ND	ND	ND	ND	ND	ND	ND
Color, True ²	SM2120C	Color Units	-	-	-	-	-	-	-	-
Copper	EPA 200.7	µg/L	ND	ND	ND	ND	ND	ND	ND	ND
Copper, Total	EPA 200.8	µg/L	-	-	-	-	-	-	-	-
DBCP & EDB	EPA 504.1	µg/L	-	-	-	-	-	-	-	-
Dioxin	EPA 1613	pg/L	-	-	-	-	-	-	-	-
Diquat (EPA 549)	EPA 549	µg/L	-	-	-	-	-	-	-	-
Dissolved Anions	Calculation	Meq/L	497.92	469.45	471.53	469.76	466.92	485.44	483.19	483.91
Total Anions	Calculation	Meq/L	497.92	469.45	471.53	469.76	466.92	485.44	483.19	483.91
Dissolved Cations	Calculation	Meq/L	456.63	439.64	463.19	443.04	449.59	452.50	432.62	412.51
Total Cations	Calculation	Meq/L	454.81	438.24	474.23	465.62	462.56	445.36	433.33	417.09
Fluoride, Dissolved	EPA 300.0	mg/L	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Hardness (as CaCO3)	SM2340B/Calc, EPA200.7	mg/L	10,600	10,800	11,700	11,500	11,400	6,340	9,330	9,750
Hydroxide	SM2320B	mg/L	ND	ND	ND	ND	ND	ND	ND	ND
Iodide	EPA 9056M, 314.0, 331.0M, & 332.0M	µg/L	ND	ND	ND	ND	ND	ND	ND	ND
Iron	EPA 200.7	µg/L	ND	ND	ND	ND	ND	ND	ND	ND
Iron, Dissolved	EPA 200.7	µg/L	ND	ND	ND	ND	ND	ND	ND	ND
Total Kjeldahl Nitrogen, Dissolved	SM4500-NH3 B,C,E & EPA 351.2	mg/L	ND	ND	ND	ND	ND	ND	ND	ND
Lead, Total	EPA 200.8	µg/L	ND	ND	ND	ND	ND	ND	ND	ND
Lithium	EPA 200.8	µg/L	342	333	293	267	268	250	257	281
Magnesium	EPA 200.7	mg/L	950	953	1,020	1,010	996	967	949	913
Magnesium, Dissolved	EPA 200.7	mg/L	948	919	1,050	980	973	949	935	897
Manganese, Dissolved	EPA 200.7	µg/L	ND	ND	ND	ND	ND	ND	ND	ND
Manganese, Total	EPA 200.7	µg/L	ND	ND	ND	ND	ND	ND	ND	ND
MBAS (Surfactants)	SM5540C	mg/L	ND	ND	ND	ND	ND	ND	ND	ND
Nitrate as N	EPA 300.0	mg/L	0.2	0.1	ND	ND	ND	ND	ND	ND
Nitrate as NO3	EPA 300.0	mg/L	0.9	0.4	ND	ND	ND	ND	ND	ND
Nitrate+Nitrite as N	EPA 300.0	mg/L	0.2	0.1	ND	ND	ND	ND	ND	ND
Nitrite as NO2-N, Dissolved	EPA 300.0	mg/L	ND	ND	ND	ND	ND	ND	ND	ND
Odor Threshold at 60 C	SM2150B	TON	1	1	1	1	1	1	1	1
o-Phosphate-P	Hach 8048 & EPA 365.1	mg/L	0.02	0.03	0.02	0.02	0.02	0.02	0.02	0.02
pH (Field Test)	SM4500-H+B	pH	6.61	6.61	6.60	6.60	6.60	6.65	6.65	6.65
pH (Laboratory)	SM4500-H+B	pH (H)	6.7	6.7	6.8	6.8	6.7	6.7	6.7	6.7
Phenoxy Acid Herbicides (515.3)	EPA 515.3	µg/L	-	-	-	-	-	-	-	-
Phosphorus, Dissolved Total	HACH 8190 & EPA 365.1	mg/L	0.03	0.03	0.02	0.02	0.02	0.03	0.03	0.03
Potassium	EPA 200.7	mg/L	61.4	61.9	69.4	64.3	65.1	57.0	54.4	52.3
Potassium, Dissolved	EPA 200.7	mg/L	58.7	58.5	68.6	63.3	64.8	59.6	56.6	55.8
QC Ratio TDS/SEC	Calculation	-	0.70	0.68	0.69	0.67	0.69	0.70	0.69	0.70
Reg. Org. Compounds (EPA 525)	EPA 525	µg/L	-	-	-	-	-	-	-	-
Salinity	SM2520B	psu	23.6	24.6	25.2	25.2	25.3	27.8	27.8	27.8
Silica as SiO2, Dissolved	EPA 200.7	mg/L	34	33	34	32	31	27	27	26
Sodium	EPA 200.7	mg/L	5,330	4,920	5,490	5,360	5,350	5,240	5,060	4,800
Sodium, Dissolved	EPA 200.7	mg/L	5,400	5,030	5,180	4,990	5,130	5,500	5,090	4,760
Specific Conductance (E.C)	SM2510B	µmhos/cm	37,230	38,630	39,580	39,590	39,680	39,040	38,940	38,940
Specific Conductance (E.C) (Field)	SM2510B	µmhos/cm	40,630	40,650	40,070	40,060	40,070	40,080	40,090	40,080
Strontium, Dissolved	EPA 200.8	µg/L	16,600	17,300	16,500	16,500	16,700	15,700	15,612	15,800
Sulfate, Dissolved	EPA 300.0	mg/L	1,960	1,950	1,910	1,960	1,960	1,960	1,920	1,980
Temperature (Field)	SM2550	° C	19.9	20.0	19.9	19.9	19.9	19.9	19.9	20.0
Total Diss. Solids	SM2540C	mg/L	26,000	26,100	27,200	26,700	27,500	27,500	27,000	27,400
Turbidity	EPA 180.1	NTU	0.25	0.25	0.25	0.25	0.25	0.25	0.10	0.15
Turbidity (Field)	EPA 180.1	NTU	0.11	0.15	0.1	0.12	0.1	0.18	0.08	0.15
Volatile Org. Compounds (524)	EPA 524	µg/L	-	-	-	-	-	-	-	-
Zinc	EPA 200.7	µg/L	ND	ND	ND	ND	ND	ND	ND	ND
Zinc, Total	EPA 200.8	µg/L	-	-	-	-	-	-	-	-
PCBs, Total	EPA 508	µg/L	-	-	-	-	-	-	-	-
Total PCB	EPA 1668C	pg/L	-	-	-	-	-	-	-	-

Notes:

°C = Degrees Celsius
 CU = Color Units
 Meq/L = Milliequivalents per Liter
 mg/L = Milligrams per Liter
 NTU = Nephelometric Turbidity Units
 pg/L = Picograms per Liter
 TON = Threshold Odor Number
 µg/L = Micrograms per Liter
 µmhos/cm = Micromhos per Centimeter

ND = NOT DETECTED at or above the Reporting Limit (RL) or Practical Quantitation Limit (PQL). See laboratory water quality reports for RL and PQL values.

¹ Using EPA Method 200.8, Arsenic values are overstated due to matrix interference caused by high chloride levels. The overstated values are in laboratory reports through February 11, 2016. Going forward, EPA Method 1640 will be used for Arsenic analysis only.

² EPA Methods 2120B and C are both applicable to measure color caused primarily by natural organic matter. Both methods are suitable for true color measurements but for apparent color measurements only Method 2120B is used.

³ The reported gravimetric method TDS result exceeds the calculated TDS using ion summation. The laboratory attributes the elevated level to the possibility of water trapped in salt crystals. MBAS calculated values: MW-3D (4/13/21) = 29,600 mg/L; MW-4D (4/15/21) = 24,000 mg/L

⁴ MW-6 headers were corrected in Report No. 174. Header previously labeled MW-6M(L) was corrected to MW-6M and header previously labeled MW-6D was corrected to MW-6M(L).

Table 3: Summary of Quarterly and Semiannual Monitoring Well Laboratory Water Quality Results Following Long-Term Pumping Test

Monitoring Well Name:			MW-4D							
Sample Collection Date:			24-Jul-19 12:40	24-Jul-19 12:55	24-Jul-19 13:10	16-Oct-19 11:27	16-Oct-19 11:42	16-Oct-19 11:57	15-Jan-20 10:38	15-Jan-20 10:53
Constituent	Method	Units	Result	Result	Result	Result	Result	Result	Result	Result
Alkalinity, Total (as CaCO3)	SM2320B	mg/L	112	106	113	96	110	108	111	112
Aluminum, Total	EPA 200.8	µg/L	ND	ND	ND	ND	ND	ND	ND	ND
Ammonia-N, Dissolved	SM4500NH3 D & EPA 350.1	mg/L	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic, Total ¹	EPA 200.8	µg/L	-	-	-	-	-	-	-	-
Arsenic, Total	EPA 1640	µg/L	0.39	0.41	0.45	0.44	0.52	0.50	0.38	0.39
Barium, Dissolved	EPA 200.8	µg/L	133	137	137	157	146	141	133	132
Bicarbonate (as HCO3-)	SM2320B	mg/L	137	129	138	117	134	132	135	137
Boron, Dissolved	EPA 200.7	mg/L	0.71	0.69	0.65	0.9	0.9	0.9	1.10	1.10
Bromide, Dissolved	EPA 300.0	mg/L	52.7	52.6	52.1	55.8	51.8	50.3	50.1	49.3
Calcium	EPA 200.7	mg/L	3,160	3,120	3,100	2,940	2,850	2,690	3,060	3,110
Calcium, Dissolved	EPA 200.7	mg/L	3,160	3,100	3,090	2,720	2,740	2,650	3,060	3,060
Carbamates by HPLC (EPA 531)	EPA 531	µg/L	-	-	-	-	-	-	-	-
Carbonate as CaCO3	SM2320B	mg/L	ND	ND	ND	ND	ND	ND	ND	ND
Chloride, Dissolved	EPA 300.0	mg/L	15,900	15,500	15,200	15,300	14,800	15,100	15,600	15,300
Chlorinated Pesticides and PCB (EPA 508)	EPA 508	µg/L	-	-	-	-	-	-	-	-
Color, Apparent (Unfiltered)	SM2120B	Color Units	ND	ND	ND	ND	ND	ND	ND	ND
Color, True ²	SM2120C	Color Units	-	-	-	-	-	-	-	-
Copper	EPA 200.7	µg/L	ND	ND	ND	ND	ND	ND	ND	ND
Copper, Total	EPA 200.8	µg/L	-	-	-	-	-	-	-	-
DBCP & EDB	EPA 504.1	µg/L	-	-	-	-	-	-	-	-
Dioxin	EPA 1613	pg/L	-	-	-	-	-	-	-	-
Diquat (EPA 549)	EPA 549	µg/L	-	-	-	-	-	-	-	-
Dissolved Anions	Calculation	Meq/L	492.88	479.59	470.44	475.93	463.27	469.99	483.95	474.90
Total Anions	Calculation	Meq/L	492.88	479.59	470.44	475.93	463.27	469.99	483.95	474.90
Dissolved Cations	Calculation	Meq/L	474.55	467.11	457.18	441.25	435.26	434.12	506.33	502.50
Total Cations	Calculation	Meq/L	488.37	475.29	459.64	462.83	454.92	442.56	502.50	512.74
Fluoride, Dissolved	EPA 300.0	mg/L	0.1	ND	ND	0.1	0.1	0.1	0.2	0.1
Hardness (as CaCO3)	SM2340B/Calc, EPA200.7	mg/L	10,800	10,600	10,500	11,800	11,500	10,900	12,200	12,500
Hydroxide	SM2320B	mg/L	ND	ND	ND	ND	ND	ND	ND	ND
Iodide	EPA 9056M, 314.0, 331.0M, & 332.0M	µg/L	ND	ND	ND	ND	ND	ND	ND	ND
Iron	EPA 200.7	µg/L	ND	ND	ND	ND	ND	ND	ND	ND
Iron, Dissolved	EPA 200.7	µg/L	ND	ND	ND	ND	ND	ND	ND	ND
Total Kjeldahl Nitrogen, Dissolved	SM4500-NH3 B,C,E & EPA 351.2	mg/L	ND	ND	ND	ND	ND	ND	ND	ND
Lead, Total	EPA 200.8	µg/L	ND	ND	ND	ND	ND	ND	ND	ND
Lithium	EPA 200.8	µg/L	236	230	226	382	377	189	215	206
Magnesium	EPA 200.7	mg/L	1,010	973	967	1,080	1,060	1,010	1,120	1,140
Magnesium, Dissolved	EPA 200.7	mg/L	982	966	961	984	1,010	981	1,140	1,120
Manganese, Dissolved	EPA 200.7	µg/L	ND	ND	ND	ND	ND	ND	ND	ND
Manganese, Total	EPA 200.7	µg/L	ND	ND	ND	ND	ND	ND	ND	ND
MBAS (Surfactants)	SM5540C	mg/L	0.11	0.11	0.10	0.16	0.16	0.19	0.09	0.12
Nitrate as N	EPA 300.0	mg/L	0.2	ND	0.2	1.1	0.3	0.1	0.1	0.5
Nitrate as NO3	EPA 300.0	mg/L	1.0	ND	1.0	5.1	1.3	0.4	0.4	2.2
Nitrate+Nitrite as N	EPA 300.0	mg/L	0.2	ND	0.2	1.1	0.3	0.1	0.1	0.5
Nitrite as NO2-N, Dissolved	EPA 300.0	mg/L	ND	ND	ND	ND	ND	ND	ND	ND
Odor Threshold at 60 C	SM2150B	TON	1	1	1	1	1	1	1	1
o-Phosphate-P	Hach 8048 & EPA 365.1	mg/L	0.03	0.02	0.02	0.03	0.03	0.03	0.03	0.03
pH (Field Test)	SM4500-H+B	pH	6.58	6.58	6.58	6.53	6.53	6.53	6.58	6.58
pH (Laboratory)	SM4500-H+B	pH (H)	6.9	6.9	6.9	6.7	6.7	6.7	7.2	7.1
Phenoxy Acid Herbicides (515.3)	EPA 515.3	µg/L	-	-	-	-	-	-	-	-
Phosphorus, Dissolved Total	HACH 8190 & EPA 365.1	mg/L	0.02	0.02	0.02	0.05	0.03	0.04	0.02	0.02
Potassium	EPA 200.7	mg/L	51.4	49.0	48.8	58.2	56.8	52.7	55.6	56.1
Potassium, Dissolved	EPA 200.7	mg/L	51.0	49.6	48.6	54.4	54.6	52.0	56.3	55.6
QC Ratio TDS/SEC	Calculation	-	0.75	0.74	0.79	0.62	0.66	0.65	0.75	0.75
Reg. Org. Compounds (EPA 525)	EPA 525	µg/L	-	-	-	-	-	-	-	-
Salinity	SM2520B	psu	24.8	24.7	25	28.0	28.1	28.1	28.2	28.4
Silica as SiO2, Dissolved	EPA 200.7	mg/L	29	28	28	32	34	32	37	37
Sodium	EPA 200.7	mg/L	5,660	5,480	5,150	5,190	5,150	5,890	5,890	6,030
Sodium, Dissolved	EPA 200.7	mg/L	5,400	5,330	5,120	5,130	4,920	5,050	5,940	5,890
Specific Conductance (E.C)	SM2510B	µmhos/cm	39,000	38,900	39,300	39,900	40,100	39,800	39,480	39,800
Specific Conductance (E.C) (Field)	SM2510B	µmhos/cm	40,200	40,240	40,260	40,370	40,420	40,430	40,350	40,340
Strontium, Dissolved	EPA 200.8	µg/L	16,800	16,900	16,900	18,900	16,900	18,700	16,200	16,900
Sulfate, Dissolved	EPA 300.0	mg/L	1,990	1,900	1,860	2,000	2,060	1,980	1,970	1,940
Temperature (Field)	SM2550	° C	20.0	20.0	20.0	19.9	19.9	19.9	19.8	19.9
Total Diss. Solids	SM2540C	mg/L	29,400	28,800	30,900	24,600	26,400	25,900	29,500	29,800
Turbidity	EPA 180.1	NTU	0.20	0.20	0.20	0.10	0.15	0.25	0.15	0.15
Turbidity (Field)	EPA 180.1	NTU	0.14	0.21	0.11	0.16	0.12	0.15	0.09	0.14
Volatile Org. Compounds (524)	EPA 524	µg/L	-	-	-	-	-	-	-	-
Zinc	EPA 200.7	µg/L	ND	ND	ND	ND	ND	ND	ND	ND
Zinc, Total	EPA 200.8	µg/L	-	-	-	-	-	-	-	-
PCBs, Total	EPA 508	µg/L	-	-	-	-	-	-	-	-
Total PCB	EPA 1668C	pg/L	-	-	-	-	-	-	-	-

Notes:

- °C = Degrees Celsius
- CU = Color Units
- Meq/L = Milliequivalents per Liter
- mg/L = Milligrams per Liter
- NTU = Nephelometric Turbidity Units
- pg/L = Picograms per Liter
- TON = Threshold Odor Number
- µg/L = Micograms per Liter
- µmhos/cm = Micromhos per Centimeter

ND = NOT DETECTED at or above the Reporting Limit (RL) or Practical Quantitation Limit (PQL). See laboratory water quality reports for RL and PQL values.

¹ Using EPA Method 200.8, Arsenic values are overstated due to matrix interference caused by high chloride levels. The overstated values are in laboratory reports through February 11, 2016. Going forward, EPA Method 1640 will be used for Arsenic analysis only.

² EPA Methods 2120B and C are both applicable to measure color caused primarily by natural organic matter. Both methods are suitable for true color measurements but for apparent color measurements only Method 2120B is used.

³ The reported gravimetric method TDS result exceeds the calculated TDS using ion summation. The laboratory attributes the elevated level to the possibility of water trapped in salt crystals. MBAS calculated values: MW-3D (4/13/21) = 29,600 mg/L; MW-4D (4/15/21) = 24,000 mg/L

⁴ MW-6 headers were corrected in Report No. 174. Header previously labeled MW-6M(L) was corrected to MW-6M and header previously labeled MW-6D was corrected to MW-6M(L).

Table 3: Summary of Quarterly and Semiannual Monitoring Well Laboratory Water Quality Results Following Long-Term Pumping Test

Monitoring Well Name:			MW-4D							
Sample Collection Date:			15-Jan-20 11:08	08-Apr-20 11:24	30-Jun-20 12:12	15-Oct-20 11:03	15-Apr-21 11:39	14-Oct-21 11:20	14-Apr-22 11:57	20-Oct-22 12:50
Constituent	Method	Units	Result	Result	Result	Result	Result	Result	Result	Result
Alkalinity, Total (as CaCO3)	SM2320B	mg/L	98	116	115	116	114	112	111	102
Aluminum, Total	EPA 200.8	µg/L	ND	ND	ND	ND	ND	ND	ND	ND
Ammonia-N, Dissolved	SM4500NH3 D & EPA 350.1	mg/L	ND	ND	ND	0.02	ND	ND	ND	ND
Arsenic, Total ¹	EPA 200.8	µg/L	-	-	-	-	-	-	-	-
Arsenic, Total	EPA 1640	µg/L	0.41	0.46	0.41	0.47	1.1	0.47	0.47	0.56
Barium, Dissolved	EPA 200.8	µg/L	136	136	106	118	133	142	116	127
Bicarbonate (as HCO3-)	SM2320B	mg/L	120	142	140	142	139	137	136	125
Boron, Dissolved	EPA 200.7	mg/L	1.10	0.9	1	0.9	0.94	1.18	1.04	1.3
Bromide, Dissolved	EPA 300.0	mg/L	56.8	51.6	45.7	57.1	49.3	59.2	58.0	62.3
Calcium	EPA 200.7	mg/L	3,110	2,760	2,800	2,830	2,270	2,680	2,820	2,790
Calcium, Dissolved	EPA 200.7	mg/L	3,110	2,750	2,880	2,790	2,260	2,720	2,380	2,770
Carbamates by HPLC (EPA 531)	EPA 531	µg/L	-	-	-	-	-	-	-	-
Carbonate as CaCO3	SM2320B	mg/L	ND	ND	ND	ND	ND	ND	ND	ND
Chloride, Dissolved	EPA 300.0	mg/L	15,200	15,100	15,500	15,000	14,000	15,100	16,300	15,900
Chlorinated Pesticides and PCB (EPA 508)	EPA 508	µg/L	-	-	-	-	-	-	-	-
Color, Apparent (Unfiltered)	SM2120B	Color Units	ND	-	-	-	3	ND	ND	ND
Color, True ²	SM2120C	Color Units	-	ND	ND	ND	-	-	-	-
Copper	EPA 200.7	µg/L	ND	ND	ND	ND	ND	ND	ND	ND
Copper, Total	EPA 200.8	µg/L	-	-	-	-	-	-	-	-
DBCP & EDB	EPA 504.1	µg/L	-	-	-	-	-	-	-	-
Dioxin	EPA 1613	pg/L	-	-	-	-	-	-	-	-
Diquat (EPA 549)	EPA 549	µg/L	-	-	-	-	-	-	-	-
Dissolved Anions	Calculation	Meq/L	536.73	467.89	480.52	467.84	439.27	471.60	501.92	492.08
Total Anions	Calculation	Meq/L	536.73	467.89	480.52	467.84	439.27	471.60	501.92	492.08
Dissolved Cations	Calculation	Meq/L	511.44	481.42	481.07	479.03	396.38	474.04	466.91	514.80
Total Cations	Calculation	Meq/L	507.12	477.17	470.65	465.53	396.20	469.91	485.83	520.95
Fluoride, Dissolved	EPA 300.0	mg/L	0.1	0.1	ND	0.5	1.1	0.6	0.1	ND
Hardness (as CaCO3)	SM2340B/Calc, EPA200.7	mg/L	12,400	11,400	11,300	10,600	9,350	11,056	11,600	12,100
Hydroxide	SM2320B	mg/L	ND	ND	ND	ND	ND	ND	ND	ND
Iodide	EPA 9056M, 314.0, 331.0M, & 332.0M	µg/L	ND	ND	ND	ND	ND	ND	0.63	0.94
Iron	EPA 200.7	µg/L	ND	ND	ND	ND	ND	ND	ND	ND
Iron, Dissolved	EPA 200.7	µg/L	ND	ND	ND	ND	ND	ND	ND	ND
Total Kjeldahl Nitrogen, Dissolved	SM4500-NH3 B,C,E & EPA 351.2	mg/L	ND	ND	ND	ND	0.1	ND	ND	ND
Lead, Total	EPA 200.8	µg/L	ND	ND	ND	ND	ND	ND	ND	ND
Lithium	EPA 200.8	µg/L	207	234	350	313	182	252	221	267
Magnesium	EPA 200.7	mg/L	1,130	1,090	1,050	852	897	1,060	1,100	1,250
Magnesium, Dissolved	EPA 200.7	mg/L	1,140	1,100	1,070	920	887	1,070	1,110	1,230
Manganese, Dissolved	EPA 200.7	µg/L	ND	ND	ND	ND	34	ND	ND	ND
Manganese, Total	EPA 200.7	µg/L	ND	ND	ND	ND	77	ND	ND	ND
MBAS (Surfactants)	SM5540C	mg/L	0.10	0.05	ND	0.03	0.05	0.08	0.06	ND
Nitrate as N	EPA 300.0	mg/L	0.2	0.3	ND	0.2	0.1	0.4	0.1	ND
Nitrate as NO3	EPA 300.0	mg/L	0.9	1.3	ND	ND	0.4	1.7	0.5	0.4
Nitrate+Nitrite as N	EPA 300.0	mg/L	0.2	0.3	ND	ND	ND	0.4	ND	ND
Nitrite as NO2-N, Dissolved	EPA 300.0	mg/L	ND	ND	ND	ND	ND	ND	ND	ND
Odor Threshold at 60 C	SM2150B	TON	1	1	1	1	ND	ND	ND	ND
o-Phosphate-P	Hach 8048 & EPA 365.1	mg/L	0.03	0.03	0.02	0.03	0.03	0.02	0.02	0.02
pH (Field Test)	SM4500-H+B	pH	6.58	6.66	6.55	6.62	6.57	6.49	6.51	8.58
pH (Laboratory)	SM4500-H+B	pH (H)	7.0	6.7	7.2	6.7	7.0	7.2	7.2	6.8
Phenoxy Acid Herbicides (515.3)	EPA 515.3	µg/L	-	-	-	-	-	-	-	-
Phosphorus, Dissolved Total	HACH 8190 & EPA 365.1	mg/L	0.02	0.03	ND	ND	0.03	ND	ND	0.02
Potassium	EPA 200.7	mg/L	55.6	53.2	52.6	96.9	46.3	56.1	55.6	69.4
Potassium, Dissolved	EPA 200.7	mg/L	56.3	53.8	53.4	66.2	48.0	56.4	57.3	68.1
QC Ratio TDS/SEC	Calculation	-	0.66	0.77	0.58	0.80	0.93	0.72	0.79	0.68
Reg. Org. Compounds (EPA 525)	EPA 525	µg/L	-	-	-	-	-	-	-	-
Salinity	SM2520B	psu	28.8	25.4	26.1	24.0	24.7	25.4	24.8	26.4
Silica as SiO2, Dissolved	EPA 200.7	mg/L	38	34	35.7	30.3	27.8	36.2	38.6	43.2
Sodium	EPA 200.7	mg/L	5,920	5,710	5,590	5,790	4,780	5,690	5,820	6,370
Sodium, Dissolved	EPA 200.7	mg/L	6,000	5,800	5,700	6,030	4,810	5,720	5,870	6,290
Specific Conductance (E.C)	SM2510B	µmhos/cm	40,300	39,800	39,200	40,000	38,900	39,800	39,010	41,200
Specific Conductance (E.C) (Field)	SM2510B	µmhos/cm	40,340	40,420	40,440	40,800	40,440	40,660	40,823	41,541
Strontium, Dissolved	EPA 200.8	µg/L	15,800	16,600	16,100	15,800	18,700	17,600	15,100	16,000
Sulfate, Dissolved	EPA 300.0	mg/L	2,210	1,870	1,940	2,000	1,990	2,070	1,880	1,960
Temperature (Field)	SM2550	° C	19.9	19.9	19.9	20.0	19.9	20.0	19.9	19.9
Total Diss. Solids	SM2540C	mg/L	26,400	30,500	22,700	32,000	36,000 ³	28,600	31,000	27,900
Turbidity	EPA 180.1	NTU	0.15	0.15	0.10	0.20	0.10	0.10	0.15	0.15
Turbidity (Field)	EPA 180.1	NTU	0.13	0.15	0.08	0.12	0.07	0.09	0.07	0.09
Volatile Org. Compounds (524)	EPA 524	µg/L	-	-	-	-	-	-	-	-
Zinc	EPA 200.7	µg/L	ND	ND	ND	ND	ND	ND	ND	ND
Zinc, Total	EPA 200.8	µg/L	-	-	-	-	-	-	-	-
PCBs, Total	EPA 508	µg/L	-	-	-	-	-	-	-	-
Total PCB	EPA 1668C	pg/L	-	-	-	-	-	-	-	-

Notes:

- °C = Degrees Celsius
- CU = Color Units
- Meq/L = Milliequivalents per Liter
- mg/L = Milligrams per Liter
- NTU = Nephelometric Turbidity Units
- pg/L = Picograms per Liter
- TON = Threshold Odor Number
- µg/L = Micograms per Liter
- µmhos/cm = Micromhos per Centimeter

ND = NOT DETECTED at or above the Reporting Limit (RL) or Practical Quantitation Limit (PQL). See laboratory water quality reports for RL and PQL values.

¹ Using EPA Method 200.8, Arsenic values are overstated due to matrix interference caused by high chloride levels. The overstated values are in laboratory reports through February 11, 2016. Going forward, EPA Method 1640 will be used for Arsenic analysis only.

² EPA Methods 2120B and C are both applicable to measure color caused primarily by natural organic matter. Both methods are suitable for true color measurements but for apparent color measurements only Method 2120B is used.

³ The reported gravimetric method TDS result exceeds the calculated TDS using ion summation. The laboratory attributes the elevated level to the possibility of water trapped in salt crystals. MBAS calculated values: MW-3D (4/13/21) = 29,600 mg/L; MW-4D (4/15/21) = 24,000 mg/L

⁴ MW-6 headers were corrected in Report No. 174. Header previously labeled MW-6M(L) was corrected to MW-6M and header previously labeled MW-6D was corrected to MW-6M(L).

Table 3: Summary of Quarterly and Semiannual Monitoring Well Laboratory Water Quality Results Following Long-Term Pumping Test

Monitoring Well Name:			MW-55(P)										MW-5M		
Sample Collection Date:			23-Apr-18	10-Oct-18	10-Apr-19	14-Oct-19	6-Apr-20	13-Oct-20	12-Apr-21	11-Oct-21	11-Apr-22	17-Oct-22	23-Apr-18	9-Oct-18	8-Apr-19
Constituent	Method	Units	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result
Alkalinity, Total (as CaCO3)	SM2320B	mg/L	66	66	59	62	54	47	43	40	35	37	166	165	195
Aluminum, Total	EPA 200.8	µg/L	40	11	ND	8	ND	ND	ND	7	ND	ND	ND	ND	ND
Ammonia-N, Dissolved	SM4500NH3 D & EPA 350.1	mg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic, Total ¹	EPA 200.8	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
Arsenic, Total	EPA 1640	µg/L	0.2	0.16	0.16	0.16	0.11	0.13	7.1	0.13	0.14	0.16	1.5	1.60	1.3
Barium, Dissolved	EPA 200.8	µg/L	113	118.0	101	104	106	94.8	103	97.7	87.9	92.4	78	87	97.9
Bicarbonate (as HCO3-)	SM2320B	mg/L	80	80	72	76	66	57	53	48	42	45	203	201	238
Boron, Dissolved	EPA 200.7	mg/L	0.06	0.05	0.05	0.05	0.04	0.06	ND	ND	ND	ND	0.12	0.11	0.13
Bromide, Dissolved	EPA 300.0	mg/L	3.3	4.0	4.5	4.9	4.4	4.8	3.8	3.8	3.2	3.0	0.3	0.3	0.4
Calcium	EPA 200.7	mg/L	154	147	151	144	146	135	141	138	114	113	83	81	92
Calcium, Dissolved	EPA 200.7	mg/L	148	147	150	144	148	141	143	132	112	114	82	80	94
Carbamates by HPLC (EPA 531)	EPA 531	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
Carbonate as CaCO3	SM2320B	mg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloride, Dissolved	EPA 300.0	mg/L	299	306	299	283	284	282	284	273	237	219	108	106	111
Chlorinated Pesticides and PCB (EPA 508)	EPA 508	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
Color, Apparent (Unfiltered)	SM2120B	Color Units	ND	8	3	ND	-	-	ND	ND	ND	ND	ND	ND	ND
Color, True ²	SM2120C	Color Units	-	-	-	-	ND	ND	-	-	-	-	-	-	-
Copper	EPA 200.7	µg/L	ND	ND	ND	ND	ND	ND	9	ND	ND	ND	ND	ND	ND
Copper, Total	EPA 200.8	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
DBCP & EDB	EPA 504.1	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
Dioxin	EPA 1613	pg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
Diquat (EPA 549)	EPA 549	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
Dissolved Anions	Calculation	Meq/L	18.98	19.26	18.71	17.72	17.61	17.54	17.94	17.12	15.52	14.73	9.26	9.11	10.02
Total Anions	Calculation	Meq/L	18.98	19.26	18.71	17.72	17.61	17.54	17.94	17.12	15.52	14.73	9.26	9.11	10.02
Dissolved Cations	Calculation	Meq/L	19.40	18.43	18.27	17.20	17.23	18.10	18.06	17.43	16.10	15.68	8.99	8.77	10.58
Total Cations	Calculation	Meq/L	19.56	18.00	18.58	17.33	17.09	16.81	17.88	17.49	16.27	15.57	9.25	9.08	10.21
Fluoride, Dissolved	EPA 300.0	mg/L	ND	ND	ND	0.0	ND	0.0	ND	0.0	ND	ND	0.2	ND	0.1
Hardness (as CaCO3)	SM2340B/Calc, EPA200.7	mg/L	668	616	563	592	592	570	512	574	512	502	313	306	350
Hydroxide	SM2320B	mg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iodide	EPA 9056M, 314.0, 331.0M, & 332.0M	µg/L	ND	ND	ND	ND	ND	0.89	1.9	ND	0.98	0.55	ND	ND	ND
Iron	EPA 200.7	µg/L	90	19	10	25	16	ND	ND	ND	53	ND	ND	ND	ND
Iron, Dissolved	EPA 200.7	µg/L	ND	ND	ND	12	ND	8	ND	ND	ND	ND	ND	ND	ND
Total Kjeldahl Nitrogen, Dissolved	SM4500-NH3 B,C,E & EPA 351.2	mg/L	ND	ND	ND	ND	ND	ND	ND	1.1	0.1	ND	ND	1.40	1.70
Lead, Total	EPA 200.8	µg/L	ND	0.3	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.3	ND
Lithium	EPA 200.8	µg/L	10	10	10.1	10.7	9.3	11.2	9.9	8.8	2.4	12.8	6	6	7.0
Magnesium	EPA 200.7	mg/L	69	61	60	56.1	55	56	57	56	55.3	53.3	26	25	29
Magnesium, Dissolved	EPA 200.7	mg/L	67	62	59	56	55	60	57	57	55	54	25	25	30
Manganese, Dissolved	EPA 200.7	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Manganese, Total	EPA 200.7	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MBAS (Surfactants)	SM5540C	mg/L	ND	ND	ND	ND	ND	0.06	0.02	0.03	0.04	0.04	ND	ND	ND
Nitrate as N	EPA 300.0	mg/L	61.5	63.5	58.9	57.8	57.3	57.5	59.8	56.7	54.4	52.6	15.4	15.0	14.6
Nitrate as NO3	EPA 300.0	mg/L	270	280	260	260	250	250	270	250	240	230	68	67	65
Nitrate+Nitrite as N	EPA 300.0	mg/L	61.5	63.5	58.9	57.8	57.3	57.5	59.8	56.7	54.4	52.6	15.4	15	14.6
Nitrite as NO2-N, Dissolved	EPA 300.0	mg/L	ND	0.1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.1
Odor Threshold at 60 C	SM2150B	TON	2	1	1	1	1	1	ND	ND	ND	ND	ND	1	2
o-Phosphate-P	Hach 8048 & EPA 365.1	mg/L	0.06	0.05	ND	0.05	0.05	0.05	0.04	0.05	0.05	0.06	0.12	0.12	0.10
pH (Field Test)	SM4500-H+B	pH	6.32	6.22	6.52	7.10	6.28	6.32	6.70	6.54	6.61	6.48	7.23	7.10	7.30
pH (Laboratory)	SM4500-H+B	pH (H)	6.5	6.6	6.5	6.9	6.7	7.1	6.7	6.6	7.6	6.9	7.4	7.4	7.5
Phenoxy Acid Herbicides (515.3)	EPA 515.3	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
Phosphorus, Dissolved Total	HACH 8190 & EPA 365.1	mg/L	0.05	0.06	0.06	0.06	0.05	0.05	0.04	0.05	0.04	0.06	0.12	0.12	0.09
Potassium	EPA 200.7	mg/L	4.3	4.3	4.0	3.9	3.8	4.5	4.1	4.0	4.4	4.2	3.7	3.9	4.1
Potassium, Dissolved	EPA 200.7	mg/L	4.2	4.4	4.03	3.96	3.8	4.9	4.06	4	4.4	4.2	3.9	3.9	4.4
QC Ratio TDS/SEC	Calculation	-	0.70	0.63	0.69	0.61	0.61	0.64	0.66	0.60	0.65	0.62	0.61	0.67	0.62
Reg. Org. Compounds (EPA 525)	EPA 525	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
Salinity	SM2520B	psu	NA	ND	ND	ND	NA	0.9	NA	NA	NA	NA	NA	NA	NA
Silica as SiO2, Dissolved	EPA 200.7	mg/L	42	42	38	38	41	41.5	43.9	44	41.6	44.4	33	34	35
Sodium	EPA 200.7	mg/L	140	127	138	125	119	123	139	136	136	125	66	66	72
Sodium, Dissolved	EPA 200.7	mg/L	147	135	134	122	120	138	141	139	135	125	63	60	76
Specific Conductance (E.C)	SM2510B	µmhos/cm	1,941	1,898	1,898	1,846	1,913	1,838	1,819	1,841	1,734	1,665	924	892	1,035
Specific Conductance (E.C) (Field)	SM2510B	µmhos/cm	2,544	1,914	1,834	2,095	1,802	1,819	1,811	1,795	1,642	1,643	946	975	1,036
Strontium, Dissolved	EPA 200.8	µg/L	1,390	1,180	1,220	1,200	1,300	1,160	1,380	1,230	1,160	1,550	508	444	598
Sulfate, Dissolved	EPA 300.0	mg/L	230	227	232	207	209	215	228	217	202	193	86	84	93
Temperature (Field)	SM2550	° C	17.0	17.5	17.3	16.9	16.8	17.0	16.8	16.5	15.7	17.1	17.3	17.3	17.7
Total Diss. Solids	SM2540C	mg/L	1,350	1,200	1,300	1,130	1,170	1,180	1,190	1,110	1,130	1,040	566	600	642
Turbidity	EPA 180.1	NTU	1.80	0.35	0.25	0.30	0.55	0.25	0.45	0.35	0.15	0.15	0.10	0.25	0.10
Turbidity (Field)	EPA 180.1	NTU	4.8	ND	0.690	0.78	0.68	0.65	0.79	1	0.4	0.00	0.87	ND	0.25
Volatile Org. Compounds (524)	EPA 524	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
Zinc	EPA 200.7	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Zinc, Total	EPA 200.8	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
PCBs, Total	EPA 508	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
Total PCB	EPA 1668C	pg/L	-	-	-	-	-	-	-	-	-	-	-	-	-

Notes:
 °C = Degrees Celsius
 CU = Color Units
 Meq/L = Milliequivalents per Liter
 mg/L = Milligrams per Liter
 NTU = Nephelometric Turbidity Units
 pg/L = Picograms per Liter
 TON = Threshold Odor Number
 µg/L = Micrograms per Liter
 µmhos/cm = Micromhos per Centimeter

ND = NOT DETECTED at or above the Reporting Limit (RL) or Practical Quantitation Limit (PQL). See laboratory water quality reports for RL and PQL values.
¹ Using EPA Method 200.8, Arsenic values are overstated due to matrix interference caused by high chloride levels. The overstated values are in laboratory reports through February 11, 2016. Going forward, EPA Method 1640 will be used for Arsenic analysis only.
² EPA Methods 2120B and C are both applicable to measure color caused primarily by natural organic matter. Both methods are suitable for true color measurements but for apparent color measurements only Method 2120B is used.
³ The reported gravimetric method TDS result exceeds the calculated TDS using ion summation. The laboratory attributes the elevated level to the possibility of water trapped in salt crystals. MBAS calculated values: MW-3D (4/13/21) = 29,600 mg/L; MW-4D (4/15/21) = 24,000 mg/L
⁴ MW-6 headers were corrected in Report No. 174. Header previously labeled MW-6M(L) was corrected to MW-6M and header previously labeled MW-6D was corrected to MW-6M(L).

Table 3: Summary of Quarterly and Semiannual Monitoring Well Laboratory Water Quality Results Following Long-Term Pumping Test

Constituent	Method	Units	Monitoring Well Name: MW-5M							Monitoring Well Name: MW-5D					
			Sample Collection Date:							Sample Collection Date:					
			14-Oct-19	6-Apr-20	12-Oct-20	12-Apr-21	11-Oct-21	11-Apr-22	17-Oct-22	24-Apr-18	9-Oct-18	8-Apr-19	15-Oct-19	6-Apr-20	14-Oct-20
Alkalinity, Total (as CaCO3)	SM2320B	mg/L	168	194	184	185	184	193	180	114	115	114	116	114	118
Aluminum, Total	EPA 200.8	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ammonia-N, Dissolved	SM4500NH3 D & EPA 350.1	mg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.02
Arsenic, Total ¹	EPA 200.8	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
Arsenic, Total	EPA 1640	µg/L	1.7	1.4	2.4	1.5	1.3	1.5	1.9	0.4	0.47	0.51	0.49	0.46	0.59
Barium, Dissolved	EPA 200.8	µg/L	82.6	108	86.7	102	95.9	95	104	392	465	539	467	516	452
Bicarbonate (as HCO3-)	SM2320B	mg/L	205	237	224	225	225	236	219	139	140	140	142	135	144
Boron, Dissolved	EPA 200.7	mg/L	0.12	0.13	0.14	0.12	0.13	0.12	0.14	ND	0.08	0.56	0.10	0.06	0.08
Bromide, Dissolved	EPA 300.0	mg/L	0.4	0.4	0.4	0.4	0.4	0.4	0.6	4.9	5.3	5.0	6.2	7.1	7.3
Calcium	EPA 200.7	mg/L	79	102	87	91	88	78	77	520	502	602	618	693	764
Calcium, Dissolved	EPA 200.7	mg/L	77	103	85	88	83	77	77	524	504	589	639	685	762
Carbamates by HPLC (EPA 531)	EPA 531	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
Carbonate as CaCO3	SM2320B	mg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloride, Dissolved	EPA 300.0	mg/L	104	117	107	106	105	92.5	95	1,640	1,610	1,740	1,860	1,980	1,960
Chlorinated Pesticides and PCB (EPA 508)	EPA 508	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
Color, Apparent (Unfiltered)	SM2120B	Color Units	ND	-	-	ND	ND	ND	ND	ND	ND	ND	ND	-	-
Color, True ²	SM2120C	Color Units	-	ND	ND	-	-	-	-	-	-	-	-	4	ND
Copper	EPA 200.7	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	33	ND	ND	5
Copper, Total	EPA 200.8	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
DBCP & EDB	EPA 504.1	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
Dioxin	EPA 1613	pg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
Diquat (EPA 549)	EPA 549	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
Dissolved Anions	Calculation	Meq/L	9.17	10.50	9.62	9.70	9.51	9.27	9.16	50.53	49.78	53.30	57.63	60.84	60.37
Total Anions	Calculation	Meq/L	9.17	10.50	9.62	9.70	9.51	9.27	9.16	50.53	49.78	53.30	57.63	60.84	60.37
Dissolved Cations	Calculation	Meq/L	8.65	10.76	9.58	9.92	9.68	9.82	9.39	48.62	47.69	52.62	55.17	59.49	60.49
Total Cations	Calculation	Meq/L	8.66	10.72	9.71	9.73	9.97	9.78	9.43	48.21	47.26	54.17	54.88	60.43	61.52
Fluoride, Dissolved	EPA 300.0	mg/L	0.1	0.1	0.1	0.1	0.1	0.1	ND	0.1	ND	0.1	0.2	0.1	0.1
Hardness (as CaCO3)	SM2340B/Calc, EPA200.7	mg/L	299	377	331	341	334	316	310	2,070	2,000	2,370	2,420	2,700	2,320
Hydroxide	SM2320B	mg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iodide	EPA 9056M, 314.0, 331.0M, & 332.0M	µg/L	ND	ND	0.56	1.4	ND	0.6	ND	ND	ND	ND	ND	ND	0.52
Iron	EPA 200.7	µg/L	ND	ND	ND	ND	ND	12	ND	ND	ND	242	14	ND	ND
Iron, Dissolved	EPA 200.7	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Kjeldahl Nitrogen, Dissolved	SM4500-NH3 B,C,E & EPA 351.2	mg/L	1.4	ND	ND	ND	1.7	ND	ND	ND	ND	ND	0.3	ND	ND
Lead, Total	EPA 200.8	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	0.3	3.9	ND	ND	ND
Lithium	EPA 200.8	µg/L	6.8	6.4	6.6	7.0	6.3	7.1	7.8	65	79	80.1	95.4	82.4	95.1
Magnesium	EPA 200.7	mg/L	24	30	28	28	27.9	29.5	29	188	182	210	214	236	204
Magnesium, Dissolved	EPA 200.7	mg/L	24	29	26	28	28	30	28	190	186	200	202	231	198
Manganese, Dissolved	EPA 200.7	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	8	ND	6	4	ND
Manganese, Total	EPA 200.7	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	7	14	12	4	10
MBAS (Surfactants)	SM5540C	mg/L	ND	ND	ND	0.04	0.02	0.02	0.04	ND	ND	ND	ND	ND	ND
Nitrate as N	EPA 300.0	mg/L	15.4	16.4	15.2	15.8	15.2	14.6	13.7	1.3	0.8	0.6	0.9	0.7	0.7
Nitrate as NO3	EPA 300.0	mg/L	68	72	68	70	68	65	61	5.8	3.4	2.5	4.2	3.1	3.3
Nitrate+Nitrite as N	EPA 300.0	mg/L	15.4	16.4	15.2	15.8	15.2	14.6	13.7	1.3	0.8	0.6	0.9	0.7	0.7
Nitrite as NO2-N, Dissolved	EPA 300.0	mg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Odor Threshold at 60 C	SM2150B	TON	1	1	1	ND	ND	ND	ND	2	1	1	1	1	1
o-Phosphate-P	Hach 8048 & EPA 365.1	mg/L	0.11	0.09	0.11	0.11	0.12	0.12	0.19	ND	0.01	0.01	0.01	0.01	ND
pH (Field Test)	SM4500-H+B	pH	7.43	6.83	7.34	7.22	7.26	6.57	7.17	7.10	6.65	6.70	6.73	6.66	6.71
pH (Laboratory)	SM4500-H+B	pH (H)	7.7	7.4	7.9	7.4	7.4	8.4	7.6	7.2	7.1	7.0	7.1	7.1	7.2
Phenoxy Acid Herbicides (515.3)	EPA 515.3	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
Phosphorus, Dissolved Total	HACH 8190 & EPA 365.1	mg/L	0.11	0.10	0.11	0.09	0.13	0.09	0.13	ND	ND	0.02	0.02	ND	ND
Potassium	EPA 200.7	mg/L	3.6	3.9	4.2	4.0	3.8	4.5	4.3	12.3	8.6	9.4	8.2	8.3	8.5
Potassium, Dissolved	EPA 200.7	mg/L	3.7	4	4.3	3.7	3.84	4.5	4.3	12.2	8.7	9.5	8.6	8	8.40
QC Ratio TDS/SEC	Calculation	-	0.55	0.64	0.58	0.63	0.57	0.62	0.57	0.74	0.68	0.63	0.59	0.61	0.83
Reg. Org. Compounds (EPA 525)	EPA 525	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
Salinity	SM2520B	psu	NA	ND	0.5	NA	NA	NA	NA	3.0	2.6	3.4	3.3	3.7	3.2
Silica as SiO2, Dissolved	EPA 200.7	mg/L	32	36	34.0	36.3	35.6	34.3	36.2	45	45	75	45	40	37.7
Sodium	EPA 200.7	mg/L	61	71	68	64	73	77	72	149	161	152	143	143	133
Sodium, Dissolved	EPA 200.7	mg/L	63	72	71	72	72	78	72	150	161	150	148	140	134
Specific Conductance (E.C)	SM2510B	µmhos/cm	941	1,055	965	971	963	1,017	993	4,993	4,856	5,690	5,550	6,170	5,930
Specific Conductance (E.C) (Field)	SM2510B	µmhos/cm	942	1,058	974	998	971	1,014	1,155	6,503	5,217	5,114	5,974	6,163	5,898
Strontium, Dissolved	EPA 200.8	µg/L	482	639	528	633	600	587	808	3,660	3,210	4,380	4,000	4,910	4,500
Sulfate, Dissolved	EPA 300.0	mg/L	85	103	88	90	85	84	90	88	93	88	118	123	124
Temperature (Field)	SM2550	°C	17.1	17.1	17.7	17.2	17.3	15.3	17.7	21.8	21.0	21.6	21.1	20.7	21.2
Total Diss. Solids	SM2540C	mg/L	518	676	564	612	552	630	564	3,700	3,300	3,560	3,260	3,780	4,900
Turbidity	EPA 180.1	NTU	ND	0.05	ND	ND	0.10	0.15	ND	0.65	0.30	0.25	ND	0.15	0.05
Turbidity (Field)	EPA 180.1	NTU	0.3	0.39	0.7	0.34	0.6	0.79	0.49	2.7	ND	0.67	0.25	0.49	0.49
Volatile Org. Compounds (524)	EPA 524	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
Zinc	EPA 200.7	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	29	ND	ND	ND
Zinc, Total	EPA 200.8	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
PCBs, Total	EPA 508	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
Total PCB	EPA 1668C	pg/L	-	-	-	-	-	-	-	-	-	-	-	-	-

Notes:

- °C = Degrees Celsius
- CU = Color Units
- Meq/L = Milliequivalents per Liter
- mg/L = Milligrams per Liter
- NTU = Nephelometric Turbidity Units
- pg/L = Picograms per Liter
- TON = Threshold Odor Number
- µg/L = Micograms per Liter
- µmhos/cm = Micromhos per Centimeter

ND = NOT DETECTED at or above the Reporting Limit (RL) or Practical Quantitation Limit (PQL). See laboratory water quality reports for RL and PQL values.

¹ Using EPA Method 200.8, Arsenic values are overstated due to matrix interference caused by high chloride levels. The overstated values are in laboratory reports through February 11, 2016. Going forward, EPA Method 1640 will be used for Arsenic analysis only.

² EPA Methods 2120B and C are both applicable to measure color caused primarily by natural organic matter. Both methods are suitable for true color measurements but for apparent color measurements only Method 2120B is used.

³ The reported gravimetric method TDS result exceeds the calculated TDS using ion summation. The laboratory attributes the elevated level to the possibility of water trapped in salt crystals. MBAS calculated values: MW-3D (4/13/21) = 29,600 mg/L; MW-4D (4/15/21) = 24,000 mg/L

⁴ MW-6 headers were corrected in Report No. 174. Header previously labeled MW-6M(L) was corrected to MW-6M and header previously labeled MW-6D was corrected to MW-6M(L).

Table 3: Summary of Quarterly and Semiannual Monitoring Well Laboratory Water Quality Results Following Long-Term Pumping Test

Monitoring Well Name:			MW-5D				MW-6S								
Sample Collection Date:			12-Apr-21	13-Oct-21	11-Apr-22	17-Oct-22	23-Apr-18	8-Oct-18	9-Apr-19	17-Oct-19	9-Apr-20	14-Oct-20	14-Apr-21	13-Oct-21	13-Apr-22
Constituent	Method	Units	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result
Alkalinity, Total (as CaCO3)	SM2320B	mg/L	114	119	115	112	456	362	302	292	325	386	426	335	452
Aluminum, Total	EPA 200.8	µg/L	ND	ND	ND	ND	ND	ND	8	ND	ND	13	ND	8	6
Ammonia-N, Dissolved	SM4500NH3 D & EPA 350.1	mg/L	ND	ND	ND	ND	0.6	0.5	ND	0.40	0.49	0.41	0.43	0.39	0.32
Arsenic, Total ¹	EPA 200.8	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
Arsenic, Total	EPA 1640	µg/L	0.47	0.54	0.53	0.63	8.70	9.40	8.6	8.60	9.1	11	9.6	9.3	11
Barium, Dissolved	EPA 200.8	µg/L	623	444	415	366	219	132	134	104	105	102	123	97.4	106
Bicarbonate (as HCO3-)	SM2320B	mg/L	140	145	140	137	556	442	368	356	390	471	519	409	552
Boron, Dissolved	EPA 200.7	mg/L	0.09	ND	0.08	0.10	0.28	0.27	0.28	0.22	0.18	0.24	0.22	0.22	0.23
Bromide, Dissolved	EPA 300.0	mg/L	7.8	7.7	7.6	5.8	0.9	0.4	0.5	0.2	0.2	0.2	0.2	0.2	0.2
Calcium	EPA 200.7	mg/L	779	704	702	583	180	96	107	96	86	85	103	84	115
Calcium, Dissolved	EPA 200.7	mg/L	785	678	716	581	183	98	107	86	85	80	104	77	116
Carbamates by HPLC (EPA 531)	EPA 531	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
Carbonate as CaCO3	SM2320B	mg/L	ND	ND	ND	ND	ND	ND	ND	ND	5	ND	ND	ND	ND
Chloride, Dissolved	EPA 300.0	mg/L	2,110	2,060	2,260	1,820	185	115	112	68	55	55	44	40	46.1
Chlorinated Pesticides and PCB (EPA 508)	EPA 508	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
Color, Apparent (Unfiltered)	SM2120B	Color Units	ND	ND	ND	ND	7	22	15	15	-	-	ND	7	15
Color, True ²	SM2120C	Color Units	-	-	-	-	-	-	-	-	11	12	-	-	-
Copper	EPA 200.7	µg/L	ND	ND	23	11	ND	ND	ND	ND	ND	ND	ND	ND	ND
Copper, Total	EPA 200.8	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
DBCP & EDB	EPA 504.1	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
Dioxin	EPA 1613	pg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
Diquat (EPA 549)	EPA 549	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
Dissolved Anions	Calculation	Meq/L	64.87	63.19	69.18	56.34	22.62	14.69	14.87	11.16	11.02	11.93	11.97	10.05	12.27
Total Anions	Calculation	Meq/L	64.87	63.19	69.18	56.34	22.62	14.69	14.87	11.16	11.02	11.93	11.97	10.05	12.27
Dissolved Cations	Calculation	Meq/L	65.19	61.14	68.04	54.87	23.18	14.74	14.61	11.26	11.03	10.77	12.12	10.22	13.03
Total Cations	Calculation	Meq/L	67.62	62.28	67.25	55.10	23.08	14.25	14.57	12.27	11.35	10.95	11.94	10.77	12.92
Fluoride, Dissolved	EPA 300.0	mg/L	0.1	0.2	0.1	ND	0.2	ND	0.2	0.3	0.2	0.2	0.2	0.2	0.2
Hardness (as CaCO3)	SM2340B/Calc, EPA200.7	mg/L	3,020	2,770	2,950	2,400	751	402	451	390	352	358	420	354	478
Hydroxide	SM2320B	mg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iodide	EPA 9056M, 314.0, 331.0M, & 332.0M	µg/L	ND	ND	ND	ND	1,030	14	12	12	18	30	26	12	31
Iron	EPA 200.7	µg/L	ND	ND	15	ND	233	123	190	183	206	174	206	196	257
Iron, Dissolved	EPA 200.7	µg/L	ND	ND	20	ND	19	119	171	163	176	130	208	177	238
Total Kjeldahl Nitrogen, Dissolved	SM4500-NH3 B,C,E & EPA 351.2	mg/L	ND	0.5	ND	ND	0.8	0.7	0.5	ND	0.5	ND	0.7	0.6	0.3
Lead, Total	EPA 200.8	µg/L	ND	ND	0.2	ND	ND	ND	0.2	ND	ND	ND	ND	ND	ND
Lithium	EPA 200.8	µg/L	104	76.7	77.2	111	7	6	6.5	4.7	4.1	6.3	4.6	5.9	5.9
Magnesium	EPA 200.7	mg/L	261	246	292	230	73	40	44	37	33	35.4	39	35	46.3
Magnesium, Dissolved	EPA 200.7	mg/L	232	248	292	229	75	41	45	35	33	32	39	34	47
Manganese, Dissolved	EPA 200.7	µg/L	11	ND	ND	ND	3,140	1,830	2,040	1,750	1,600	1,640	2,070	1,720	2,450
Manganese, Total	EPA 200.7	µg/L	12	ND	ND	ND	3,090	1,770	2,030	1,850	1,630	1,830	2,070	1,800	2,410
MBAS (Surfactants)	SM5540C	mg/L	0.04	0.03	ND	0.03	ND	ND	ND	ND	ND	0.05	0.04	0.04	0.03
Nitrate as N	EPA 300.0	mg/L	0.8	0.7	0.6	0.6	0.2	ND	ND	ND	ND	ND	ND	ND	ND
Nitrate as NO3	EPA 300.0	mg/L	3.5	3.2	2.8	2.7	1	ND	ND	ND	ND	ND	ND	ND	ND
Nitrate+Nitrite as N	EPA 300.0	mg/L	0.8	0.7	0.6	0.6	0.2	ND	ND	ND	ND	ND	ND	ND	ND
Nitrite as NO2-N, Dissolved	EPA 300.0	mg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Odor Threshold at 60 C	SM2150B	TON	ND	ND	ND	ND	ND	1	2	1	1	1	ND	ND	ND
o-Phosphate-P	Hach 8048 & EPA 365.1	mg/L	0.03	0.01	ND	0.02	1.26	1.41	1.55	1.33	1.38	0.75	1.36	1.2	0.41
pH (Field Test)	SM4500-H+B	pH	7.16	6.92	6.91	6.84	6.94	7.01	7.04	7.00	6.92	7.11	6.93	7.08	6.36
pH (Laboratory)	SM4500-H+B	pH (H)	7.3	7.0	7.9	7.3	7.2	7.3	7.3	7.3	8.3	7.6	7.3	7.6	7.3
Phenoxy Acid Herbicides (515.3)	EPA 515.3	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
Phosphorus, Dissolved Total	HACH 8190 & EPA 365.1	mg/L	ND	ND	ND	ND	1.24	1.42	1.20	1.37	1.48	1.52	1.22	1.4	1.22
Potassium	EPA 200.7	mg/L	8.8	8.0	10.8	9.8	10.4	8.3	8.5	7.4	6.5	7.2	6.6	6.3	6.7
Potassium, Dissolved	EPA 200.7	mg/L	8.9	8.03	11.0	9.8	10.5	8.5	8.50	7.21	6.34	6.9	6.49	6	6.81
QC Ratio TDS/SEC	Calculation	-	0.83	0.64	0.69	0.62	0.69	0.63	0.67	0.56	0.64	0.69	0.64	0.60	0.53
Reg. Org. Compounds (EPA 525)	EPA 525	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
Salinity	SM2520B	psu	3.6	3.5	3.8	3.1	NA	ND	ND	ND	ND	0.5	ND	ND	NA
Silica as SiO2, Dissolved	EPA 200.7	mg/L	41.9	44.9	47.5	50.0	31	31	32	32	30	30.5	32.6	33.4	34.4
Sodium	EPA 200.7	mg/L	162	154	182	157	179	136	124	97	96	83	78	81	73
Sodium, Dissolved	EPA 200.7	mg/L	154	156	184	156	174	143	123	89	90	91	81	78	73
Specific Conductance (E.C)	SM2510B	µmhos/cm	6,530	6,485	6,870	5,670	1,970	1,341	1,340	1,101	1,031	1,046	1,054	910	1,047
Specific Conductance (E.C) (Field)	SM2510B	µmhos/cm	6,480	6,550	6,933	5,587	2,026	1,385	1,373	1,044	1,033	1,234	1,096	935	1,102
Strontium, Dissolved	EPA 200.8	µg/L	5,180	4,930	5,410	6,670	1,120	528	688	646	539	519	704	523	621
Sulfate, Dissolved	EPA 300.0	mg/L	140	129	143	127	396	201	270	161	140	125	104	104	92
Temperature (Field)	SM2550	°C	20.6	20.1	20.3	20.8	17.8	17.7	17.3	17.1	17.4	17.5	17.2	17.3	17.4
Total Diss. Solids	SM2540C	mg/L	5,400	4,180	4,720	3,500	1,360	840	896	612	658	718	678	545	560
Turbidity	EPA 180.1	NTU	ND	ND	0.15	0.35	1.30	1.00	1.40	1.10	1.6	1.4	1.5	1.3	1.6
Turbidity (Field)	EPA 180.1	NTU	0.77	1	0.8	0.00	1.6	0.68	0.55	0.65	0.85	0.96	0.89	0.89	1
Volatile Org. Compounds (524)	EPA 524	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
Zinc	EPA 200.7	µg/L	ND	ND	20	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Zinc, Total	EPA 200.8	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
PCBs, Total	EPA 508	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
Total PCB	EPA 1668C	pg/L	-	-	-	-	-	-	-	-	-	-	-	-	-

Notes:

- °C = Degrees Celsius
- CU = Color Units
- Meq/L = Milliequivalents per Liter
- mg/L = Milligrams per Liter
- NTU = Nephelometric Turbidity Units
- pg/L = Picograms per Liter
- TON = Threshold Odor Number
- µg/L = Micograms per Liter
- µmhos/cm = Micromhos per Centimeter

ND = NOT DETECTED at or above the Reporting Limit (RL) or Practical Quantitation Limit (PQL). See laboratory water quality reports for RL and PQL values.

¹ Using EPA Method 200.8, Arsenic values are overstated due to matrix interference caused by high chloride levels. The overstated values are in laboratory reports through February 11, 2016. Going forward, EPA Method 1640 will be used for Arsenic analysis only.

² EPA Methods 2120B and C are both applicable to measure color caused primarily by natural organic matter. Both methods are suitable for true color measurements but for apparent color measurements only Method 2120B is used.

³ The reported gravimetric method TDS result exceeds the calculated TDS using ion summation. The laboratory attributes the elevated level to the possibility of water trapped in salt crystals. MBAS calculated values: MW-3D (4/13/21) = 29,600 mg/L; MW-4D (4/15/21) = 24,000 mg/L

⁴ MW-6 headers were corrected in Report No. 174. Header previously labeled MW-6M(L) was corrected to MW-6M and header previously labeled MW-6D was corrected to MW-6M(L).

Table 3: Summary of Quarterly and Semiannual Monitoring Well Laboratory Water Quality Results Following Long-Term Pumping Test

Monitoring Well Name:			MW-6S	MW-6M ⁴										MW-6M(L) ⁴	
Sample Collection Date:			20-Oct-22	23-Apr-18	8-Oct-18	10-Apr-19	17-Oct-19	9-Apr-20	14-Oct-20	14-Apr-21	13-Oct-21	13-Apr-22	20-Oct-22	23-Apr-18	8-Oct-18
Constituent	Method	Units	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result
Alkalinity, Total (as CaCO ₃)	SM2320B	mg/L	405	386	391	391	379	377	390	387	394	398	391	108	109
Aluminum, Total	EPA 200.8	µg/L	6	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ammonia-N, Dissolved	SM4500NH ₃ D & EPA 350.1	mg/L	0.37	ND	0.1	0.1	0.11	0.17	0.21	0.27	0.30	0.29	0.41	ND	ND
Arsenic, Total ¹	EPA 200.8	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
Arsenic, Total	EPA 1640	µg/L	12	1.50	1.90	1.8	1.8	2.0	2.6	2.3	2.4	2.7	3.5	0.49	0.48
Barium, Dissolved	EPA 200.8	µg/L	124	133	149	146	110	162	140	175	172	167	186	264	301
Bicarbonate (as HCO ₃ ⁻)	SM2320B	mg/L	494	471	477	477	462	447	476	472	480	486	477	132	133
Boron, Dissolved	EPA 200.7	mg/L	0.2	0.26	0.26	0.25	0.29	0.23	0.26	0.26	0.27	0.26	0.3	ND	0.08
Bromide, Dissolved	EPA 300.0	mg/L	ND	0.4	0.3	0.8	0.4	0.6	0.2	0.7	0.6	0.8	0.7	3.7	4.4
Calcium	EPA 200.7	mg/L	90	118	112	119	125	130	117	137	132	147	127	507	523
Calcium, Dissolved	EPA 200.7	mg/L	94	119	112	121	117	129	109	135	124	148	134	500	522
Carbamates by HPLC (EPA 531)	EPA 531	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
Carbonate as CaCO ₃	SM2320B	mg/L	ND	ND	ND	ND	ND	11	ND	ND	ND	ND	ND	ND	ND
Chloride, Dissolved	EPA 300.0	mg/L	33	142	138	144	149	153	142	152	146	160	142	1,210	1,350
Chlorinated Pesticides and PCB (EPA 508)	EPA 508	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
Color, Apparent (Unfiltered)	SM2120B	Color Units	20	4	3	4	3	-	-	15	ND	ND	3	ND	ND
Color, True ²	SM2120C	Color Units	-	-	-	-	-	3	3	-	-	-	-	-	-
Copper	EPA 200.7	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Copper, Total	EPA 200.8	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
DBCP & EDB	EPA 504.1	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
Dioxin	EPA 1613	pg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
Diquat (EPA 549)	EPA 549	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
Dissolved Anions	Calculation	Meq/L	10.62	14.74	14.65	15.33	14.71	15.49	15.05	16.08	15.56	17.12	16.1	38.47	42.76
Total Anions	Calculation	Meq/L	10.62	14.74	14.65	15.33	14.71	15.49	15.05	16.08	15.56	17.12	16.1	38.47	42.76
Dissolved Cations	Calculation	Meq/L	11.03	14.75	14.55	14.72	15.16	15.20	13.61	15.93	15.76	17.72	17.1	37.91	43.17
Total Cations	Calculation	Meq/L	10.64	15.35	14.12	14.53	15.56	15.31	14.39	16.19	16.07	17.46	16.3	38.90	41.52
Fluoride, Dissolved	EPA 300.0	mg/L	0.1	0.1	ND	0.2	0.2	0.2	0.2	0.2	0.1	0.2	ND	ND	ND
Hardness (as CaCO ₃)	SM2340B/Calc, EPA200.7	mg/L	399	466	441	470	484	503	458	531	525	586	532	1,760	1,840
Hydroxide	SM2320B	mg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iodide	EPA 9056M, 314.0, 331.0M, & 332.0M	µg/L	46	ND	39	42	31	44	48	54	30	52	46	ND	ND
Iron	EPA 200.7	µg/L	232	ND	5	12	ND	6	ND	ND	ND	12	12	ND	ND
Iron, Dissolved	EPA 200.7	µg/L	239	ND	ND	12	8	ND	ND	ND	ND	10	13	ND	ND
Total Kjeldahl Nitrogen, Dissolved	SM4500-NH ₃ B,C,E & EPA 351.2	mg/L	0.6	ND	ND	ND	ND	ND	ND	0.5	1.5	0.6	0.46	ND	0.6
Lead, Total	EPA 200.8	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Lithium	EPA 200.8	µg/L	6.6	20	22	20.4	18.9	16.9	23.4	16.2	22.7	19.9	20.4	40	42
Magnesium	EPA 200.7	mg/L	42	42	39	42	42	43	40.5	46	48	53	52	121	131
Magnesium, Dissolved	EPA 200.7	mg/L	44	41	40	42	42	43	38	46	48	54	55	119	130
Manganese, Dissolved	EPA 200.7	µg/L	2,330	308	332	352	394	394	393	464	532	601	640	104	67
Manganese, Total	EPA 200.7	µg/L	2,230	314	327	358	401	398	427	469	534	596	624	104	69
MBAS (Surfactants)	SM5540C	mg/L	ND	ND	ND	ND	ND	ND	0.04	0.06	0.04	0.04	ND	ND	ND
Nitrate as N	EPA 300.0	mg/L	ND	0.2	ND	ND	0.0	ND	ND	ND	0.0	0.1	ND	1.2	0.7
Nitrate as NO ₃	EPA 300.0	mg/L	ND	1	ND	ND	ND	ND	ND	ND	0.2	0.3	ND	5.5	ND
Nitrate+Nitrite as N	EPA 300.0	mg/L	ND	0.2	ND	ND	ND	ND	ND	ND	0.0	0.1	ND	1.2	0.7
Nitrite as NO ₂ -N, Dissolved	EPA 300.0	mg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.0
Odor Threshold at 60 C	SM2150B	TON	1	ND	1	1	1	1	1	ND	ND	ND	<1	2	1
o-Phosphate-P	Hach 8048 & EPA 365.1	mg/L	1.28	0.15	0.14	0.15	0.16	0.17	0.21	0.21	0.26	ND	0.24	ND	ND
pH (Field Test)	SM4500-H+B	pH	6.8	7.08	7.09	6.97	6.98	7.01	7.34	7.13	7.17	6.33	7.06	6.99	6.92
pH (Laboratory)	SM4500-H+B	pH (H)	7.2	7.2	7.3	7.3	7.3	8.4	7.7	7.5	7.7	7.5	7.4	7.2	7.1
Phenoxy Acid Herbicides (515.3)	EPA 515.3	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
Phosphorus, Dissolved Total	HACH 8190 & EPA 365.1	mg/L	1.81	0.16	0.16	0.13	0.18	0.18	0.20	0.21	0.23	0.22	0.24	ND	ND
Potassium	EPA 200.7	mg/L	6.5	7.0	7.3	6.9	7.9	7.1	8.1	7.8	8.1	8.4	9.0	9.7	9.6
Potassium, Dissolved	EPA 200.7	mg/L	6.71	7	7.2	7.20	7.92	7.13	7.7	7.89	8.1	8.60	9.3	9.8	9.3
QC Ratio TDS/SEC	Calculation	-	0.55	0.64	0.61	0.63	0.55	0.63	0.58	0.48	0.62	0.68	0.61	0.72	0.63
Reg. Org. Compounds (EPA 525)	EPA 525	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
Salinity	SM2520B	psu	NA	NA	ND	ND	ND	ND	0.7	ND	ND	NA	NA	2.3	2.3
Silica as SiO ₂ , Dissolved	EPA 200.7	mg/L	36.2	39	39	38	42	38	38.3	39.1	41.5	41.6	43.2	40	41
Sodium	EPA 200.7	mg/L	57	134	118	114	130	117	114	123	123	127	123	78	101
Sodium, Dissolved	EPA 200.7	mg/L	58	121	126	116	130	116	110	121	124	130	129	67	93
Specific Conductance (E.C)	SM2510B	µmhos/cm	1,004	1,357	1,368	1,394	1,372	1,444	1,353	1,462	1,466	1,481	1,542	3,959	4,296
Specific Conductance (E.C) (Field)	SM2510B	µmhos/cm	1,002	1,390	1,418	1,418	1,339	1,440	1,590	1,530	1,474	1,548	1,519	4,037	4,392
Strontium, Dissolved	EPA 200.8	µg/L	656	682	586	725	645	769	684	889	840	853	866	2,680	2,500
Sulfate, Dissolved	EPA 300.0	mg/L	74	144	141	165	140	174	151	194	170	222	205	98	115
Temperature (Field)	SM2550	°C	17.9	17.2	14.0	17.0	17.2	17.1	17.6	17.3	17.2	17.7	17.7	19.5	16.4
Total Diss. Solids	SM2540C	mg/L	548	871	828	872	748	914	784	700	908	1,010	946	2,860	2,700
Turbidity	EPA 180.1	NTU	1.6	0.10	0.15	0.15	ND	0.15	0.30	0.10	0.10	ND	ND	0.20	0.15
Turbidity (Field)	EPA 180.1	NTU	0.00	0.76	0.23	0.15	0.31	0.42	0.51	0.5	0.57	1	0.00	0.93	0.73
Volatile Org. Compounds (524)	EPA 524	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
Zinc	EPA 200.7	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Zinc, Total	EPA 200.8	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
PCBs, Total	EPA 508	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
Total PCB	EPA 1668C	pg/L	-	-	-	-	-	-	-	-	-	-	-	-	-

Notes:
°C = Degrees Celsius
CU = Color Units
Meq/L = Milliequivalents per Liter
mg/L = Milligrams per Liter
NTU = Nephelometric Turbidity Units
pg/L = Picograms per Liter
TON = Threshold Odor Number
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ND = NOT DETECTED at or above the Reporting Limit (RL) or Practical Quantitation Limit (PQL). See laboratory water quality reports for RL and PQL values.
¹ Using EPA Method 200.8, Arsenic values are overstated due to matrix interference caused by high chloride levels. The overstated values are in laboratory reports through February 11, 2016. Going forward, EPA Method 1640 will be used for Arsenic analysis only.
² EPA Methods 2120B and C are both applicable to measure color caused primarily by natural organic matter. Both methods are suitable for true color measurements but for apparent color measurements only Method 2120B is used.
³ The reported gravimetric method TDS result exceeds the calculated TDS using ion summation. The laboratory attributes the elevated level to the possibility of water trapped in salt crystals. MBAS calculated values: MW-3D (4/13/21) = 29,600 mg/L; MW-4D (4/15/21) = 24,000 mg/L
⁴ MW-6 headers were corrected in Report No. 174. Header previously labeled MW-6M(L) was corrected to MW-6M and header previously labeled MW-6D was corrected to MW-6M(L).

Table 3: Summary of Quarterly and Semiannual Monitoring Well Laboratory Water Quality Results Following Long-Term Pumping Test

Constituent	Method	Units	Monitoring Well Name: MW-6M(L) ⁴									MW-7S																		
			Sample Collection Date:		9-Apr-19		16-Oct-19		9-Apr-20		14-Oct-20		14-Apr-21		13-Oct-21		13-Apr-22		19-Oct-22		25-Apr-18		9-Oct-18		9-Apr-19		16-Oct-19		8-Apr-20	
			Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result
Alkalinity, Total (as CaCO3)	SM2320B	mg/L	107	107	102	110	105	108	105	100	20	22	20	22	22															
Aluminum, Total	EPA 200.8	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	6	ND	ND	ND	ND															
Ammonia-N, Dissolved	SM4500NH3 D & EPA 350.1	mg/L	ND	ND	ND	0.02	0.12	ND	ND	ND	ND	ND	ND	ND	ND															
Arsenic, Total ¹	EPA 200.8	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-															
Arsenic, Total	EPA 1640	µg/L	0.54	0.46	0.59	0.59	0.50	0.53	0.62	0.59	0.12	0.11	0.12	0.10	0.11															
Barium, Dissolved	EPA 200.8	µg/L	260	233	272	261	274	304	251	295	249	270	276	238	246															
Bicarbonate (as HCO3-)	SM2320B	mg/L	131	131	124	134	128	131	128	122	24	27	24	27	27															
Boron, Dissolved	EPA 200.7	mg/L	0.09	0.09	0.07	0.09	0.08	ND	0.06	0.09	ND	0.03	0.03	0.03	0.02															
Bromide, Dissolved	EPA 300.0	mg/L	4.8	4.9	4.4	5.2	5.1	5.6	5.0	5.1	1.2	1.1	1.6	1.4	1.1															
Calcium	EPA 200.7	mg/L	514	655	574	643	609	590	625	651	134	115	136	121	120															
Calcium, Dissolved	EPA 200.7	mg/L	531	640	558	576	610	580	619	660	134	120	135	118	119															
Carbamates by HPLC (EPA 531)	EPA 531	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-															
Carbonate as CaCO3	SM2320B	mg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND															
Chloride, Dissolved	EPA 300.0	mg/L	1,280	1,280	1,290	1,440	1,390	1,450	1,450	1,690	431	409	431	394	345															
Chlorinated Pesticides and PCB (EPA 508)	EPA 508	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-															
Color, Apparent (Unfiltered)	SM2120B	Color Units	1	ND	-	-	5	ND	ND	ND	5	4	1	ND	-															
Color, True ²	SM2120C	Color Units	-	-	ND	ND	-	-	-	-	-	-	-	-	ND															
Copper	EPA 200.7	µg/L	ND	ND	ND	ND	ND	ND	9	10	ND	ND	ND	ND	ND															
Copper, Total	EPA 200.8	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-															
DBCP & EDB	EPA 504.1	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-															
Dioxin	EPA 1613	pg/L	-	-	-	-	-	-	-	-	-	-	-	-	-															
Diquat (EPA 549)	EPA 549	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-															
Dissolved Anions	Calculation	Meq/L	40.89	40.79	40.74	45.24	43.98	45.67	45.30	53.24	17.18	16.60	16.98	17.18	14.73															
Total Anions	Calculation	Meq/L	40.89	40.79	40.74	45.24	43.98	45.67	45.30	53.24	17.18	16.60	16.98	17.18	14.73															
Dissolved Cations	Calculation	Meq/L	40.67	47.52	41.98	44.17	44.35	45.21	47.31	52.39	17.30	16.39	16.89	14.86	15.38															
Total Cations	Calculation	Meq/L	39.70	50.06	43.21	48.07	45.76	45.26	47.86	51.73	17.53	15.75	17.07	15.19	15.64															
Fluoride, Dissolved	EPA 300.0	mg/L	0.1	0.1	0.1	0.1	0.2	0.1	ND	ND	0.4	ND	ND	ND	0.0															
Hardness (as CaCO3)	SM2340B/Calc, EPA200.7	mg/L	1,800	2,270	1,970	2,200	2,090	2,060	2,180	2,350	609	518	608	527	540															
Hydroxide	SM2320B	mg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND															
Iodide	EPA 9056M, 314.0, 331.0M, & 332.0M	µg/L	ND	ND	ND	ND	1.2	ND	ND	ND	ND	ND	ND	ND	ND															
Iron	EPA 200.7	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	33	17	16	ND	9															
Iron, Dissolved	EPA 200.7	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND															
Total Kjeldahl Nitrogen, Dissolved	SM4500-NH3 B,C,E & EPA 351.2	mg/L	ND	ND	ND	ND	0.1	0.4	ND	ND	ND	ND	ND	0.1	ND															
Lead, Total	EPA 200.8	µg/L	0.6	ND	ND	ND	ND	ND	ND	ND	ND	0.3	ND	ND	ND															
Lithium	EPA 200.8	µg/L	47	45.4	33.3	55.5	28.7	42.7	37.9	44.6	3	3	4.1	3.6	2.6															
Magnesium	EPA 200.7	mg/L	124	154	131	143	137	142	150	177	66	56	65	60.0	59															
Magnesium, Dissolved	EPA 200.7	mg/L	125	134	127	138	122	145	148	179	67	58	64	52	57															
Manganese, Dissolved	EPA 200.7	µg/L	81	50	44	32	36	ND	29	23	ND	ND	ND	ND	ND															
Manganese, Total	EPA 200.7	µg/L	77	56	47	38	35	ND	30	23	ND	ND	ND	ND	ND															
MBAS (Surfactants)	SM5540C	mg/L	ND	ND	ND	ND	0.02	ND	ND	ND	0.06	ND	ND	ND	ND															
Nitrate as N	EPA 300.0	mg/L	0.6	0.7	0.6	0.7	0.6	0.8	0.5	0.6	45.3	42.4	40.7	41.8	42.6															
Nitrate as NO3	EPA 300.0	mg/L	ND	3.1	2.6	3.0	2.9	3.4	2.2	2.8	200	190	180	190	189															
Nitrate+Nitrite as N	EPA 300.0	mg/L	0.6	0.7	0.6	0.7	0.6	0.8	0.5	0.6	45.3	42.4	40.7	41.8	42.6															
Nitrite as NO2-N, Dissolved	EPA 300.0	mg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND															
Odor Threshold at 60 C	SM2150B	TON	1	2	1	1	ND	ND	ND	<1	ND	1	1	1	1															
o-Phosphate-P	Hach 8048 & EPA 365.1	mg/L	0.01	0.02	0.01	0.01	0.03	0.01	ND	0.01	0.06	0.05	0.05	0.05	0.05															
pH (Field Test)	SM4500-H+B	pH	6.96	6.96	6.83	7.13	7.00	6.95	6.33	6.87	6.84	6.20	6.59	7.05	7.18															
pH (Laboratory)	SM4500-H+B	pH (H)	7.2	7.3	8.0	7.3	7.2	7.5	7.4	7.6	6.6	6.7	6.7	6.7	7.3															
Phenoxy Acid Herbicides (515.3)	EPA 515.3	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-															
Phosphorus, Dissolved Total	HACH 8190 & EPA 365.1	mg/L	0.02	0.02	0.02	ND	0.02	ND	0.06	ND	0.04	0.06	0.05	0.06	0.06															
Potassium	EPA 200.7	mg/L	9.1	10.2	8.6	10.1	8.7	8.7	9.4	11.2	4.0	3.8	4.0	3.6	3.6															
Potassium, Dissolved	EPA 200.7	mg/L	9	9.9	8.21	9.40	8.5	9.8	9.3	11.3	4	3.9	4	3.57	3.6															
QC Ratio TDS/SEC	Calculation	-	0.65	0.57	0.66	0.79	0.83	0.61	0.77	0.66	0.71	0.61	0.64	0.56	0.58															
Reg. Org. Compounds (EPA 525)	EPA 525	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-															
Salinity	SM2520B	psu	2.4	2.6	2.6	2.4	2.3	2.5	2.3	2.9	NA	ND	ND	ND	ND															
Silica as SiO2, Dissolved	EPA 200.7	mg/L	41	44	38	40.2	38.8	40.2	43.0	46.3	42	41	41	36	41															
Sodium	EPA 200.7	mg/L	83	102	82	91	89	90	94	101	122	122	111	108	109															
Sodium, Dissolved	EPA 200.7	mg/L	84	99	80	88	84	94	92	102	115	127	110	102	107															
Specific Conductance (E.C)	SM2510B	µmhos/cm	4,086	4,420	4,260	4,580	4,360	4,700	4,400	5,390	1,843	1,691	1,828	1,787	1,684															
Specific Conductance (E.C) (Field)	SM2510B	µmhos/cm	4,061	4,338	4,173	5,009	4,583	4,893	4,599	5,236	1,891	1,882	1,877	1,772	1,636															
Strontium, Dissolved	EPA 200.8	µg/L	2,930	2,670	2,900	2,950	3,350	3,540	3,130	3,610	1,330	1,130	1,530	1,330	1,290															
Sulfate, Dissolved	EPA 300.0	mg/L	122	119	106	116	116	119	111	166	66	76	72	72	72															
Temperature (Field)	SM2550	°C	19.0	19.3	19.3	20.1	19.5	19.0	19.4	20.4	17.9	17.9	17.6	17.6	17.7															
Total Diss. Solids	SM2540C	mg/L	2,660	2,500	2,800	3,600	3,600	2,850	3,380	3,570	1,310	1,030	1,170	994	982															
Turbidity	EPA 180.1	NTU	0.15	0.10	0.10	0.10	ND	0.10	ND	0.15	0.45	0.30	0.25	0.10	0.30															
Turbidity (Field)	EPA 180.1	NTU	0.59	0.470	0.46	0.82	0.83	0.65	0	0.00	0.81	0	0.69	0.46	0.75															
Volatile Org. Compounds (524)	EPA 524	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-															
Zinc	EPA 200.7	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND															
Zinc, Total	EPA 200.8	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-															
PCBs, Total	EPA 508	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-															
Total PCB	EPA 1668C	pg/L	-	-	-	-	-	-	-	-	-	-	-	-	-															

Notes:
°C = Degrees Celsius
CU = Color Units
Meq/L = Milliequivalents per Liter
mg/L = Milligrams per Liter
NTU = Nephelometric Turbidity Units
pg/L = Picograms per Liter
TON = Threshold Odor Number
µg/L = Micograms per Liter
µmhos/cm = Micromhos per Centimeter

ND = NOT DETECTED at or above the Reporting Limit (RL) or Practical Quantitation Limit (PQL). See laboratory water quality reports for RL and PQL values.
¹ Using EPA Method 200.8, Arsenic values are overstated due to matrix interference caused by high chloride levels. The overstated values are in laboratory reports through February 11, 2016. Going forward, EPA Method 1640 will be used for Arsenic analysis only.
² EPA Methods 2120B and C are both applicable to measure color caused primarily by natural organic matter. Both methods are suitable for true color measurements but for apparent color measurements only Method 2120B is used.
³ The reported gravimetric method TDS result exceeds the calculated TDS using ion summation. The laboratory attributes the elevated level to the possibility of water trapped in salt crystals. MBAS calculated values: MW-3D (4/13/21) = 29,600 mg/L; MW-4D (4/15/21) = 24,000 mg/L
⁴ MW-6 headers were corrected in Report No. 174. Header previously labeled MW-6M(L) was corrected to MW-6M and header previously labeled MW-6D was corrected to MW-6M(L).

Table 3: Summary of Quarterly and Semiannual Monitoring Well Laboratory Water Quality Results Following Long-Term Pumping Test

Monitoring Well Name:			MW-7S					MW-7M							
Sample Collection Date:			13-Oct-20	12-Apr-21	13-Oct-21	13-Apr-22	19-Oct-22	25-Apr-18	8-Oct-18	10-Apr-19	16-Oct-19	8-Apr-20	14-Oct-20	13-Apr-21	11-Oct-21
Constituent	Method	Units	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result
Alkalinity, Total (as CaCO3)	SM2320B	mg/L	25	23	27	27	25	82	83	83	78	78	79	79	81
Aluminum, Total	EPA 200.8	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	7	ND	ND
Ammonia-N, Dissolved	SM4500NH3 D & EPA 350.1	mg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic, Total ¹	EPA 200.8	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
Arsenic, Total	EPA 1640	µg/L	0.13	0.11	0.11	0.13	0.15	0.09	0.094	0.11	0.11	0.091	0.11	0.087	0.089
Barium, Dissolved	EPA 200.8	µg/L	209	222.0	230	186	197	377	459	390	403	410	442	398	487
Bicarbonate (as HCO3-)	SM2320B	mg/L	30	28	33	33	30	100	101	101	95	95	96	97	99
Boron, Dissolved	EPA 200.7	mg/L	0.04	ND	ND	ND	ND	ND	0.08	0.08	ND	0.06	0.08	0.07	ND
Bromide, Dissolved	EPA 300.0	mg/L	1.1	1.1	1.1	0.9	0.7	8.7	8.0	10.3	10.1	5.8	11.3	10.9	12.2
Calcium	EPA 200.7	mg/L	101	107	104	97	82	823	882	864	882	930	983	943	1,090
Calcium, Dissolved	EPA 200.7	mg/L	98	105	99	98	83	811	860	866	889	902	980	965	1,040
Carbamates by HPLC (EPA 531)	EPA 531	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
Carbonate as CaCO3	SM2320B	mg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloride, Dissolved	EPA 300.0	mg/L	340	346	321	279	261	2,560	2,780	2,750	2,820	2,570	3,060	3,010	3,330
Chlorinated Pesticides and PCB (EPA 508)	EPA 508	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
Color, Apparent (Unfiltered)	SM2120B	Color Units	-	ND	ND	ND	ND	ND	ND	ND	ND	-	-	ND	ND
Color, True ²	SM2120C	Color Units	ND	-	-	-	-	-	-	-	-	ND	ND	-	-
Copper	EPA 200.7	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Copper, Total	EPA 200.8	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
DBCP & EDB	EPA 504.1	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
Dioxin	EPA 1613	pg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
Diquat (EPA 549)	EPA 549	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
Dissolved Anions	Calculation	Meq/L	14.36	14.22	13.56	12.77	11.88	78.33	84.88	84.98	86.34	79.71	93.41	91.96	100.97
Total Anions	Calculation	Meq/L	14.36	14.22	13.56	12.77	11.88	78.33	84.88	84.98	86.34	79.71	93.41	91.96	100.97
Dissolved Cations	Calculation	Meq/L	13.06	13.91	13.79	13.06	12.23	77.15	78.67	79.75	82.74	85.83	91.28	87.50	98.61
Total Cations	Calculation	Meq/L	13.60	14.27	13.87	13.10	12.12	79.35	80.19	79.50	81.15	88.80	92.09	88.34	100.30
Fluoride, Dissolved	EPA 300.0	mg/L	ND	ND	0.0	0.0	ND	0.3	0.0	0.1	ND	ND	ND	0.1	ND
Hardness (as CaCO3)	SM2340B/Calc, EPA200.7	mg/L	447	471	466	438	398	3,110	3,240	3,190	3,260	3,490	3,660	3,510	4,070
Hydroxide	SM2320B	mg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iodide	EPA 9056M, 314.0, 331.0M, & 332.0M	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.52	ND	ND
Iron	EPA 200.7	µg/L	ND	ND	ND	10	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iron, Dissolved	EPA 200.7	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Kjeldahl Nitrogen, Dissolved	SM4500-NH3 B,C,E & EPA 351.2	mg/L	ND	ND	ND	ND	ND	ND	0.8	1.0	0.6	ND	ND	ND	1.6
Lead, Total	EPA 200.8	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Lithium	EPA 200.8	µg/L	3.9	3.2	3.4	2.7	2.8	26	32	35.1	42.7	26.7	50	29.0	26.7
Magnesium	EPA 200.7	mg/L	50.0	50	50	47.6	47	255	252	250	256	284	294	279	327
Magnesium, Dissolved	EPA 200.7	mg/L	48	49	51	48	47	251	249	253	261	274	298	249	332
Manganese, Dissolved	EPA 200.7	µg/L	ND	4	ND	ND	ND	ND	ND	ND	ND	ND	ND	11	ND
Manganese, Total	EPA 200.7	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	13	ND
MBAS (Surfactants)	SM5540C	mg/L	ND	0.04	0.04	ND	0.03	ND	ND	ND	ND	ND	ND	0.03	0.02
Nitrate as N	EPA 300.0	mg/L	39.7	37.8	38.1	42.0	38.9	4.5	4.7	4.4	4.9	5.8	5.1	5.0	5.2
Nitrate as NO3	EPA 300.0	mg/L	180	170	170	190	170	20	21	19	22	26	23	22	23
Nitrate+Nitrite as N	EPA 300.0	mg/L	39.7	37.8	38.1	42.0	38.9	4.5	4.7	4.4	4.9	5.8	5.1	5.0	5.2
Nitrite as NO2-N, Dissolved	EPA 300.0	mg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Odor Threshold at 60 C	SM2150B	TON	1	ND	ND	ND	<1	ND	1	1	1	1	1	ND	ND
o-Phosphate-P	Hach 8048 & EPA 365.1	mg/L	0.05	0.05	0.06	0.05	0.06	0.03	0.03	0.03	0.03	0.03	0.03	0.04	0.03
pH (Field Test)	SM4500-H+B	pH	6.78	6.66	6.53	5.89	6.35	6.86	7.06	6.79	7.13	6.95	7.66	6.93	7.14
pH (Laboratory)	SM4500-H+B	pH (H)	7.2	6.6	7.0	6.8	6.7	7.1	7.1	7.1	7.2	7.9	7.1	7.3	7.0
Phenoxy Acid Herbicides (515.3)	EPA 515.3	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
Phosphorus, Dissolved Total	HACH 8190 & EPA 365.1	mg/L	0.04	0.04	0.06	0.05	0.06	ND	0.04	0.03	0.04	0.04	ND	ND	0.03
Potassium	EPA 200.7	mg/L	3.9	3.4	3.3	3.1	3.4	11.4	12.0	11.0	11.0	10.7	12.4	10.7	10.7
Potassium, Dissolved	EPA 200.7	mg/L	3.62	3.3	3.4	3.14	3.4	11	11.9	10.8	11.2	10.2	12.7	11.1	10.8
QC Ratio TDS/SEC	Calculation	-	0.91	0.65	0.66	0.78	0.67	0.71	0.60	0.67	0.58	0.58	0.80	0.63	0.80
Reg. Org. Compounds (EPA 525)	EPA 525	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
Salinity	SM2520B	psu	0.8	ND	ND	NA	NA	4.7	4.4	5.0	5.3	5.5	5.1	4.9	5.5
Silica as SiO2, Dissolved	EPA 200.7	mg/L	38.0	39.6	43.4	42.4	44.1	31	32	31	29	30	31.3	28.8	32.5
Sodium	EPA 200.7	mg/L	100	105	103	98	94	391	348	357	363	431	426	415	427
Sodium, Dissolved	EPA 200.7	mg/L	96	100	105	97	95	362	344	355	382	414	403	427	435
Specific Conductance (E.C)	SM2510B	µmhos/cm	1,766	1,574	1,495	1,352	1,367	7,610	8,030	8,109	8,610	8,680	9,710	8,880	9,842
Specific Conductance (E.C) (Field)	SM2510B	µmhos/cm	1,636	1,611	1,529	1,396	1,346	7,686	8,106	8,271	8,583	8,495	10,090	9,271	9,936
Strontium, Dissolved	EPA 200.8	µg/L	1,130	1,200	1,220	1,050	1,020	5,080	4,570	5,530	5,280	5,930	5,950	6,180	7,310
Sulfate, Dissolved	EPA 300.0	mg/L	68	62	59	65	59	194	211	231	228	248	236	239	239
Temperature (Field)	SM2550	°C	17.5	17.3	17.4	17.0	19.0	18.2	18.3	18.2	18.1	18.0	18.2	17.9	18.2
Total Diss. Solids	SM2540C	mg/L	1,600	1,020	994	1,060	910	5,440	4,850	5,450	4,980	5,070	7,800	5,600	7,900
Turbidity	EPA 180.1	NTU	0.10	ND	0.10	0.15	0.2	0.15	0.15	0.20	0.10	0.20	0.85	0.10	0.10
Turbidity (Field)	EPA 180.1	NTU	0.41	0.6	0.71	0.11	0.00	0.39	0.49	0.27	0.49	0.94	0.94	0.55	0.71
Volatile Org. Compounds (524)	EPA 524	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
Zinc	EPA 200.7	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Zinc, Total	EPA 200.8	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
PCBs, Total	EPA 508	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
Total PCB	EPA 1668C	pg/L	-	-	-	-	-	-	-	-	-	-	-	-	-

Notes:

°C = Degrees Celsius
CU = Color Units
Meq/L = Milliequivalents per Liter
mg/L = Milligrams per Liter
NTU = Nephelometric Turbidity Units
pg/L = Picograms per Liter
TON = Threshold Odor Number
µg/L = Micrograms per Liter
µmhos/cm = Micromhos per Centimeter

ND = NOT DETECTED at or above the Reporting Limit (RL) or Practical Quantitation Limit (PQL). See laboratory water quality reports for RL and PQL values.

¹ Using EPA Method 200.8, Arsenic values are overstated due to matrix interference caused by high chloride levels. The overstated values are in laboratory reports through February 11, 2016. Going forward, EPA Method 1640 will be used for Arsenic analysis only.

² EPA Methods 2120B and C are both applicable to measure color caused primarily by natural organic matter. Both methods are suitable for true color measurements but for apparent color measurements only Method 2120B is used.

³ The reported gravimetric method TDS result exceeds the calculated TDS using ion summation. The laboratory attributes the elevated level to the possibility of water trapped in salt crystals. MBAS calculated values: MW-3D (4/13/21) = 29,600 mg/L; MW-4D (4/15/21) = 24,000 mg/L

⁴ MW-6 headers were corrected in Report No. 174. Header previously labeled MW-6M(L) was corrected to MW-6M and header previously labeled MW-6D was corrected to MW-6M(L).

**Table 3: Summary of Quarterly and Semiannual Monitoring Well
Laboratory Water Quality Results Following Long-Term Pumping Test**

Constituent	Method	Units	Monitoring Well Name: MW-8S										MW-8M			
			Sample Collection Date:										24-Apr-18	11-Oct-18	9-Apr-19	15-Oct-19
			11-Oct-18	8-Apr-19	15-Oct-19	7-Apr-20	13-Oct-20	12-Apr-21	11-Oct-21	14-Apr-22	19-Oct-22	Result	Result	Result	Result	
Alkalinity, Total (as CaCO3)	SM2320B	mg/L	341	331	337	353	360	345	357	347	335	144	142	141	134	
Aluminum, Total	EPA 200.8	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Ammonia-N, Dissolved	SM4500NH3 D & EPA 350.1	mg/L	ND	ND	ND	ND	0.03	ND	ND	ND	ND	ND	ND	ND	ND	
Arsenic, Total ¹	EPA 200.8	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	
Arsenic, Total	EPA 1640	µg/L	0.25	0.21	0.25	0.23	0.27	0.24	0.20	0.24	0.30	0.34	0.32	0.43	0.44	
Barium, Dissolved	EPA 200.8	µg/L	138.0	522	101	95.0	108	96.2	111	91.2	109	ND	111	98.8	96	
Bicarbonate (as HCO3-)	SM2320B	mg/L	416	403	411	417	439	421	436	424	409	176	173	172	163	
Boron, Dissolved	EPA 200.7	mg/L	0.26	0.28	0.30	0.31	0.34	0.33	0.36	0.35	0.4	1.3	1.2	1.49	1.69	
Bromide, Dissolved	EPA 300.0	mg/L	1.2	0.6	1.1	1.1	1.2	1.2	1.2	1.2	1.0	35.5	38.6	37.7	43.0	
Calcium	EPA 200.7	mg/L	143	138	143	143	142	134	149	142	127	1,420	1,440	925	1,000	
Calcium, Dissolved	EPA 200.7	mg/L	138	137	138	142	133	134	136	142	127	1,310	1,420	992	994	
Carbamates by HPLC (EPA 531)	EPA 531	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	
Carbonate as CaCO3	SM2320B	mg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Chloride, Dissolved	EPA 300.0	mg/L	347	307	304	320	309	315	324	327	301	11,300	12,100	11,600	12,400	
Chlorinated Pesticides and PCB (EPA 508)	EPA 508	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	
Color, Apparent (Unfiltered)	SM2120B	Color Units	ND	1	3	-	-	ND	3	ND	ND	ND	ND	5	ND	
Color, True ²	SM2120C	Color Units	-	-	-	ND	ND	-	-	-	-	-	-	-	-	
Copper	EPA 200.7	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Copper, Total	EPA 200.8	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	
DBCP & EDB	EPA 504.1	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	
Dioxin	EPA 1613	pg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	
Diquat (EPA 549)	EPA 549	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	
Dissolved Anions	Calculation	Meq/L	24.94	23.23	23.30	24.45	23.94	24.11	24.59	24.58	23.46	354.47	377.60	364.91	387.12	
Total Anions	Calculation	Meq/L	24.94	23.23	23.30	24.45	23.94	24.11	24.59	24.58	23.46	354.47	377.60	364.91	387.12	
Dissolved Cations	Calculation	Meq/L	22.98	23.08	23.00	25.96	25.05	24.56	25.80	25.40	24.53	386.44	356.42	383.16	390.19	
Total Cations	Calculation	Meq/L	23.11	23.47	23.77	25.75	26.64	24.38	26.80	25.33	24.60	382.44	375.79	342.76	401.23	
Fluoride, Dissolved	EPA 300.0	mg/L	ND	ND	ND	0.1	0.1	0.06	0.1	ND	ND	0.5	ND	0.1	0.1	
Hardness (as CaCO3)	SM2340B/Calc, EPA200.7	mg/L	587	580	699	616	610	576	630	608	576	6,360	6,270	4,520	5,220	
Hydroxide	SM2320B	mg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Iodide	EPA 9056M, 314.0, 331.0M, & 332.0M	µg/L	7.3	4.6	4.0	6.7	5.6	4.8	3.4	5.0	4.8	ND	ND	ND	ND	
Iron	EPA 200.7	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	36	ND	ND	
Iron, Dissolved	EPA 200.7	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Total Kjeldahl Nitrogen, Dissolved	SM4500-NH3 B,C,E & EPA 351.2	mg/L	ND	ND	0.7	ND	ND	0.6	0.9	ND	ND	ND	ND	ND	ND	
Lead, Total	EPA 200.8	µg/L	0.4	0.3	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.9	ND	
Lithium	EPA 200.8	µg/L	5	4.2	37.5	3.7	4.8	3.9	3.5	4.3	3.8	106	144	157.0	145	
Magnesium	EPA 200.7	mg/L	56	57	57	63.0	62	59	63	62	62.8	683	648	536	659	
Magnesium, Dissolved	EPA 200.7	mg/L	56	56	56	64	58	55	62	62	63	703	632	584	586	
Manganese, Dissolved	EPA 200.7	µg/L	ND	ND	ND	ND	ND	3	ND	ND	ND	ND	ND	8	8	
Manganese, Total	EPA 200.7	µg/L	2	ND	ND	ND	5	ND	ND	ND	ND	ND	ND	9	8	
MBAS (Surfactants)	SM5540C	mg/L	ND	ND	ND	ND	ND	0.05	0.04	0.04	0.02	ND	ND	ND	ND	
Nitrate as N	EPA 300.0	mg/L	28.4	23.7	23.0	24.2	21.4	19.8	21.4	23.8	23.8	1.4	0.6	0.4	0.6	
Nitrate as NO3	EPA 300.0	mg/L	126	100	102	107	95	88	95	110	110	6.0	2.7	1.8	2.7	
Nitrate+Nitrite as N	EPA 300.0	mg/L	28.4	23.7	23.0	24.2	21.4	19.8	21.4	23.8	23.8	1.4	0.6	0.4	0.6	
Nitrite as NO2-N, Dissolved	EPA 300.0	mg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Odor Threshold at 60 C	SM2150B	TON	1	1	1	1	1	ND	ND	ND	<1	ND	1	1	1	
o-Phosphate-P	Hach 8048 & EPA 365.1	mg/L	0.06	0.08	0.09	0.07	0.08	0.09	0.08	ND	0.08	0.03	0.03	0.03	0.04	
pH (Field Test)	SM4500-H+B	pH	6.68	6.72	7.05	6.69	7.05	7.07	7.22	6.34	7.07	6.46	6.41	6.62	6.81	
pH (Laboratory)	SM4500-H+B	pH (H)	7.1	7.0	7.1	7.3	7.1	7.4	7.1	7.4	7.9	6.9	6.9	6.9	7.1	
Phenoxy Acid Herbicides (515.3)	EPA 515.3	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	
Phosphorus, Dissolved Total	HACH 8190 & EPA 365.1	mg/L	0.08	0.10	0.08	0.08	0.08	0.06	0.10	0.08	0.09	ND	0.04	0.05	0.06	
Potassium	EPA 200.7	mg/L	5.4	5.7	4.3	4.8	6.2	4.8	4.9	4.8	5.2	69.3	86.8	113.0	102	
Potassium, Dissolved	EPA 200.7	mg/L	5.3	5.8	4.20	4.75	6	4.8	4.8	4.6	5.26	69.8	83.5	130	104	
QC Ratio TDS/SEC	Calculation	-	0.65	0.65	0.56	0.64	0.68	0.64	0.62	0.66	0.63	0.73	0.70	0.70	0.65	
Reg. Org. Compounds (EPA 525)	EPA 525	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	
Salinity	SM2520B	psu	ND	NA	ND	NA	1.2	ND	NA	NA	NA	21.4	19.9	22.7	22.3	
Silica as SiO2, Dissolved	EPA 200.7	mg/L	34	38	36	36	37.4	35.0	39.6	38.8	40.2	30	31	28	29	
Sodium	EPA 200.7	mg/L	258	270	272	306	329	293	323	300	298	5,830	5,710	5,738	6,770	
Sodium, Dissolved	EPA 200.7	mg/L	261	264	262	310	310	304	317	301	296	6,010	5,320	6,489	6,660	
Specific Conductance (E.C)	SM2510B	µmhos/cm	2,274	2,249	2,300	2,380	2,340	2,320	2,378	2,170	2,340	30,770	31,930	32,450	32,400	
Specific Conductance (E.C) (Field)	SM2510B	µmhos/cm	2,344	2,228	2,217	2,372	2,232	2,375	2,371	2,235	2,309	31,970	32,990	32,300	33,060	
Strontium, Dissolved	EPA 200.8	µg/L	1,020	985	864	1,030	996	1,050	1,070	1,060	1,020	8,760	8,030	7,330	7,840	
Sulfate, Dissolved	EPA 300.0	mg/L	302	300	304	318	311	331	325	315	315	1,550	1,580	1,650	1,610	
Temperature (Field)	SM2550	°C	16.7	16.9	16.5	17.0	16.6	16.4	16.5	16.5	17.2	16.9	16.7	17.1	16.7	
Total Diss. Solids	SM2540C	mg/L	1,470	1,460	1,290	1,530	1,600	1,490	1,470	1,430	1,470	22,600	22,200	22,600	21,200	
Turbidity	EPA 180.1	NTU	0.10	0.15	ND	0.10	0.15	0.10	0.25	ND	ND	0.25	0.05	0.10	0.10	
Turbidity (Field)	EPA 180.1	NTU	0	0.36	0.59	0.64	0.58	0.64	0.7	0.38	0.00	0.64	0	0.28	0.43	
Volatile Org. Compounds (524)	EPA 524	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	
Zinc	EPA 200.7	µg/L	ND	14	ND	ND	ND	ND	ND	ND	ND	ND	ND	16	ND	
Zinc, Total	EPA 200.8	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	
PCBs, Total	EPA 508	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	
Total PCB	EPA 1668C	pg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	

Notes:

- °C = Degrees Celsius
- CU = Color Units
- Meq/L = Milliequivalents per Liter
- mg/L = Milligrams per Liter
- NTU = Nephelometric Turbidity Units
- pg/L = Picograms per Liter
- TON = Threshold Odor Number
- µg/L = Micograms per Liter
- µmhos/cm = Micromhos per Centimeter

ND = NOT DETECTED at or above the Reporting Limit (RL) or Practical Quantitation Limit (PQL). See laboratory water quality reports for RL and PQL values.

¹ Using EPA Method 200.8, Arsenic values are overstated due to matrix interference caused by high chloride levels. The overstated values are in laboratory reports through February 11, 2016. Going forward, EPA Method 1640 will be used for Arsenic analysis only.

² EPA Methods 2120B and C are both applicable to measure color caused primarily by natural organic matter. Both methods are suitable for true color measurements but for apparent color measurements only Method 2120B is used.

³ The reported gravimetric method TDS result exceeds the calculated TDS using ion summation. The laboratory attributes the elevated level to the possibility of water trapped in salt crystals. MBAS calculated values: MW-3D (4/13/21) = 29,600 mg/L; MW-4D (4/15/21) = 24,000 mg/L

⁴ MW-6 headers were corrected in Report No. 174. Header previously labeled MW-6M(L) was corrected to MW-6M and header previously labeled MW-6D was corrected to MW-6M(L).

Table 3: Summary of Quarterly and Semiannual Monitoring Well Laboratory Water Quality Results Following Long-Term Pumping Test

Constituent	Method	Units	MW-8M						MW-8D						
			Sample Collection Date:						Sample Collection Date:						
			7-Apr-20	13-Oct-20	12-Apr-21	11-Oct-21	11-Apr-22	19-Oct-22	26-Apr-18	10-Oct-18	9-Apr-19	14-Oct-19	8-Apr-20	15-Oct-20	15-Apr-21
Alkalinity, Total (as CaCO ₃)	SM2320B	mg/L	133	141	135	137	134	126	149	156	155	148	154	177	153
Aluminum, Total	EPA 200.8	µg/L	ND	ND	ND	ND	ND	ND	ND	6	ND	9	ND	ND	ND
Ammonia-N, Dissolved	SM4500NH3 D & EPA 350.1	mg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.02	ND
Arsenic, Total ¹	EPA 200.8	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
Arsenic, Total	EPA 1640	µg/L	0.45	0.43	0.37	0.38	0.36	0.48	0.78	1.0	0.95	1.1	0.94	1.1	0.26
Barium, Dissolved	EPA 200.8	µg/L	97	85	97	95.1	85.5	94.8	40	50.8	52.7	68.0	61.7	53.9	73.6
Bicarbonate (as HCO ₃ ⁻)	SM2320B	mg/L	161	172	164	167	163	153	182	190	190	181	188	216	187
Boron, Dissolved	EPA 200.7	mg/L	1.7	1.9	1.8	1.9	1.90	2.0	ND	0.08	ND	0.08	0.07	0.07	0.07
Bromide, Dissolved	EPA 300.0	mg/L	38.4	37.6	38.7	43.0	65.4	38.1	1.9	0.9	0.8	0.6	0.8	0.6	0.8
Calcium	EPA 200.7	mg/L	844	929	1,000	1,090	908	979	67	48	50	49	49	56	48
Calcium, Dissolved	EPA 200.7	mg/L	838	878	996	1,040	1,060	951	67	47	46	48	48	45	51
Carbamates by HPLC (EPA 531)	EPA 531	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
Carbonate as CaCO ₃	SM2320B	mg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloride, Dissolved	EPA 300.0	mg/L	11,600	11,900	11,300	11,800	17,900	12,000	692	306	246	177	242	170	227
Chlorinated Pesticides and PCB (EPA 508)	EPA 508	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
Color, Apparent (Unfiltered)	SM2120B	Color Units	-	-	ND	3	ND	ND	4	3	5	3	-	-	5
Color, True ²	SM2120C	Color Units	ND	ND	-	-	-	-	-	-	-	-	ND	ND	-
Copper	EPA 200.7	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Copper, Total	EPA 200.8	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
DBCP & EDB	EPA 504.1	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
Dioxin	EPA 1613	pg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
Diquat (EPA 549)	EPA 549	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
Dissolved Anions	Calculation	Meq/L	363.11	373.48	355.76	368.01	367.48	374.03	24.47	12.67	12.56	8.51	10.72	8.83	10.13
Total Anions	Calculation	Meq/L	363.11	373.48	355.76	368.01	367.48	374.03	24.47	12.67	12.56	8.51	10.72	8.83	10.13
Dissolved Cations	Calculation	Meq/L	358.15	379.23	370.86	367.98	384.17	374.57	22.73	12.10	11.72	8.61	10.30	8.01	10.50
Total Cations	Calculation	Meq/L	360.66	372.65	381.44	370.87	390.42	383.16	23.00	11.51	12.81	8.75	10.37	9.09	9.65
Fluoride, Dissolved	EPA 300.0	mg/L	ND	ND	0.1	ND	ND	ND	0.2	0.3	0.3	0.3	0.2	0.2	0.2
Hardness (as CaCO ₃)	SM2340B/Calc, EPA200.7	mg/L	4,890	4,910	5,290	5,610	5,380	5,630	359	219	279	207	222	234	220
Hydroxide	SM2320B	mg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iodide	EPA 9056M, 314.0, 331.0M, & 332.0M	µg/L	ND	ND	0.48	ND	ND	ND	ND	1.2	ND	ND	ND	ND	ND
Iron	EPA 200.7	µg/L	ND	ND	ND	ND	ND	158	ND	6	ND	35	16	8	21
Iron, Dissolved	EPA 200.7	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Kjeldahl Nitrogen, Dissolved	SM4500-NH3 B,C,E & EPA 351.2	mg/L	ND	ND	ND	0.4	6.5	ND	ND	0.7	ND	ND	ND	ND	0.2
Lead, Total	EPA 200.8	µg/L	ND	ND	ND	ND	ND	ND	ND	0.2	ND	ND	ND	ND	ND
Lithium	EPA 200.8	µg/L	122	144	123	107	103	155	30	36	43.9	25.0	23.6	30.3	19.7
Magnesium	EPA 200.7	mg/L	675	629	677	698	756	773	47	24	24	20.4	24	23	24
Magnesium, Dissolved	EPA 200.7	mg/L	670	623	675	684	733	750	46	24	24	21	24	21	25
Manganese, Dissolved	EPA 200.7	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Manganese, Total	EPA 200.7	µg/L	ND	35	ND	ND	ND	ND	ND	ND	ND	7	ND	ND	ND
MBAS (Surfactants)	SM5540C	mg/L	ND	ND	0.10	0.07	0.04	0.04	ND	ND	ND	ND	ND	ND	ND
Nitrate as N	EPA 300.0	mg/L	0.6	1.3	0.7	0.6	0.6	0.5	1.1	0.4	0.5	0.4	0.7	0.4	0.4
Nitrate as NO ₃	EPA 300.0	mg/L	2.7	5.6	3.1	2.5	2.6	2.1	4.9	ND	2.2	1.8	3.1	1.7	1.6
Nitrate+Nitrite as N	EPA 300.0	mg/L	0.6	1.3	0.7	0.6	0.6	0.5	1.1	0.4	0.5	0.4	0.7	0.4	0.4
Nitrite as NO ₂ -N, Dissolved	EPA 300.0	mg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Odor Threshold at 60 C	SM2150B	TON	1	1	ND	ND	ND	<1	ND	1	1	1	1	1	ND
o-Phosphate-P	Hach 8048 & EPA 365.1	mg/L	0.04	0.04	0.03	0.04	0.05	0.04	0.02	0.02	0.02	0.02	0.02	0.03	0.04
pH (Field Test)	SM4500-H+B	pH	6.73	6.98	6.77	7.03	6.09	6.74	7.12	7.31	7.19	7.33	7.17	7.67	7.16
pH (Laboratory)	SM4500-H+B	pH (H)	7.1	7.0	7.0	6.9	7.4	7.6	7.4	7.5	7.5	7.8	7.6	7.8	7.7
Phenoxy Acid Herbicides (515.3)	EPA 515.3	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
Phosphorus, Dissolved Total	HACH 8190 & EPA 365.1	mg/L	0.05	0.03	0.04	0.05	0.03	0.05	ND	0.02	0.02	0.03	0.03	ND	ND
Potassium	EPA 200.7	mg/L	95	104	74.3	74	90.8	89.9	6.4	5.4	7.7	3.6	4.1	5.4	4.0
Potassium, Dissolved	EPA 200.7	mg/L	93	104	74.7	73	83.0	86.8	6.1	4.97	7.1	3.6	3.9	4.6	4.39
QC Ratio TDS/SEC	Calculation	-	0.65	0.71	0.69	0.63	0.72	0.61	0.57	0.57	0.52	0.51	0.57	0.61	0.57
Reg. Org. Compounds (EPA 525)	EPA 525	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
Salinity	SM2520B	psu	19.7	20.1	24.1	20.6	19.8	20.8	NA	ND	ND	ND	NA	0.4	NA
Silica as SiO ₂ , Dissolved	EPA 200.7	mg/L	28	29.7	30.1	31	32.3	34.1	41	40	41	43	43	47.2	45.5
Sodium	EPA 200.7	mg/L	5,990	6,250	6,300	5,910	6,450	6,170	361	161	187	105	134	98	119
Sodium, Dissolved	EPA 200.7	mg/L	5,950	6,470	6,060	5,930	6,180	6,050	355	176	167	101	134	90	133
Specific Conductance (E.C)	SM2510B	µmhos/cm	31,700	32,200	31,800	32,900	31,800	33,200	2,544	1,287	1,171	1,010	1,146	836	1,071
Specific Conductance (E.C) (Field)	SM2510B	µmhos/cm	33,550	32,150	33,460	33,774	33,060	32,720	2,592	1,345	1,023	1,092	1,139	822	1,091
Strontium, Dissolved	EPA 200.8	µg/L	6,990	6,880	8,330	7,960	7,200	7,090	529	350	348	383	400	366	481
Sulfate, Dissolved	EPA 300.0	mg/L	1,570	1,610	1,580	1,540	1,500	1,560	90	42	36	25	36	22	30
Temperature (Field)	SM2550	°C	17.2	16.7	16.6	16.7	16.6	17.2	20.5	21.0	20.4	20.4	20.3	20.2	19.8
Total Diss. Solids	SM2540C	mg/L	20,600	23,000	21,800	20,800	23,000	20,400	1,440	735	610	518	652	512	606
Turbidity	EPA 180.1	NTU	0.05	0.10	0.10	0.10	ND	ND	0.55	0.40	0.35	2.00	0.90	0.40	1.7
Turbidity (Field)	EPA 180.1	NTU	0.48	0.54	0.46	0.7	1	0.00	0.68	0	0.53	2.95	3.8	0.95	2.15
Volatile Org. Compounds (524)	EPA 524	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
Zinc	EPA 200.7	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Zinc, Total	EPA 200.8	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
PCBs, Total	EPA 508	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
Total PCB	EPA 1668C	pg/L	-	-	-	-	-	-	-	-	-	-	-	-	-

Notes:
 °C = Degrees Celsius
 CU = Color Units
 Meq/L = Milliequivalents per Liter
 mg/L = Milligrams per Liter
 NTU = Nephelometric Turbidity Units
 pg/L = Picograms per Liter
 TON = Threshold Odor Number
 µg/L = Micograms per Liter
 µmhos/cm = Micromhos per Centimeter

ND = NOT DETECTED at or above the Reporting Limit (RL) or Practical Quantitation Limit (PQL).
 See laboratory water quality reports for RL and PQL values.
¹ Using EPA Method 200.8, Arsenic values are overstated due to matrix interference caused by high chloride levels. The overstated values are in laboratory reports through February 11, 2016. Going forward, EPA Method 1640 will be used for Arsenic analysis only.
² EPA Methods 2120B and C are both applicable to measure color caused primarily by natural organic matter. Both methods are suitable for true color measurements but for apparent color measurements only Method 2120B is used.
³ The reported gravimetric method TDS result exceeds the calculated TDS using ion summation. The laboratory attributes the elevated level to the possibility of water trapped in salt crystals. MBAS calculated values: MW-3D (4/13/21) = 29,600 mg/L; MW-4D (4/15/21) = 24,000 mg/L
⁴ MW-6 headers were corrected in Report No. 174. Header previously labeled MW-6M(L) was corrected to MW-6M and header previously labeled MW-6D was corrected to MW-6M(L).

**Table 3: Summary of Quarterly and Semiannual Monitoring Well
Laboratory Water Quality Results Following Long-Term Pumping Test**

Constituent	Method	Units	Monitoring Well Name: MW-8D			Monitoring Well Name: MW-9S									
			Sample Collection Date:			26-Apr-18	10-Oct-18	9-Apr-19	15-Oct-19	7-Apr-20	13-Oct-20	13-Apr-21	12-Oct-21	12-Apr-22	18-Oct-22
			13-Oct-21	12-Apr-22	18-Oct-22	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result
Alkalinity, Total (as CaCO3)	SM2320B	mg/L	152	151	144	964	961	945	915	934	958	938	953	701	926
Aluminum, Total	EPA 200.8	µg/L	10	ND	ND	ND	ND	14	ND	ND	ND	ND	ND	ND	ND
Ammonia-N, Dissolved	SM4500NH3 D & EPA 350.1	mg/L	ND	ND	ND	3.1	3.0	3.3	2.99	3.20	3.03	3.02	3.31	3.56	3.19
Arsenic, Total ¹	EPA 200.8	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
Arsenic, Total	EPA 1640	µg/L	0.95	0.94	1.1	6.3	6.30	6.2	5.5	5.9	7.0	6.3	5.9	6.6	6.9
Barium, Dissolved	EPA 200.8	µg/L	66.6	66.4	67.6	308	314	262	182	305	255	305	315.0	299	304
Bicarbonate (as HCO3-)	SM2320B	mg/L	186	184	176	1,180	1,170	1,150	1,120	1,140	1,170	1,140	1,160	1,140	1,130
Boron, Dissolved	EPA 200.7	mg/L	0.07	ND	0.06	0.64	0.63	0.62	0.62	0.62	0.69	0.67	0.75	0.75	0.7
Bromide, Dissolved	EPA 300.0	mg/L	0.5	0.5	0.8	3.0	3.2	3.6	3.1	3.3	3.6	3.7	3.8	4.9	3.9
Calcium	EPA 200.7	mg/L	56	55	50	213	217	215	198	210	202	213	220	232	210
Calcium, Dissolved	EPA 200.7	mg/L	52	53	47	219	213	215	200	207	198	139	235	247	214
Carbamates by HPLC (EPA 531)	EPA 531	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
Carbonate as CaCO3	SM2320B	mg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloride, Dissolved	EPA 300.0	mg/L	173	155	149	1,000	980	950	913	981	975	947	985	1,370	1,160
Chlorinated Pesticides and PCB (EPA 508)	EPA 508	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
Color, Apparent (Unfiltered)	SM2120B	Color Units	ND	ND	ND	28	20	100	100	-	-	100	75	100	25
Color, True ²	SM2120C	Color Units	-	-	-	-	-	-	-	18	20	-	-	-	-
Copper	EPA 200.7	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	7	ND
Copper, Total	EPA 200.8	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
DBCP & EDB	EPA 504.1	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
Dioxin	EPA 1613	pg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
Diquat (EPA 549)	EPA 549	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
Dissolved Anions	Calculation	Meq/L	8.43	7.85	7.54	53.30	54.06	51.61	51.18	53.16	54.02	52.22	54.77	58.84	58.3
Total Anions	Calculation	Meq/L	8.43	7.85	7.54	53.30	54.06	51.61	51.18	53.16	54.02	52.22	54.77	58.84	58.3
Dissolved Cations	Calculation	Meq/L	8.76	8.03	7.91	50.98	52.21	49.73	49.18	52.36	53.87	49.77	53.71	58.55	54.91
Total Cations	Calculation	Meq/L	8.97	8.25	8.17	50.93	52.62	52.09	49.27	52.59	58.27	54.65	52.91	55.07	54.11
Fluoride, Dissolved	EPA 300.0	mg/L	0.3	0.2	0.1	ND	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1
Hardness (as CaCO3)	SM2340B/Calc, EPA200.7	mg/L	235	229	220	1,110	1,090	1,070	997	1,080	1,070	1,100	1,110	1,170	1,140
Hydroxide	SM2320B	mg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iodide	EPA 9056M, 314.0, 331.0M, & 332.0M	µg/L	ND	ND	ND	180	300	180	250	290	680	360	250	270	290
Iron	EPA 200.7	µg/L	20	ND	32	5,570	5,170	5,490	5,250	5,420	5,600	5,390	5,820	6,100	5,900
Iron, Dissolved	EPA 200.7	µg/L	ND	ND	ND	5,580	5,140	4,950	859	5,050	5,220	5,350	5,850	6,500	5,560
Total Kjeldahl Nitrogen, Dissolved	SM4500-NH3 B,C,E & EPA 351.2	mg/L	ND	ND	ND	3.6	4	4	3.5	3.9	3.6	4.0	4.3	3.2	4.1
Lead, Total	EPA 200.8	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Lithium	EPA 200.8	µg/L	28.0	20.4	26.2	14	22	39.7	21.0	16.6	25.3	14.0	17.3	10.8	18.4
Magnesium	EPA 200.7	mg/L	23	22	23	140	133	130	122	136	137	138	137	144	149
Magnesium, Dissolved	EPA 200.7	mg/L	23	22	23	140	132	120	122	134	133	125	137	153	152
Manganese, Dissolved	EPA 200.7	µg/L	ND	ND	ND	4,120	3,730	3,730	3,810	3,730	3,770	3,900	4,310	4,760	4,410
Manganese, Total	EPA 200.7	µg/L	ND	ND	ND	4,100	3,720	4,050	3,970	3,760	3,940	3,880	4,270	4,410	4,300
MBAS (Surfactants)	SM5540C	mg/L	0.02	0.03	0.02	0.06	ND	ND	ND	ND	ND	0.06	0.04	0.04	0.04
Nitrate as N	EPA 300.0	mg/L	0.4	0.4	0.3	0.8	ND	ND	ND	ND	ND	0.0	ND	ND	0.1
Nitrate as NO3	EPA 300.0	mg/L	1.7	1.6	1.5	3.5	ND	ND	ND	ND	ND	ND	ND	ND	0.7
Nitrate+Nitrite as N	EPA 300.0	mg/L	0.4	0.4	0.3	0.8	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrite as NO2-N, Dissolved	EPA 300.0	mg/L	ND	ND	ND	ND	ND	0.0	ND	ND	ND	ND	ND	ND	ND
Odor Threshold at 60 C	SM2150B	TON	ND	ND	<1	2	2	3	2	4	2	2	ND	ND	ND
o-Phosphate-P	Hach 8048 & EPA 365.1	mg/L	ND	ND	0.02	1.38	1.04	0.39	0.50	0.44	0.61	0.45	0.47	ND	0.39
pH (Field Test)	SM4500-H+B	pH	7.33	7.42	7.31	6.65	6.97	7.06	7.00	6.88	6.89	7.46	7.05	7.18	7.13
pH (Laboratory)	SM4500-H+B	pH (H)	7.8	7.7	8.2	7.1	7.2	7.1	7.5	7.2	7.6	7.5	7.5	7.6	8.0
Phenoxy Acid Herbicides (515.3)	EPA 515.3	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
Phosphorus, Dissolved Total	HACH 8190 & EPA 365.1	mg/L	ND	ND	ND	1.26	1.04	0.39	0.82	0.57	0.63	0.54	0.55	1.40	0.36
Potassium	EPA 200.7	mg/L	4.1	3.7	4.2	14.6	15.7	14.3	13.4	13	16.5	13.6	13.1	14.8	15.2
Potassium, Dissolved	EPA 200.7	mg/L	3.9	3.7	4.01	15.0	15.8	15.6	12.8	13	16.5	13.9	13.2	15.8	15.5
QC Ratio TDS/SEC	Calculation	-	0.54	0.48	0.55	0.57	0.63	0.65	0.60	0.61	0.79	0.59	0.63	0.61	0.61
Reg. Org. Compounds (EPA 525)	EPA 525	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
Salinity	SM2520B	psu	ND	NA	NA	3.0	2.6	2.7	2.9	2.6	2.7	2.6	2.6	2.6	2.7
Silica as SiO2, Dissolved	EPA 200.7	mg/L	46.6	45.7	46.2	41	37	38	39	38	39.4	38.7	40.5	47.0	46.4
Sodium	EPA 200.7	mg/L	96	82	84	648	695	691	662	698	839	738	697	713	707
Sodium, Dissolved	EPA 200.7	mg/L	96	80	82	642	692	655	658	700	750	735	698	758	715
Specific Conductance (E.C)	SM2510B	µmhos/cm	943	868	831	4,963	4,778	4,588	4,880	4,860	4,950	4,930	4,890	4,910	4,970
Specific Conductance (E.C) (Field)	SM2510B	µmhos/cm	918	864	875	4,920	4,987	4,404	5,043	4,930	4,939	4,892	5,024	5,314	4,964
Strontium, Dissolved	EPA 200.8	µg/L	412	402	394	1,930	1,600	1,660	1,790	1,720	1,170	1,830	1,810	1,860	1,730
Sulfate, Dissolved	EPA 300.0	mg/L	23	20	20	274	343	281	339	324	350	321	350	293	336
Temperature (Field)	SM2550	°C	18.2	17.9	20.2	17.6	17.5	17.4	17.0	17.3	17.4	17.3	17.9	16.9	17.5
Total Diss. Solids	SM2540C	mg/L	510	420	492	2,820	2,990	3,000	2,910	2,960	3,895	2,900	3,070	3,000	3,030
Turbidity	EPA 180.1	NTU	0.55	ND	2.2	60.0	55	42.0	8.00	60	65	60	45	65	79
Turbidity (Field)	EPA 180.1	NTU	0.86	0.85	0	0.29	0.44	0.680	0.800	0.36	0.47	0.84	0.33	0.38	0.00
Volatile Org. Compounds (524)	EPA 524	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
Zinc	EPA 200.7	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Zinc, Total	EPA 200.8	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
PCBs, Total	EPA 508	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
Total PCB	EPA 1668C	pg/L	-	-	-	-	-	-	-	-	-	-	-	-	-

Notes:
°C = Degrees Celsius
CU = Color Units
Meq/L = Milliequivalents per Liter
mg/L = Milligrams per Liter
NTU = Nephelometric Turbidity Units
pg/L = Picograms per Liter
TON = Threshold Odor Number
µg/L = Micograms per Liter
µmhos/cm = Micromhos per Centimeter

ND = NOT DETECTED at or above the Reporting Limit (RL) or Practical Quantitation Limit (PQL). See laboratory water quality reports for RL and PQL values.
¹ Using EPA Method 200.8, Arsenic values are overstated due to matrix interference caused by high chloride levels. The overstated values are in laboratory reports through February 11, 2016. Going forward, EPA Method 1640 will be used for Arsenic analysis only.
² EPA Methods 2120B and C are both applicable to measure color caused primarily by natural organic matter. Both methods are suitable for true color measurements but for apparent color measurements only Method 2120B is used.
³ The reported gravimetric method TDS result exceeds the calculated TDS using ion summation. The laboratory attributes the elevated level to the possibility of water trapped in salt crystals. MBAS calculated values: MW-3D (4/13/21) = 29,600 mg/L; MW-4D (4/15/21) = 24,000 mg/L
⁴ MW-6 headers were corrected in Report No. 174. Header previously labeled MW-6M(L) was corrected to MW-6M and header previously labeled MW-6D was corrected to MW-6M(L).

Table 3: Summary of Quarterly and Semiannual Monitoring Well Laboratory Water Quality Results Following Long-Term Pumping Test

Monitoring Well Name:			MW-9D						
Sample Collection Date:			15-Oct-19	7-Apr-20	13-Oct-20	13-Apr-21	12-Oct-21	12-Apr-22	18-Oct-22
Constituent	Method	Units	Result	Result	Result	Result	Result	Result	Result
Alkalinity, Total (as CaCO3)	SM2320B	mg/L	162	159	172	170	169	168	167
Aluminum, Total	EPA 200.8	µg/L	ND	ND	ND	ND	ND	ND	ND
Ammonia-N, Dissolved	SM4500NH3 D & EPA 350.1	mg/L	ND	ND	ND	ND	ND	ND	ND
Arsenic, Total ¹	EPA 200.8	µg/L	-	-	-	-	-	-	-
Arsenic, Total	EPA 1640	µg/L	1.3	1.0	1.6	1.5	1.0	1.5	1.7
Barium, Dissolved	EPA 200.8	µg/L	47.2	58	56.4	57.6	61.8	56.3	64.4
Bicarbonate (as HCO3-)	SM2320B	mg/L	198	194	210	207	206	205	204
Boron, Dissolved	EPA 200.7	mg/L	0.07	0.06	0.07	0.08	0.07	0.05	0.1
Bromide, Dissolved	EPA 300.0	mg/L	0.2	0.2	0.2	0.2	0.2	0.3	ND
Calcium	EPA 200.7	mg/L	35	32	36	38	40	38	33
Calcium, Dissolved	EPA 200.7	mg/L	35	34	34	37	39	38	31
Carbamates by HPLC (EPA 531)	EPA 531	µg/L	-	-	-	-	-	-	-
Carbonate as CaCO3	SM2320B	mg/L	ND	ND	ND	ND	ND	ND	ND
Chloride, Dissolved	EPA 300.0	mg/L	68	63	64	62.3	62	74	52
Chlorinated Pesticides and PCB (EPA 508)	EPA 508	µg/L	-	-	-	-	-	-	-
Color, Apparent (Unfiltered)	SM2120B	Color Units	4	-	-	ND	ND	ND	ND
Color, True ²	SM2120C	Color Units	-	ND	ND	-	-	-	-
Copper	EPA 200.7	µg/L	ND	ND	ND	ND	ND	ND	ND
Copper, Total	EPA 200.8	µg/L	-	-	-	-	-	-	-
DBCP & EDB	EPA 504.1	µg/L	-	-	-	-	-	-	-
Dioxin	EPA 1613	pg/L	-	-	-	-	-	-	-
Diquat (EPA 549)	EPA 549	µg/L	-	-	-	-	-	-	-
Dissolved Anions	Calculation	Meq/L	5.70	5.45	5.74	5.65	5.61	5.95	5.226
Total Anions	Calculation	Meq/L	5.70	5.45	5.74	5.65	5.61	5.95	5.226
Dissolved Cations	Calculation	Meq/L	5.38	5.45	5.41	5.95	5.97	5.77	5.03
Total Cations	Calculation	Meq/L	5.55	5.23	5.69	6.03	6.17	5.72	5.42
Fluoride, Dissolved	EPA 300.0	mg/L	0.3	0.2	0.2	0.2	0.2	0.2	0.1
Hardness (as CaCO3)	SM2340B/Calc, EPA200.7	mg/L	141	132	148	154	161	152	141
Hydroxide	SM2320B	mg/L	ND	ND	ND	ND	ND	ND	ND
Iodide	EPA 9056M, 314.0, 331.0M, & 332.0M	µg/L	ND	ND	ND	ND	ND	ND	ND
Iron	EPA 200.7	µg/L	ND	ND	ND	ND	ND	10	ND
Iron, Dissolved	EPA 200.7	µg/L	ND	ND	ND	ND	ND	ND	ND
Total Kjeldahl Nitrogen, Dissolved	SM4500-NH3 B,C,E & EPA 351.2	mg/L	ND	ND	ND	0.2	ND	ND	ND
Lead, Total	EPA 200.8	µg/L	ND	ND	ND	ND	ND	ND	ND
Lithium	EPA 200.8	µg/L	22.5	25.5	26.8	25.6	24.6	17.6	25.8
Magnesium	EPA 200.7	mg/L	13.2	13	14	14	15	14.0	14
Magnesium, Dissolved	EPA 200.7	mg/L	13	13	13	14	14	14	13
Manganese, Dissolved	EPA 200.7	µg/L	ND	ND	ND	ND	ND	ND	ND
Manganese, Total	EPA 200.7	µg/L	ND	ND	ND	ND	ND	ND	ND
MBAS (Surfactants)	SM5540C	mg/L	ND	ND	ND	ND	ND	0.05	ND
Nitrate as N	EPA 300.0	mg/L	0.6	0.5	0.5	0.5	0.5	0.4	0.4
Nitrate as NO3	EPA 300.0	mg/L	2.7	2.4	2.2	2.2	2.2	1.8	1.9
Nitrate+Nitrite as N	EPA 300.0	mg/L	0.6	0.5	0.5	0.5	0.5	0.4	0.4
Nitrite as NO2-N, Dissolved	EPA 300.0	mg/L	ND	ND	ND	ND	ND	ND	ND
Odor Threshold at 60 C	SM2150B	TON	1	3	1	ND	ND	ND	ND
o-Phosphate-P	Hach 8048 & EPA 365.1	mg/L	0.02	0.02	ND	0.04	0.03	0.01	0.03
pH (Field Test)	SM4500-H+B	pH	7.12	7.19	7.24	7.69	7.25	7.31	7.21
pH (Laboratory)	SM4500-H+B	pH (H)	7.7	7.6	7.7	7.6	7.7	7.8	8.5
Phenoxy Acid Herbicides (515.3)	EPA 515.3	µg/L	-	-	-	-	-	-	-
Phosphorus, Dissolved Total	HACH 8190 & EPA 365.1	mg/L	0.03	0.03	ND	ND	ND	ND	ND
Potassium	EPA 200.7	mg/L	3.3	2.9	3.6	3.3	3.0	2.6	2.7
Potassium, Dissolved	EPA 200.7	mg/L	3.05	3.0	3.06	3.2	2.9	2.8	2.6
QC Ratio TDS/SEC	Calculation	-	0.58	0.62	0.52	0.58	0.51	0.57	0.57
Reg. Org. Compounds (EPA 525)	EPA 525	µg/L	-	-	-	-	-	-	-
Salinity	SM2520B	psu	ND	NA	0.3	ND	NA	NA	NA
Silica as SiO2, Dissolved	EPA 200.7	mg/L	43	45	44.9	48.1	48.6	46.9	47.0
Sodium	EPA 200.7	mg/L	61	58	61	66	66	60	58
Sodium, Dissolved	EPA 200.7	mg/L	57	60	59	66	64	61	54
Specific Conductance (E.C)	SM2510B	µmhos/cm	574	572	606	569	575	595	583
Specific Conductance (E.C) (Field)	SM2510B	µmhos/cm	613	599	267	565	576	584	562
Strontium, Dissolved	EPA 200.8	µg/L	218	267	267	271	283	270	282
Sulfate, Dissolved	EPA 300.0	mg/L	24	22	22	22	21	22	19
Temperature (Field)	SM2550	° C	20.8	21.1	21.2	21.0	21.0	20.5	21.4
Total Diss. Solids	SM2540C	mg/L	334	352	360	330	292	342	332
Turbidity	EPA 180.1	NTU	ND	0.10	0.15	0.10	0.25	0.25	ND
Turbidity (Field)	EPA 180.1	NTU	0.240	0.37	0.99	0.71	0.99	0.39	0.00
Volatile Org. Compounds (524)	EPA 524	µg/L	-	-	-	-	-	-	-
Zinc	EPA 200.7	µg/L	ND	ND	ND	ND	ND	ND	ND
Zinc, Total	EPA 200.8	µg/L	-	-	-	-	-	-	-
PCBs, Total	EPA 508	µg/L	-	-	-	-	-	-	-
Total PCB	EPA 1668C	pg/L	-	-	-	-	-	-	-

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