

MONTEREY PENINSULA WATER SUPPLY PROJECT

Monitoring Network Quarterly Monitoring Report No. 183 6-April-23 - 29-June-23

July 4, 2023

PREPARED FOR:
California American Water



CALIFORNIA
AMERICAN WATER

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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.



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CONTENTS

1.0	GENERAL	1
1.1	Purpose and Scope.....	1
1.2	Monitoring Well Construction	1
2.0	BACKGROUND OF MONITORING PROGRAM	2
2.1	Baseline Water Level and Water Quality Weekly Monitoring Reports	2
2.2	Test Slant Well Baseline Water Level and Quality Data.....	2
2.3	Test Slant Well Long Term Pumping Test Monitoring Reports.....	3
3.0	MONITORING PROGRAM DURING CURRENT NON-PUMPING PERIOD.....	3
3.1	Water Levels.....	4
3.2	Test Slant Well Water Quality	4
	3.2.1 Specific Conductivity in the Test Slant Well	4
3.3	Monitoring Well Water Quality	5
3.4	Periodic Pumping for Well Maintenance	6

FIGURES, TABLES AND APPENDICES

FIGURES

No.	Description
1-1	MPWSP Groundwater Monitoring Network
2-1 to 2-8	Graphical Plots of Groundwater Elevations in Monitoring Wells
2-9a	Groundwater Elevation in MPWSP Test Slant Well
2-9b	Groundwater Elevation in MPWSP Test Slant Well During and After Long-Term Pumping Test
3-1 to 3-8	Graphical Plots of Groundwater Specific Conductivity in Monitoring Wells
3-9a	Specific Conductivity in MPWSP Test Slant Well
3-9b	Specific Conductivity in MPWSP Test Slant Well During and After Long-Term Pumping Test

TABLES

No.	Description
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

APPENDICES

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 6-Apr-23 through 29-Jun-23
- 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. 183 6-APRIL-23 – 29-JUNE-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 183 have been issued since the TSW has been shut off. This report summarizes monitoring performed for the period of April 6, 2023 through June 29, 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 fifteenth (15th) 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 through 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 April 6, 2023 through June 29, 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 2023 during the period of TSW non-pumping. The most recent set of semiannual samples was collected from April 10 to 13, 2023. 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, April 11 to 14, 2022, and October 17 to 20, 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 2023. 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, October 20, 2022, and April 13, 2023. 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.

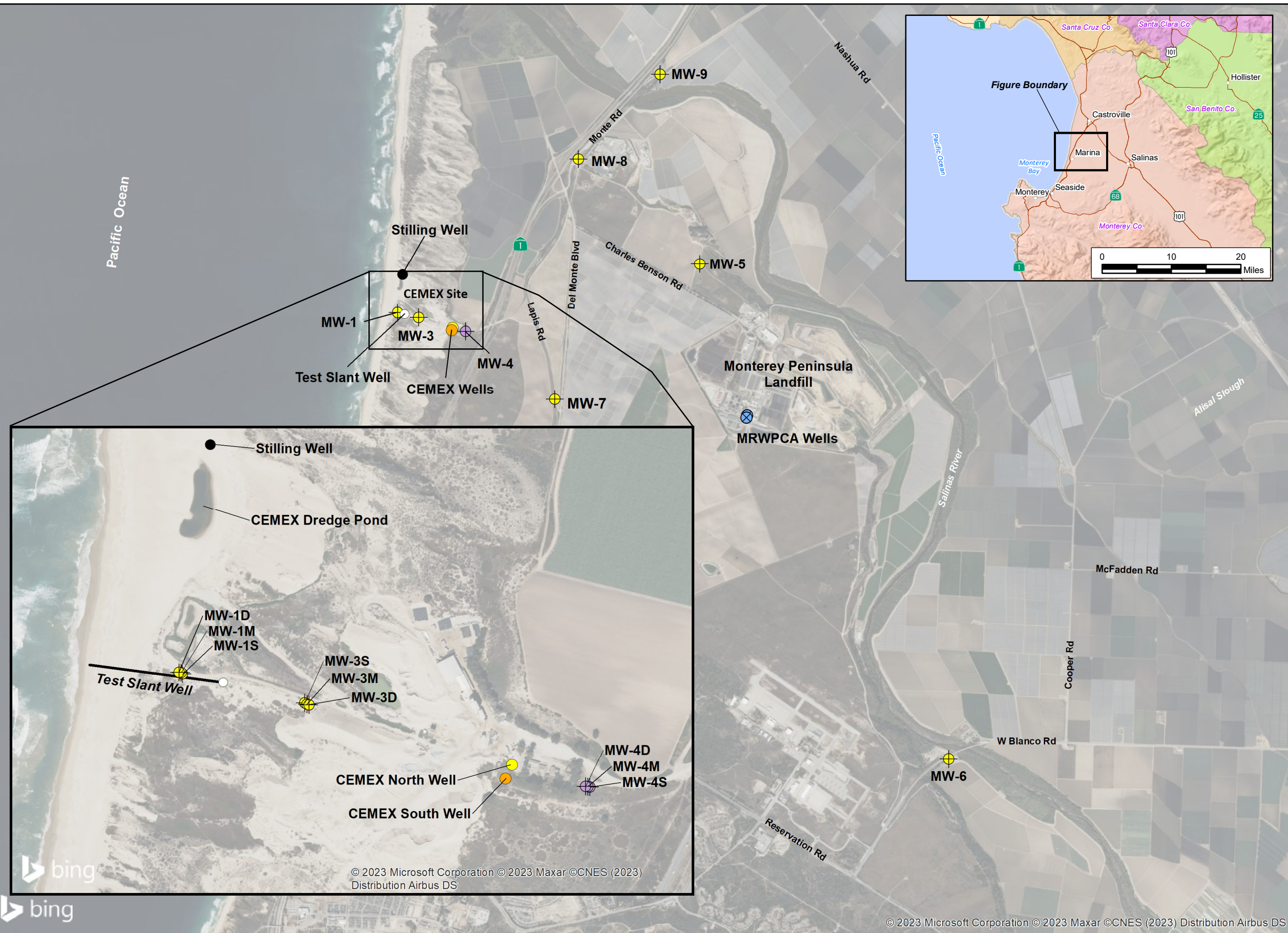
3.4 Periodic Pumping for Well Maintenance

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.

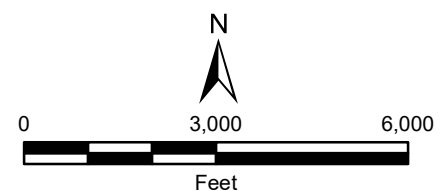
FIGURES

©2023, Geoscience Support Services, Inc. All rights reserved. Drawn By: DB. Projection: State Plane 1983, Zone IV.

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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



Jul-23

MPWSP GROUNDWATER MONITORING NETWORK

FIGURE 1-1

Groundwater Elevation in MPWSP MW-1

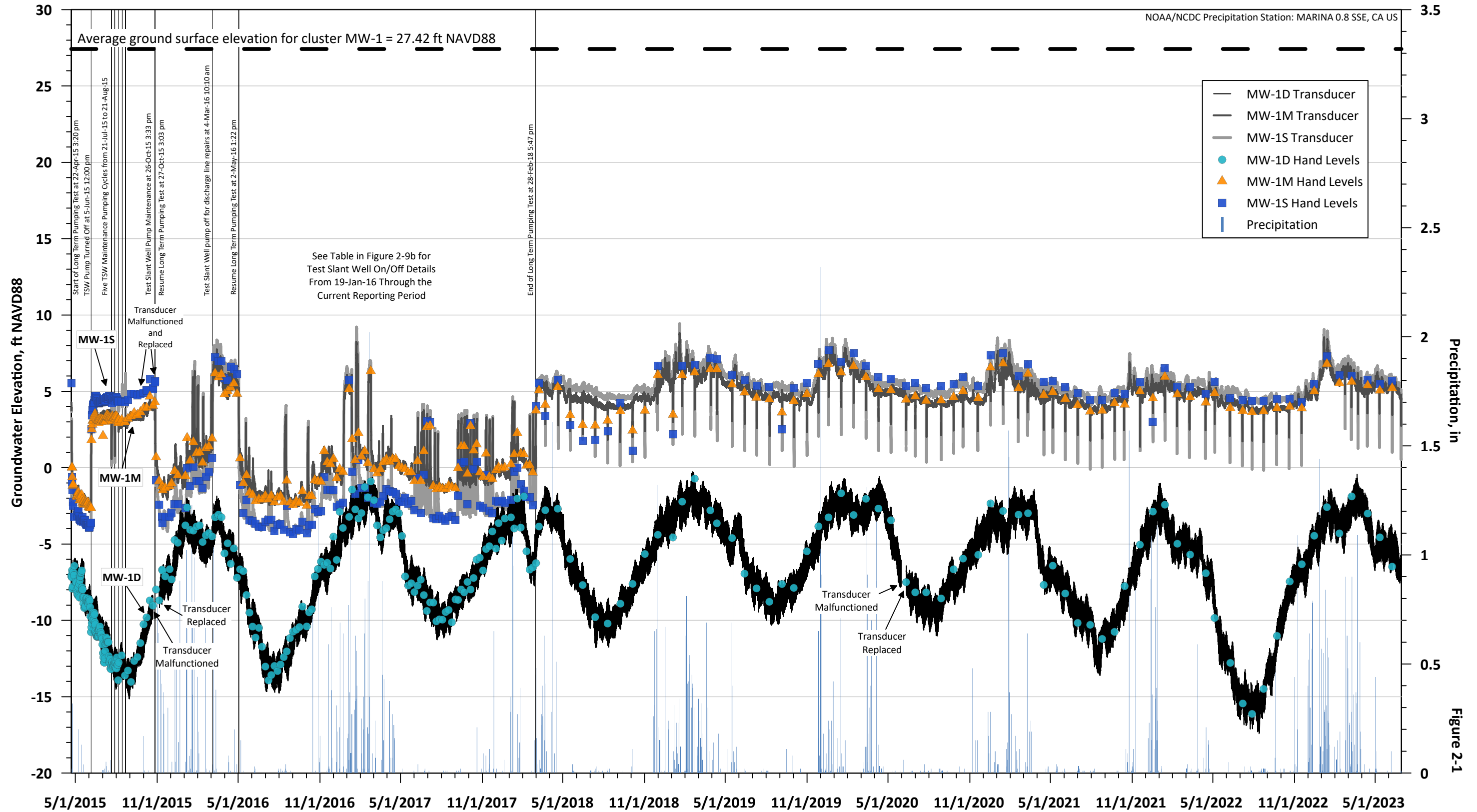


Figure 2-1

Groundwater Elevation in MPWSP MW-3

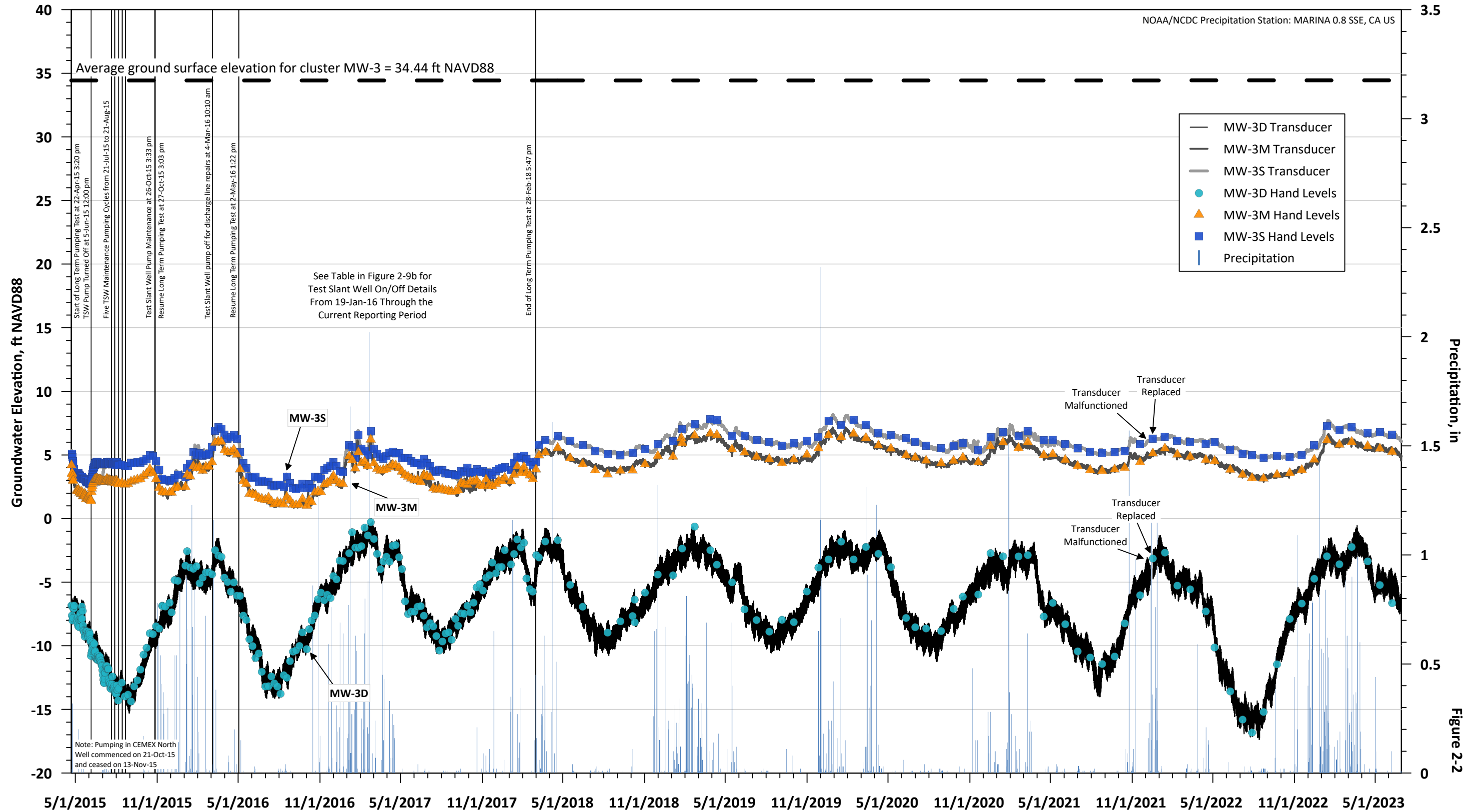


Figure 2-2

Groundwater Elevation in MPWSP MW-4

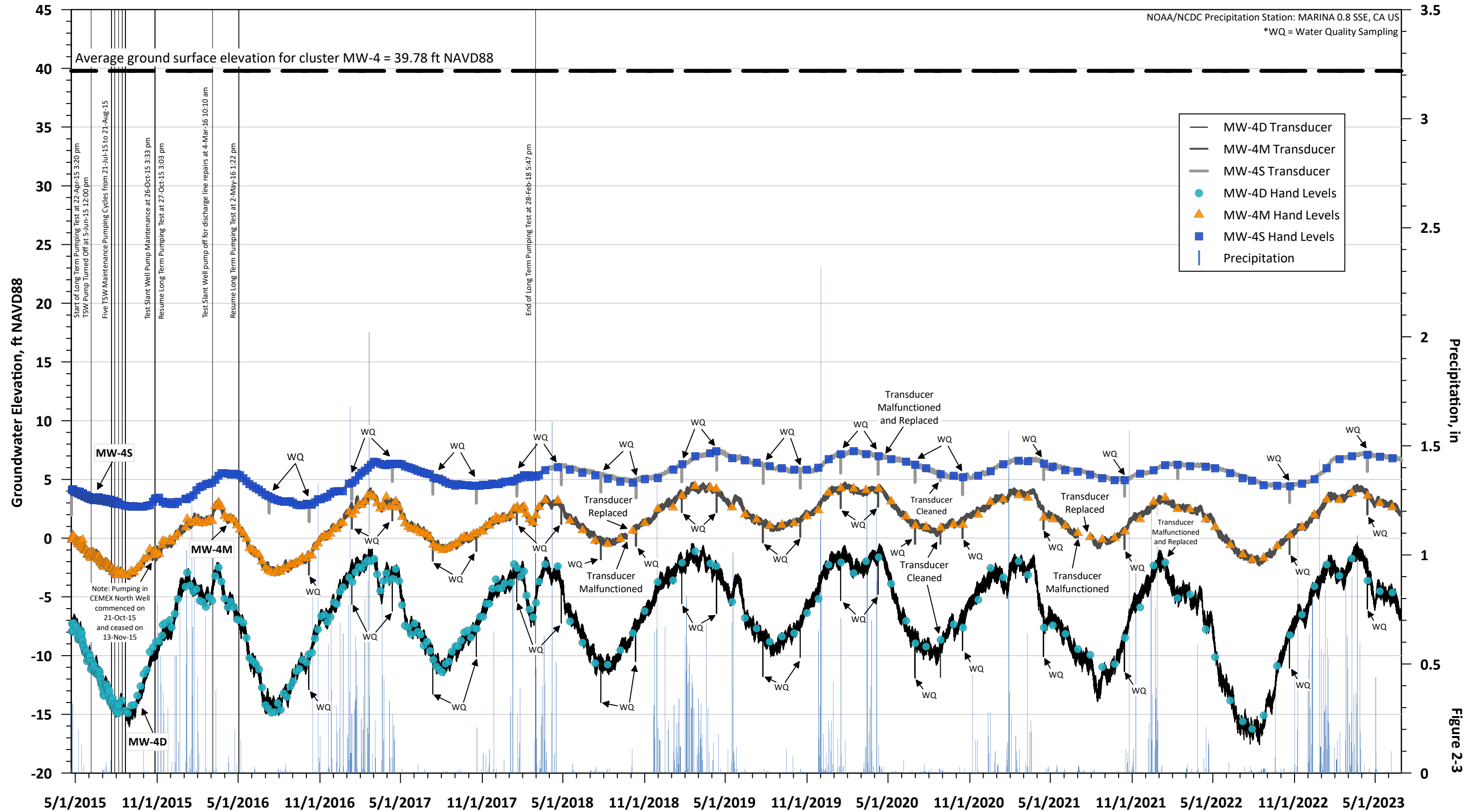


Figure 2-3

Groundwater Elevation in MPWSP MW-5

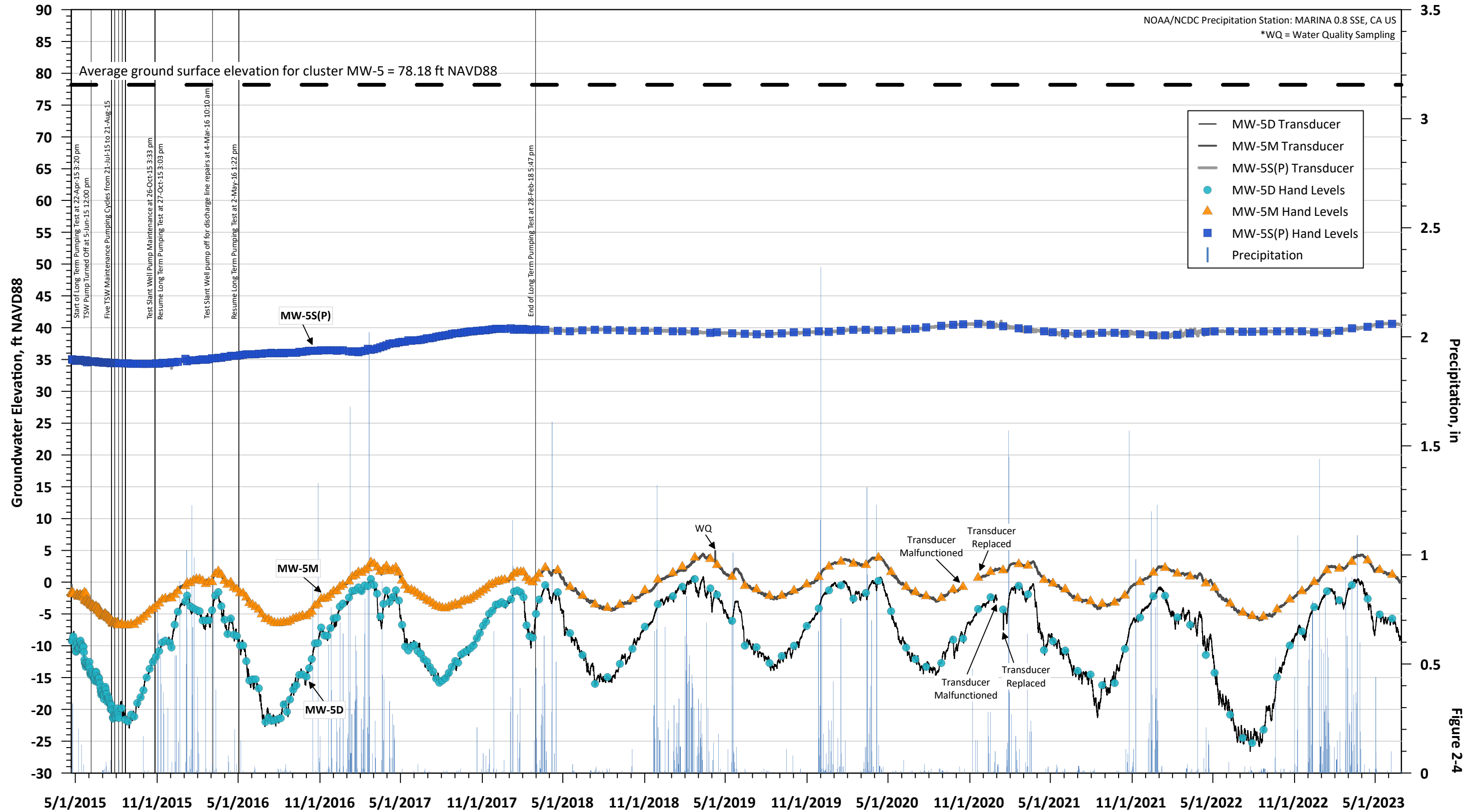


Figure 2-4

Groundwater Elevation in MPWSP MW-6

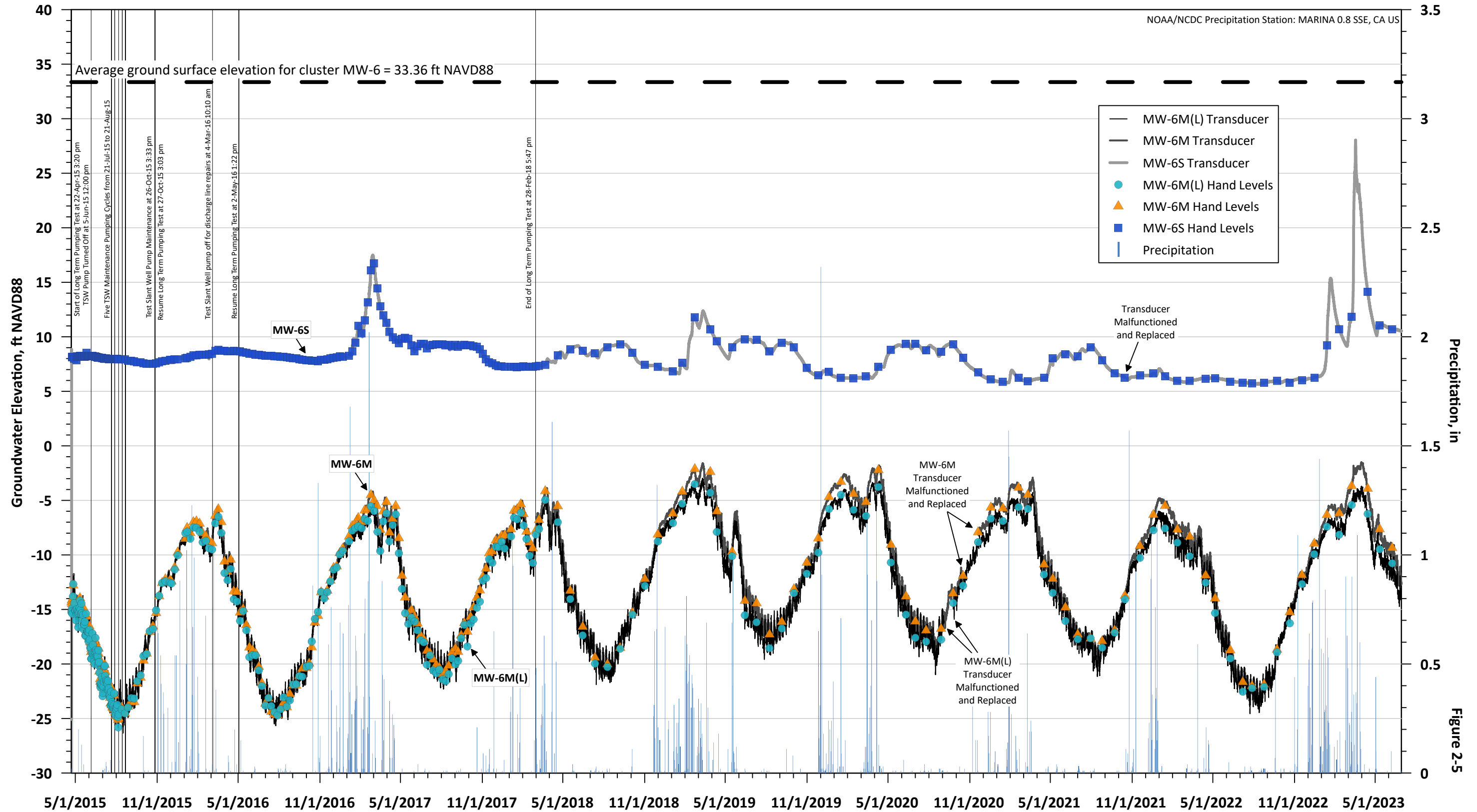


Figure 2-5

Groundwater Elevation in MPWSP MW-7

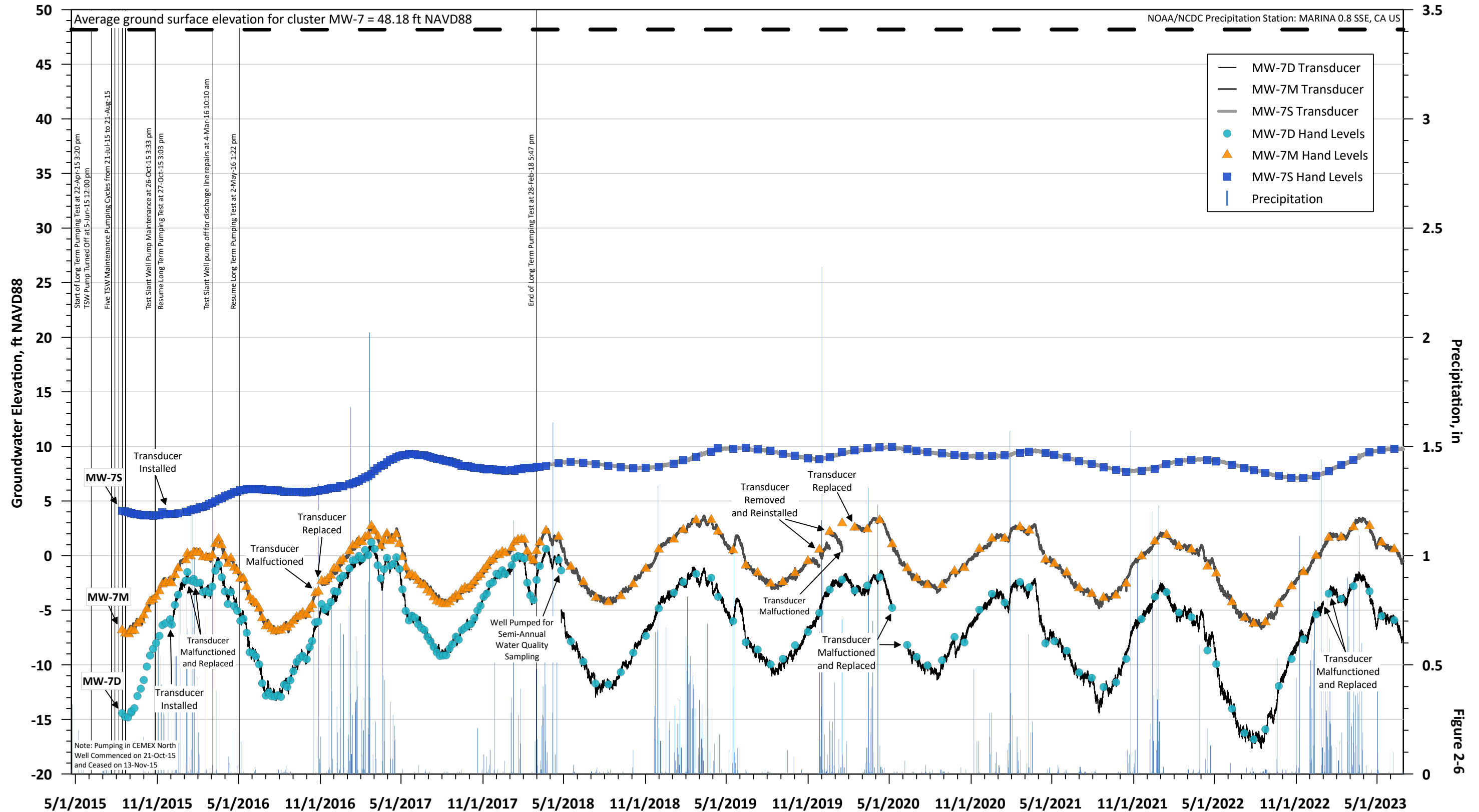


Figure 2-6

Groundwater Elevation in MPWSP MW-8

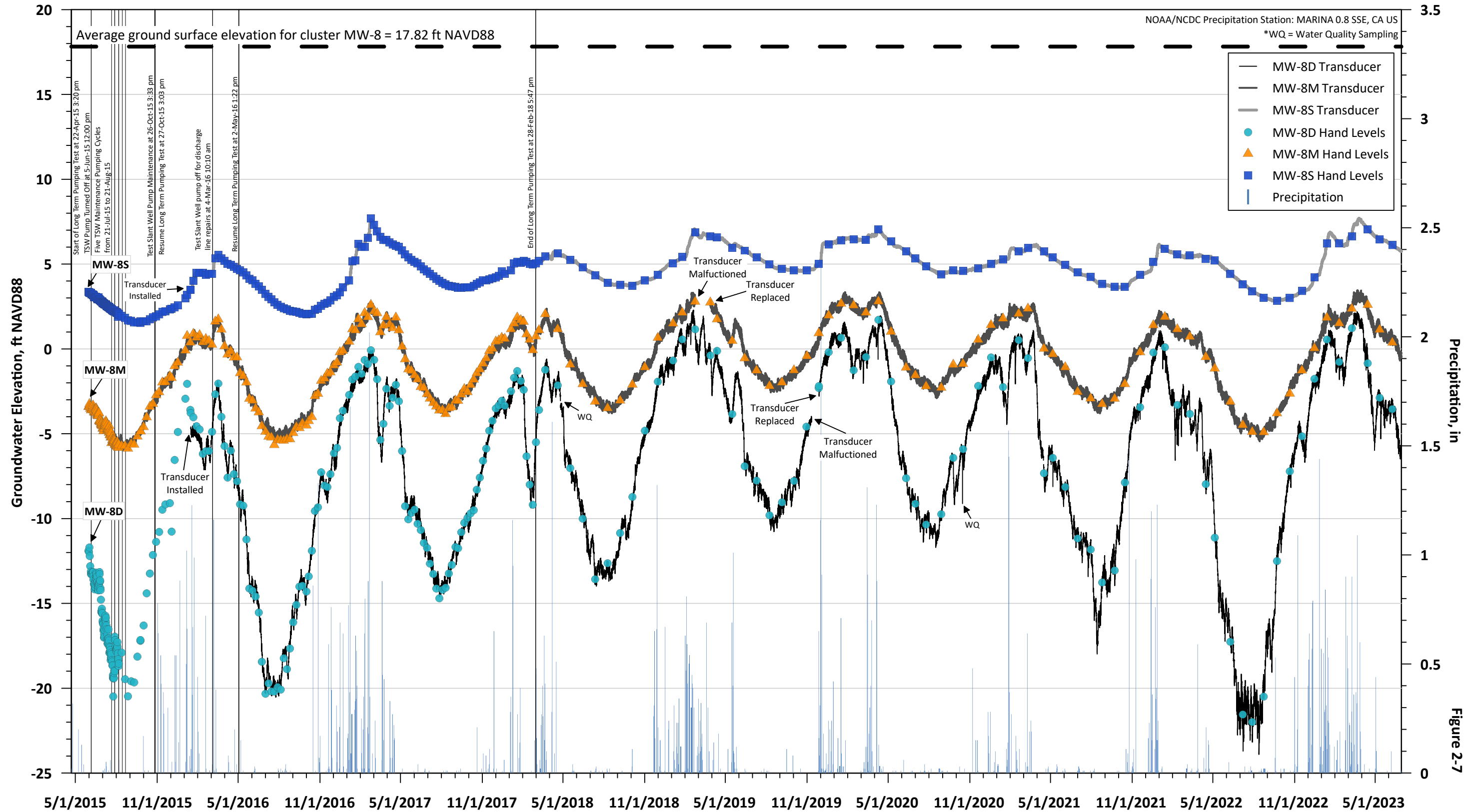


Figure 2-7

Groundwater Elevation in MPWSP MW-9

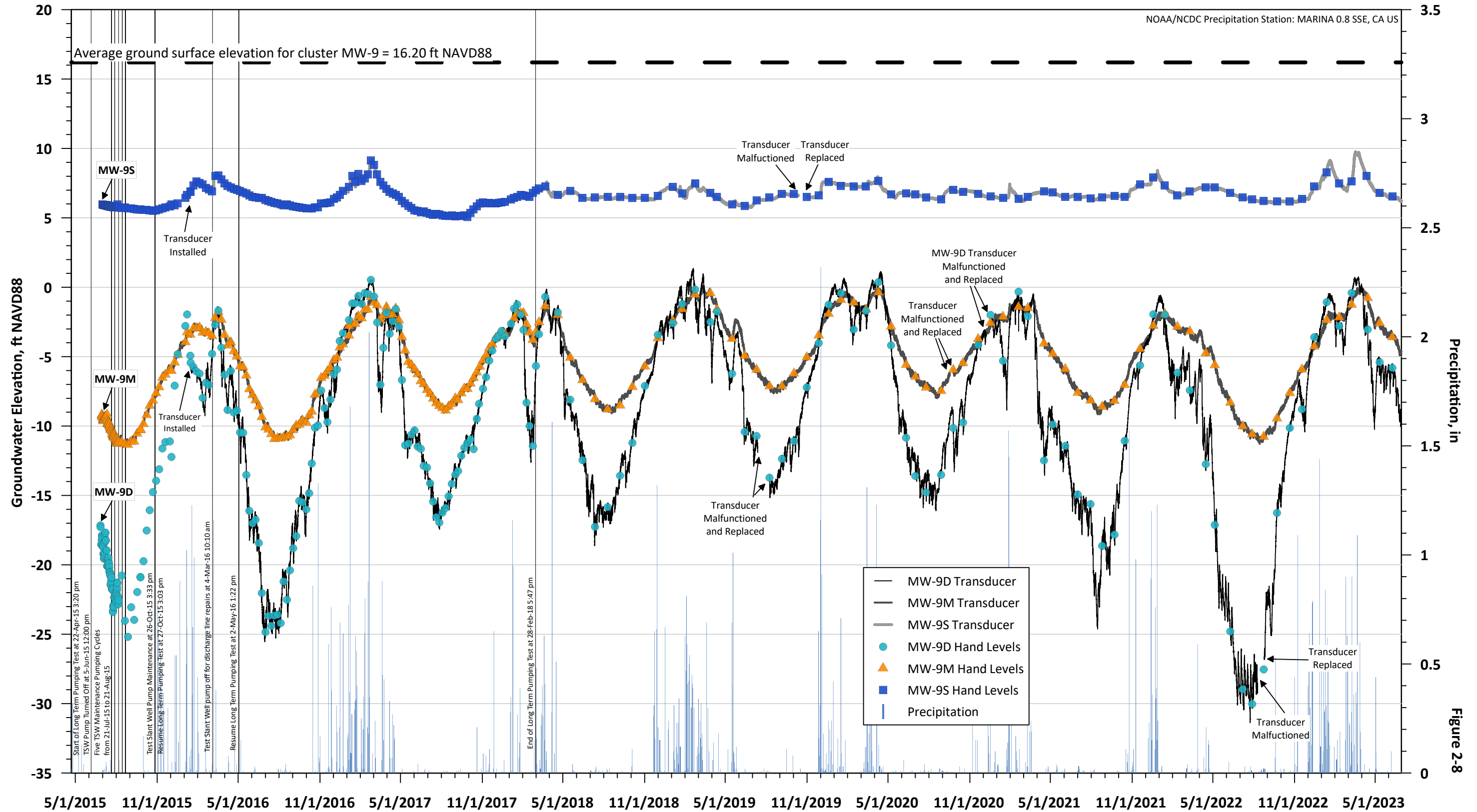


Figure 2-8

Groundwater Elevation in MPWSP Test Slant Well

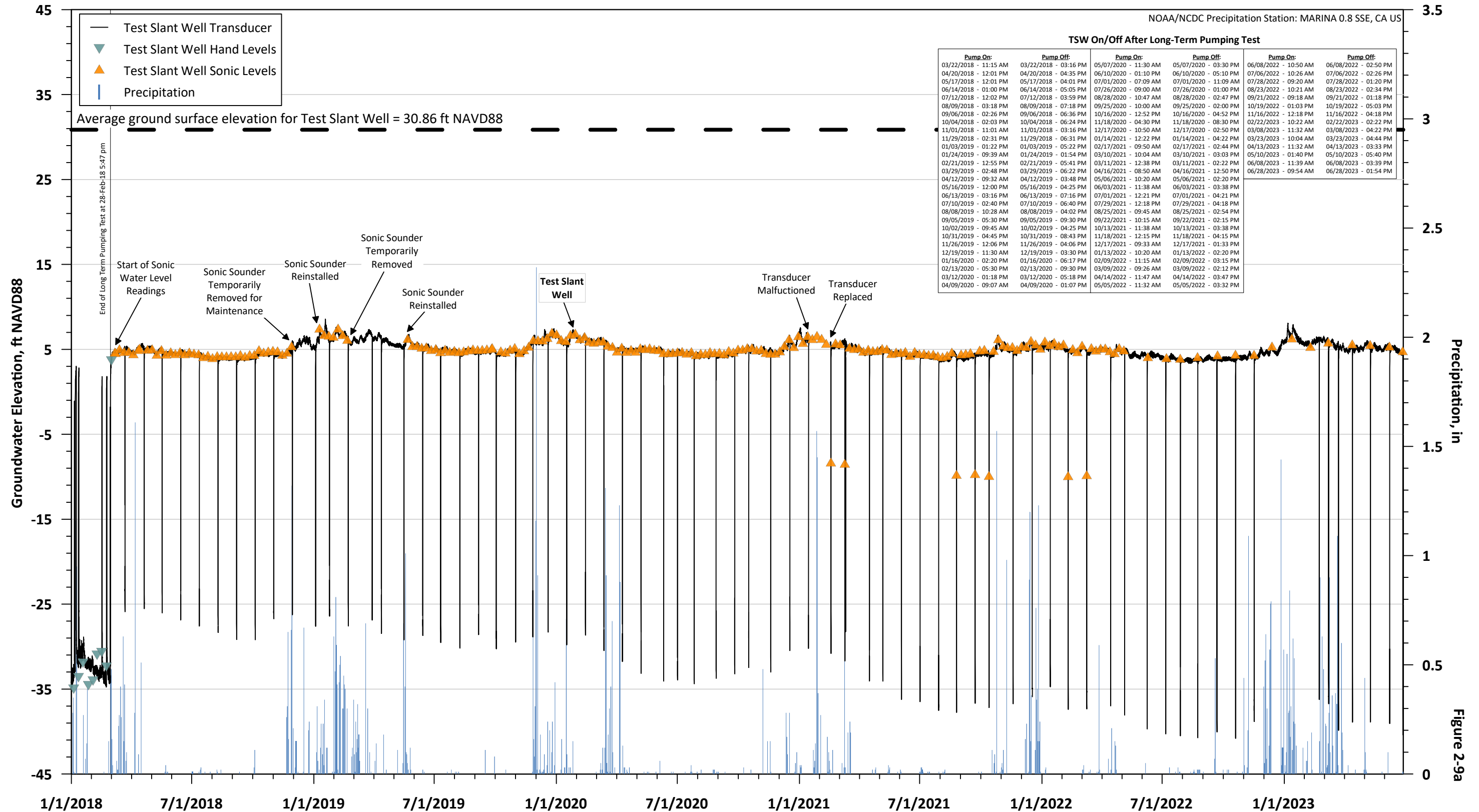
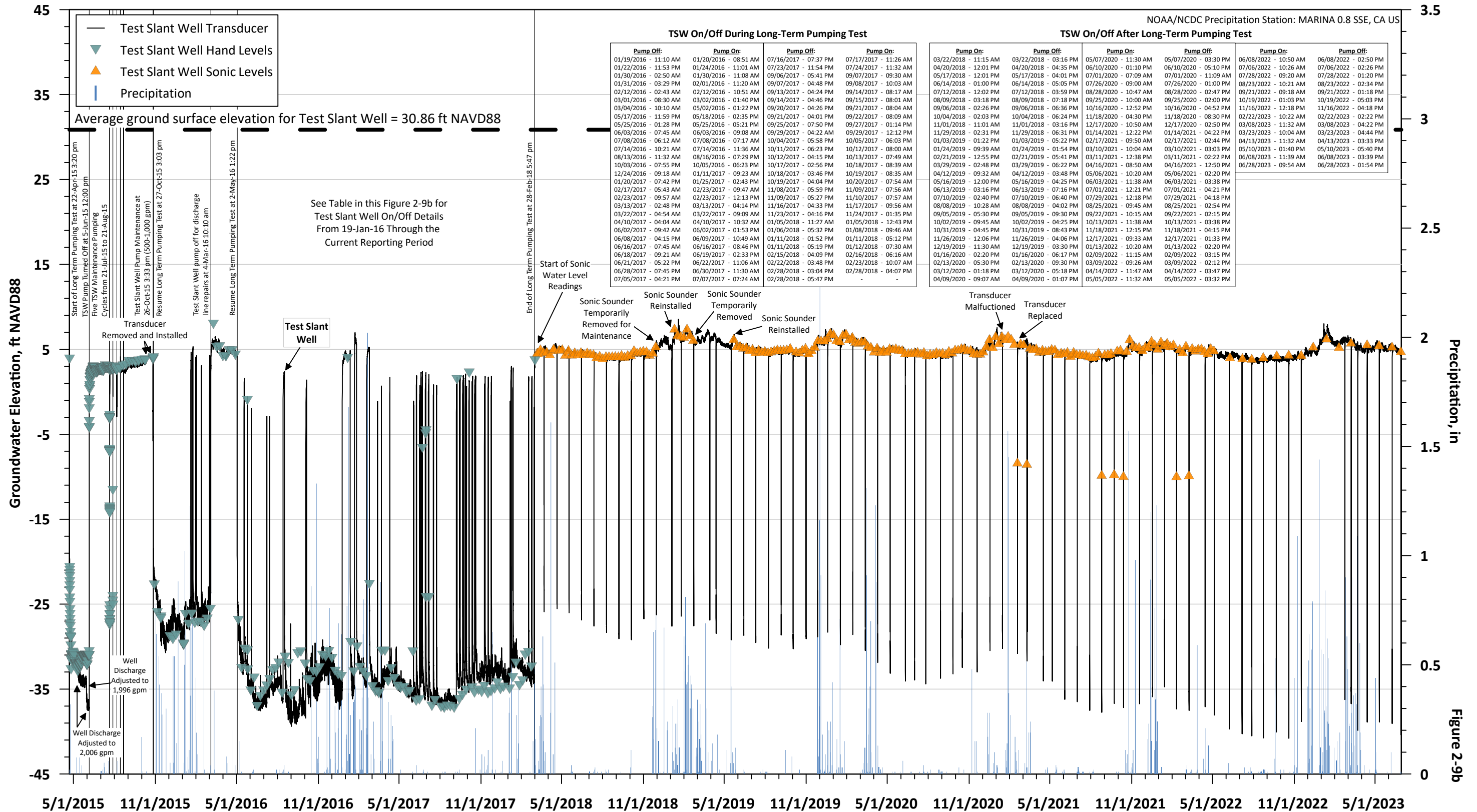


Figure 2-9a

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



Specific Conductivity in MPWSP MW-1

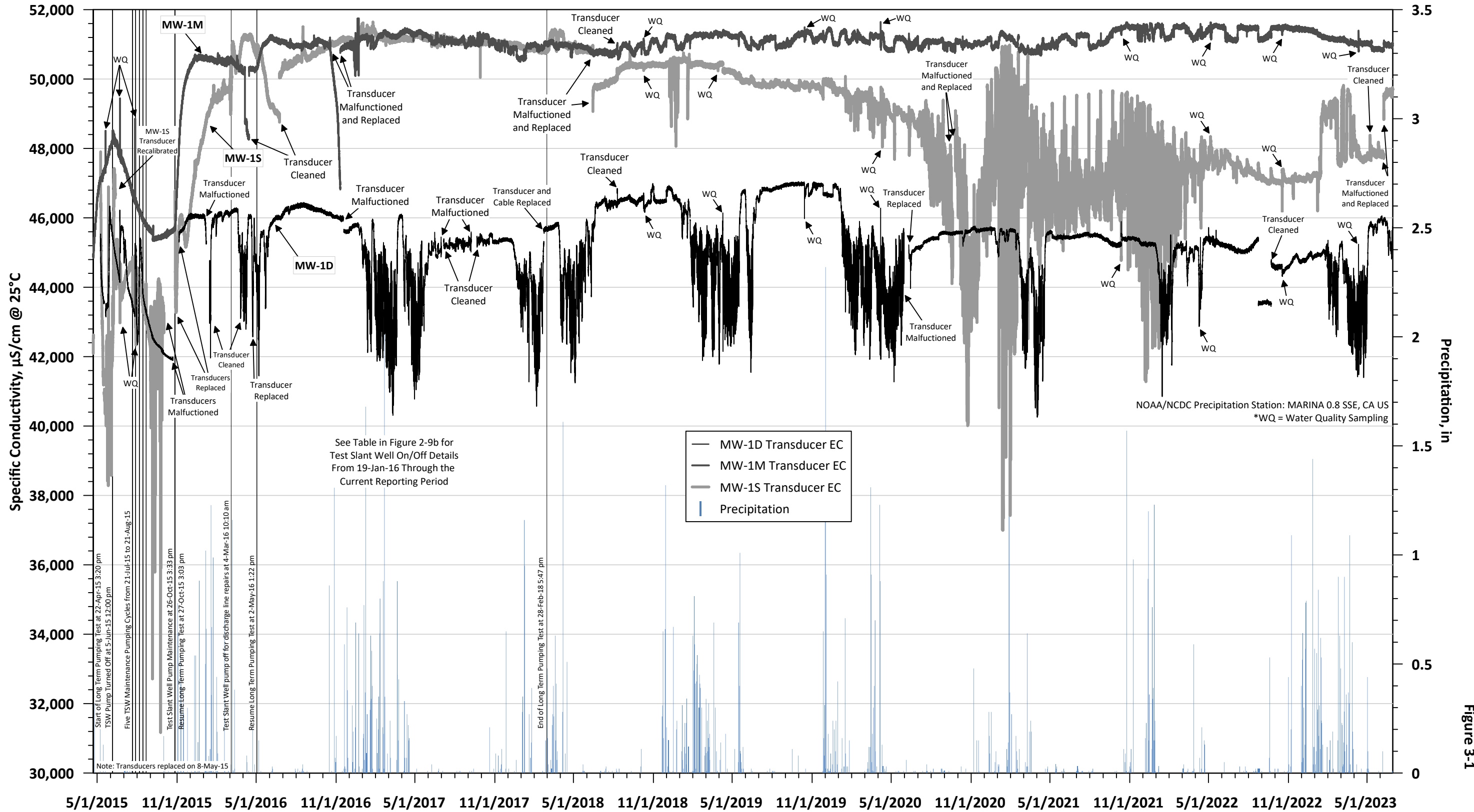


Figure 3-1

Specific Conductivity in MPWSP MW-3

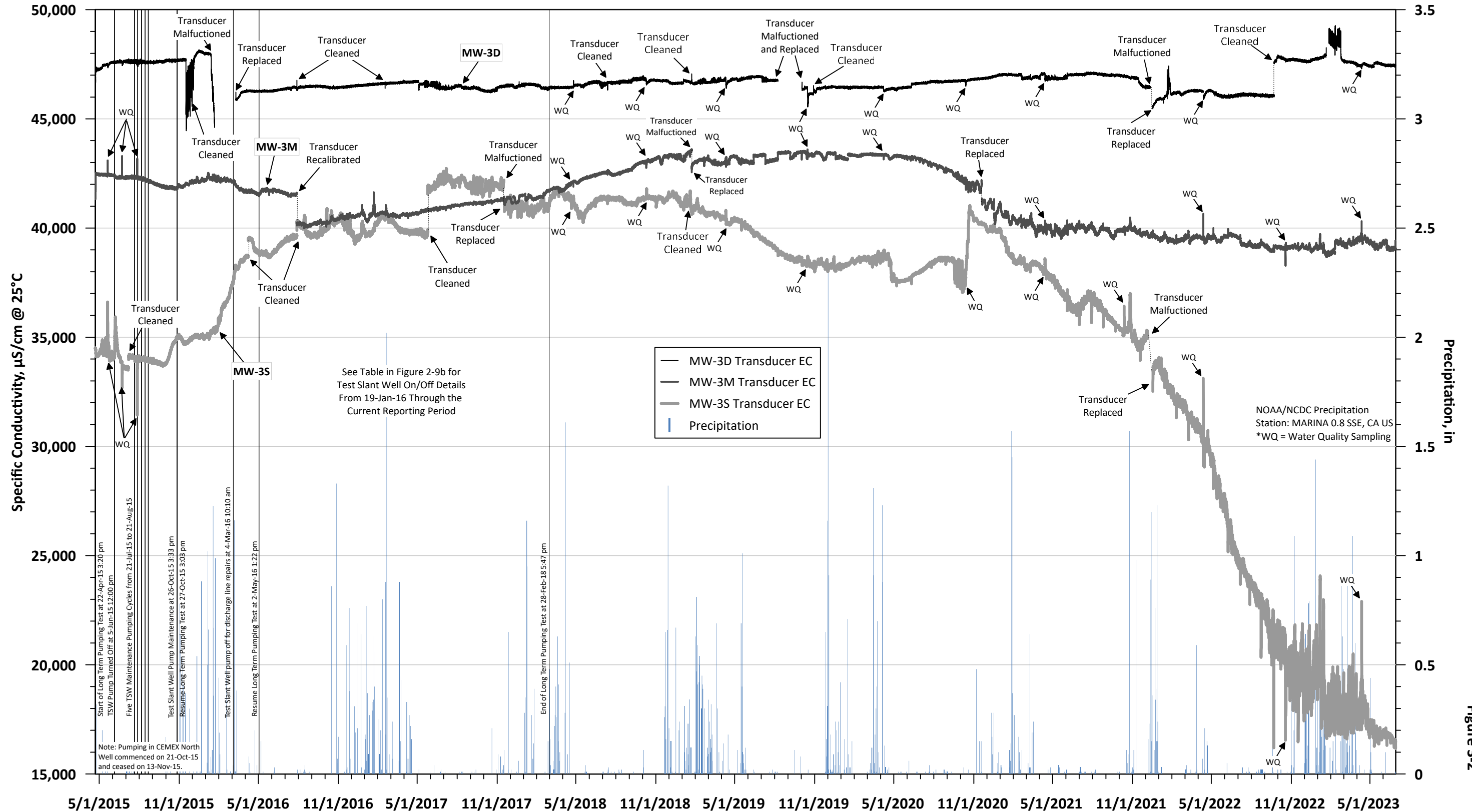


Figure 3-2

Specific Conductivity in MPWSP MW-4

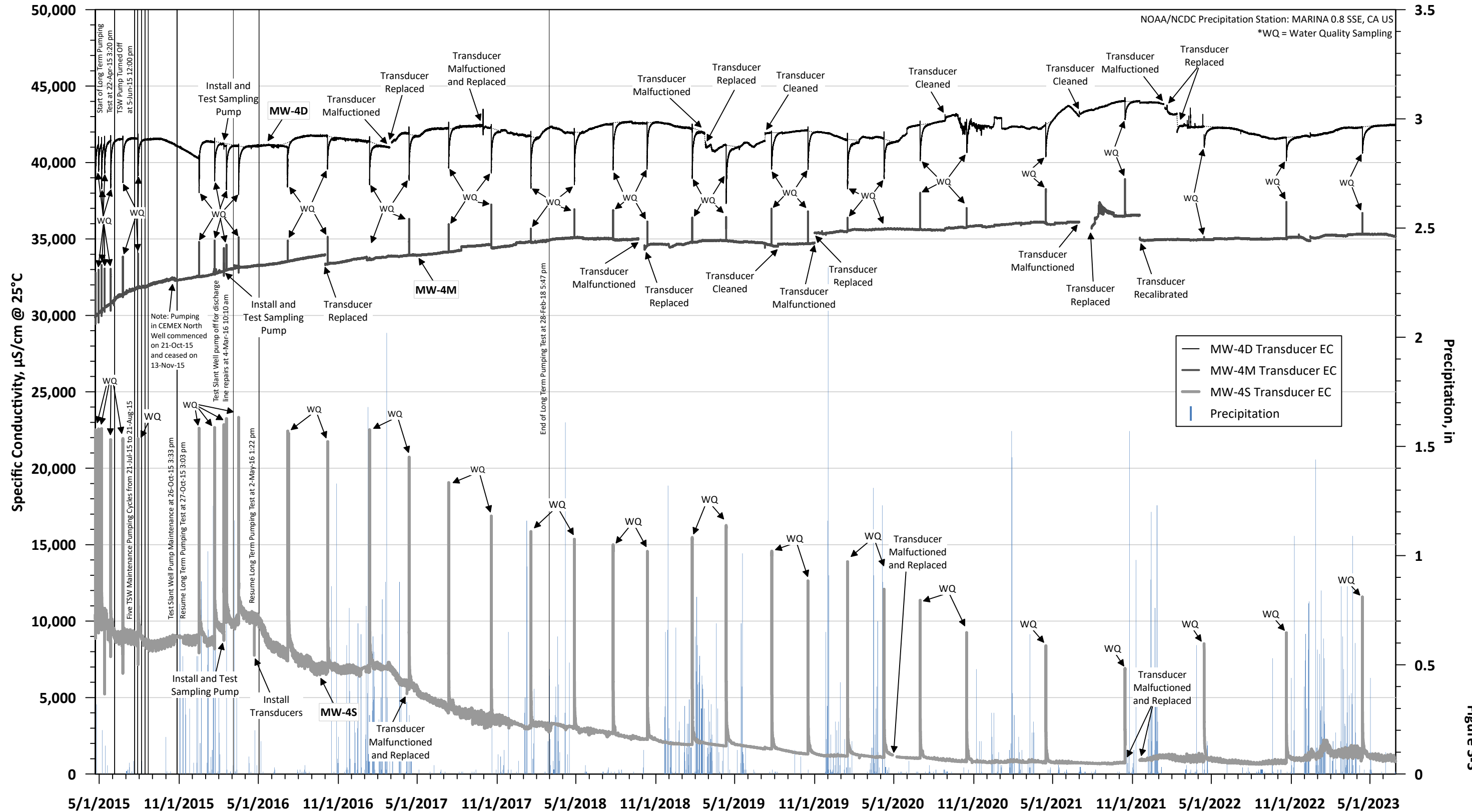


Figure 3-3

Specific Conductivity in MPWSP MW-5

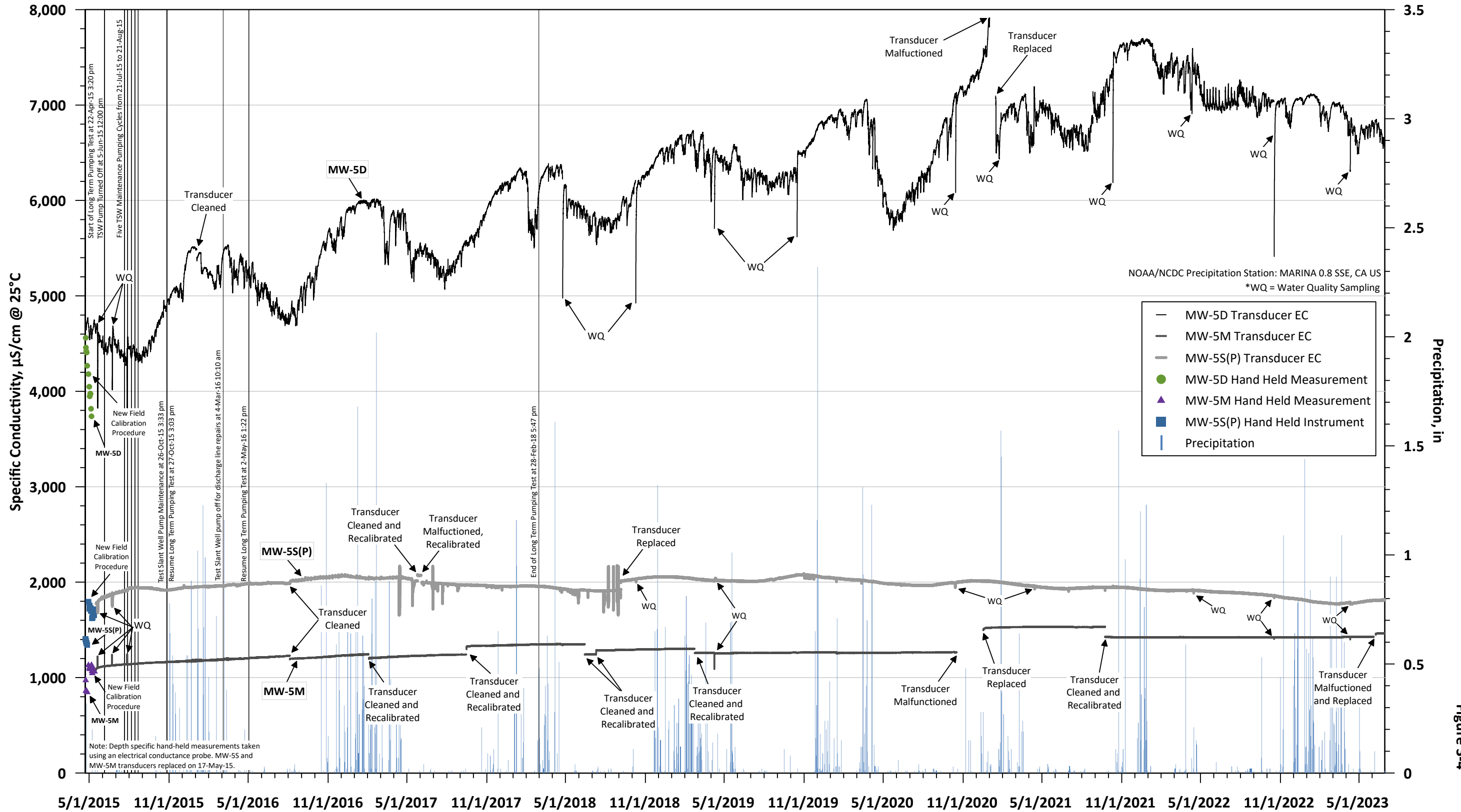


Figure 3-4

Specific Conductivity in MPWSP MW-6

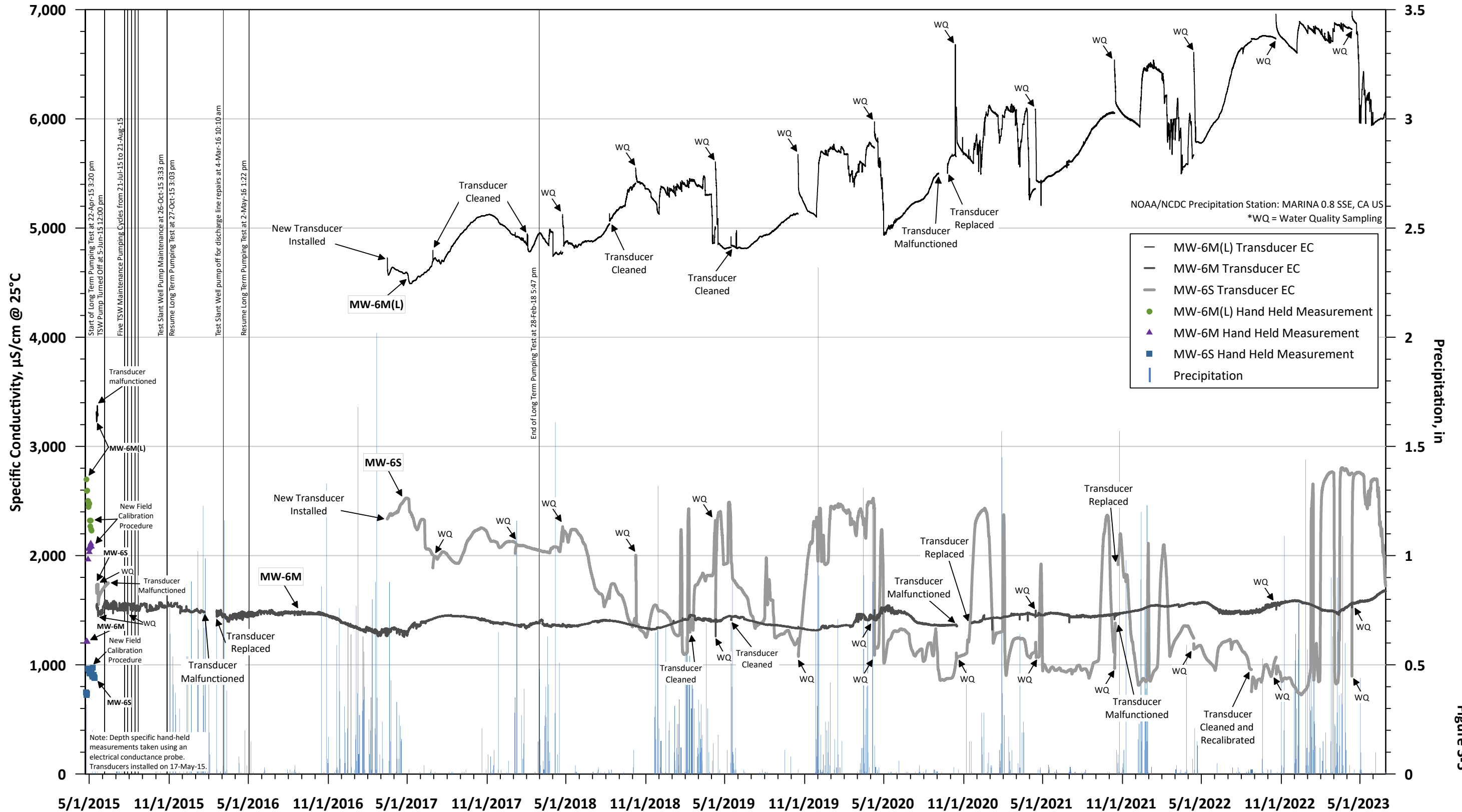


Figure 3-5

Specific Conductivity in MPWSP MW-7

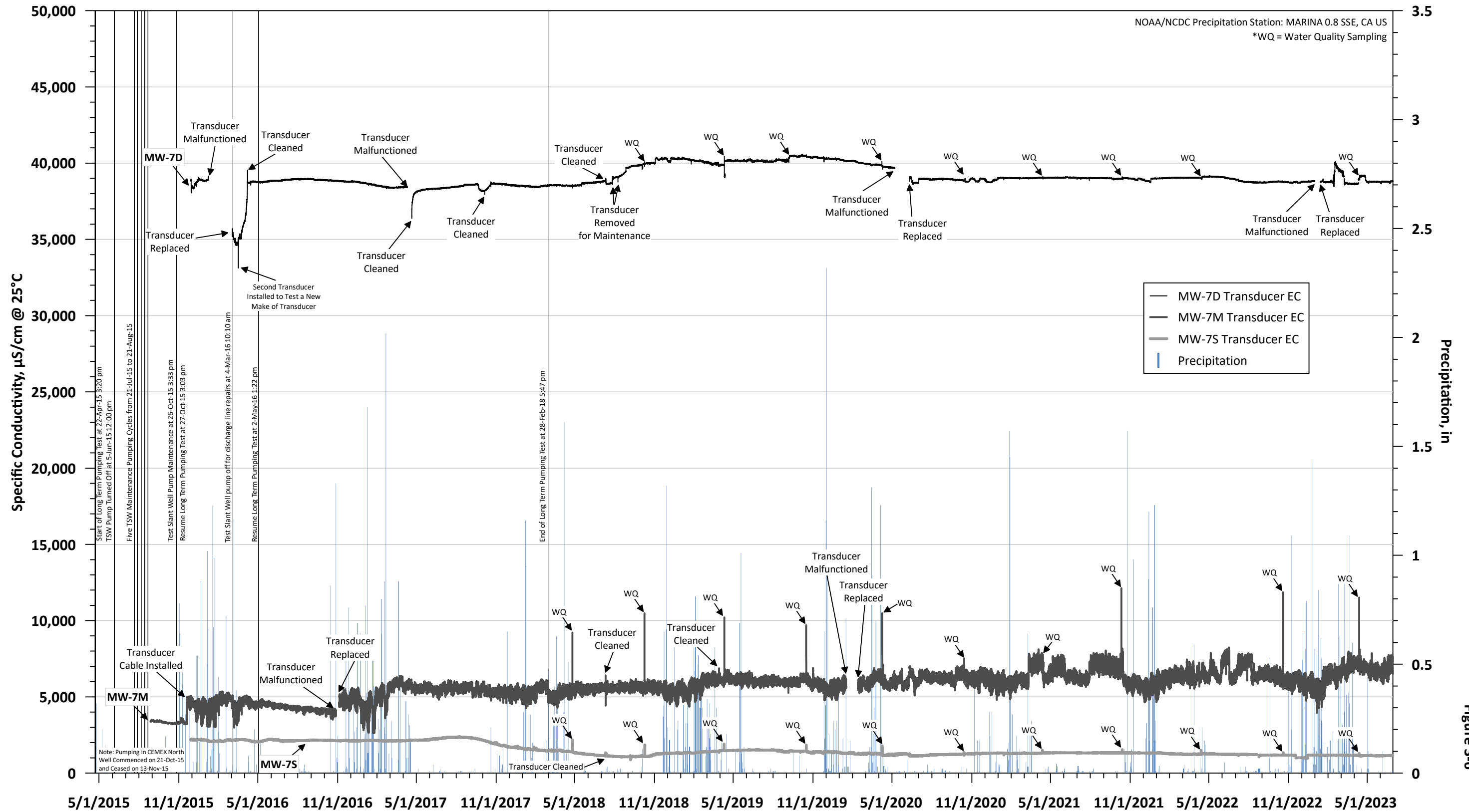


Figure 3-6

Specific Conductivity in MPWSP MW-8

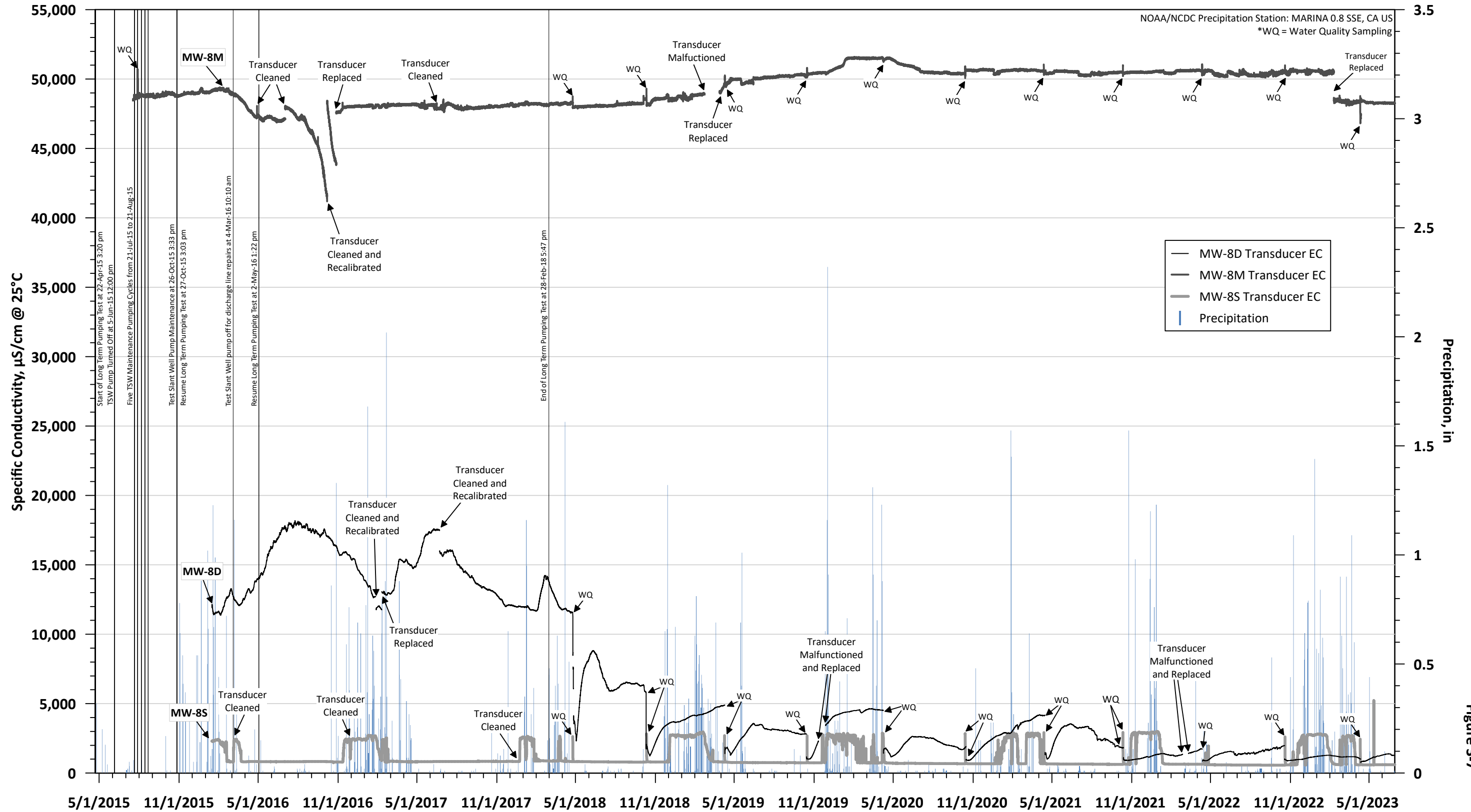


Figure 3-7

Specific Conductivity in MPWSP MW-9

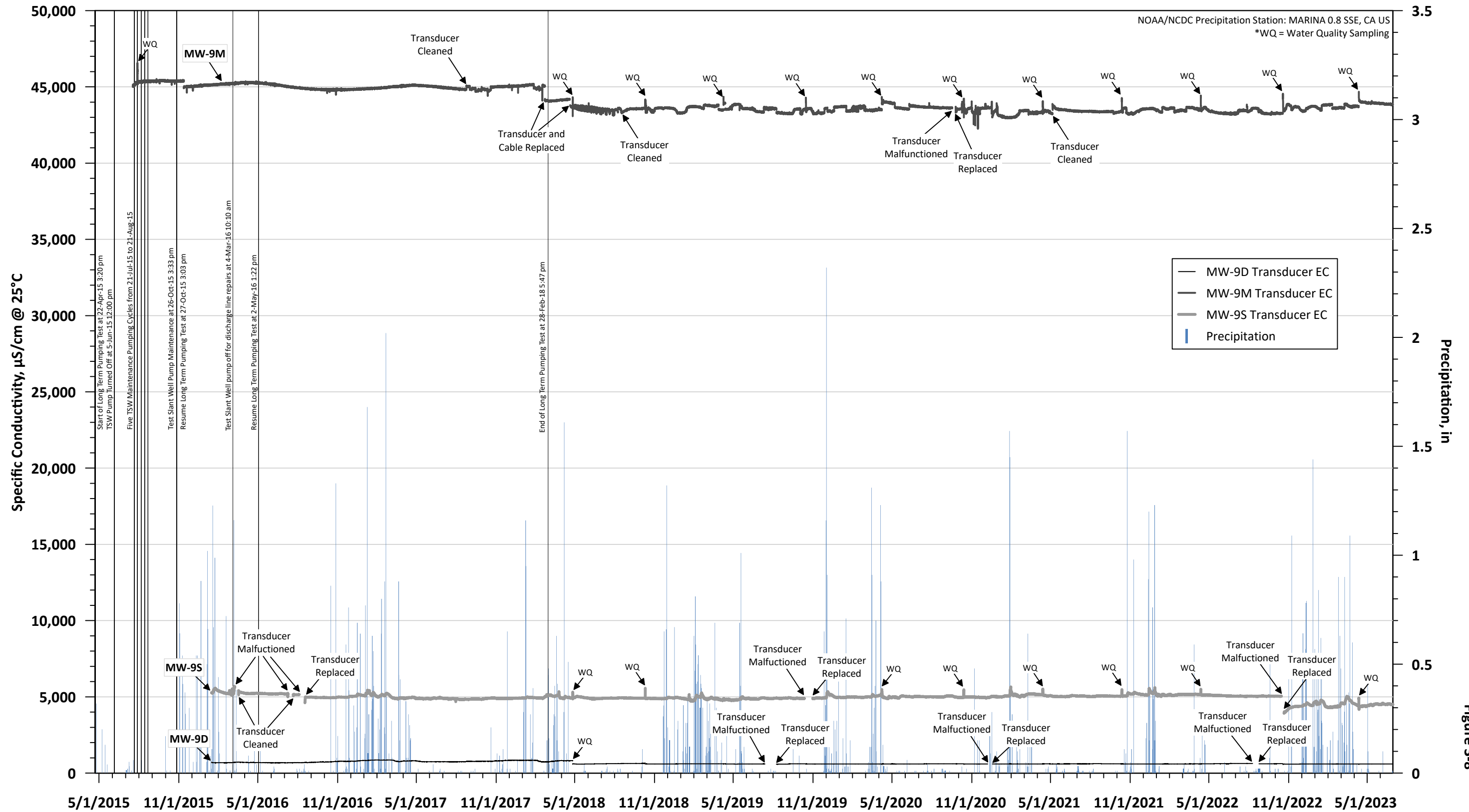


Figure 3-8

Specific Conductivity in MPWSP Test Slant Well

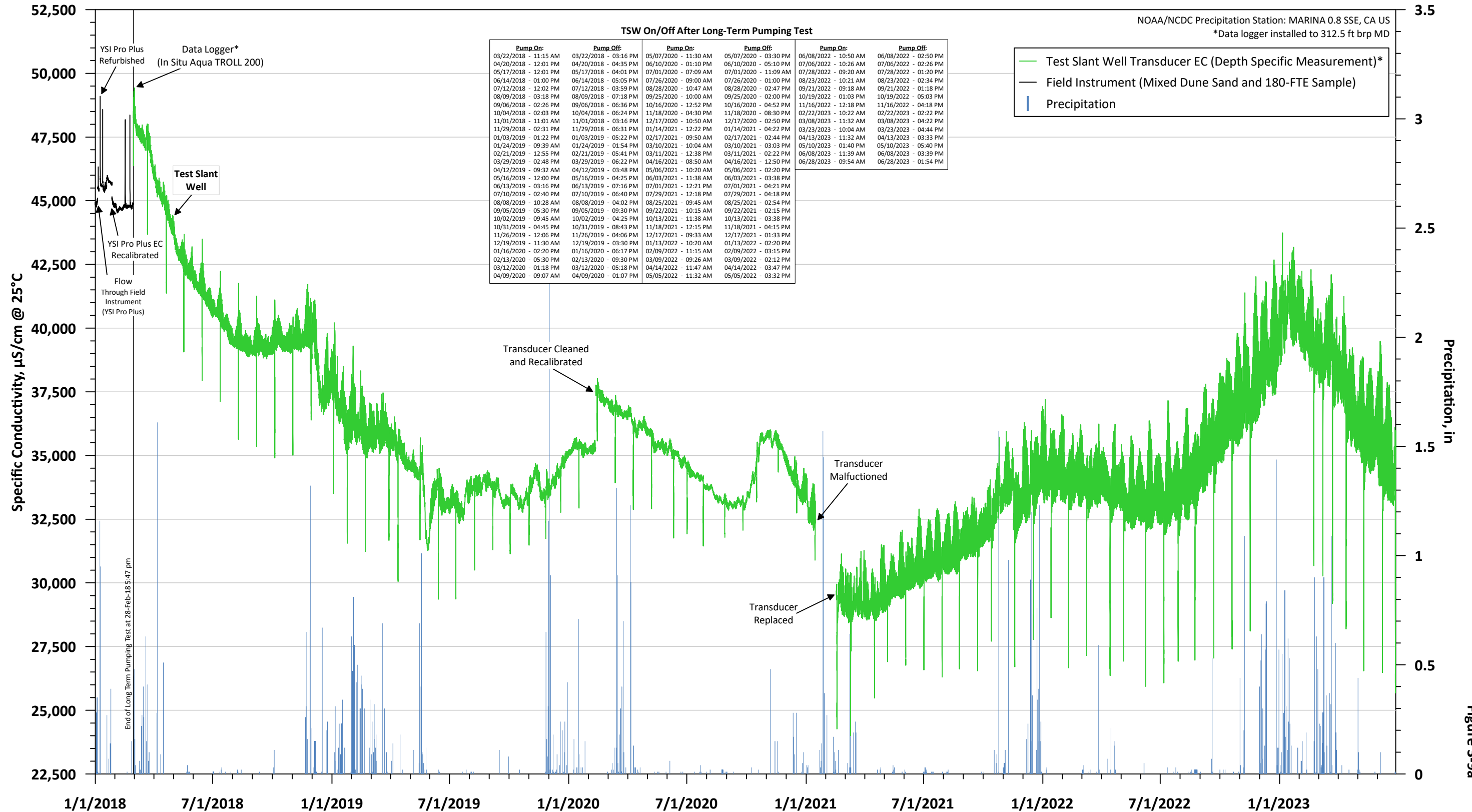


Figure 3-9a

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

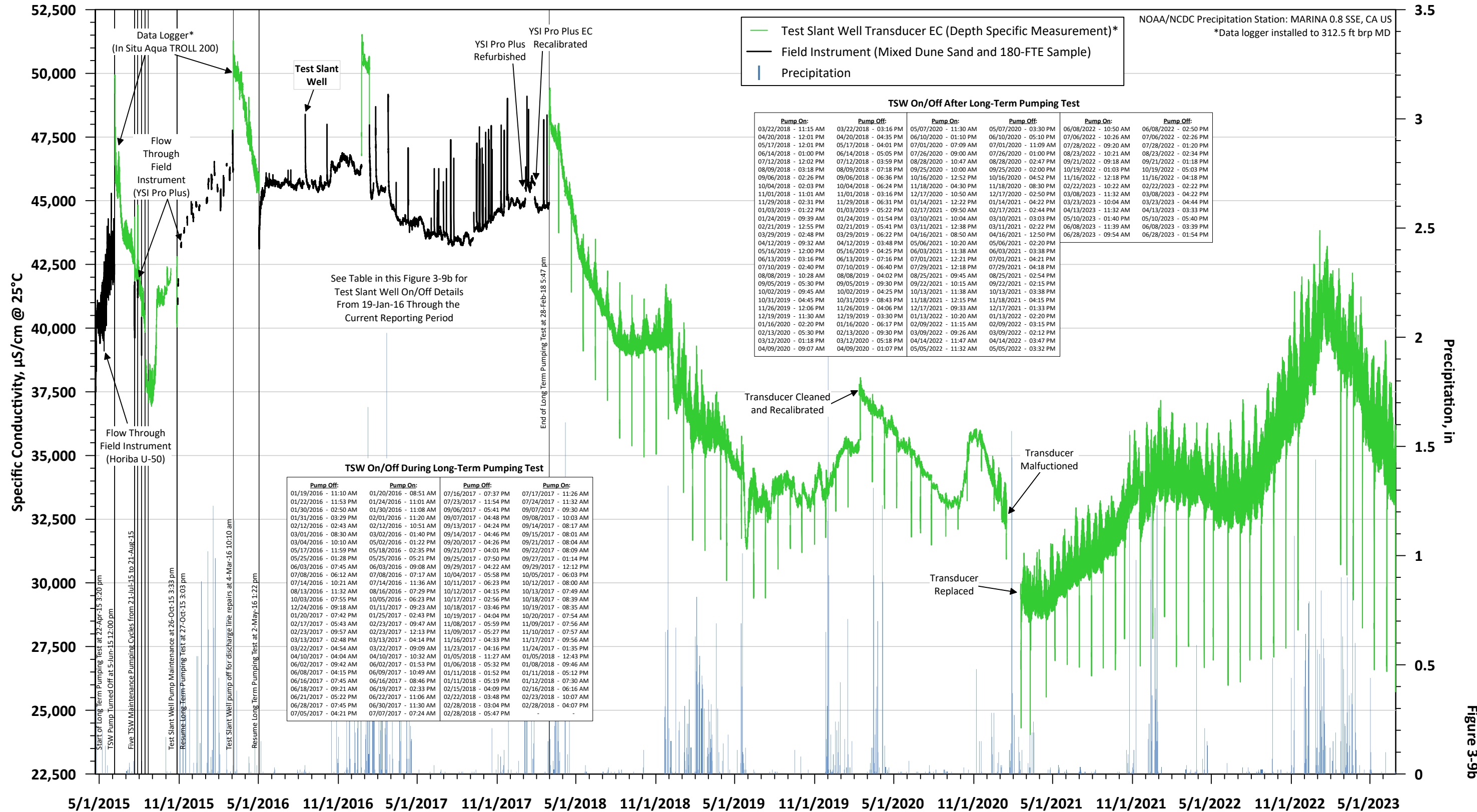


Figure 3-9b

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	M4500-NH3 B,C,E & EPA 351	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 = 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.

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	M4500-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 = 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.

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	M4500-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	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 = 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.

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	114	115	114	113	116
Aluminum, Total	EPA 200.8	µg/L	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
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	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	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	ND
Copper	EPA 200.7	µg/L	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	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	ND
Iodide	EPA 9056M	µg/L	ND	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	ND
Iron, Dissolved	EPA 200.7	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Kjeldahl Nitrogen, Dissolved	M4500-NH3 B,C,E & EPA 351	mg/L	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
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	ND
Manganese, Total	EPA 200.7	µg/L	ND	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	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	ND
Odor Threshold at 60 C	SM2150B	TON	1	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	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.

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	M4500-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	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 = 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.

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	M4500-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	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
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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:									
			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	M4500-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	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 = 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.

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	M4500-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
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
 CU = Color Units
 Meq/L = Milliequivalents per Liter
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 NTU = Nephelometric Turbidity Units
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 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.

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	M4500-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	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	-	-	-	-	-	-	-	-	-	-

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.

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	M4500-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	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
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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:									
			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	M4500-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	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:

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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	M4500-NH3 B,C,E & EPA 351	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 = 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.

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

Monitoring Well Name:			MW-15											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	11-Apr-23	24-Apr-18	9-Oct-18
Constituent	Method	Units	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	105	106	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	0.18	0.13	0.12
Barium, Dissolved	EPA 200.8	µg/L	ND	53.0	51.3	63	57	52	55.9	61	56.6	59	65.2	ND	65.0
Bicarbonate (as HCO3-)	SM2320B	mg/L	126	129	134	132	139	134	137	139	123	120	128	129	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	3.7	3.91	3.71
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	63.9	54.4	62.8
Calcium	EPA 200.7	mg/L	411	376	410	382	357	384	299	415	415	367	412	445	510
Calcium, Dissolved	EPA 200.7	mg/L	390	379	408	382	372	377	306	403	422	370	390	442	501
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	18,600	19,400	19,200
Chlorinated Pesticides and PCB (EPA 508)	EPA 508	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
Color, Apparent (Unfiltered)	SM2120B	Color Units	ND	ND	3	ND	-	-	ND	ND	ND	ND	5	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	581.78	605.32	600.48
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	581.78	605.32	600.48
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	555.26	650.58	572.23
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	553.11	659.35	583.20
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	ND	0.1	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	6,070	6,600	6,260
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	22	ND	ND
Iron	EPA 200.7	µg/L	ND	ND	ND	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	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	138	197	215
Magnesium	EPA 200.7	mg/L	1,380	1,150	1,180	1,060	1,000	976	820	1,080	1,200	1,220	1,220	1,330	1,210
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	1,160	1,330	1,190
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	0.09	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	0.6	1.0	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	2.7	4.3	0.9
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	0.6	1.0	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	ND	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	0.04	0.05	0.04
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	6.92	6.64	6.84
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	7.6	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	0.05	0.04	0.05
Potassium	EPA 200.7	mg/L	428	391	395	313	279	394	244	321	365	402	399	393	396.0
Potassium, Dissolved	EPA 200.7	mg/L	400	367	399	313	287	367	248	311	373	409	379	396	389
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	0.68	0.70
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	31.9	36.2	32.9
Silica as SiO2, Dissolved	EPA 200.7	mg/L	13	12	12	15	12	15.4	11.1	15.6	17.7	18.0	15.4	19	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	9,900	11,900	10,300
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	9,700	11,700	10,100
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	48,800	49,430	50,200
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	47,770	50,580	51,860
Strontium, Dissolved	EPA 200.8	µg/L	6,600	6,050	7,620	6,910	6,180	6,900	6,790	6,870	6,870	3,020	7,040	7,010	6,590
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	2,600	2,650	2,690
Temperature (Field)	SM2550	° C	14.5	15.5	15.7	16.7	15.1	18.3	16.9	16.4	16.5	16.3	16.5	16.0	15.9
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	33,400	33,600	34,900
Turbidity	EPA 180.1	NTU	0.60	0.10	0.05	ND	0.10	0.05	ND	ND	ND	ND	0.15	0.10	0.05
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	0.00	0.21	0.42
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
 µg/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-1M									MW-1D			
Sample Collection Date:			9-Apr-19	14-Oct-19	6-Apr-20	12-Oct-20	14-Apr-21	12-Oct-21	12-Apr-22	17-Oct-22	11-Apr-23	24-Apr-18	9-Oct-18	9-Apr-19	14-Oct-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	96	86	107	102	102	97	91	91	119	118	120	114
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	0.14	0.18	0.12	0.13	0.14	0.13	0.13	0.14	0.15	0.67	0.50	0.76	0.57
Barium, Dissolved	EPA 200.8	µg/L	58.2	74	56	53	60.0	66	62.0	51	64.0	ND	123	108	108
Bicarbonate (as HCO3-)	SM2320B	mg/L	126	117	105	131	124	125	119	111	111	145	144	146	139
Boron, Dissolved	EPA 200.7	mg/L	3.95	3.8	3.7	3.9	3.27	4.1	4.2	4.4	4.1	1.33	1.38	1.49	1.5
Bromide, Dissolved	EPA 300.0	mg/L	64.8	70.4	78.9	59.8	67.6	66.1	66.9	66.3	65.5	46.8	55.5	50.3	65.6
Calcium	EPA 200.7	mg/L	419	404	409	416	320	410	376	377	395	2,400	2,430	2,300	2,330
Calcium, Dissolved	EPA 200.7	mg/L	420	404	392	402	311	404	378	386	404	2,460	2,390	2,260	2,320
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	18,800	18,900	18,600	18,400	17,900	18,400	18,400	19,000	19,200	16,900	17,100	16,400	17,500
Chlorinated Pesticides and PCB (EPA 508)	EPA 508	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
Color, Apparent (Unfiltered)	SM2120B	Color Units	ND	ND	-	-	ND	ND	ND	ND	ND	4	5	6	ND
Color, True ²	SM2120C	Color Units	-	-	ND	ND	-	-	-	-	-	-	-	-	-
Copper	EPA 200.7	µg/L	ND	11	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	35
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	591.74	591.37	581.23	576.50	561.99	575.98	574.35	555.22	600.07	528.28	533.96	516.48	546.56
Total Anions	Calculation	Meq/L	591.74	591.37	581.23	576.50	561.99	575.98	574.35	555.22	600.07	528.28	533.96	516.48	546.56
Dissolved Cations	Calculation	Meq/L	594.23	582.86	555.71	629.95	494.23	577.19	593.88	590.87	564.17	533.55	536.30	514.56	530.01
Total Cations	Calculation	Meq/L	598.66	574.95	538.75	645.63	504.08	586.41	584.60	579.87	560.66	529.97	538.36	528.42	541.27
Fluoride, Dissolved	EPA 300.0	mg/L	0.4	0.2	0.3	0.4	0.7	6.6	0.5	0.2	ND	0.2	0.1	0.1	0.5
Hardness (as CaCO3)	SM2340B/Calc, EPA200.7	mg/L	6,150	6,130	5,900	6,390	5,080	6,090	6,500	6,240	5,860	11,300	11,100	10,800	11,100
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	14	1.2	4.1	ND	ND	0.87	0.86	ND	ND	ND	3.8
Iron	EPA 200.7	µg/L	532	ND	ND	ND	ND	ND	ND	ND	ND	261	219	205	215
Iron, Dissolved	EPA 200.7	µg/L	ND	27	ND	ND	ND	ND	ND	ND	ND	189	194	123	130
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	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	236	302	262	271	176	198	133	233	134	273	316	322	438
Magnesium	EPA 200.7	mg/L	1,240	1,240	1,190	1,150	1,040	1,230	1,350	1,290	1,180	1,290	1,220	1,230	1,270
Magnesium, Dissolved	EPA 200.7	mg/L	1,240	1,230	1,190	1,130	1,010	1,220	1,300	1,310	1,200	1,380	1,220	1,220	1,250
Manganese, Dissolved	EPA 200.7	µg/L	ND	ND	ND	ND	43	ND	448	602	171	ND	49	ND	114
Manganese, Total	EPA 200.7	µg/L	ND	ND	ND	ND	ND	ND	464	575	170	68	51	64	113
MBAS (Surfactants)	SM5540C	mg/L	ND	ND	ND	0.14	0.06	0.07	0.06	0.04	0.03	ND	ND	ND	ND
Nitrate as N	EPA 300.0	mg/L	0.2	0.3	0.3	ND	0.2	0.5	0.2	0.3	ND	0.8	0.05	ND	0.3
Nitrate as NO3	EPA 300.0	mg/L	ND	1.3	1.3	ND	ND	2.1	0.9	1.2	ND	3.6	0.2	ND	1.3
Nitrate+Nitrite as N	EPA 300.0	mg/L	0.2	0.3	0.3	ND	0.2	0.5	ND	ND	ND	0.8	0.05	ND	0.3
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	ND	ND	ND	ND	2	1	1	1	3
o-Phosphate-P	Hach 8048 & EPA 365.1	mg/L	0.05	0.05	0.05	0.04	0.04	0.04	0.06	0.05	0.05	0.02	0.02	0.02	0.03
pH (Field Test)	SM4500-H+B	pH	7.05	6.94	6.81	7.41	6.87	6.90	6.31	6.85	6.70	6.16	6.28	6.59	6.35
pH (Laboratory)	SM4500-H+B	pH (H)	7.1	7.4	7.1	7.2	7.3	7.3	7.1	7.1	7.4	6.7	6.7	6.7	7.0
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	0.03	0.04	0.06	0.16	0.05	0.05	ND	0.03	0.03	0.04
Potassium	EPA 200.7	mg/L	401	354	314	492	312	380	398	438	397	67.5	86.2	72	64.2
Potassium, Dissolved	EPA 200.7	mg/L	396	355	313	481	307	374	397	446	401	73.3	83.4	66	64.9
QC Ratio TDS/SEC	Calculation	-	0.72	0.71	0.70	0.74	0.73	0.69	0.74	0.66	0.68	0.70	0.69	0.72	0.71
Reg. Org. Compounds (EPA 525)	EPA 525	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
Salinity	SM2520B	psu	36.1	37.4	31.4	31.9	31.2	31.9	31.1	33.0	32.6	31.5	28.9	31.2	36.2
Silica as SiO2, Dissolved	EPA 200.7	mg/L	17	19	18	19.5	13.5	19.9	21.3	23.7	21.4	34	33	40	35
Sodium	EPA 200.7	mg/L	10,700	10,200	9,480	11,900	9,070	10,500	10,500	10,200	10,000	6,950	7,230	7,140	7,330
Sodium, Dissolved	EPA 200.7	mg/L	10,600	10,400	9,890	11,600	8,910	10,300	10,200	10,400	9,970	6,790	7,230	6,890	7,120
Specific Conductance (E.C)	SM2510B	µmhos/cm	49,300	50,200	48,200	48,800	47,900	48,800	47,800	50,400	49,800	43,640	44,660	43,220	44,800
Specific Conductance (E.C) (Field)	SM2510B	µmhos/cm	50,990	51,070	49,960	49,520	51,650	51,663	48,520	47,289	48,672	44,580	46,290	43,710	45,560
Strontium, Dissolved	EPA 200.8	µg/L	7,490	7,900	7,370	7,060	7,790	7,460	7,180	5,900	6,670	14,300	13,500	15,200	16,000
Sulfate, Dissolved	EPA 300.0	mg/L	2,810	2,660	2,570	2,620	2,600	2,650	2,520	2,470	2,680	2,330	2,330	2,440	2,390
Temperature (Field)	SM2550	°C	15.7	16.0	15.4	17.5	15.7	16.0	15.7	16.3	16.7	19.3	18.0	19.2	19.1
Total Diss. Solids	SM2540C	mg/L	35,300	35,600	33,500	35,900	35,100	33,900	35,200	33,100	33,800	30,700	30,800	31,000	31,700
Turbidity	EPA 180.1	NTU	0.10	0.30	0.10	0.05	ND	0.10	ND	ND	0.20	0.35	1.10	0.85	0.30
Turbidity (Field)	EPA 180.1	NTU	0.26	0.97	0.47	0.76	0.04	0.6	0.52	0.69	0.00	0.77	0.51	0.870	0.7
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-1D						MW-35						
			6-Apr-20	12-Oct-20	14-Apr-21	12-Oct-21	12-Apr-22	17-Oct-22	11-Apr-23	25-Apr-18	10-Oct-18	10-Apr-19	15-Oct-19	7-Apr-20	13-Oct-20
Alkalinity, Total (as CaCO3)	SM2320B	mg/L	119	118	115	119	118	111	109	98	98	96	98	102	91
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	1.8	0.62	0.56	0.61	0.53	0.41	0.78	0.27	0.23	0.24	0.28	0.25	0.29
Barium, Dissolved	EPA 200.8	µg/L	111	100	104	113	99.6	98	112	ND	94.0	70	76	70	68
Bicarbonate (as HCO3-)	SM2320B	mg/L	145	144	141	146	144	135	133	120	120	117	120	118	111
Boron, Dissolved	EPA 200.7	mg/L	1.3	1.4	1.3	1.5	1.6	1.7	1.4	2.50	2.64	2.6	3.1	2.50	2.9
Bromide, Dissolved	EPA 300.0	mg/L	58.8	61.0	61.1	60	62.0	62.1	58.9	42.7	47.0	52.3	45.5	43.8	49.0
Calcium	EPA 200.7	mg/L	2,260	2,190	1,920	2,240	2,310	2,150	2,260	614	640	388	360	350	375
Calcium, Dissolved	EPA 200.7	mg/L	2,240	2,230	1,940	2,330	2,250	2,200	2,240	608	613	390	348	348	375
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	16,800	17,100	16,400	16,200	17,500	17,900	17,200	13,300	14,500	14,800	13,400	13,400	13,700
Chlorinated Pesticides and PCB (EPA 508)	EPA 508	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
Color, Apparent (Unfiltered)	SM2120B	Color Units	-	-	7	ND	ND	ND	7	ND	ND	5	ND	-	-
Color, True ²	SM2120C	Color Units	ND	ND	-	-	-	-	-	-	-	-	-	ND	ND
Copper	EPA 200.7	µg/L	ND	ND	ND	ND	116	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	525.20	533.42	513.39	507.37	543.25	555.22	536.43	417.18	452.90	464.36	420.82	419.90	429.20
Total Anions	Calculation	Meq/L	525.20	533.42	513.39	507.37	543.25	555.22	536.43	417.18	452.90	464.36	420.82	419.90	429.20
Dissolved Cations	Calculation	Meq/L	500.13	528.68	461.17	535.38	555.51	557.27	517.98	413.94	408.39	466.15	402.59	386.88	473.73
Total Cations	Calculation	Meq/L	504.93	530.35	465.90	515.59	558.96	545.33	514.97	419.19	413.34	463.42	419.92	392.53	433.53
Fluoride, Dissolved	EPA 300.0	mg/L	0.1	1.3	0.2	ND	0.1	ND	ND	0.9	0.4	0.3	0.7	0.5	1.1
Hardness (as CaCO3)	SM2340B/Calc, EPA200.7	mg/L	10,600	10,300	9,260	10,500	11,600	10,800	10,700	5,230	5,240	4,190	4,650	4,300	4,840
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	5.5	0.65	5.5	1.7	4.0	3.9	6.8	ND	ND	ND	ND	ND	1.4
Iron	EPA 200.7	µg/L	104	ND	ND	ND	225	143	344	ND	ND	ND	7	ND	ND
Iron, Dissolved	EPA 200.7	µg/L	ND	ND	ND	ND	183	143	108	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	0.7	ND	0.6	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	335	317	252	280	184	326	227	114	133	111	137	115	154
Magnesium	EPA 200.7	mg/L	1,190	1,170	1,080	1,200	1,410	1,320	1,220	897	885	936	911	832	837
Magnesium, Dissolved	EPA 200.7	mg/L	1,160	1,220	1,010	1,250	1,380	1,360	1,200	910	878	931	879	833	812
Manganese, Dissolved	EPA 200.7	µg/L	79	85	69	119	86	81	62	ND	ND	ND	ND	ND	ND
Manganese, Total	EPA 200.7	µg/L	77	137	58	115	112	79	68	ND	ND	ND	ND	ND	ND
MBAS (Surfactants)	SM5540C	mg/L	ND	0.16	0.06	0.04	0.10	0.04	0.06	ND	ND	ND	ND	ND	ND
Nitrate as N	EPA 300.0	mg/L	1.0	0.2	ND	0.5	0.1	ND	ND	2.0	2.1	1.9	2.4	2.2	1.5
Nitrate as NO3	EPA 300.0	mg/L	4.4	0.9	ND	2.4	0.4	ND	ND	8.9	9.3	8.5	11	9.8	6.7
Nitrate+Nitrite as N	EPA 300.0	mg/L	1.0	0.2	ND	0.5	ND	ND	ND	2.0	2.1	1.9	2.4	2.2	1.5
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	ND	ND	ND	ND	ND	1	1	1	1	1	1
o-Phosphate-P	Hach 8048 & EPA 365.1	mg/L	0.03	0.02	0.02	0.02	0.02	0.03	0.04	0.11	0.10	0.11	0.11	0.10	0.10
pH (Field Test)	SM4500-H+B	pH	6.30	6.69	6.40	6.46	5.98	6.47	6.40	6.62	6.55	6.88	6.90	6.80	7.49
pH (Laboratory)	SM4500-H+B	pH (H)	6.9	6.9	7.0	7.0	6.9	6.8	7.2	7.0	7.0	7.0	7.4	7.2	7.4
Phenoxy Acid Herbicides (515.3)	EPA 515.3	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
Phosphorus, Dissolved Total	HACH 8190 & EPA 365.1	mg/L	0.05	ND	ND	0.03	ND	0.04	ND	0.10	0.11	0.10	0.10	0.10	0.09
Potassium	EPA 200.7	mg/L	58	113	59.0	62.2	68.7	73.1	64.4	213	227	234	267	235	315
Potassium, Dissolved	EPA 200.7	mg/L	57	115	57.8	64.7	69.8	75.3	64.5	216	228	234	260	236	313
QC Ratio TDS/SEC	Calculation	-	0.70	0.76	0.87	0.76	0.75	0.68	0.75	0.65	0.65	0.65	0.67	0.70	0.70
Reg. Org. Compounds (EPA 525)	EPA 525	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
Salinity	SM2520B	psu	27.3	28.2	27.2	28.0	29.2	29.5	28.6	25.7	24.1	29.8	26.2	25.5	23.5
Silica as SiO2, Dissolved	EPA 200.7	mg/L	33	33.3	28.3	36.4	38.6	40.7	37.0	16	16	12	16	12	15.0
Sodium	EPA 200.7	mg/L	6,730	7,400	6,350	6,970	7,500	7,530	7,030	7,110	6,960	8,300	7,360	6,910	7,750
Sodium, Dissolved	EPA 200.7	mg/L	6,700	7,220	6,430	7,250	7,530	7,670	6,900	6,970	6,890	8,370	7,040	6,780	7,790
Specific Conductance (E.C)	SM2510B	µmhos/cm	42,500	43,700	42,400	43,500	45,100	45,500	44,300	36,260	37,980	41,530	37,400	36,100	37,100
Specific Conductance (E.C) (Field)	SM2510B	µmhos/cm	43,750	44,760	45,660	45,944	43,350	43,280	43,396	36,940	38,960	39,800	38,180	36,610	37,090
Strontium, Dissolved	EPA 200.8	µg/L	15,500	14,700	15,700	15,900	15,500	18,400	14,200	7,280	5,910	5,860	5,690	5,870	5,830
Sulfate, Dissolved	EPA 300.0	mg/L	2,250	2,300	2,290	2,280	2,230	2,270	2,320	1,890	1,980	2,120	1,910	1,880	1,930
Temperature (Field)	SM2550	°C	18.5	20.8	18.2	18.5	18.9	19.8	19.5	17.3	17.6	17.8	17.8	17.5	18.1
Total Diss. Solids	SM2540C	mg/L	29,600	33,100	36,700	33,000	33,600	30,800	33,300	23,500	24,600	26,900	25,100	25,400	26,000
Turbidity	EPA 180.1	NTU	0.35	1.3	3.8	0.20	1.2	0.15	0.30	0.10	0.10	0.10	ND	0.10	0.15
Turbidity (Field)	EPA 180.1	NTU	0.98	0.61	0.83	0.61	0.17	0.97	0.00	0.31	0.25	0.38	0.36	0.59	0.44
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**

Monitoring Well Name:			MW-35					MW-3M							
Sample Collection Date:			13-Apr-21	12-Oct-21	12-Apr-22	18-Oct-22	11-Apr-23	25-Apr-18	9-Oct-18	10-Apr-19	15-Oct-19	7-Apr-20	13-Oct-20	13-Apr-21	12-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	85	78	74	57	60	91	94	98	97	94	101	100	106
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	0.19	0.21	0.21	0.18	0.20	0.15	0.17	0.17	0.18	0.15	0.19	0.17	0.17
Barium, Dissolved	EPA 200.8	µg/L	83.1	58.5	57.6	56.9	56.3	ND	72.0	58	76	64	57	59.0	60.2
Bicarbonate (as HCO3-)	SM2320B	mg/L	103	95	91	70	73	111	115	120	118	115	123	122	129
Boron, Dissolved	EPA 200.7	mg/L	2.39	1.9	1.38	1.2	1.2	2.7	2.6	2.7	3.1	2.80	2.8	2.85	3.32
Bromide, Dissolved	EPA 300.0	mg/L	43.6	23.7	20.4	28.0	19.1	48.0	53.4	56.2	53.8	51.9	53.3	52.3	51.5
Calcium	EPA 200.7	mg/L	305	214	238	266	286	753	829	605	630	611	468	431	532
Calcium, Dissolved	EPA 200.7	mg/L	306	268	244	263	282	728	819	629	625	580	534	424	538
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	12,500	6,940	6,210	5,690	5,590	15,200	14,900	16,000	15,700	15,700	15,000	14,900	15,200
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	ND	ND	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	392.69	219.22	194.97	178.36	175.20	475.69	465.49	500.85	491.34	491.10	471.13	468.07	476.32
Total Anions	Calculation	Meq/L	392.69	219.22	194.97	178.36	175.87	475.69	465.49	500.85	491.34	491.10	471.13	468.07	476.32
Dissolved Cations	Calculation	Meq/L	359.22	217.00	196.20	170.91	167.06	481.52	444.78	482.84	489.58	461.40	489.33	434.96	469.20
Total Cations	Calculation	Meq/L	358.74	214.75	203.67	170.67	165.66	496.84	439.03	461.47	481.15	486.07	485.74	439.69	478.95
Fluoride, Dissolved	EPA 300.0	mg/L	0.3	0.4	0.3	0.2	ND	0.3	0.3	0.2	0.3	0.2	1.1	0.4	0.4
Hardness (as CaCO3)	SM2340B/Calc, EPA200.7	mg/L	3,910	2,300	2,400	2,350	1,620	6,140	5,930	5,100	6,020	5,780	5,010	4,800	5,550
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	ND	ND	ND
Iron	EPA 200.7	µg/L	ND	ND	ND	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	ND	ND	ND
Total Kjeldahl Nitrogen, Dissolved	SM4500-NH3 B,C,E & EPA 351.2	mg/L	ND	1.4	ND	ND	ND	ND	ND	ND	0.6	ND	ND	ND	0.4
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	54.9	44.3	25.3	36.2	28.5	151	178	172	220	169	206	142	143
Magnesium	EPA 200.7	mg/L	764	430	438	409	376	1,040	938	944	1,080	1,030	933	906	1,020
Magnesium, Dissolved	EPA 200.7	mg/L	759	434	430	409	365	1,100	948	982	1,020	995	981	896	995
Manganese, Dissolved	EPA 200.7	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	51	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	0.06	0.06	0.05	0.04	0.03	ND	ND	ND	ND	ND	ND	0.06	0.03
Nitrate as N	EPA 300.0	mg/L	1.8	5.7	6.7	7.7	6.1	1.8	1.1	0.9	1.4	1.1	1.5	1.6	1.9
Nitrate as NO3	EPA 300.0	mg/L	8.0	25	30	34	27	7.9	4.4	4.1	6.1	4.9	6.7	7.0	8.4
Nitrate+Nitrite as N	EPA 300.0	mg/L	1.8	5.7	6.7	7.7	6.1	1.8	1.1	0.9	1.4	1.1	1.5	1.6	1.9
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	<1	ND	ND	1	1	1	1	1	ND	ND
o-Phosphate-P	Hach 8048 & EPA 365.1	mg/L	0.08	0.07	0.09	0.06	0.06	0.05	0.05	0.05	0.05	0.04	0.05	0.06	0.06
pH (Field Test)	SM4500-H+B	pH	6.51	6.72	6.02	6.67	6.48	6.55	6.69	6.90	6.77	6.58	7.40	6.78	6.81
pH (Laboratory)	SM4500-H+B	pH (H)	7.0	7.2	7.1	7.4	7.0	7.0	7.0	7.0	7.3	7.0	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	0.07	0.08	0.06	0.06	0.05	0.06	0.05	0.05	0.06	0.05	0.04	0.04	0.06
Potassium	EPA 200.7	mg/L	224	146	137	110	117	239	216.0	219	247	229	280	222	248
Potassium, Dissolved	EPA 200.7	mg/L	223	148	131	108	113	244	224	222	252	220	307	217	241
QC Ratio TDS/SEC	Calculation	-	0.65	0.59	0.64	0.60	0.57	0.65	0.69	0.68	0.64	0.69	0.72	0.68	0.59
Reg. Org. Compounds (EPA 525)	EPA 525	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
Salinity	SM2520B	psu	21.7	11.9	10.8	10.2	9.9	29.1	26.2	29.8	30.5	29.9	26.3	25.7	25.5
Silica as SiO2, Dissolved	EPA 200.7	mg/L	15.4	18.9	20.8	21.4	17.9	22	18	18	22	20	21.4	18.5	22.7
Sodium	EPA 200.7	mg/L	6,320	3,790	3,500	2,780	2,760	8,450	7,240	8,000	8,150	8,390	8,700	7,770	8,320
Sodium, Dissolved	EPA 200.7	mg/L	6,340	3,770	3,340	2,790	2,700	8,010	7,360	8,390	8,460	7,930	8,600	7,690	8,150
Specific Conductance (E.C)	SM2510B	µmhos/cm	34,500	20,000	18,300	17,260	16,900	40,570	40,930	41,530	42,200	41,600	41,100	40,200	39,900
Specific Conductance (E.C) (Field)	SM2510B	µmhos/cm	36,360	20,943	18,440	17,300	16,282	41,510	44,320	42,300	43,250	42,020	41,600	42,440	41,888
Strontium, Dissolved	EPA 200.8	µg/L	6,550	2,800	2,860	3,080	2,800	8,700	7,750	7,740	7,950	8,020	6,820	7,550	7,040
Sulfate, Dissolved	EPA 300.0	mg/L	1,810	1,010	843	764	783	2,130	2,050	2,280	2,180	2,190	2,170	2,160	2,110
Temperature (Field)	SM2550	°C	17.2	17.3	17.1	18.1	17.8	17.7	17.7	17.9	18.0	17.9	19.1	17.4	17.4
Total Diss. Solids	SM2540C	mg/L	22,300	11,800	11,800	10,300	10,300	26,400	28,400	28,400	26,900	28,900	29,700	27,500	23,600
Turbidity	EPA 180.1	NTU	0.10	0.10	ND	ND	ND	0.20	0.05	0.10	ND	0.05	0.10	ND	ND
Turbidity (Field)	EPA 180.1	NTU	0.52	0.7	0.18	0.28	0.00	0.18	0.3	0.23	0.68	0.42	0.87	0.35	0.65
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**

Monitoring Well Name:			MW-3M					MW-3D								
Sample Collection Date:			12-Apr-22	18-Oct-22	11-Apr-23	25-Apr-18	9-Oct-18	10-Apr-19	15-Oct-19	7-Apr-20	13-Oct-20	13-Apr-21	12-Oct-21	12-Apr-22	18-Oct-22	11-Apr-23
Constituent	Method	Units	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result
Alkalinity, Total (as CaCO3)	SM2320B	mg/L	105	93	94	118	118	117	101	117	121	117	117	114	108	107
Aluminum, Total	EPA 200.8	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	11	ND
Ammonia-N, Dissolved	SM4500NH3 D & EPA 350.1	mg/L	ND	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	0.19	0.19	0.19	0.49	0.48	0.58	0.52	0.53	0.55	0.53	0.50	0.53	0.66	0.70
Barium, Dissolved	EPA 200.8	µg/L	50.6	47.9	52.7	118	135.0	112	140	117	113	119	120	106	118	113
Bicarbonate (as HCO3-)	SM2320B	mg/L	128	114	114	144	144	143	123	143	148	143	140	132	130	130
Boron, Dissolved	EPA 200.7	mg/L	3.24	3.2	3.1	1.21	1.29	1.3	1.5	1.30	1.4	1.56	1.8	1.59	1.8	1.7
Bromide, Dissolved	EPA 300.0	mg/L	52.5	50.4	46.3	53.6	58.1	54.4	59.3	49.6	59.9	59.2	58.0	60.3	90.6	99.3
Calcium	EPA 200.7	mg/L	471	417	468	2,370	2,400	2,030	2,110	2,040	2,130	1,960	2,200	2,100	1,900	1,970
Calcium, Dissolved	EPA 200.7	mg/L	482	424	473	2,260	2,260	2,010	2,130	2,020	1,960	1,990	2,020	2,100	1,940	2,030
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	ND
Chloride, Dissolved	EPA 300.0	mg/L	14,700	14,500	14,500	16,600	17,700	15,400	17,300	15,000	16,900	16,800	17,400	16,900	17,500	17,600
Chlorinated Pesticides and PCB (EPA 508)	EPA 508	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Color, Apparent (Unfiltered)	SM2120B	Color Units	ND	ND	ND	ND	5	5	5	-	-	ND	ND	ND	ND	ND
Color, True ²	SM2120C	Color Units	-	-	-	-	-	-	-	ND	ND	-	-	-	-	-
Copper	EPA 200.7	µg/L	ND	ND	ND	ND	ND	119	ND	ND	ND	ND	ND	76	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	457.76	454.57	454.81	519.48	552.18	487.10	540.42	474.83	531.57	524.67	541.83	527.3	544.70	548.60
Total Anions	Calculation	Meq/L	457.76	454.57	454.90	519.48	552.18	487.10	540.42	474.83	531.57	524.67	541.83	527.3	544.70	549.85
Dissolved Cations	Calculation	Meq/L	480.14	453.93	423.59	565.93	497.36	478.71	511.11	514.48	532.28	519.70	530.75	552.85	539.46	498.76
Total Cations	Calculation	Meq/L	475.72	446.37	425.54	578.90	522.62	486.55	502.09	510.75	572.53	510.87	548.60	551.73	545.37	501.58
Fluoride, Dissolved	EPA 300.0	mg/L	0.3	0.3	ND	0.6	1.2	ND	0.1	0.1	1.2	0.4	0.9	ND	ND	ND
Hardness (as CaCO3)	SM2340B/Calc, EPA200.7	mg/L	5,280	5,080	4,900	11,800	11,100	9,930	10,400	10,100	10,800	9,940	10,900	10,600	10,200	9,710
Hydroxide	SM2320B	mg/L	ND	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	2.2	ND	2.5	3.0	2.0	2.8	0.82	2.2	2.8	ND
Iron	EPA 200.7	µg/L	ND	ND	ND	244	313	193	141	145	84	ND	ND	154	130	138
Iron, Dissolved	EPA 200.7	µg/L	ND	ND	ND	244	267	166	132	108	ND	ND	ND	138	103	124
Total Kjeldahl Nitrogen, Dissolved	SM4500-NH3 B,C,E & EPA 351.2	mg/L	ND	ND	0.1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Lead, Total	EPA 200.8	µg/L	ND	0.2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Lithium	EPA 200.8	µg/L	121	156	121	265	313	301	434	300	371	274	273	191	443	253
Magnesium	EPA 200.7	mg/L	996	982	907	1,420	1,250	1,180	1,240	1,220	1,320	1,220	1,300	1,310	1,330	1,160
Magnesium, Dissolved	EPA 200.7	mg/L	1,010	1,010	907	1,340	1,210	1,150	1,270	1,240	1,190	1,140	1,280	1,310	1,350	1,200
Manganese, Dissolved	EPA 200.7	µg/L	ND	ND	ND	ND	ND	ND	33	ND	ND	66	ND	ND	ND	ND
Manganese, Total	EPA 200.7	µg/L	ND	ND	ND	ND	ND	ND	30	ND	ND	74	ND	ND	ND	ND
MBAS (Surfactants)	SM5540C	mg/L	0.07	0.02	0.03	ND	ND	ND	ND	ND	0.09	0.05	0.08	0.02	0.10	0.10
Nitrate as N	EPA 300.0	mg/L	1.6	1.8	1.3	1.0	0.2	ND	0.2	ND	0.3	0.1	0.4	ND	0.2	ND
Nitrate as NO3	EPA 300.0	mg/L	7.3	7.9	5.8	4.4	0.9	ND	0.8	4.4	ND	0.5	1.7	ND	0.8	ND
Nitrate+Nitrite as N	EPA 300.0	mg/L	1.6	1.8	1.3	1.0	0.2	0.0	0.2	ND	0.3	0.1	0.4	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	ND
Odor Threshold at 60 C	SM2150B	TON	ND	<1	ND	2	1	2	1	1	1	ND	ND	ND	<1	ND
o-Phosphate-P	Hach 8048 & EPA 365.1	mg/L	0.06	0.05	0.05	0.03	0.01	0.03	0.03	0.03	0.03	0.03	0.04	0.03	0.04	0.03
pH (Field Test)	SM4500-H+B	pH	6.18	6.84	6.63	6.47	6.36	6.16	6.37	6.26	7.00	6.37	6.5	5.86	6.48	6.31
pH (Laboratory)	SM4500-H+B	pH (H)	7.3	7.8	7.2	6.8	6.8	6.7	7.1	6.8	7.1	7.0	7.0	7.0	7.7	7.0
Phenoxy Acid Herbicides (515.3)	EPA 515.3	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Phosphorus, Dissolved Total	HACH 8190 & EPA 365.1	mg/L	0.04	0.05	0.05	ND	ND	0.04	0.05	0.04	ND	ND	0.03	0.10	0.03	0.03
Potassium	EPA 200.7	mg/L	258	264	238	73.4	78.7	75	61.3	56.8	109	64.5	64.1	68.2	70.8	61.7
Potassium, Dissolved	EPA 200.7	mg/L	262	269	237	72.2	71.2	74	61.6	58.0	97	65.3	62.8	68.3	71.8	63.1
QC Ratio TDS/SEC	Calculation	-	0.69	0.66	0.65	0.73	0.69	0.71	0.69	0.73	0.75	0.86	0.73	0.74	0.69	0.72
Reg. Org. Compounds (EPA 525)	EPA 525	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Salinity	SM2520B	psu	24.3	25.5	25.5	31.6	28.6	31.5	32.4	31.3	28.2	28.2	27.6	29.6	29.2	29.2
Silica as SiO2, Dissolved	EPA 200.7	mg/L	24.1	25.3	23.2	31	32	32	34	31	32.9	31.4	36.3	37.9	39.9	36.5
Sodium	EPA 200.7	mg/L	8,360	7,770	7,340	7,860	6,850	6,580	6,740	7,060	8,160	7,140	7,590	7,770	7,800	6,830
Sodium, Dissolved	EPA 200.7	mg/L	8,420	7,880	7,390	7,840	6,510	6,480	6,860	7,130	7,680	7,480	7,430	7,780	7,580	7,040
Specific Conductance (E.C)	SM2510B	µmhos/cm	38,300	39,900	40,000	43,750	44,280	43,620	44,400	43,300	43,800	43,700	43,800	42,900	45,700	45,100
Specific Conductance (E.C) (Field)	SM2510B	µmhos/cm	39,560	40,310	39,033	44,700	47,030	44,100	45,440	44,460	44,490	46,170	46,170	44,350	46,200	44,233
Strontium, Dissolved	EPA 200.8	mg/L	6,740	5,900	5,820	15,200	13,700	14,900	15,200	14,700	13,700	16,200	14,800	14,700	20,900	13,400
Sulfate, Dissolved	EPA 300.0	mg/L	1,930	2,060	2,080	2,310	2,390	2,410	2,370	2,340	2,480	2,350	1,790	2,260	2,270	2,400
Temperature (Field)	SM2550	°C	17.3	18.1	18.1	19.4	19.5	19.5	18.2	19.1	19.8	18.8	19.4	18.7	19.1	20.1
Total Diss. Solids	SM2540C	mg/L	26,600	26,400	26,000	31,800	30,600	31,100	30,700	31,500	32,800	37,800 ³	32,000	31,700	31,500	32,400
Turbidity	EPA 180.1	NTU	ND	ND	ND	0.35	1.90	0.25	0.40	0.20	0.30	0.10	0.10	0.95	0.65	0.80
Turbidity (Field)	EPA 180.1	NTU	0.61	0.69	0.00	0.37	0.37	0.28	0.58	0.53	0.81	0.4	0.64	0.26	0.72	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	ND
Zinc, Total	EPA 200.8	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PCBs, Total	EPA 508	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total PCB	EPA 1668C	µg/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-45							
Sample Collection Date:			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	25-Jul-18 14:10	12-Oct-18 11:35	12-Oct-18 11:50
Constituent	Method	Units	Result	Result	Result	Result	Result	Result	Result	Result
Alkalinity, Total (as CaCO3)	SM2320B	mg/L	70	70	68	68	68	68	71	68
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	0.2	0.18	0.18	0.22	0.20	0.19	0.24	0.21
Barium, Dissolved	EPA 200.8	µg/L	ND	ND	ND	ND	ND	ND	42.0	40.0
Bicarbonate (as HCO3-)	SM2320B	mg/L	85	85	83	83	83	83	87	83
Boron, Dissolved	EPA 200.7	mg/L	0.73	0.74	0.75	0.69	0.61	0.61	0.54	0.51
Bromide, Dissolved	EPA 300.0	mg/L	12.9	13.0	12.7	12.7	12.5	12.5	11.7	12.1
Calcium	EPA 200.7	mg/L	427	432	443	419	389	401	410	411
Calcium, Dissolved	EPA 200.7	mg/L	429	434	444	388	343	351	407	412
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	4,290	4,340	4,300	4,150	4,130	4,090	3,890	4,090
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	135.18	136.36	135.19	130.73	130.60	129.01	122.84	128.42
Total Anions	Calculation	Meq/L	135.18	136.36	135.19	130.73	130.60	129.01	122.84	128.42
Dissolved Cations	Calculation	Meq/L	139.50	136.36	142.77	127.80	113.22	118.93	123.07	119.56
Total Cations	Calculation	Meq/L	139.55	140.52	141.91	126.22	109.34	115.47	117.74	123.40
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	2,420	2,420	2,490	2,050	1,850	1,910	1,720	2,000
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	1.50	1.31
Lead, Total	EPA 200.8	µg/L	ND	ND	ND	ND	ND	ND	ND	ND
Lithium	EPA 200.8	µg/L	15	15	14	17	17	17	17	18
Magnesium	EPA 200.7	mg/L	328	326	336	244	212	221	222	274
Magnesium, Dissolved	EPA 200.7	mg/L	326	327	335	314	287	293	262	269
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	5.0	5.0	5.0	5.3	5.2	5.2	5.3	5.4
Nitrate as NO3	EPA 300.0	mg/L	22	22	22	23	23	23	23	24
Nitrate+Nitrite as N	EPA 300.0	mg/L	5.0	5.0	5.0	5.3	5.2	5.2	5.3	5.4
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	ND	ND	ND	ND	ND	1	1
o-Phosphate-P	Hach 8048 & EPA 365.1	mg/L	0.07	0.07	0.07	0.07	0.08	0.08	0.08	0.07
pH (Field Test)	SM4500-H+B	pH	6.92	6.90	6.90	6.98	6.96	6.96	7.02	7.01
pH (Laboratory)	SM4500-H+B	pH (H)	7.1	7.1	7.2	7.1	7.1	7.1	7.1	7.0
Phenoxy Acid Herbicides (515.3)	EPA 515.3	µg/L	-	-	-	-	-	-	-	-
Phosphorus, Dissolved Total	HACH 8190 & EPA 365.1	mg/L	0.06	0.06	0.06	0.06	0.06	0.06	0.08	0.09
Potassium	EPA 200.7	mg/L	30.2	30.7	31.6	32.8	27.6	27.8	28.0	28.7
Potassium, Dissolved	EPA 200.7	mg/L	30.8	31.1	32.4	31.9	27.8	29.0	28.2	28.8
QC Ratio TDS/SEC	Calculation	-	0.72	0.71	0.65	0.65	0.69	0.67	0.63	0.55
Reg. Org. Compounds (EPA 525)	EPA 525	µg/L	-	-	-	-	-	-	-	-
Salinity	SM2520B	psu	8.3	8.2	8.2	7.9	7.8	7.9	6.7	6.7
Silica as SiO2, Dissolved	EPA 200.7	mg/L	28	29	30	23	20	20	26	27
Sodium	EPA 200.7	mg/L	2,080	2,100	2,100	1,940	1,650	1,760	1,800	1,830
Sodium, Dissolved	EPA 200.7	mg/L	2,080	2,000	2,120	1,880	1,650	1,760	1,850	1,750
Specific Conductance (E.C)	SM2510B	µmhos/cm	12,910	12,770	12,760	12,350	12,230	12,300	11,780	11,740
Specific Conductance (E.C) (Field)	SM2510B	µmhos/cm	13,020	13,000	12,990	12,510	12,490	12,480	11,940	11,960
Strontium, Dissolved	EPA 200.8	µg/L	3,380	3,260	3,250	2,830	2,870	2,820	3,110	3,100
Sulfate, Dissolved	EPA 300.0	mg/L	588	577	577	565	586	564	536	535
Temperature (Field)	SM2550	°C	17.8	17.8	17.8	17.9	17.9	17.9	17.8	17.8
Total Diss. Solids	SM2540C	mg/L	9,300	9,100	8,300	8,000	8,400	8,200	7,400	6,500
Turbidity	EPA 180.1	NTU	0.10	0.10	0.10	0.05	0.05	0.05	0.10	0.10
Turbidity (Field)	EPA 180.1	NTU	0.08	0.07	0.09	0.26	0.33	0.10	0.07	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 = Micrograms per Liter
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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-45							
Sample Collection Date:			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	11-Apr-19 12:49	11-Apr-19 13:08	25-Jul-19 09:02
Constituent	Method	Units	Result	Result	Result	Result	Result	Result	Result	Result
Alkalinity, Total (as CaCO3)	SM2320B	mg/L	68	68	67	66	65	64	65	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	0.20	0.24	0.21	0.21	0.27	0.23	0.19	0.28
Barium, Dissolved	EPA 200.8	µg/L	43.5	98.0	51.4	46.8	33.8	34.4	34.2	31.2
Bicarbonate (as HCO3-)	SM2320B	mg/L	83	83	82	80	79	78	79	79
Boron, Dissolved	EPA 200.7	mg/L	0.50	0.71	0.72	0.69	0.54	0.56	0.56	0.47
Bromide, Dissolved	EPA 300.0	mg/L	11.4	11.1	11.3	10.5	80.9	82.2	78.9	13.7
Calcium	EPA 200.7	mg/L	413	428	430	427	413	442	405	319
Calcium, Dissolved	EPA 200.7	mg/L	411	421	434	405	375	409	400	313
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	3,980	4,050	4,030	3,800	4,330	4,350	4,360	3,780
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	125.32	127.90	127.28	120.61	137.67	138.34	138.39	119.04
Total Anions	Calculation	Meq/L	125.32	127.90	127.28	120.61	137.67	138.34	138.39	119.04
Dissolved Cations	Calculation	Meq/L	124.44	131.43	125.88	124.34	119.71	125.66	125.87	106.64
Total Cations	Calculation	Meq/L	121.55	129.04	132.23	128.26	124.72	134.57	126.41	110.40
Fluoride, Dissolved	EPA 300.0	mg/L	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1
Hardness (as CaCO3)	SM2340B/Calc, EPA200.7	mg/L	1,940	2,360	2,380	2,370	2,350	2,540	2,300	1,860
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	1.28	ND	ND	ND	0.8	0.8	1.00	0.9
Lead, Total	EPA 200.8	µg/L	ND	ND	ND	ND	ND	ND	ND	ND
Lithium	EPA 200.8	µg/L	18	12.6	11.6	11.2	13	12	11	12.6
Magnesium	EPA 200.7	mg/L	266	315	316	317	321	348	312	258
Magnesium, Dissolved	EPA 200.7	mg/L	271	317	326	310	297	317	319	248
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	5.4	5.1	5.1	5.1	4.4	4.6	4.5	5.0
Nitrate as NO3	EPA 300.0	mg/L	24	23	23	22	19.5	20.4	19.5	22
Nitrate+Nitrite as N	EPA 300.0	mg/L	5.4	5.1	5.1	5.1	4.4	4.6	4.5	5.0
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	0.08	0.08	0.08	0.08	0.08	0.09	0.09
pH (Field Test)	SM4500-H+B	pH	7.00	7.01	6.99	6.98	7.04	7.03	7.03	6.95
pH (Laboratory)	SM4500-H+B	pH (H)	7.1	7.0	7.0	7.0	7.0	7.0	7.0	7.2
Phenoxy Acid Herbicides (515.3)	EPA 515.3	µg/L	-	-	-	-	-	-	-	-
Phosphorus, Dissolved Total	HACH 8190 & EPA 365.1	mg/L	0.09	0.08	0.07	0.08	0.08	0.08	0.08	0.09
Potassium	EPA 200.7	mg/L	29.4	33.3	31.7	32.3	27.3	31.0	27.5	23.7
Potassium, Dissolved	EPA 200.7	mg/L	28.1	32.0	32.8	29.4	27.1	27.0	27.8	22.6
QC Ratio TDS/SEC	Calculation	-	0.53	0.57	0.59	0.56	0.59	0.64	0.60	0.71
Reg. Org. Compounds (EPA 525)	EPA 525	µg/L	-	-	-	-	-	-	-	-
Salinity	SM2520B	psu	6.7	7.0	7.0	7.0	8.3	8.2	8.2	6.4
Silica as SiO2, Dissolved	EPA 200.7	mg/L	26	28	28	28	22	24	26	23
Sodium	EPA 200.7	mg/L	1,800	1,860	1,930	1,840	1,770	1,910	1,840	1,670
Sodium, Dissolved	EPA 200.7	mg/L	1,860	1,920	1,760	1,790	1,740	1,800	1,820	1,610
Specific Conductance (E.C)	SM2510B	µmhos/cm	11,730	12,300	12,300	12,300	12,890	12,800	12,740	11,200
Specific Conductance (E.C) (Field)	SM2510B	µmhos/cm	11,930	12,430	12,380	12,380	13,070	13,000	12,940	11,320
Strontium, Dissolved	EPA 200.8	µg/L	3,210	3,540	3,560	3,610	3,560	3,530	3,480	2,990
Sulfate, Dissolved	EPA 300.0	mg/L	536	566	564	557	619	624	614	508
Temperature (Field)	SM2550	°C	17.8	17.9	17.9	17.9	17.8	17.8	17.8	17.8
Total Diss. Solids	SM2540C	mg/L	6,200	6,950	7,200	6,900	7,600	8,200	7,700	7,900
Turbidity	EPA 180.1	NTU	0.10	0.05	0.05	0.05	0.10	0.25	0.15	0.15
Turbidity (Field)	EPA 180.1	NTU	0.06	0.1	0.14	0.13	0.1	0.07	0.08	0.11
Volatile Org. Compounds (524)	EPA 524	µg/L	-	-	-	-	-	-	-	-
Zinc	EPA 200.7	µg/L	ND	ND	33	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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 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-45							
Sample Collection Date:			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	15-Jan-20 13:48	15-Jan-20 14:03	15-Jan-20 14:18
Constituent	Method	Units	Result	Result	Result	Result	Result	Result	Result	Result
Alkalinity, Total (as CaCO3)	SM2320B	mg/L	65	64	58	59	59	59	58	58
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	0.25	0.26	0.34	0.31	0.27	0.35	0.31	0.30
Barium, Dissolved	EPA 200.8	µg/L	31.5	31.6	31	30	27	48.1	52.4	53.5
Bicarbonate (as HCO3-)	SM2320B	mg/L	79	78	71	72	72	72	71	71
Boron, Dissolved	EPA 200.7	mg/L	0.47	0.48	0.62	0.12	0.13	0.60	0.59	0.59
Bromide, Dissolved	EPA 300.0	mg/L	13.3	13.1	10.9	11.2	11.1	9.0	9.9	10.0
Calcium	EPA 200.7	mg/L	327	344	298	287	289	386	388	396
Calcium, Dissolved	EPA 200.7	mg/L	319	333	294	287	289	385	389	392
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	3,670	3,600	3,070	3,120	3,100	3,370	3,620	3,650
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	115.55	113.40	100.69	99.11	98.45	105.90	113.69	114.61
Total Anions	Calculation	Meq/L	115.55	113.40	100.69	99.11	98.45	105.90	113.69	114.61
Dissolved Cations	Calculation	Meq/L	109.63	115.08	102.11	102.07	100.19	116.01	115.36	116.01
Total Cations	Calculation	Meq/L	112.34	120.21	104.73	100.52	98.97	116.58	114.94	116.03
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	1,910	2,020	1,970	1,940	1,920	2,170	2,170	2,200
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	1.13	ND	ND	ND	1.0	1.1	1.6
Lead, Total	EPA 200.8	µg/L	ND	ND	ND	ND	ND	ND	ND	ND
Lithium	EPA 200.8	µg/L	13.0	12.8	13.0	12.4	12.2	9.3	8.9	8.6
Magnesium	EPA 200.7	mg/L	266	282	247	241	241	292	292	295
Magnesium, Dissolved	EPA 200.7	mg/L	254	269	241	252	239	291	286	292
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	0.06	0.07	0.06
Nitrate as N	EPA 300.0	mg/L	4.9	4.8	5.2	5.3	5.2	5.2	5.2	5.3
Nitrate as NO3	EPA 300.0	mg/L	22	21	23	23	23	23	23	23
Nitrate+Nitrite as N	EPA 300.0	mg/L	4.9	4.8	5.2	5.3	5.2	5.2	5.2	5.3
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	0.09	0.09	0.13	0.14	0.12	0.12	0.12	0.12
pH (Field Test)	SM4500-H+B	pH	6.94	6.94	7.02	7.00	7.00	6.99	6.97	6.95
pH (Laboratory)	SM4500-H+B	pH (H)	7.2	7.2	7.1	7.1	7.1	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	0.09	0.09	0.13	0.13	0.13	0.11	0.12	0.11
Potassium	EPA 200.7	mg/L	24.3	26.0	24.7	23.2	23.2	25.2	25.3	25.6
Potassium, Dissolved	EPA 200.7	mg/L	23.6	25.1	24.1	23.9	23.0	25.2	24.8	25.2
QC Ratio TDS/SEC	Calculation	-	0.66	0.72	0.52	0.50	0.53	0.63	0.65	0.50
Reg. Org. Compounds (EPA 525)	EPA 525	µg/L	-	-	-	-	-	-	-	-
Salinity	SM2520B	psu	6.4	6.3	6.4	6.3	6.3	6.7	6.7	6.7
Silica as SiO2, Dissolved	EPA 200.7	mg/L	24	25	29	29	28	30	30	30
Sodium	EPA 200.7	mg/L	1,690	1,820	1,580	1,510	1,470	1,670	1,630	1,640
Sodium, Dissolved	EPA 200.7	mg/L	1,660	1,740	1,540	1,520	1,510	1,660	1,650	1,650
Specific Conductance (E.C)	SM2510B	µmhos/cm	11,190	11,140	9,840	9,750	9,760	10,540	10,740	10,750
Specific Conductance (E.C) (Field)	SM2510B	µmhos/cm	11,280	11,250	9,661	9,677	9,706	10,730	10,870	10,870
Strontium, Dissolved	EPA 200.8	µg/L	3,100	3,110	2,350	2,450	2,620	3,050	3,050	2,980
Sulfate, Dissolved	EPA 300.0	mg/L	490	483	443	450	446	440	476	479
Temperature (Field)	SM2550	°C	17.8	17.8	17.7	17.7	17.7	17.8	17.8	17.7
Total Diss. Solids	SM2540C	mg/L	7,400	8,000	5,100	4,900	5,200	6,620	7,000	5,400
Turbidity	EPA 180.1	NTU	0.15	0.15	ND	ND	ND	0.05	0.05	0.05
Turbidity (Field)	EPA 180.1	NTU	0.09	0.07	0.15	0.07	0.07	0.07	0.08	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-45							
Sample Collection Date:			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	14-Apr-22 14:48	20-Oct-22 16:05	13-Apr-23 14:33
Constituent	Method	Units	Result	Result	Result	Result	Result	Result	Result	Result
Alkalinity, Total (as CaCO3)	SM2320B	mg/L	56	59	58	57	56	59	56	57
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	0.02	ND	ND	ND	ND	ND
Arsenic, Total ¹	EPA 200.8	µg/L	-	-	-	-	-	-	-	-
Arsenic, Total	EPA 1640	µg/L	0.30	0.35	0.49	0.45	0.43	0.38	0.32	0.30
Barium, Dissolved	EPA 200.8	µg/L	38	21	20.0	19.2	26.4	48.1	78.8	101
Bicarbonate (as HCO3-)	SM2320B	mg/L	68	72	71	70	68	72	68	70
Boron, Dissolved	EPA 200.7	mg/L	0.50	0.46	0.42	0.36	ND	ND	0.4	0.4
Bromide, Dissolved	EPA 300.0	mg/L	11.1	9.4	8.6	7.1	6.2	8.0	7.2	10.6
Calcium	EPA 200.7	mg/L	342	269	234	189	176	265	262	332
Calcium, Dissolved	EPA 200.7	mg/L	334	274	211	189	192	262	262	345
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	3,280	3,060	2,350	1,940	1,600	2,120	2,270	2,830
Chlorinated Pesticides and PCB (EPA 508)	EPA 508	µg/L	-	-	-	-	-	-	-	-
Color, Apparent (Unfiltered)	SM2120B	Color Units	-	-	-	3	ND	ND	ND	5
Color, True ²	SM2120C	Color Units	ND	ND	ND	-	-	-	-	-
Copper	EPA 200.7	µg/L	ND	ND	ND	ND	ND	9	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	103.81	96.64	75.51	62.20	51.53	67.95	72.04	90.15
Total Anions	Calculation	Meq/L	103.81	96.64	75.51	62.20	51.53	67.95	72.04	90.15
Dissolved Cations	Calculation	Meq/L	105.72	89.86	72.66	58.47	53.81	73.97	73.15	85.57
Total Cations	Calculation	Meq/L	107.77	87.90	76.18	59.65	53.40	74.81	72.71	85.66
Fluoride, Dissolved	EPA 300.0	mg/L	0.1	0.1	0.5	0.2	0.1	0.1	ND	ND
Hardness (as CaCO3)	SM2340B/Calc, EPA200.7	mg/L	1,950	1,520	1,140	1,020	947	1,470	1,410	1,670
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	12	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	1.1	ND	0.6	ND	ND	0.3
Lead, Total	EPA 200.8	µg/L	ND	ND	ND	ND	ND	ND	ND	ND
Lithium	EPA 200.8	µg/L	12.2	17.6	14.7	8	8.1	7.5	10.5	11.3
Magnesium	EPA 200.7	mg/L	265	206	136	133	123	197	184	205
Magnesium, Dissolved	EPA 200.7	mg/L	261	211	170	123	122	194	184	217
Manganese, Dissolved	EPA 200.7	µg/L	ND	ND	ND	6	ND	ND	ND	ND
Manganese, Total	EPA 200.7	µg/L	ND	11	ND	7	ND	ND	ND	ND
MBAS (Surfactants)	SM5540C	mg/L	ND	ND	ND	0.05	0.04	0.03	ND	0.05
Nitrate as N	EPA 300.0	mg/L	4.9	5.2	5.0	5.6	5.9	7.6	6.8	6.8
Nitrate as NO3	EPA 300.0	mg/L	22	23	22	25	26	34	30	30
Nitrate+Nitrite as N	EPA 300.0	mg/L	4.9	5.2	5.0	5.6	5.9	7.6	6.8	6.8
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	ND	ND	ND	ND	ND
o-Phosphate-P	Hach 8048 & EPA 365.1	mg/L	0.12	0.15	0.20	0.18	0.17	0.14	0.10	0.14
pH (Field Test)	SM4500-H+B	pH	7.11	7.08	7.15	7.17	7.15	7.08	6.94	7.72
pH (Laboratory)	SM4500-H+B	pH (H)	7.1	7.4	7.1	7.3	7.5	7.4	7.3	7.1
Phenoxy Acid Herbicides (515.3)	EPA 515.3	µg/L	-	-	-	-	-	-	-	-
Phosphorus, Dissolved Total	HACH 8190 & EPA 365.1	mg/L	0.12	0.14	0.19	0.19	0.18	0.20	0.11	0.10
Potassium	EPA 200.7	mg/L	23.4	21.0	21.5	17.0	17.2	22.2	21.9	18.1
Potassium, Dissolved	EPA 200.7	mg/L	22.9	21.4	23.3	16.9	15.1	21.9	21.9	18.4
QC Ratio TDS/SEC	Calculation	-	0.61	0.59	0.50	0.64	0.74	0.66	0.54	0.58
Reg. Org. Compounds (EPA 525)	EPA 525	µg/L	-	-	-	-	-	-	-	-
Salinity	SM2520B	psu	6.0	5.4	4.1	3.4	3.0	3.6	3.9	5.0
Silica as SiO2, Dissolved	EPA 200.7	mg/L	27	26.0	26.8	26.0	28.4	32.8	34.2	30.7
Sodium	EPA 200.7	mg/L	1,570	1,310	1,210	909	783	1,030	1,010	1,150
Sodium, Dissolved	EPA 200.7	mg/L	1,540	1,340	1,090	902	777	1,020	1,020	1,190
Specific Conductance (E.C)	SM2510B	µmhos/cm	10,590	9,250	7,370	6,240	5,550	6,630	7,190	9,030
Specific Conductance (E.C) (Field)	SM2510B	µmhos/cm	10,640	9,412	7,544	6,400	5,522	7,076	7,200	9,008
Strontium, Dissolved	EPA 200.8	µg/L	3,160	2,320	1,820	1,610	1,510	2,140	2,180	2,400
Sulfate, Dissolved	EPA 300.0	mg/L	447	415	318	275	229	303	303	411
Temperature (Field)	SM2550	°C	17.7	17.8	17.8	17.7	17.6	17.6	17.6	17.6
Total Diss. Solids	SM2540C	mg/L	6,500	5,500	3,700	4,000	4,100	4,380	3,880	5,200
Turbidity	EPA 180.1	NTU	0.05	0.05	0.10	ND	ND	ND	ND	ND
Turbidity (Field)	EPA 180.1	NTU	0.07	0.1	0.11	0.08	0.06	0.22	0.05	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-4M							
Sample Collection Date:			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	12-Oct-18 10:04	12-Oct-18 10:19
Constituent	Method	Units	Result	Result	Result	Result	Result	Result	Result	Result
Alkalinity, Total (as CaCO3)	SM2320B	mg/L	97	96	97	96	97	96	97	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	0.089	0.094	0.090	0.09	0.09	0.09	0.088	0.087
Barium, Dissolved	EPA 200.8	µg/L	ND	ND	ND	101	103	103	104	100
Bicarbonate (as HCO3-)	SM2320B	mg/L	118	117	118	117	118	117	118	118
Boron, Dissolved	EPA 200.7	mg/L	1.6	1.6	1.6	1.45	1.46	1.47	1.17	1.29
Bromide, Dissolved	EPA 300.0	mg/L	36.7	35.1	36.4	39.4	43.7	41.3	40.0	40.6
Calcium	EPA 200.7	mg/L	1,220	1,240	1,240	1,330	1,310	1,310	1,290	1,330
Calcium, Dissolved	EPA 200.7	mg/L	1,240	1,230	1,230	1,270	1,290	1,240	1,290	1,320
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	12,800	12,300	12,700	12,200	14,000	12,600	12,500	12,800
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	398.57	384.42	395.55	379.94	435.79	392.30	389.68	398.15
Total Anions	Calculation	Meq/L	398.57	384.42	395.55	379.94	435.79	392.30	389.68	398.15
Dissolved Cations	Calculation	Meq/L	406.67	404.78	401.27	395.61	385.43	379.71	371.77	369.16
Total Cations	Calculation	Meq/L	403.52	409.19	404.41	407.29	379.78	383.80	375.13	370.13
Fluoride, Dissolved	EPA 300.0	mg/L	ND	ND	ND	ND	ND	ND	0.1	ND
Hardness (as CaCO3)	SM2340B/Calc, EPA200.7	mg/L	7,120	7,220	7,240	7,220	7,040	7,080	6,370	6,340
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	0.5	ND
Lead, Total	EPA 200.8	µg/L	ND	ND	ND	ND	ND	ND	ND	ND
Lithium	EPA 200.8	µg/L	42	40	41	47	47	47	55	54
Magnesium	EPA 200.7	mg/L	986	1,000	1,000	947	916	922	858	848
Magnesium, Dissolved	EPA 200.7	mg/L	996	1,000	984	957	949	936	855	869
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	1.4	1.4	1.6	0.8	0.8	0.9	0.8	0.8
Nitrate as NO3	EPA 300.0	mg/L	6.4	6.4	6.9	3.5	3.5	4	3.5	3.5
Nitrate+Nitrite as N	EPA 300.0	mg/L	1.4	1.4	1.6	0.8	0.8	0.9	0.8	0.8
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	2	ND	ND	ND	ND	1	1
o-Phosphate-P	Hach 8048 & EPA 365.1	mg/L	0.04	0.04	0.04	0.04	0.04	0.04	0.03	0.03
pH (Field Test)	SM4500-H+B	pH	6.64	6.64	6.64	6.68	6.68	6.68	6.72	6.72
pH (Laboratory)	SM4500-H+B	pH (H)	6.9	6.9	6.8	6.8	6.8	6.9	6.8	6.8
Phenoxy Acid Herbicides (515.3)	EPA 515.3	µg/L	-	-	-	-	-	-	-	-
Phosphorus, Dissolved Total	HACH 8190 & EPA 365.1	mg/L	0.03	0.03	0.02	0.03	0.02	0.03	0.04	0.04
Potassium	EPA 200.7	mg/L	70.8	72.1	72.5	78.0	76.7	78.2	86.2	83.2
Potassium, Dissolved	EPA 200.7	mg/L	71.6	72.4	71.7	80.2	77.1	78.1	83.8	82.0
QC Ratio TDS/SEC	Calculation	-	0.68	0.68	0.67	0.74	0.74	0.70	0.67	0.70
Reg. Org. Compounds (EPA 525)	EPA 525	µg/L	-	-	-	-	-	-	-	-
Salinity	SM2520B	psu	23.5	23.9	23.9	23.1	23.2	22.8	21.2	20.0
Silica as SiO2, Dissolved	EPA 200.7	mg/L	30	30	29	26	24	26	30	32
Sodium	EPA 200.7	mg/L	5,970	6,050	5,940	6,000	5,450	5,530	5,470	5,330
Sodium, Dissolved	EPA 200.7	mg/L	6,000	5,960	5,910	5,780	5,540	5,490	5,400	5,280
Specific Conductance (E.C)	SM2510B	µmhos/cm	33,510	34,050	34,030	32,950	33,130	32,650	33,760	32,090
Specific Conductance (E.C) (Field)	SM2510B	µmhos/cm	34,850	34,860	34,830	33,790	33,810	33,810	34,600	34,620
Strontium, Dissolved	EPA 200.8	µg/L	10,400	10,300	10,300	9,450	9,530	9,330	11,100	10,800
Sulfate, Dissolved	EPA 300.0	mg/L	1,680	1,680	1,670	1,600	1,840	1,650	1,660	1,660
Temperature (Field)	SM2550	° C	18.0	18.0	18.0	18.0	18.0	18.0	18.1	18.1
Total Diss. Solids	SM2540C	mg/L	22,700	23,100	22,800	24,400	24,400	22,900	22,500	22,400
Turbidity	EPA 180.1	NTU	0.10	0.05	0.10	0.10	0.10	0.10	0.05	0.05
Turbidity (Field)	EPA 180.1	NTU	0.07	0.06	0.06	0.08	0.11	0.09	0.07	0.05
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-4M							
Sample Collection Date:			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	11-Apr-19 12:04	24-Jul-19 14:48
Constituent	Method	Units	Result	Result	Result	Result	Result	Result	Result	Result
Alkalinity, Total (as CaCO3)	SM2320B	mg/L	97	97	97	97	96	97	98	98
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	0.10	0.098	0.094	0.11	0.11	0.11	0.097
Barium, Dissolved	EPA 200.8	µg/L	104	87.0	88.0	86.0	78	78	77	94
Bicarbonate (as HCO3-)	SM2320B	mg/L	118	118	118	118	117	118	120	120
Boron, Dissolved	EPA 200.7	mg/L	1.26	1.54	1.77	1.69	1.4	1.3	1.3	1.1
Bromide, Dissolved	EPA 300.0	mg/L	40.0	42.1	42.5	42.0	45.4	36.2	46.2	39.6
Calcium	EPA 200.7	mg/L	1,310	1,170	1,140	1,140	1,090	1,090	1,100	1,060
Calcium, Dissolved	EPA 200.7	mg/L	1,320	1,160	1,170	1,160	1,110	1,130	1,080	1,060
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	12,600	12,800	12,800	12,600	12,900	13,000	12,700	11,700
Chlorinated Pesticides and PCB (EPA 508)	EPA 508	µg/L	-	-	-	-	-	-	-	-
Color, Apparent (Unfiltered)	SM2120B	Color Units	ND	ND	ND	ND	ND	ND	3	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	392.30	398.80	397.97	392.53	403.09	405.82	397.50	363.16
Total Anions	Calculation	Meq/L	392.30	398.80	397.97	392.53	403.09	405.82	397.50	363.16
Dissolved Cations	Calculation	Meq/L	365.16	380.26	385.93	401.46	373.83	384.55	367.03	356.15
Total Cations	Calculation	Meq/L	379.00	393.79	376.29	381.20	370.56	367.20	371.37	357.48
Fluoride, Dissolved	EPA 300.0	mg/L	ND	0.1	0.1	0.1	0.1	0.1	0.1	0.2
Hardness (as CaCO3)	SM2340B/Calc, EPA200.7	mg/L	6,410	6,790	6,590	6,710	5,820	5,740	5,780	6,140
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	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	54	39.0	39.0	37.0	41.2	38.8	40.0	40
Magnesium	EPA 200.7	mg/L	862	940	909	937	869	882	872	847
Magnesium, Dissolved	EPA 200.7	mg/L	874	908	934	938	875	894	859	847
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	0.7	0.7	0.7	0.6
Nitrate as NO3	EPA 300.0	mg/L	ND	3.5	3.5	3.5	3.1	3.0	3.0	2.7
Nitrate+Nitrite as N	EPA 300.0	mg/L	0.8	0.8	0.8	0.8	0.7	0.7	0.7	0.6
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	6.69	6.70	6.71	6.77	6.78	6.78	6.70
pH (Laboratory)	SM4500-H+B	pH (H)	7.0	6.8	6.8	6.8	6.7	6.8	6.7	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	0.04	0.04	0.04	0.04	0.06	0.04
Potassium	EPA 200.7	mg/L	83.8	89.0	90.2	90.2	75.3	72.2	78.1	67.6
Potassium, Dissolved	EPA 200.7	mg/L	79.6	90.4	89.9	91.5	76.9	72.8	74.3	66.7
QC Ratio TDS/SEC	Calculation	-	0.64	0.66	0.65	0.65	0.68	0.68	0.66	0.60
Reg. Org. Compounds (EPA 525)	EPA 525	µg/L	-	-	-	-	-	-	-	-
Salinity	SM2520B	psu	21.1	21.9	21.9	21.9	23.7	23.7	23.8	20.7
Silica as SiO2, Dissolved	EPA 200.7	mg/L	30	29	26	31	26	23	22	25
Sodium	EPA 200.7	mg/L	5,530	5,880	5,570	5,630	5,580	5,480	5,580	5,360
Sodium, Dissolved	EPA 200.7	mg/L	5,180	5,640	5,710	6,070	5,620	5,810	5,530	5,330
Specific Conductance (E.C.)	SM2510B	µmhos/cm	33,720	34,850	34,780	34,810	33,760	33,760	33,860	33,100
Specific Conductance (E.C.) (Field)	SM2510B	µmhos/cm	34,640	35,150	35,130	35,150	34,650	34,520	34,580	33,660
Strontium, Dissolved	EPA 200.8	µg/L	10,800	10,400	10,700	10,400	10,300	10,300	10,100	10,700
Sulfate, Dissolved	EPA 300.0	mg/L	1,650	1,690	1,650	1,660	1,760	1,760	1,760	1,470
Temperature (Field)	SM2550	°C	18.1	18.0	18.0	18.0	18.0	18.0	18.0	18.0
Total Diss. Solids	SM2540C	mg/L	21,700	23,100	22,500	22,800	22,800	22,900	22,200	19,900
Turbidity	EPA 180.1	NTU	0.05	0.05	0.05	0.05	0.15	0.15	0.10	0.20
Turbidity (Field)	EPA 180.1	NTU	0.05	0.09	0.15	0.06	0.08	0.11	0.06	0.1
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
 µg/L = Picograms per Liter
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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-4M							
Sample Collection Date:			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	15-Jan-20 12:55	15-Jan-20 13:10
Constituent	Method	Units	Result	Result	Result	Result	Result	Result	Result	Result
Alkalinity, Total (as CaCO3)	SM2320B	mg/L	97	94	96	92	92	91	90	92
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	0.10	0.10	0.14	0.16	0.14	0.088	0.089	0.10
Barium, Dissolved	EPA 200.8	µg/L	94	93	90	99	102	87.9	84.6	84.6
Bicarbonate (as HCO3-)	SM2320B	mg/L	118	115	117	112	112	111	110	112
Boron, Dissolved	EPA 200.7	mg/L	1.1	1.1	1.50	1.54	1.51	1.86	1.78	2.0
Bromide, Dissolved	EPA 300.0	mg/L	44.3	41.3	40.1	40.9	40.4	41.3	42.7	41.0
Calcium	EPA 200.7	mg/L	1,060	1,120	1,120	1,120	1,170	1,230	1,250	1,030
Calcium, Dissolved	EPA 200.7	mg/L	1,050	1,090	1,080	1,130	1,130	1,240	1,250	985
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	12,000	11,900	12,100	12,100	13,100	13,400	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	387.59	372.40	371.91	378.31	379.99	407.75	417.04	407.75
Total Anions	Calculation	Meq/L	387.59	372.40	371.91	378.31	379.99	407.75	417.04	407.75
Dissolved Cations	Calculation	Meq/L	350.51	356.08	361.59	382.12	366.62	411.96	423.26	431.81
Total Cations	Calculation	Meq/L	349.51	370.92	357.69	383.72	375.04	417.54	419.81	470.99
Fluoride, Dissolved	EPA 300.0	mg/L	0.1	0.1	ND	ND	ND	0.1	ND	ND
Hardness (as CaCO3)	SM2340B/Calc, EPA200.7	mg/L	6,090	6,450	8,470	8,500	7,890	7,210	7,290	8,780
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	22	ND	ND	ND	ND
Total Kjeldahl Nitrogen, Dissolved	SM4500-NH3 B,C,E & EPA 351.2	mg/L	ND	ND	ND	ND	ND	0.5	0.6	0.6
Lead, Total	EPA 200.8	µg/L	ND	ND	ND	ND	ND	ND	ND	ND
Lithium	EPA 200.8	µg/L	38	37	52	51	52	33.4	32.3	32.4
Magnesium	EPA 200.7	mg/L	835	883	888	942	924	1,000	1,010	1,190
Magnesium, Dissolved	EPA 200.7	mg/L	832	854	895	940	905	1,000	1,020	1,110
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	0.12	0.13	0.13	0.15	0.12	0.10
Nitrate as N	EPA 300.0	mg/L	0.8	0.6	0.9	0.8	1.1	0.7	0.6	0.6
Nitrate as NO3	EPA 300.0	mg/L	3.5	2.7	4	3.5	4.9	3.1	2.7	2.7
Nitrate+Nitrite as N	EPA 300.0	mg/L	0.8	0.6	0.9	0.8	1.1	0.7	0.6	0.6
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	0.04	0.04	0.04	0.04	0.04	0.03	0.03	0.03
pH (Field Test)	SM4500-H+B	pH	6.70	6.70	6.64	6.64	6.64	6.65	6.65	6.65
pH (Laboratory)	SM4500-H+B	pH (H)	7.0	7.0	6.8	6.8	6.8	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	0.04	0.04	0.04	0.04	0.04	0.03	0.03	0.03
Potassium	EPA 200.7	mg/L	66.5	71.0	67.4	72.5	71.0	78.3	78.7	95.3
Potassium, Dissolved	EPA 200.7	mg/L	66.7	67.9	68.8	72.0	69.5	78.5	79.3	86.5
QC Ratio TDS/SEC	Calculation	-	0.63	0.60	0.63	0.67	0.66	0.64	0.70	0.66
Reg. Org. Compounds (EPA 525)	EPA 525	µg/L	-	-	-	-	-	-	-	-
Salinity	SM2520B	psu	20.7	20.5	23.2	23.3	23.3	24.0	23.8	23.7
Silica as SiO2, Dissolved	EPA 200.7	mg/L	24	26	28	29	28	30	31	36
Sodium	EPA 200.7	mg/L	5,200	5,530	5,220	5,710	5,490	6,250	6,260	6,164
Sodium, Dissolved	EPA 200.7	mg/L	5,240	5,280	5,340	5,670	5,380	6,110	6,320	6,650
Specific Conductance (E.C)	SM2510B	µmhos/cm	33,100	32,800	33,400	33,800	33,400	34,100	33,900	33,800
Specific Conductance (E.C) (Field)	SM2510B	µmhos/cm	33,660	33,650	34,030	34,020	34,030	35,290	35,260	35,270
Strontium, Dissolved	EPA 200.8	µg/L	11,000	10,900	10,300	10,300	10,600	9,980	9,970	10,300
Sulfate, Dissolved	EPA 300.0	mg/L	1,550	1,510	1,620	1,660	1,740	1,720	1,760	1,710
Temperature (Field)	SM2550	°C	18.0	18.0	17.9	17.9	17.9	17.9	18.0	18.0
Total Diss. Solids	SM2540C	mg/L	20,700	19,600	21,200	22,800	21,900	21,700	23,600	22,400
Turbidity	EPA 180.1	NTU	0.20	0.20	ND	ND	ND	0.05	0.05	0.05
Turbidity (Field)	EPA 180.1	NTU	0.16	0.07	0.060	0.070	0.070	0.19	0.16	0.12
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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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:			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	20-Oct-22 15:10	13-Apr-23 13:29
Constituent	Method	Units	Result	Result	Result	Result	Result	Result	Result	Result
Alkalinity, Total (as CaCO3)	SM2320B	mg/L	90	93	106	94	92	93	85	85
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	0.02	ND	ND	ND	ND	ND
Arsenic, Total ¹	EPA 200.8	µg/L	-	-	-	-	-	-	-	-
Arsenic, Total	EPA 1640	µg/L	0.097	0.090	0.11	0.10	0.096	0.11	0.12	0.12
Barium, Dissolved	EPA 200.8	µg/L	91	73	77	90.0	9.3	81	83	73.1
Bicarbonate (as HCO3-)	SM2320B	mg/L	110	113	129	115	112	113	104	104
Boron, Dissolved	EPA 200.7	mg/L	1.5	1.5	1.6	1.4	1.96	1.71	1.9	1.8
Bromide, Dissolved	EPA 300.0	mg/L	40.1	36.2	47.4	40.3	46.7	43.2	50.1	57.5
Calcium	EPA 200.7	mg/L	1,140	1,190	1,160	1,000	1,220	1,270	1,170	1,160
Calcium, Dissolved	EPA 200.7	mg/L	1,150	1,190	1,080	876	1,190	1,280	1,160	1,230
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	12,300	12,700	12,400	11,600	12,700	12,500	12,900	13,100
Chlorinated Pesticides and PCB (EPA 508)	EPA 508	µg/L	-	-	-	-	-	-	-	-
Color, Apparent (Unfiltered)	SM2120B	Color Units	-	-	-	3	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
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	384.12	394.56	388.38	365.30	396.80	387.40	400.71	408.82
Total Anions	Calculation	Meq/L	384.12	394.56	388.38	365.30	396.80	387.40	400.71	408.82
Dissolved Cations	Calculation	Meq/L	409.65	383.75	391.52	352.05	394.70	412.76	413.98	401.67
Total Cations	Calculation	Meq/L	408.49	386.26	403.51	361.39	394.79	405.82	416.20	396.99
Fluoride, Dissolved	EPA 300.0	mg/L	0.0	ND	0.3	0.1	0.2	ND	ND	ND
Hardness (as CaCO3)	SM2340B/Calc, EPA200.7	mg/L	6,920	6,740	5,900	5,830	6,990	7,250	7,250	6,780
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	0.1	0.4	ND	ND	0.4
Lead, Total	EPA 200.8	µg/L	ND	ND	ND	ND	ND	ND	ND	ND
Lithium	EPA 200.8	µg/L	43	54.2	54	30	43.5	44.1	45	4.7
Magnesium	EPA 200.7	mg/L	987	915	727	808	956	990	1,050	944
Magnesium, Dissolved	EPA 200.7	mg/L	1,000	900	888	752	962	1,010	1,040	979
Manganese, Dissolved	EPA 200.7	µg/L	ND	ND	ND	32	ND	ND	ND	ND
Manganese, Total	EPA 200.7	µg/L	ND	ND	ND	ND	ND	ND	ND	ND
MBAS (Surfactants)	SM5540C	mg/L	0.05	ND	0.05	0.05	0.05	0.05	ND	0.09
Nitrate as N	EPA 300.0	mg/L	0.9	0.6	0.7	0.7	0.9	0.9	0.8	ND
Nitrate as NO3	EPA 300.0	mg/L	4	2.7	ND	3.1	4.1	4.0	3.4	4.0
Nitrate+Nitrite as N	EPA 300.0	mg/L	0.9	0.6	0.7	0.7	1.0	0.9	0.8	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	ND	ND	ND	ND	ND
o-Phosphate-P	Hach 8048 & EPA 365.1	mg/L	0.03	0.04	0.04	0.03	0.04	0.05	0.04	0.04
pH (Field Test)	SM4500-H+B	pH	6.74	6.66	6.75	6.67	6.62	6.63	6.49	7.36
pH (Laboratory)	SM4500-H+B	pH (H)	6.8	7.2	6.8	7.0	7.3	7.2	7.0	7.0
Phenoxy Acid Herbicides (515.3)	EPA 515.3	µg/L	-	-	-	-	-	-	-	-
Phosphorus, Dissolved Total	HACH 8190 & EPA 365.1	mg/L	0.04	0.03	0.02	0.04	0.05	0.03	0.04	0.03
Potassium	EPA 200.7	mg/L	77.6	74.2	90.6	69.1	81.1	84.1	101	84.8
Potassium, Dissolved	EPA 200.7	mg/L	78.9	74.7	105	67.2	82.6	84.8	100	86.6
QC Ratio TDS/SEC	Calculation	-	0.66	0.71	0.66	0.67	0.71	0.77	0.63	0.68
Reg. Org. Compounds (EPA 525)	EPA 525	µg/L	-	-	-	-	-	-	-	-
Salinity	SM2520B	psu	21.8	21.6	21.3	21.0	20.9	21.7	22.0	22.6
Silica as SiO2, Dissolved	EPA 200.7	mg/L	28	29.8	28.1	23.8	32.0	34.5	36.1	32.1
Sodium	EPA 200.7	mg/L	6,170	5,740	6,510	5,590	5,820	5,950	6,180	5,920
Sodium, Dissolved	EPA 200.7	mg/L	6,160	5,710	6,020	5,620	5,840	6,060	6,160	5,960
Specific Conductance (E.C)	SM2510B	µmhos/cm	34,700	33,000	33,900	33,500	33,400	33,520	35,000	35,800
Specific Conductance (E.C) (Field)	SM2510B	µmhos/cm	35,510	34,160	35,000	34,760	34,351	34,633	35,027	35,905
Strontium, Dissolved	EPA 200.8	µg/L	10,600	10,400	10,000	12,500	11,500	11,500	10,800	9,550
Sulfate, Dissolved	EPA 300.0	mg/L	1,670	1,630	1,720	1,720	1,740	1,580	1,660	1,770
Temperature (Field)	SM2550	°C	17.9	18.0	18.0	17.9	17.9	17.9	17.9	17.8
Total Diss. Solids	SM2540C	mg/L	23,000	23,400	22,300	22,600	23,800	25,700	22,200	24,400
Turbidity	EPA 180.1	NTU	0.05	0.05	0.15	ND	0.10	ND	ND	ND
Turbidity (Field)	EPA 180.1	NTU	0.06	0.09	0.07	0.09	0.05	0.09	0.11	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:			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	11-Oct-18 15:31
Constituent	Method	Units	Result	Result	Result	Result	Result	Result	Result	Result
Alkalinity, Total (as CaCO3)	SM2320B	mg/L	118	116	116	114	114	114	114	113
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	0.36	0.36	0.35	0.36	0.35	0.35	0.34	0.32
Barium, Dissolved	EPA 200.8	µg/L	117	114	122	139	136	147	155	152.0
Bicarbonate (as HCO3-)	SM2320B	mg/L	144	142	142	139	139	139	139	138
Boron, Dissolved	EPA 200.7	mg/L	1.1	1.0	1.0	0.87	0.82	0.88	0.38	0.42
Bromide, Dissolved	EPA 300.0	mg/L	43.0	43.5	44.1	52.6	52.5	50.9	50.2	52.9
Calcium	EPA 200.7	mg/L	3,020	2,930	2,990	2,790	2,900	2,940	2,890	2,870
Calcium, Dissolved	EPA 200.7	mg/L	2,960	2,980	3,030	2,800	2,890	2,990	2,850	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	14,900	14,900	15,100	15,700	15,500	15,500	15,300	16,100
Chlorinated Pesticides and PCB (EPA 508)	EPA 508	µg/L	-	-	-	-	-	-	-	-
Color, Apparent (Unfiltered)	SM2120B	Color Units	3	ND	ND	3	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	463.47	464.07	469.71	487.90	481.63	481.61	475.13	497.92
Total Anions	Calculation	Meq/L	463.47	464.07	469.71	487.90	481.63	481.61	475.13	497.92
Dissolved Cations	Calculation	Meq/L	483.35	492.48	490.08	449.04	460.90	467.89	436.94	456.63
Total Cations	Calculation	Meq/L	493.30	477.42	488.52	439.94	475.13	465.53	453.22	454.81
Fluoride, Dissolved	EPA 300.0	mg/L	0.1	ND	ND	ND	ND	ND	0.1	0.1
Hardness (as CaCO3)	SM2340B/Calc, EPA200.7	mg/L	7,770	11,800	12,000	11,300	11,800	11,800	10,400	10,600
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	3.6	3	ND	ND
Iron	EPA 200.7	µg/L	ND	33	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	226	218	226	307	298	308	356	342
Magnesium	EPA 200.7	mg/L	1,110	1,080	1,110	1,040	1,100	1,080	936	950
Magnesium, Dissolved	EPA 200.7	mg/L	1,090	1,090	1,120	1,040	1,070	1,100	915	948
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	0.9	0.9	0.9	0.1	0.1	0.1	0.1	0.2
Nitrate as NO3	EPA 300.0	mg/L	3.9	3.9	3.9	ND	ND	ND	0.4	0.9
Nitrate+Nitrite as N	EPA 300.0	mg/L	0.9	0.9	0.9	0.1	0.1	0.1	0.1	0.2
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	ND	ND	2	ND	ND	ND	1	1
o-Phosphate-P	Hach 8048 & EPA 365.1	mg/L	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
pH (Field Test)	SM4500-H+B	pH	6.55	6.55	6.55	6.58	6.58	6.58	6.61	6.61
pH (Laboratory)	SM4500-H+B	pH (H)	6.8	6.8	6.8	6.7	6.8	6.8	6.8	6.7
Phenoxy Acid Herbicides (515.3)	EPA 515.3	µg/L	-	-	-	-	-	-	-	-
Phosphorus, Dissolved Total	HACH 8190 & EPA 365.1	mg/L	ND	ND	ND	ND	ND	ND	0.03	0.03
Potassium	EPA 200.7	mg/L	54.9	52.8	52.2	60.8	59.4	61.6	56.2	61.4
Potassium, Dissolved	EPA 200.7	mg/L	52.7	52.8	53.9	56.9	61.2	59.9	58.6	58.7
QC Ratio TDS/SEC	Calculation	-	0.75	0.72	0.74	0.81	0.80	0.81	0.68	0.70
Reg. Org. Compounds (EPA 525)	EPA 525	µg/L	-	-	-	-	-	-	-	-
Salinity	SM2520B	psu	27.9	27.8	28.0	28.0	28.1	28.1	25.3	23.6
Silica as SiO2, Dissolved	EPA 200.7	mg/L	36	34	37	31	30	32	33	34
Sodium	EPA 200.7	mg/L	5,740	5,540	5,670	4,910	5,480	5,250	5,300	5,330
Sodium, Dissolved	EPA 200.7	mg/L	5,600	5,810	5,640	5,110	5,220	5,210	5,010	5,400
Specific Conductance (E.C)	SM2510B	µmhos/cm	39,050	38,940	39,220	39,290	39,300	39,330	39,650	37,230
Specific Conductance (E.C) (Field)	SM2510B	µmhos/cm	40,180	40,160	40,140	40,280	40,270	40,300	40,610	40,630
Strontium, Dissolved	EPA 200.8	µg/L	15,800	15,400	15,700	15,300	14,900	15,000	17,200	16,600
Sulfate, Dissolved	EPA 300.0	mg/L	1,930	1,960	1,960	2,020	1,990	1,990	1,950	1,960
Temperature (Field)	SM2550	° C	19.9	20.0	20.0	20.0	20.0	20.0	19.9	19.9
Total Diss. Solids	SM2540C	mg/L	29,400	28,200	28,900	32,900	32,400	32,400	26,900	26,000
Turbidity	EPA 180.1	NTU	0.25	0.35	0.15	0.30	0.25	0.30	0.25	0.25
Turbidity (Field)	EPA 180.1	NTU	0.07	0.1	0.14	0.13	0.130	0.09	0.10	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	-	-	-	-	-	-	-	-

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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-4D							
Sample Collection Date:			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	24-Jul-19 12:40
Constituent	Method	Units	Result	Result	Result	Result	Result	Result	Result	Result
Alkalinity, Total (as CaCO3)	SM2320B	mg/L	113	116	116	116	117	117	117	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	0.35	0.40	0.48	0.37	0.52	0.52	0.55	0.39
Barium, Dissolved	EPA 200.8	µg/L	156.0	148	149	149	116	116	115	133
Bicarbonate (as HCO3-)	SM2320B	mg/L	138	142	142	142	143	143	143	137
Boron, Dissolved	EPA 200.7	mg/L	0.43	1.00	0.77	0.98	0.76	0.77	0.80	0.71
Bromide, Dissolved	EPA 300.0	mg/L	49.8	52.2	52.7	51.7	52.3	56.0	50.7	52.7
Calcium	EPA 200.7	mg/L	2,890	3,000	2,960	2,930	2,740	2,680	2,640	3,160
Calcium, Dissolved	EPA 200.7	mg/L	2,880	3,000	2,880	2,900	2,680	2,660	2,610	3,160
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	15,100	15,200	15,100	15,000	15,700	15,600	15,600	15,900
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	469.45	471.53	469.76	466.92	485.44	483.19	483.91	492.88
Total Anions	Calculation	Meq/L	469.45	471.53	469.76	466.92	485.44	483.19	483.91	492.88
Dissolved Cations	Calculation	Meq/L	439.64	463.19	443.04	449.59	452.50	432.62	412.51	474.55
Total Cations	Calculation	Meq/L	438.24	474.23	465.62	462.56	445.36	433.33	417.09	488.37
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	10,800	11,700	11,500	11,400	6,340	9,330	9,750	10,800
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	333	293	267	268	250	257	281	236
Magnesium	EPA 200.7	mg/L	953	1,020	1,010	996	967	949	913	1,010
Magnesium, Dissolved	EPA 200.7	mg/L	919	1,050	980	973	949	935	897	982
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	0.11
Nitrate as N	EPA 300.0	mg/L	0.1	ND	ND	ND	ND	ND	ND	0.2
Nitrate as NO3	EPA 300.0	mg/L	0.4	ND	ND	ND	ND	ND	ND	1.0
Nitrate+Nitrite as N	EPA 300.0	mg/L	0.1	ND	ND	ND	ND	ND	ND	0.2
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	0.03	0.02	0.02	0.02	0.02	0.02	0.02	0.03
pH (Field Test)	SM4500-H+B	pH	6.61	6.60	6.60	6.60	6.65	6.65	6.65	6.58
pH (Laboratory)	SM4500-H+B	pH (H)	6.7	6.8	6.8	6.7	6.7	6.7	6.7	6.9
Phenoxy Acid Herbicides (515.3)	EPA 515.3	µg/L	-	-	-	-	-	-	-	-
Phosphorus, Dissolved Total	HACH 8190 & EPA 365.1	mg/L	0.03	0.02	0.02	0.02	0.03	0.03	0.03	0.02
Potassium	EPA 200.7	mg/L	61.9	69.4	64.3	65.1	57.0	54.4	52.3	51.4
Potassium, Dissolved	EPA 200.7	mg/L	58.5	68.6	63.3	64.8	59.6	56.6	55.8	51.0
QC Ratio TDS/SEC	Calculation	-	0.68	0.69	0.67	0.69	0.70	0.69	0.70	0.75
Reg. Org. Compounds (EPA 525)	EPA 525	µg/L	-	-	-	-	-	-	-	-
Salinity	SM2520B	psu	24.6	25.2	25.2	25.3	27.8	27.8	27.8	24.8
Silica as SiO2, Dissolved	EPA 200.7	mg/L	33	34	32	31	27	27	26	29
Sodium	EPA 200.7	mg/L	4,920	5,490	5,360	5,350	5,240	5,060	4,800	5,660
Sodium, Dissolved	EPA 200.7	mg/L	5,030	5,180	4,990	5,130	5,500	5,090	4,760	5,400
Specific Conductance (E.C.)	SM2510B	µmhos/cm	38,630	39,580	39,590	39,680	39,040	38,940	38,940	39,000
Specific Conductance (E.C.) (Field)	SM2510B	µmhos/cm	40,650	40,070	40,060	40,070	40,080	40,090	40,080	40,200
Strontium, Dissolved	EPA 200.8	µg/L	17,300	16,500	16,500	16,700	15,700	15,612	15,800	16,800
Sulfate, Dissolved	EPA 300.0	mg/L	1,950	1,910	1,960	1,960	1,960	1,920	1,980	1,990
Temperature (Field)	SM2550	°C	20.0	19.9	19.9	19.9	19.9	19.9	20.0	20.0
Total Diss. Solids	SM2540C	mg/L	26,100	27,200	26,700	27,500	27,500	27,000	27,400	29,400
Turbidity	EPA 180.1	NTU	0.25	0.25	0.25	0.25	0.25	0.10	0.15	0.20
Turbidity (Field)	EPA 180.1	NTU	0.15	0.1	0.12	0.1	0.18	0.08	0.15	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
 µg/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:			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	15-Jan-20 11:08
Constituent	Method	Units	Result	Result	Result	Result	Result	Result	Result	Result
Alkalinity, Total (as CaCO3)	SM2320B	mg/L	106	113	96	110	108	111	112	98
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	0.41	0.45	0.44	0.52	0.50	0.38	0.39	0.41
Barium, Dissolved	EPA 200.8	µg/L	137	137	157	146	141	133	132	136
Bicarbonate (as HCO3-)	SM2320B	mg/L	129	138	117	134	132	135	137	120
Boron, Dissolved	EPA 200.7	mg/L	0.69	0.65	0.9	0.9	0.9	1.10	1.10	1.10
Bromide, Dissolved	EPA 300.0	mg/L	52.6	52.1	55.8	51.8	50.3	50.1	49.3	56.8
Calcium	EPA 200.7	mg/L	3,120	3,100	2,940	2,850	2,690	3,060	3,110	3,110
Calcium, Dissolved	EPA 200.7	mg/L	3,100	3,090	2,720	2,740	2,650	3,060	3,060	3,110
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	15,500	15,200	15,300	14,800	15,100	15,600	15,300	15,200
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	479.59	470.44	475.93	463.27	469.99	483.95	474.90	536.73
Total Anions	Calculation	Meq/L	479.59	470.44	475.93	463.27	469.99	483.95	474.90	536.73
Dissolved Cations	Calculation	Meq/L	467.11	457.18	441.25	435.26	434.12	506.33	502.50	511.44
Total Cations	Calculation	Meq/L	475.29	459.64	462.83	454.92	442.56	502.50	512.74	507.12
Fluoride, Dissolved	EPA 300.0	mg/L	ND	ND	0.1	0.1	0.1	0.2	0.1	0.1
Hardness (as CaCO3)	SM2340B/Calc, EPA200.7	mg/L	10,600	10,500	11,800	11,500	10,900	12,200	12,500	12,400
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	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	230	226	382	377	189	215	206	207
Magnesium	EPA 200.7	mg/L	973	967	1,080	1,060	1,010	1,120	1,140	1,130
Magnesium, Dissolved	EPA 200.7	mg/L	966	961	984	1,010	981	1,140	1,120	1,140
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	0.10	0.16	0.16	0.19	0.09	0.12	0.10
Nitrate as N	EPA 300.0	mg/L	ND	0.2	1.1	0.3	0.1	0.1	0.5	0.2
Nitrate as NO3	EPA 300.0	mg/L	ND	1.0	5.1	1.3	0.4	0.4	2.2	0.9
Nitrate+Nitrite as N	EPA 300.0	mg/L	ND	0.2	1.1	0.3	0.1	0.1	0.5	0.2
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	0.02	0.02	0.03	0.03	0.03	0.03	0.03	0.03
pH (Field Test)	SM4500-H+B	pH	6.58	6.58	6.53	6.53	6.53	6.58	6.58	6.58
pH (Laboratory)	SM4500-H+B	pH (H)	6.9	6.9	6.7	6.7	6.7	7.2	7.1	7.0
Phenoxy Acid Herbicides (515.3)	EPA 515.3	µg/L	-	-	-	-	-	-	-	-
Phosphorus, Dissolved Total	HACH 8190 & EPA 365.1	mg/L	0.02	0.02	0.05	0.03	0.04	0.02	0.02	0.02
Potassium	EPA 200.7	mg/L	49.0	48.8	58.2	56.8	52.7	55.6	56.1	55.6
Potassium, Dissolved	EPA 200.7	mg/L	49.6	48.6	54.4	54.6	52.0	56.3	55.6	56.3
QC Ratio TDS/SEC	Calculation	-	0.74	0.79	0.62	0.66	0.65	0.75	0.75	0.66
Reg. Org. Compounds (EPA 525)	EPA 525	µg/L	-	-	-	-	-	-	-	-
Salinity	SM2520B	psu	24.7	25	28.0	28.1	28.1	28.2	28.4	28.8
Silica as SiO2, Dissolved	EPA 200.7	mg/L	28	28	32	34	32	37	37	38
Sodium	EPA 200.7	mg/L	5,480	5,150	5,190	5,150	5,150	5,890	6,030	5,920
Sodium, Dissolved	EPA 200.7	mg/L	5,330	5,120	5,130	4,920	5,050	5,940	5,890	6,000
Specific Conductance (E.C)	SM2510B	µmhos/cm	38,900	39,300	39,900	40,100	39,800	39,480	39,800	40,300
Specific Conductance (E.C) (Field)	SM2510B	µmhos/cm	40,240	40,260	40,370	40,420	40,430	40,350	40,340	40,340
Strontium, Dissolved	EPA 200.8	µg/L	16,900	16,900	18,900	16,900	18,700	16,200	16,900	15,800
Sulfate, Dissolved	EPA 300.0	mg/L	1,900	1,860	2,000	2,060	1,980	1,970	1,940	2,210
Temperature (Field)	SM2550	°C	20.0	20.0	19.9	19.9	19.9	19.8	19.9	19.9
Total Diss. Solids	SM2540C	mg/L	28,800	30,900	24,600	26,400	25,900	29,500	29,800	26,400
Turbidity	EPA 180.1	NTU	0.20	0.20	0.10	0.15	0.25	0.15	0.15	0.15
Turbidity (Field)	EPA 180.1	NTU	0.21	0.11	0.16	0.12	0.15	0.09	0.14	0.13
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:			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	13-Apr-23 11:30
Constituent	Method	Units	Result	Result	Result	Result	Result	Result	Result	Result
Alkalinity, Total (as CaCO3)	SM2320B	mg/L	116	115	116	114	112	111	102	105
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	0.02	ND	ND	ND	ND	ND
Arsenic, Total ¹	EPA 200.8	µg/L	-	-	-	-	-	-	-	-
Arsenic, Total	EPA 1640	µg/L	0.46	0.41	0.47	1.1	0.47	0.47	0.56	0.61
Barium, Dissolved	EPA 200.8	µg/L	136	106	118	133	142	116	127	108
Bicarbonate (as HCO3-)	SM2320B	mg/L	142	140	142	139	137	136	125	128
Boron, Dissolved	EPA 200.7	mg/L	0.9	1	0.9	0.94	1.18	1.04	1.3	1.2
Bromide, Dissolved	EPA 300.0	mg/L	51.6	45.7	57.1	49.3	59.2	58.0	62.3	59.7
Calcium	EPA 200.7	mg/L	2,760	2,800	2,830	2,270	2,680	2,820	2,790	2,650
Calcium, Dissolved	EPA 200.7	mg/L	2,750	2,880	2,790	2,260	2,720	2,380	2,770	2,640
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	15,100	15,500	15,000	14,000	15,100	16,300	15,900	15,650
Chlorinated Pesticides and PCB (EPA 508)	EPA 508	µg/L	-	-	-	-	-	-	-	-
Color, Apparent (Unfiltered)	SM2120B	Color Units	-	-	-	3	ND	ND	ND	3
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	467.89	480.52	467.84	439.27	471.60	501.92	492.08	488.06
Total Anions	Calculation	Meq/L	467.89	480.52	467.84	439.27	471.60	501.92	492.08	488.06
Dissolved Cations	Calculation	Meq/L	481.42	481.07	479.03	396.38	474.04	466.91	514.80	473.05
Total Cations	Calculation	Meq/L	477.17	470.65	465.53	396.20	469.91	485.83	520.95	476.19
Fluoride, Dissolved	EPA 300.0	mg/L	0.1	ND	0.5	1.1	0.6	0.1	ND	ND
Hardness (as CaCO3)	SM2340B/Calc, EPA200.7	mg/L	11,400	11,300	10,600	9,350	11,056	11,600	12,100	11,000
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	0.63	0.94	0.50
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	0.1	ND	ND	ND	0.1
Lead, Total	EPA 200.8	µg/L	ND	ND	ND	ND	ND	ND	ND	ND
Lithium	EPA 200.8	µg/L	234	350	313	182	252	221	267	263
Magnesium	EPA 200.7	mg/L	1,090	1,050	852	897	1,060	1,100	1,250	1,060
Magnesium, Dissolved	EPA 200.7	mg/L	1,100	1,070	920	887	1,070	1,110	1,230	1,070
Manganese, Dissolved	EPA 200.7	µg/L	ND	ND	ND	34	ND	ND	ND	ND
Manganese, Total	EPA 200.7	µg/L	ND	ND	ND	77	ND	ND	ND	ND
MBAS (Surfactants)	SM5540C	mg/L	0.05	ND	0.03	0.05	0.08	0.06	ND	0.07
Nitrate as N	EPA 300.0	mg/L	0.3	ND	0.2	0.1	0.4	0.1	ND	ND
Nitrate as NO3	EPA 300.0	mg/L	1.3	ND	ND	0.4	1.7	0.5	0.4	ND
Nitrate+Nitrite as N	EPA 300.0	mg/L	0.3	ND	ND	ND	0.4	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	ND	ND	ND	ND	ND
o-Phosphate-P	Hach 8048 & EPA 365.1	mg/L	0.03	0.02	0.03	0.03	0.02	0.02	0.02	0.03
pH (Field Test)	SM4500-H+B	pH	6.66	6.55	6.62	6.57	6.49	6.51	8.58	7.30
pH (Laboratory)	SM4500-H+B	pH	6.7	7.2	6.7	7.0	7.2	7.2	6.8	6.9
Phenoxy Acid Herbicides (515.3)	EPA 515.3	µg/L	-	-	-	-	-	-	-	-
Phosphorus, Dissolved Total	HACH 8190 & EPA 365.1	mg/L	0.03	ND	ND	0.03	ND	ND	0.02	0.02
Potassium	EPA 200.7	mg/L	53.2	52.6	96.9	46.3	56.1	55.6	69.4	54.0
Potassium, Dissolved	EPA 200.7	mg/L	53.8	53.4	66.2	48.0	56.4	57.3	68.1	54.5
QC Ratio TDS/SEC	Calculation	-	0.77	0.58	0.80	0.93	0.72	0.79	0.68	0.76
Reg. Org. Compounds (EPA 525)	EPA 525	µg/L	-	-	-	-	-	-	-	-
Salinity	SM2520B	psu	25.4	26.1	24.0	24.7	25.4	24.8	26.4	26.2
Silica as SiO2, Dissolved	EPA 200.7	mg/L	34	35.7	30.3	27.8	36.2	38.6	43.2	37.4
Sodium	EPA 200.7	mg/L	5,710	5,590	5,790	4,780	5,690	5,820	6,370	5,790
Sodium, Dissolved	EPA 200.7	mg/L	5,800	5,700	6,030	4,810	5,720	5,870	6,290	5,870
Specific Conductance (E.C)	SM2510B	µmhos/cm	39,800	39,200	40,000	38,900	39,800	39,010	41,200	40,900
Specific Conductance (E.C) (Field)	SM2510B	µmhos/cm	40,420	40,440	40,800	40,440	40,660	40,823	41,541	41,174
Strontium, Dissolved	EPA 200.8	µg/L	16,600	16,100	15,800	18,700	17,600	15,100	16,000	14,000
Sulfate, Dissolved	EPA 300.0	mg/L	1,870	1,940	2,000	1,990	2,070	1,880	1,960	2,100
Temperature (Field)	SM2550	°C	19.9	19.9	20.0	19.9	20.0	19.9	19.9	19.8
Total Diss. Solids	SM2540C	mg/L	30,500	22,700	32,000	36,000 ³	28,600	31,000	27,900	31,100
Turbidity	EPA 180.1	NTU	0.15	0.10	0.20	0.10	0.10	0.15	0.15	0.45
Turbidity (Field)	EPA 180.1	NTU	0.15	0.08	0.12	0.07	0.09	0.07	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-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	10-Apr-23	23-Apr-18	9-Oct-18
Constituent	Method	Units	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	28	166	165
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	0.17	1.5	1.60
Barium, Dissolved	EPA 200.8	µg/L	113	118.0	101	104	106	94.8	103	97.7	87.9	92.4	90.0	78	87
Bicarbonate (as HCO3-)	SM2320B	mg/L	80	80	72	76	66	57	53	48	42	45	35	203	201
Boron, Dissolved	EPA 200.7	mg/L	0.06	0.05	0.05	0.05	0.04	0.06	ND	ND	ND	ND	ND	0.12	0.11
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	2.9	0.3	0.3
Calcium	EPA 200.7	mg/L	154	147	151	144	146	135	141	138	114	113	109	83	81
Calcium, Dissolved	EPA 200.7	mg/L	148	147	150	144	148	141	143	132	112	114	111	82	80
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	221	108	106
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	14.78	9.26	9.11
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	14.78	9.26	9.11
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	14.42	8.99	8.77
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	14.37	9.25	9.08
Fluoride, Dissolved	EPA 300.0	mg/L	ND	ND	ND	0.0	ND	0.0	ND	0.0	ND	ND	ND	0.2	ND
Hardness (as CaCO3)	SM2340B/Calc, EPA200.7	mg/L	668	616	563	592	592	570	512	574	512	502	460	313	306
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	0.76	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	1.1	0.1	ND	ND	ND	ND	1.40
Lead, Total	EPA 200.8	µg/L	ND	0.3	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.3
Lithium	EPA 200.8	µg/L	10	10	10.1	10.7	9.3	11.2	9.9	8.8	2.4	12.8	7.6	6	6
Magnesium	EPA 200.7	mg/L	69	61	60	56.1	55	56	57	56	55.3	53.3	46	26	25
Magnesium, Dissolved	EPA 200.7	mg/L	67	62	59	56	55	60	57	57	55	54	46	25	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	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	0.04	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	55.0	15.4	15.0
Nitrate as NO3	EPA 300.0	mg/L	270	280	260	260	250	250	270	250	240	230	240	68	67
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	55.0	15.4	15
Nitrite as NO2-N, Dissolved	EPA 300.0	mg/L	ND	0.1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Odor Threshold at 60 C	SM2150B	TON	2	1	1	1	1	1	ND	ND	ND	ND	ND	ND	1
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	0.05	0.12	0.12
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	6.41	7.23	7.10
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	6.6	7.4	7.4
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	0.05	0.12	0.12
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	3.7	3.9
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	3.7	3.9	3.9
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	0.64	0.61	0.67
Reg. Org. Compounds (EPA 525)	EPA 525	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
Salinity	SM2520B	psu	NA	ND	ND	ND	NA	0.9	NA	NA	NA	NA	ND	NA	ND
Silica as SiO2, Dissolved	EPA 200.7	mg/L	42	42	38	38	41	41.5	43.9	44	41.6	44.4	43.9	33	34
Sodium	EPA 200.7	mg/L	140	127	138	125	119	123	139	136	136	125	115	66	66
Sodium, Dissolved	EPA 200.7	mg/L	147	135	134	122	120	138	141	139	135	125	116	63	60
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	1,546	924	892
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	1,501	946	975
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	997	508	444
Sulfate, Dissolved	EPA 300.0	mg/L	230	227	232	207	209	215	228	217	202	193	193	86	84
Temperature (Field)	SM2550	°C	17.0	17.5	17.3	16.9	16.8	17.0	16.8	16.5	15.7	17.1	16.2	17.3	17.3
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	992	566	600
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	0.20	0.10	0.25
Turbidity (Field)	EPA 180.1	NTU	4.8	ND	0.690	0.78	0.68	0.65	0.79	1	0.4	0.00	0.00	0.87	ND
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
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 TON = Threshold Odor Number
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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-5M										MW-5D			
Sample Collection Date:			8-Apr-19	14-Oct-19	6-Apr-20	12-Oct-20	12-Apr-21	11-Oct-21	11-Apr-22	17-Oct-22	10-Apr-23	24-Apr-18	9-Oct-18	8-Apr-19	15-Oct-19	
Constituent	Method	Units	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result		
Alkalinity, Total (as CaCO3)	SM2320B	mg/L	195	168	194	184	185	184	193	180	198	114	115	114		
Aluminum, Total	EPA 200.8	µg/L	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		
Arsenic, Total ¹	EPA 200.8	µg/L	-	-	-	-	-	-	-	-	-	-	-	-		
Arsenic, Total	EPA 1640	µg/L	1.3	1.7	1.4	2.4	1.5	1.3	1.5	1.9	1.8	0.4	0.47	0.51		
Barium, Dissolved	EPA 200.8	µg/L	97.9	82.6	108	86.7	102	95.9	95	104	115	392	465	539		
Bicarbonate (as HCO3-)	SM2320B	mg/L	238	205	237	224	225	225	236	219	241	139	140	140		
Boron, Dissolved	EPA 200.7	mg/L	0.13	0.12	0.13	0.14	0.12	0.13	0.12	0.14	0.1	ND	0.08	0.56		
Bromide, Dissolved	EPA 300.0	mg/L	0.4	0.4	0.4	0.4	0.4	0.4	0.6	0.5	4.9	5.3	5.0	6.2		
Calcium	EPA 200.7	mg/L	92	79	102	87	91	88	78	77	98	520	502	602		
Calcium, Dissolved	EPA 200.7	mg/L	94	77	103	85	88	83	77	77	92	524	504	589		
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	111	104	117	107	106	105	92.5	95	121	1,640	1,610	1,740		
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	-	-	-	-	-	-	-	-		
Copper	EPA 200.7	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	33		
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	10.02	9.17	10.50	9.62	9.70	9.51	9.27	9.16	10.79	50.53	49.78	53.30		
Total Anions	Calculation	Meq/L	10.02	9.17	10.50	9.62	9.70	9.51	9.27	9.16	10.79	50.53	49.78	53.30		
Dissolved Cations	Calculation	Meq/L	10.58	8.65	10.76	9.58	9.92	9.68	9.82	9.39	10.65	48.62	47.69	52.62		
Total Cations	Calculation	Meq/L	10.21	8.66	10.72	9.71	9.73	9.97	9.78	9.43	10.94	48.21	47.26	54.17		
Fluoride, Dissolved	EPA 300.0	mg/L	0.1	0.1	0.1	0.1	0.1	0.1	0.1	ND	0.1	0.1	ND	0.1		
Hardness (as CaCO3)	SM2340B/Calc, EPA200.7	mg/L	350	299	377	331	341	334	316	310	371	2,070	2,000	2,370		
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	ND	ND	ND	0.56	1.4	ND	0.6	ND	0.52	ND	ND	ND		
Iron	EPA 200.7	µg/L	ND	ND	ND	ND	ND	ND	12	ND	ND	ND	ND	242		
Iron, Dissolved	EPA 200.7	µg/L	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	1.70	1.4	ND	ND	ND	1.7	ND	ND	0.5	ND	ND	0.3		
Lead, Total	EPA 200.8	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	0.9	ND	0.3	3.9		
Lithium	EPA 200.8	µg/L	7.0	6.8	6.4	6.6	7.0	6.3	7.1	7.8	6.1	65	79	80.1		
Magnesium	EPA 200.7	mg/L	29	24	30	28	28	27.9	29.5	29	31	188	182	210		
Magnesium, Dissolved	EPA 200.7	mg/L	30	24	29	26	28	28	30	28	30	190	186	200		
Manganese, Dissolved	EPA 200.7	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	8	ND	6		
Manganese, Total	EPA 200.7	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	7	14	12		
MBAS (Surfactants)	SM5540C	mg/L	ND	ND	ND	ND	0.04	0.02	0.02	0.04	0.02	ND	ND	ND		
Nitrate as N	EPA 300.0	mg/L	14.6	15.4	16.4	15.2	15.8	15.2	14.6	13.7	17.4	1.3	0.8	0.6		
Nitrate as NO3	EPA 300.0	mg/L	65	68	72	68	70	68	65	61	77	5.8	3.4	2.5		
Nitrate+Nitrite as N	EPA 300.0	mg/L	14.6	15.4	16.4	15.2	15.8	15.2	14.6	13.7	17.4	1.3	0.8	0.6		
Nitrite as NO2-N, Dissolved	EPA 300.0	mg/L	0.1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		
Odor Threshold at 60 C	SM2150B	TON	2	1	1	1	ND	ND	ND	ND	2	1	1	1		
o-Phosphate-P	Hach 8048 & EPA 365.1	mg/L	0.10	0.11	0.09	0.11	0.11	0.12	0.12	0.19	0.14	ND	0.01	0.01		
pH (Field Test)	SM4500-H+B	pH	7.30	7.43	6.83	7.34	7.22	7.26	6.57	7.17	7.28	7.10	6.65	6.70		
pH (Laboratory)	SM4500-H+B	pH (H)	7.5	7.7	7.4	7.9	7.4	7.4	8.4	7.6	7.8	7.2	7.1	7.0		
Phenoxy Acid Herbicides (515.3)	EPA 515.3	µg/L	-	-	-	-	-	-	-	-	-	-	-	-		
Phosphorus, Dissolved Total	HACH 8190 & EPA 365.1	mg/L	0.09	0.11	0.10	0.11	0.09	0.13	0.09	0.13	0.10	ND	ND	0.02		
Potassium	EPA 200.7	mg/L	4.1	3.6	3.9	4.2	4.0	3.8	4.5	4.3	4.3	12.3	8.6	9.4		
Potassium, Dissolved	EPA 200.7	mg/L	4.4	3.7	4	4.3	3.7	3.84	4.5	4.3	4.2	12.2	8.7	9.5		
QC Ratio TDS/SEC	Calculation	-	0.62	0.55	0.64	0.58	0.63	0.57	0.62	0.57	0.61	0.74	0.68	0.63		
Reg. Org. Compounds (EPA 525)	EPA 525	µg/L	-	-	-	-	-	-	-	-	-	-	-	-		
Salinity	SM2520B	psu	NA	NA	ND	0.5	NA	NA	NA	NA	ND	3.0	2.6	3.4		
Silica as SiO2, Dissolved	EPA 200.7	mg/L	35	32	36	34.0	36.3	35.6	34.3	36.2	37.0	45	45	75		
Sodium	EPA 200.7	mg/L	72	61	71	68	64	73	77	72	80	149	161	152		
Sodium, Dissolved	EPA 200.7	mg/L	76	63	72	71	72	72	78	72	78	150	161	150		
Specific Conductance (E.C)	SM2510B	µmhos/cm	1,035	941	1,055	965	971	963	1,017	993	1,078	4,993	4,856	5,690		
Specific Conductance (E.C) (Field)	SM2510B	µmhos/cm	1,036	942	1,058	974	998	971	1,014	1,155	1,069	6,503	5,217	5,114		
Strontium, Dissolved	EPA 200.8	µg/L	598	482	639	528	633	600	587	808	609	3,660	3,210	4,380		
Sulfate, Dissolved	EPA 300.0	mg/L	93	85	103	88	90	85	84	90	104	88	93	88		
Temperature (Field)	SM2550	°C	17.7	17.1	17.1	17.7	17.2	17.3	15.3	17.7	18.1	21.8	21.0	21.6		
Total Diss. Solids	SM2540C	mg/L	642	518	676	564	612	552	630	564	654	3,700	3,300	3,560		
Turbidity	EPA 180.1	NTU	0.10	ND	0.05	ND	ND	0.10	0.15	ND	ND	0.65	0.30	0.25		
Turbidity (Field)	EPA 180.1	NTU	0.25	0.3	0.39	0.7	0.34	0.6	0.79	0.49	0.00	2.7	ND	0.67		
Volatile Org. Compounds (524)	EPA 524	µg/L	-	-	-	-	-	-	-	-	-	-	-	-		
Zinc	EPA 200.7	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	43	ND	ND	29		
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-5D										MW-6S			
			Sample Collection Date:													
			6-Apr-20	14-Oct-20	12-Apr-21	13-Oct-21	11-Apr-22	17-Oct-22	10-Apr-23	23-Apr-18	8-Oct-18	9-Apr-19	17-Oct-19	9-Apr-20	14-Oct-20	
Alkalinity, Total (as CaCO3)	SM2320B	mg/L	114	118	114	119	115	112	110	456	362	302	292	325	386	
Aluminum, Total	EPA 200.8	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	8	ND	ND	13	
Ammonia-N, Dissolved	SM4500NH3 D & EPA 350.1	mg/L	ND	0.02	ND	ND	ND	ND	ND	0.6	0.5	ND	0.40	0.49	0.41	
Arsenic, Total ¹	EPA 200.8	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	
Arsenic, Total	EPA 1640	µg/L	0.46	0.59	0.47	0.54	0.53	0.63	0.62	8.70	9.40	8.6	8.60	9.1	11	
Barium, Dissolved	EPA 200.8	µg/L	516	452	623	444	415	366	450	219	132	134	104	105	102	
Bicarbonate (as HCO3-)	SM2320B	mg/L	135	144	140	145	140	137	134	556	442	368	356	390	471	
Boron, Dissolved	EPA 200.7	mg/L	0.06	0.08	0.09	ND	0.08	0.10	0.1	0.28	0.27	0.28	0.22	0.18	0.24	
Bromide, Dissolved	EPA 300.0	mg/L	7.1	7.3	7.8	7.7	7.6	5.8	7.3	0.9	0.4	0.5	0.2	0.2	0.2	
Calcium	EPA 200.7	mg/L	693	764	779	704	702	583	681	180	96	107	96	86	85	
Calcium, Dissolved	EPA 200.7	mg/L	685	762	785	678	716	581	685	183	98	107	86	85	80	
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	5	ND		
Chloride, Dissolved	EPA 300.0	mg/L	1,980	1,960	2,110	2,060	2,260	1,820	2,040	185	115	112	68	55	55	
Chlorinated Pesticides and PCB (EPA 508)	EPA 508	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	
Color, Apparent (Unfiltered)	SM2120B	Color Units	-	-	ND	ND	ND	ND	7	22	15	15	-	-		
Color, True ²	SM2120C	Color Units	4	ND	-	-	-	-	-	-	-	-	-	11	12	
Copper	EPA 200.7	µg/L	ND	5	ND	ND	23	11	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	60.84	60.37	64.87	63.19	69.18	56.34	63.07	22.62	14.69	14.87	11.16	11.02	11.93	
Total Anions	Calculation	Meq/L	60.84	60.37	64.87	63.19	69.18	56.34	63.07	22.62	14.69	14.87	11.16	11.02	11.93	
Dissolved Cations	Calculation	Meq/L	59.49	60.49	65.19	61.14	68.04	54.87	60.84	23.18	14.74	14.61	11.26	11.03	10.77	
Total Cations	Calculation	Meq/L	60.43	61.52	67.62	62.28	67.25	55.10	60.76	23.08	14.25	14.57	12.27	11.35	10.95	
Fluoride, Dissolved	EPA 300.0	mg/L	0.1	0.1	0.1	0.2	0.1	ND	ND	0.2	ND	0.2	0.3	0.2	0.2	
Hardness (as CaCO3)	SM2340B/Calc, EPA200.7	mg/L	2,700	2,320	3,020	2,770	2,950	2,400	2,680	751	402	451	390	352	358	
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	ND	0.52	ND	ND	ND	ND	ND	1,030	14	12	12	18	30	
Iron	EPA 200.7	µg/L	ND	ND	ND	ND	15	ND	ND	233	123	190	183	206	174	
Iron, Dissolved	EPA 200.7	µg/L	ND	ND	ND	ND	20	ND	ND	19	119	171	163	176	130	
Total Kjeldahl Nitrogen, Dissolved	SM4500-NH3 B,C,E & EPA 351.2	mg/L	ND	ND	ND	0.5	ND	ND	0.1	0.8	0.7	0.5	ND	0.5	ND	
Lead, Total	EPA 200.8	µg/L	ND	ND	ND	ND	0.2	ND	ND	ND	ND	0.2	ND	ND		
Lithium	EPA 200.8	µg/L	82.4	95.1	104	76.7	77.2	111	68.3	7	6	6.5	4.7	4.1	6.3	
Magnesium	EPA 200.7	mg/L	236	204	261	246	292	230	239	73	40	44	37	33	35.4	
Magnesium, Dissolved	EPA 200.7	mg/L	231	198	232	248	292	229	238	75	41	45	35	33	32	
Manganese, Dissolved	EPA 200.7	µg/L	4	ND	11	ND	ND	ND	ND	3,140	1,830	2,040	1,750	1,600	1,640	
Manganese, Total	EPA 200.7	µg/L	4	10	12	ND	ND	ND	ND	3,090	1,770	2,030	1,850	1,630	1,830	
MBAS (Surfactants)	SM5540C	mg/L	ND	ND	0.04	0.03	ND	0.03	0.02	ND	ND	ND	ND	ND	0.05	
Nitrate as N	EPA 300.0	mg/L	0.7	0.7	0.8	0.7	0.6	0.6	0.6	0.2	ND	ND	ND	ND		
Nitrate as NO3	EPA 300.0	mg/L	3.1	3.3	3.5	3.2	2.8	2.7	2.6	1	ND	ND	ND	ND		
Nitrate+Nitrite as N	EPA 300.0	mg/L	0.7	0.7	0.8	0.7	0.6	0.6	0.6	0.2	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		
Odor Threshold at 60 C	SM2150B	TON	1	1	ND	ND	ND	ND	ND	1	2	1	1	1		
o-Phosphate-P	Hach 8048 & EPA 365.1	mg/L	0.01	ND	0.03	0.01	ND	0.02	ND	1.26	1.41	1.55	1.33	1.38	0.75	
pH (Field Test)	SM4500-H+B	pH	6.66	6.71	7.16	6.92	6.91	6.84	6.71	6.94	7.01	7.04	7.00	6.92	7.11	
pH (Laboratory)	SM4500-H+B	pH (H)	7.1	7.2	7.3	7.0	7.9	7.3	7.2	7.2	7.3	7.3	7.3	8.3	7.6	
Phenoxy Acid Herbicides (515.3)	EPA 515.3	µg/L	-	-	-	-	-	-	-	-	-	-	-	-		
Phosphorus, Dissolved Total	HACH 8190 & EPA 365.1	mg/L	ND	ND	ND	ND	ND	ND	ND	1.24	1.42	1.20	1.37	1.48	1.52	
Potassium	EPA 200.7	mg/L	8.3	8.5	8.8	8.0	10.8	9.8	9.4	10.4	8.3	8.5	7.4	6.5	7.2	
Potassium, Dissolved	EPA 200.7	mg/L	8	8.40	8.9	8.03	11.0	9.8	9.5	10.5	8.5	8.50	7.21	6.34	6.9	
QC Ratio TDS/SEC	Calculation	-	0.61	0.83	0.83	0.64	0.69	0.62	0.46	0.69	0.63	0.67	0.56	0.64	0.69	
Reg. Org. Compounds (EPA 525)	EPA 525	µg/L	-	-	-	-	-	-	-	-	-	-	-	-		
Salinity	SM2520B	psu	3.7	3.2	3.6	3.5	3.8	3.1	3.4	NA	ND	ND	ND	ND	0.5	
Silica as SiO2, Dissolved	EPA 200.7	mg/L	40	37.7	41.9	44.9	47.5	50.0	49.0	31	31	32	32	30	30.5	
Sodium	EPA 200.7	mg/L	143	133	162	154	182	157	158	179	136	124	97	96	83	
Sodium, Dissolved	EPA 200.7	mg/L	140	134	154	156	184	156	157	174	143	123	89	90	91	
Specific Conductance (E.C)	SM2510B	µmhos/cm	6,170	5,930	6,530	6,485	6,870	5,670	6,260	1,970	1,341	1,340	1,101	1,031	1,046	
Specific Conductance (E.C) (Field)	SM2510B	µmhos/cm	6,163	5,898	6,480	6,550	6,933	5,587	6,144	2,026	1,385	1,373	1,044	1,033	1,234	
Strontium, Dissolved	EPA 200.8	µg/L	4,910	4,500	5,180	4,930	5,410	6,670	4,660	1,120	528	688	646	539	519	
Sulfate, Dissolved	EPA 300.0	mg/L	123	124	140	129	143	127	153	396	201	270	161	140	125	
Temperature (Field)	SM2550	* C	20.7	21.2	20.6	20.1	20.3	20.8	20.1	17.8	17.7	17.3	17.1	17.4	17.5	
Total Diss. Solids	SM2540C	mg/L	3,780	4,900	5,400	4,180	4,720	3,500	4,800	1,360	840	896	612	658	718	
Turbidity	EPA 180.1	NTU	0.15	0.05	ND	ND	0.15	0.35	ND	1.30	1.00	1.40	1.10	1.6	1.4	
Turbidity (Field)	EPA 180.1	NTU	0.49	0.49	0.77	1	0.8	0.00	0.00	1.6	0.68	0.55	0.65	0.85	0.96	
Volatile Org. Compounds (524)	EPA 524	µg/L	-	-	-	-	-	-	-	-	-	-	-	-		
Zinc	EPA 200.7	µg/L	ND	ND	ND	ND	20	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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 CU = Color Units
 Meq/L = Milliequivalents per Liter
 mg/L = Milligrams per Liter
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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-6S					MW-6M ⁴							
Sample Collection Date:			14-Apr-21	13-Oct-21	13-Apr-22	20-Oct-22	12-Apr-23	23-Apr-18	8-Oct-18	10-Apr-19	17-Oct-19	9-Apr-20	14-Oct-20	14-Apr-21	13-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	426	335	452	405	240	386	391	391	379	377	390	387	394
Aluminum, Total	EPA 200.8	µg/L	ND	8	6	6	6	ND	ND	ND	ND	ND	ND	ND	ND
Ammonia-N, Dissolved	SM4500NH3 D & EPA 350.1	mg/L	0.43	0.39	0.32	0.37	ND	ND	0.1	0.1	0.11	0.17	0.21	0.27	0.30
Arsenic, Total ¹	EPA 200.8	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
Arsenic, Total	EPA 1640	µg/L	9.6	9.3	11	12	12	1.50	1.90	1.8	1.8	2.0	2.6	2.3	2.4
Barium, Dissolved	EPA 200.8	µg/L	123	97.4	106	124	54.4	133	149	146	110	162	140	175	172
Bicarbonate (as HCO3-)	SM2320B	mg/L	519	409	552	494	293	471	477	477	462	447	476	472	480
Boron, Dissolved	EPA 200.7	mg/L	0.22	0.22	0.23	0.2	0.2	0.26	0.26	0.25	0.29	0.23	0.26	0.26	0.27
Bromide, Dissolved	EPA 300.0	mg/L	0.2	0.2	0.2	ND	0.2	0.4	0.3	0.8	0.4	0.6	0.2	0.7	0.6
Calcium	EPA 200.7	mg/L	103	84	115	90	78	118	112	119	125	130	117	137	132
Calcium, Dissolved	EPA 200.7	mg/L	104	77	116	94	77	119	112	121	117	129	109	135	124
Carbamates by HPLC (EPA 531)	EPA 531	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
Carbonate as CaCO3	SM2320B	mg/L	ND	ND	ND	ND	ND	ND	ND	ND	11	ND	ND	ND	
Chloride, Dissolved	EPA 300.0	mg/L	44	40	46.1	33	49	142	138	144	149	153	142	152	146
Chlorinated Pesticides and PCB (EPA 508)	EPA 508	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
Color, Apparent (Unfiltered)	SM2120B	Color Units	ND	7	15	20	20	4	3	4	3	-	-	15	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	11.97	10.05	12.27	10.62	9.17	14.74	14.65	15.33	14.71	15.49	15.05	16.08	15.56
Total Anions	Calculation	Meq/L	11.97	10.05	12.27	10.62	9.17	14.74	14.65	15.33	14.71	15.49	15.05	16.08	15.56
Dissolved Cations	Calculation	Meq/L	12.12	10.22	13.03	11.03	9.01	14.75	14.55	14.72	15.16	15.20	13.61	15.93	15.76
Total Cations	Calculation	Meq/L	11.94	10.77	12.92	10.64	9.01	15.35	14.12	14.53	15.56	15.31	14.39	16.19	16.07
Fluoride, Dissolved	EPA 300.0	mg/L	0.2	0.2	0.2	0.1	0.3	0.1	ND	0.2	0.2	0.2	0.2	0.2	0.1
Hardness (as CaCO3)	SM2340B/Calc, EPA200.7	mg/L	420	354	478	399	323	466	441	470	484	503	458	531	525
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	26	12	31	46	1.7	ND	39	42	31	44	48	54	30
Iron	EPA 200.7	µg/L	206	196	257	232	317	ND	5	12	ND	6	ND	ND	ND
Iron, Dissolved	EPA 200.7	µg/L	208	177	238	239	314	ND	ND	12	8	ND	ND	ND	ND
Total Kjeldahl Nitrogen, Dissolved	SM4500-NH3 B,C,E & EPA 351.2	mg/L	0.7	0.6	0.3	0.6	0.7	ND	ND	ND	ND	ND	ND	0.5	1.5
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	4.6	5.9	5.9	6.6	4.3	20	22	20.4	18.9	16.9	23.4	16.2	22.7
Magnesium	EPA 200.7	mg/L	39	35	46.3	42	31	42	39	42	42	43	40.5	46	48
Magnesium, Dissolved	EPA 200.7	mg/L	39	34	47	44	31	41	40	42	42	43	38	46	48
Manganese, Dissolved	EPA 200.7	µg/L	2,070	1,720	2,450	2,330	1,530	308	332	352	394	393	464	532	
Manganese, Total	EPA 200.7	µg/L	2,070	1,800	2,410	2,230	1,500	314	327	358	401	398	427	469	534
MBAS (Surfactants)	SM5540C	mg/L	0.04	0.04	0.03	ND	0.05	ND	ND	ND	ND	0.04	0.06	0.04	
Nitrate as N	EPA 300.0	mg/L	ND	ND	ND	ND	ND	0.2	ND	ND	ND	ND	ND	ND	0.0
Nitrate as NO3	EPA 300.0	mg/L	ND	ND	ND	ND	ND	1	ND	ND	ND	ND	ND	ND	0.2
Nitrate+Nitrite as N	EPA 300.0	mg/L	ND	ND	ND	ND	ND	0.2	ND	ND	ND	ND	ND	ND	0.0
Nitrite as NO2-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	ND	ND	ND	1	ND	ND	1	1	1	1	1	ND	ND
o-Phosphate-P	Hach 8048 & EPA 365.1	mg/L	1.36	1.2	0.41	1.28	1.42	0.15	0.14	0.15	0.16	0.17	0.21	0.21	0.26
pH (Field Test)	SM4500-H+B	pH	6.93	7.08	6.36	6.8	7.38	7.08	7.09	6.97	6.98	7.01	7.34	7.13	7.17
pH (Laboratory)	SM4500-H+B	pH (H)	7.3	7.6	7.3	7.2	7.5	7.2	7.3	7.3	7.3	8.4	7.7	7.5	7.7
Phenoxy Acid Herbicides (515.3)	EPA 515.3	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
Phosphorus, Dissolved Total	HACH 8190 & EPA 365.1	mg/L	1.22	1.4	1.22	1.81	1.49	0.16	0.16	0.13	0.18	0.18	0.20	0.21	0.23
Potassium	EPA 200.7	mg/L	6.6	6.3	6.7	6.5	5.3	7.0	7.3	6.9	7.1	8.1	7.8	8.1	
Potassium, Dissolved	EPA 200.7	mg/L	6.49	6	6.81	6.71	5.3	7	7.2	7.20	7.92	7.13	7.7	7.89	8.1
QC Ratio TDS/SEC	Calculation	-	0.64	0.60	0.53	0.55	0.60	0.64	0.61	0.63	0.55	0.63	0.58	0.48	0.62
Reg. Org. Compounds (EPA 525)	EPA 525	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
Salinity	SM2520B	psu	ND	ND	NA	NA	ND	NA	ND	ND	ND	ND	0.7	ND	ND
Silica as SiO2, Dissolved	EPA 200.7	mg/L	32.6	33.4	34.4	36.2	32.8	39	39	38	42	38	38.3	39.1	41.5
Sodium	EPA 200.7	mg/L	78	81	73	57	57	134	118	114	130	117	114	123	123
Sodium, Dissolved	EPA 200.7	mg/L	81	78	73	58	56	121	126	116	130	116	110	121	124
Specific Conductance (E.C)	SM2510B	µmhos/cm	1,054	910	1,047	1,004	879	1,357	1,368	1,394	1,372	1,444	1,353	1,462	1,466
Specific Conductance (E.C) (Field)	SM2510B	µmhos/cm	1,096	935	1,102	1,002	921	1,390	1,418	1,418	1,339	1,440	1,590	1,530	1,474
Strontium, Dissolved	EPA 200.8	mg/L	704	523	621	656	480	682	586	725	645	769	684	889	840
Sulfate, Dissolved	EPA 300.0	mg/L	104	104	92	74	141	144	141	165	140	174	151	194	170
Temperature (Field)	SM2550	°C	17.2	17.3	17.4	17.9	18.0	17.2	14.0	17.0	17.2	17.1	17.6	17.3	17.2
Total Diss. Solids	SM2540C	mg/L	678	545	560	548	528	871	828	872	748	914	784	700	908
Turbidity	EPA 180.1	NTU	1.5	1.3	1.6	1.6	1.5	0.10	0.15	0.15	ND	0.15	0.30	0.10	0.10
Turbidity (Field)	EPA 180.1	NTU	0.89	0.89	1	0.00	0.42	0.76	0.23	0.15	0.31	0.42	0.51	0.5	0.57
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**

Monitoring Well Name:			MW-6M ⁴			MW-6M(L) ⁴									
Sample Collection Date:			13-Apr-22	20-Oct-22	12-Apr-23	23-Apr-18	8-Oct-18	9-Apr-19	16-Oct-19	9-Apr-20	14-Oct-20	14-Apr-21	13-Oct-21	13-Apr-22	19-Oct-22
Constituent	Method	Units	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result
Alkalinity, Total (as CaCO3)	SM2320B	mg/L	398	391	385	108	109	107	107	102	110	105	108	105	100
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	0.29	0.41	0.42	ND	ND	ND	ND	ND	0.02	0.12	ND	ND	ND
Arsenic, Total ¹	EPA 200.8	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
Arsenic, Total	EPA 1640	µg/L	2.7	3.5	3.3	0.49	0.48	0.54	0.46	0.59	0.59	0.50	0.53	0.62	0.59
Barium, Dissolved	EPA 200.8	µg/L	167	186	161	264	301	260	233	272	261	274	304	251	295
Bicarbonate (as HCO3-)	SM2320B	mg/L	486	477	469	132	133	131	131	124	134	128	131	128	122
Boron, Dissolved	EPA 200.7	mg/L	0.26	0.3	0.2	ND	0.08	0.09	0.09	0.07	0.09	0.08	ND	0.06	0.09
Bromide, Dissolved	EPA 300.0	mg/L	0.8	0.7	0.7	3.7	4.4	4.8	4.9	4.4	5.2	5.1	5.6	5.0	5.1
Calcium	EPA 200.7	mg/L	147	127	139	507	523	514	655	574	643	609	590	625	651
Calcium, Dissolved	EPA 200.7	mg/L	148	134	139	500	522	531	640	558	576	610	580	619	660
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	160	142	148	1,210	1,350	1,280	1,280	1,290	1,440	1,390	1,450	1,450	1,690
Chlorinated Pesticides and PCB (EPA 508)	EPA 508	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
Color, Apparent (Unfiltered)	SM2120B	Color Units	ND	3	7	ND	ND	1	ND	-	-	5	ND	ND	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	9	10
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	17.12	16.1	16.64	38.47	42.76	40.89	40.79	40.74	45.24	43.98	45.67	45.30	53.24
Total Anions	Calculation	Meq/L	17.12	16.1	16.64	38.47	42.76	40.89	40.79	40.74	45.24	43.98	45.67	45.30	53.24
Dissolved Cations	Calculation	Meq/L	17.72	17.1	16.27	37.91	43.17	40.67	47.52	41.98	44.17	44.35	45.21	47.31	52.39
Total Cations	Calculation	Meq/L	17.46	16.3	16.31	38.90	41.52	39.70	50.06	43.21	48.07	45.76	45.26	47.86	51.73
Fluoride, Dissolved	EPA 300.0	mg/L	0.2	ND	0.1	ND	ND	0.1	0.1	0.1	0.1	0.2	0.1	ND	ND
Hardness (as CaCO3)	SM2340B/Calc, EPA200.7	mg/L	586	532	547	1,760	1,840	1,800	2,270	1,970	2,200	2,090	2,060	2,180	2,350
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	52	46	60	ND	ND	ND	ND	ND	ND	1.2	ND	ND	ND
Iron	EPA 200.7	µg/L	12	12	11	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iron, Dissolved	EPA 200.7	µg/L	10	13	11	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Kjeldahl Nitrogen, Dissolved	SM4500-NH3 B.C.E & EPA 351.2	mg/L	0.6	0.46	0.8	ND	0.6	ND	ND	ND	0.1	0.4	ND	ND	ND
Lead, Total	EPA 200.8	µg/L	ND	ND	ND	ND	ND	0.6	ND	ND	ND	ND	ND	ND	ND
Lithium	EPA 200.8	µg/L	19.9	20.4	22.1	40	42	47	45.4	33.3	55.5	28.7	42.7	37.9	44.6
Magnesium	EPA 200.7	mg/L	53	52	49	121	131	124	154	131	143	137	142	150	177
Magnesium, Dissolved	EPA 200.7	mg/L	54	55	48	119	130	125	134	127	138	122	145	148	179
Manganese, Dissolved	EPA 200.7	µg/L	601	640	610	104	67	81	50	44	32	36	ND	29	23
Manganese, Total	EPA 200.7	µg/L	596	624	620	104	69	77	56	47	38	35	ND	30	23
MBAS (Surfactants)	MBAS540C	mg/L	0.04	ND	0.07	ND	ND	ND	ND	ND	0.02	ND	ND	ND	ND
Nitrate as N	EPA 300.0	mg/L	0.1	ND	ND	1.2	0.7	0.6	0.7	0.6	0.7	0.6	0.8	0.5	0.6
Nitrate as NO3	EPA 300.0	mg/L	0.3	ND	ND	5.5	ND	ND	3.1	2.6	3.0	2.9	3.4	2.2	2.8
Nitrate+Nitrite as N	EPA 300.0	mg/L	0.1	ND	ND	1.2	0.7	0.6	0.7	0.6	0.7	0.6	0.8	0.5	0.6
Nitrite as NO2-N, Dissolved	EPA 300.0	mg/L	ND	ND	ND	ND	0.0	ND	ND	ND	ND	ND	ND	ND	ND
Odor Threshold at 60 C	SM2150B	TON	ND	<1	ND	2	1	1	2	1	1	ND	ND	ND	<1
o-Phosphate-P	Hach 8048 & EPA 365.1	mg/L	ND	0.24	0.29	ND	ND	0.01	0.02	0.01	0.01	0.03	0.01	ND	0.01
pH (Field Test)	SM4500-H+B	pH	6.33	7.06	7.31	6.99	6.92	6.96	6.96	6.83	7.13	7.00	6.95	6.33	6.87
pH (Laboratory)	SM4500-H+B	pH (H)	7.5	7.4	7.6	7.2	7.1	7.2	7.3	8.0	7.3	7.2	7.5	7.4	7.6
Phenoxy Acid Herbicides (515.3)	EPA 515.3	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
Phosphorus, Dissolved Total	HACH 8190 & EPA 365.1	mg/L	0.22	0.24	0.24	ND	ND	0.02	0.02	0.02	ND	0.02	ND	0.06	ND
Potassium	EPA 200.7	mg/L	8.4	9.0	8.3	9.7	9.6	9.1	10.2	8.6	10.1	8.7	9.4	11.2	11.2
Potassium, Dissolved	EPA 200.7	mg/L	8.60	9.3	8.2	9.8	9.3	9	9.9	8.21	9.40	8.5	9.8	9.3	11.3
QC Ratio TDS/SEC	Calculation	-	0.68	0.61	0.63	0.72	0.63	0.65	0.57	0.66	0.79	0.83	0.61	0.77	0.66
Reg. Org. Compounds (EPA 525)	EPA 525	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
Salinity	SM2520B	psu	NA	NA	ND	2.3	2.3	2.4	2.6	2.6	2.4	2.3	2.5	2.3	2.9
Silica as SiO2, Dissolved	EPA 200.7	mg/L	41.6	43.2	39.6	40	41	44	38	40.2	38.8	40.2	38.8	43.0	46.3
Sodium	EPA 200.7	mg/L	127	123	119	78	101	83	102	82	91	89	90	94	101
Sodium, Dissolved	EPA 200.7	mg/L	130	129	118	67	93	84	99	80	88	84	94	92	102
Specific Conductance (E.C)	SM2510B	µmhos/cm	1,481	1,542	1,552	3,959	4,296	4,086	4,420	4,260	4,580	4,360	4,700	4,400	5,390
Specific Conductance (E.C) (Field)	SM2510B	µmhos/cm	1,548	1,519	1,498	4,037	4,392	4,061	4,338	4,173	5,009	4,583	4,893	4,599	5,236
Strontium, Dissolved	EPA 200.8	µg/L	853	866	795	2,680	2,500	2,930	2,670	2,900	2,950	3,350	3,540	3,130	3,610
Sulfate, Dissolved	EPA 300.0	mg/L	222	205	228	98	115	122	119	106	116	116	119	111	166
Temperature (Field)	SM2550	°C	17.7	17.7	17.5	19.5	16.4	19.0	19.3	19.3	20.1	19.5	19.0	19.4	20.4
Total Diss. Solids	SM2540C	mg/L	1,010	946	972	2,860	2,700	2,660	2,500	2,800	3,600	3,600	2,850	3,380	3,570
Turbidity	EPA 180.1	NTU	ND	ND	ND	0.20	0.15	0.15	0.10	0.10	0.10	ND	0.10	ND	0.15
Turbidity (Field)	EPA 180.1	NTU	1	0.00	0.08	0.93	0.73	0.59	0.470	0.46	0.82	0.83	0.65	0	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
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 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-75												MW-7M	
Sample Collection Date:			MW-6M(L) ⁴	12-Apr-23	25-Apr-18	9-Oct-18	9-Apr-19	16-Oct-19	8-Apr-20	13-Oct-20	12-Apr-21	13-Oct-21	13-Apr-22	19-Oct-22	12-Apr-23	25-Apr-18
Constituent	Method	Units	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result
Alkalinity, Total (as CaCO3)	SM2320B	mg/L	98	20	22	20	22	22	25	23	27	27	25	30	82	
Aluminum, Total	EPA 200.8	µg/L	ND	6	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	0.60	0.12	0.11	0.12	0.10	0.11	0.13	0.11	0.11	0.13	0.15	0.16	0.09	
Barium, Dissolved	EPA 200.8	µg/L	242	249	270	276	238	246	209	222.0	230	186	197	170	377	
Bicarbonate (as HCO3-)	SM2320B	mg/L	119	24	27	24	27	27	30	28	33	33	30	36	100	
Boron, Dissolved	EPA 200.7	mg/L	0.1	ND	0.03	0.03	0.03	0.02	0.04	ND	ND	ND	ND	ND	ND	
Bromide, Dissolved	EPA 300.0	mg/L	6.7	1.2	1.1	1.6	1.4	1.1	1.1	1.1	1.1	0.9	0.7	0.8	8.7	
Calcium	EPA 200.7	mg/L	624	134	115	136	121	120	101	107	104	97	82	79	823	
Calcium, Dissolved	EPA 200.7	mg/L	630	134	120	135	118	119	98	105	99	98	83	80	811	
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	1,810	431	409	431	394	345	340	346	321	279	261	235	2,560	
Chlorinated Pesticides and PCB (EPA 508)	EPA 508	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	
Color, Apparent (Unfiltered)	SM2120B	Color Units	ND	5	4	1	ND	-	ND	ND	ND	ND	ND	ND	ND	
Color, True ²	SM2120C	Color Units	-	-	-	-	-	ND	ND	ND	ND	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	56.10	17.18	16.60	16.98	17.18	14.73	14.36	14.22	13.56	12.77	11.88	11.71	78.33	
Total Anions	Calculation	Meq/L	56.10	17.18	16.60	16.98	17.18	14.73	14.36	14.22	13.56	12.77	11.88	11.71	78.33	
Dissolved Cations	Calculation	Meq/L	47.73	17.30	16.39	16.89	14.86	15.38	13.06	13.91	13.79	13.06	12.23	11.23	77.15	
Total Cations	Calculation	Meq/L	47.43	17.53	15.75	17.07	15.19	15.64	13.60	14.27	13.87	13.10	12.12	11.09	79.35	
Fluoride, Dissolved	EPA 300.0	mg/L	ND	0.4	ND	ND	ND	0.0	ND	ND	0.0	0.0	ND	ND	0.3	
Hardness (as CaCO3)	SM2340B/Calc, EPA200.7	mg/L	2,160	609	518	608	527	540	447	471	466	438	398	363	3,110	
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	ND	ND	ND	
Iron	EPA 200.7	µg/L	ND	33	17	16	ND	9	ND	ND	10	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	0.4	ND	ND	ND	0.1	ND	ND	ND	ND	ND	ND	ND	ND	
Lead, Total	EPA 200.8	µg/L	ND	ND	0.3	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Lithium	EPA 200.8	µg/L	46.1	3	3	4.1	3.6	2.6	3.9	3.2	3.4	2.7	2.8	2.7	26	
Magnesium	EPA 200.7	mg/L	148	66	56	65	60.0	59	50.0	50	50	47.6	47	40	255	
Magnesium, Dissolved	EPA 200.7	mg/L	148	67	58	64	52	57	48	49	51	48	47	40	251	
Manganese, Dissolved	EPA 200.7	µg/L	22	ND	ND	ND	ND	ND	4	ND	ND	ND	ND	ND	ND	
Manganese, Total	EPA 200.7	µg/L	22	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
MBAS (Surfactants)	SM5540C	mg/L	0.05	0.06	ND	ND	ND	ND	0.04	0.04	ND	0.03	ND	ND	ND	
Nitrate as N	EPA 300.0	mg/L	0.7	45.3	42.4	40.7	41.8	42.6	39.7	37.8	38.1	42.0	38.9	43.0	4.5	
Nitrate as NO3	EPA 300.0	mg/L	3.0	200	190	180	190	189	180	170	170	190	170	190	20	
Nitrate+Nitrite as N	EPA 300.0	mg/L	0.7	45.3	42.4	40.7	41.8	42.6	39.7	37.8	38.1	42.0	38.9	43.0	4.5	
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	1	1	1	1	1	ND	ND	ND	<1	ND	ND	
o-Phosphate-P	Hach 8048 & EPA 365.1	mg/L	0.03	0.06	0.05	0.05	0.05	0.05	0.05	0.05	0.06	0.05	0.06	0.06	0.03	
pH (Field Test)	SM4500-H+B	pH	7.16	6.84	6.20	6.59	7.05	7.18	6.78	6.66	6.53	5.89	6.35	6.70	6.86	
pH (Laboratory)	SM4500-H+B	pH (H)	7.4	6.6	6.7	6.7	6.7	7.3	7.2	6.6	7.0	6.8	6.7	6.8	7.1	
Phenoxy Acid Herbicides (515.3)	EPA 515.3	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	
Phosphorus, Dissolved Total	HACH 8190 & EPA 365.1	mg/L	ND	0.04	0.06	0.05	0.06	0.06	0.04	0.04	0.06	0.05	0.06	0.06	ND	
Potassium	EPA 200.7	mg/L	9.5	4.0	3.8	4.0	3.6	3.6	3.9	3.4	3.3	3.1	3.4	3.0	11.4	
Potassium, Dissolved	EPA 200.7	mg/L	9.6	4	3.9	4	3.57	3.6	3.62	3.3	3.4	3.14	3.4	3	11	
QC Ratio TDS/SEC	Calculation	-	0.63	0.71	0.61	0.64	0.56	0.58	0.91	0.65	0.66	0.78	0.67	0.72	0.71	
Reg. Org. Compounds (EPA 525)	EPA 525	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	
Salinity	SM2520B	psu	2.8	NA	ND	ND	ND	0.8	ND	ND	NA	NA	NA	ND	4.7	
Silica as SiO2, Dissolved	EPA 200.7	mg/L	42.3	42	41	41	36	41	38.0	39.6	43.4	42.4	44.1	42.0	31	
Sodium	EPA 200.7	mg/L	89	122	122	111	108	109	100	105	103	98	94	89	391	
Sodium, Dissolved	EPA 200.7	mg/L	89	115	127	110	102	107	96	100	105	97	95	87	362	
Specific Conductance (E.C)	SM2510B	µmhos/cm	5,160	1,843	1,691	1,828	1,787	1,684	1,766	1,574	1,495	1,352	1,367	1,285	7,610	
Specific Conductance (E.C) (Field)	SM2510B	µmhos/cm	4,868	1,891	1,882	1,877	1,772	1,636	1,636	1,611	1,529	1,396	1,346	1,235	7,686	
Strontium, Dissolved	EPA 200.8	mg/L	3,170	1,330	1,130	1,530	1,330	1,290	1,130	1,200	1,220	1,050	1,020	893	5,080	
Sulfate, Dissolved	EPA 300.0	mg/L	144	66	76	72	72	72	68	62	59	65	59	67	194	
Temperature (Field)	SM2550	°C	19.8	17.9	17.9	17.6	17.6	17.7	17.5	17.3	17.4	17.0	19.0	18.2	18.2	
Total Diss. Solids	SM2540C	mg/L	3,230	1,310	1,030	1,170	994	982	1,600	1,020	994	1,060	910	924	5,440	
Turbidity	EPA 180.1	NTU	0.15	0.45	0.30	0.25	0.10	0.30	0.10	ND	0.10	0.15	0.2	ND	0.15	
Turbidity (Field)	EPA 180.1	NTU	0.00	0.81	0	0.69	0.46	0.75	0.41	0.6	0.71	0.11	0.00	0.00	0.39	
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**

Monitoring Well Name:			MW-7M										MW-7D		
Sample Collection Date:			8-Oct-18	10-Apr-19	16-Oct-19	8-Apr-20	14-Oct-20	13-Apr-21	11-Oct-21	13-Apr-22	18-Oct-22	12-Apr-23	25-Apr-18	8-Oct-18	10-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	83	83	78	78	79	79	81	78	70	69	103	104	104
Aluminum, Total	EPA 200.8	µg/L	ND	ND	ND	ND	7	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	0.094	0.11	0.11	0.091	0.11	0.087	0.089	0.096	0.10	0.10	0.50	0.45	0.58
Barium, Dissolved	EPA 200.8	µg/L	459	390	403	410	442	398	487	442	486	403	ND	104.0	88
Bicarbonate (as HCO3-)	SM2320B	mg/L	101	101	95	95	96	97	99	96	86	84	126	127	127
Boron, Dissolved	EPA 200.7	mg/L	0.08	0.08	ND	0.06	0.08	0.07	ND	ND	ND	ND	1.95	2.11	1.9
Bromide, Dissolved	EPA 300.0	mg/L	8.0	10.3	10.1	5.8	11.3	10.9	12.2	11.5	18.2	12.7	43.2	45.1	53.8
Calcium	EPA 200.7	mg/L	882	864	882	930	983	943	1,090	1,100	988	1,070	1,490	1,410	1,360
Calcium, Dissolved	EPA 200.7	mg/L	860	866	889	902	980	965	1,040	1,060	1,040	1,070	1,500	1,430	1,360
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	2,780	2,750	2,820	2,570	3,060	3,010	3,330	3,180	3,550	3,400	13,700	14,300	14,800
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	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	84.88	84.98	86.34	79.71	93.41	91.96	100.97	96.82	107.98	103.66	430.44	449.85	461.92
Total Anions	Calculation	Meq/L	84.88	84.98	86.34	79.71	93.41	91.96	100.97	96.82	107.98	103.66	430.44	449.85	461.92
Dissolved Cations	Calculation	Meq/L	78.67	79.75	82.74	85.83	91.28	87.50	98.61	102.87	100.63	100.42	435.37	433.86	422.35
Total Cations	Calculation	Meq/L	80.19	79.50	81.15	88.80	92.09	88.34	100.30	105.62	96.22	100.42	442.68	447.57	421.31
Fluoride, Dissolved	EPA 300.0	mg/L	0.0	0.1	ND	ND	ND	0.1	ND	ND	ND	ND	0.8	0.1	0.1
Hardness (as CaCO3)	SM2340B/Calc, EPA200.7	mg/L	3,240	3,190	3,260	3,490	3,660	3,510	4,070	4,200	3,890	4,000	7,530	7,320	6,960
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	0.52	ND	ND	ND	ND	0.46	ND	ND	ND
Iron	EPA 200.7	µg/L	ND	ND	ND	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	ND	ND	ND
Total Kjeldahl Nitrogen, Dissolved	SM4500-NH3 B,C,E & EPA 351.2	mg/L	0.8	1.0	0.6	ND	ND	ND	1.6	ND	ND	ND	ND	0.6	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	32	35.1	42.7	26.7	50	29.0	26.7	29.0	32.8	28.0	179	186	202
Magnesium	EPA 200.7	mg/L	252	250	256	284	294	279	327	352	346	325	925	920	863
Magnesium, Dissolved	EPA 200.7	mg/L	249	253	261	274	298	249	332	346	360	324	941	910	862
Manganese, Dissolved	EPA 200.7	µg/L	ND	ND	ND	ND	ND	11	ND	ND	ND	ND	ND	ND	ND
Manganese, Total	EPA 200.7	µg/L	ND	ND	ND	ND	ND	13	ND	ND	ND	ND	ND	ND	ND
MBAS (Surfactants)	SM5540C	mg/L	ND	ND	ND	ND	ND	0.03	0.02	0.02	ND	0.02	0.07	ND	ND
Nitrate as N	EPA 300.0	mg/L	4.7	4.4	4.9	5.8	5.1	5.0	5.2	4.9	5.0	6.1	1.9	1.1	0.9
Nitrate as NO3	EPA 300.0	mg/L	21	19	22	26	23	22	23	22	22	27	8.3	4.9	ND
Nitrate+Nitrite as N	EPA 300.0	mg/L	4.7	4.4	4.9	5.8	5.1	5.0	5.2	4.9	5.0	6.1	1.9	1.1	0.9
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	ND	1	1
o-Phosphate-P	Hach 8048 & EPA 365.1	mg/L	0.03	0.03	0.03	0.03	0.03	0.04	0.03	0.04	0.04	0.05	0.03	0.02	0.02
pH (Field Test)	SM4500-H+B	pH	7.06	6.79	7.13	6.95	7.66	6.93	7.14	6.32	6.90	7.06	6.73	6.59	6.51
pH (Laboratory)	SM4500-H+B	pH (H)	7.1	7.1	7.2	7.9	7.1	7.3	7.0	7.3	7.8	7.2	6.9	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	0.03	0.04	0.04	ND	ND	0.03	ND	0.03	ND	ND	0.03	0.04
Potassium	EPA 200.7	mg/L	12.0	11.0	11.0	10.7	12.4	10.7	14.1	14.1	12.0	12.5	63.6	69.6	69
Potassium, Dissolved	EPA 200.7	mg/L	11.9	10.8	11.2	10.2	12.7	11.1	10.8	14.1	12.5	12.2	64.0	71.0	65.3
QC Ratio TDS/SEC	Calculation	-	0.60	0.67	0.58	0.58	0.80	0.63	0.80	0.61	0.57	0.67	0.72	0.67	0.71
Reg. Org. Compounds (EPA 525)	EPA 525	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
Salinity	SM2520B	psu	4.4	5.0	5.3	5.5	5.1	4.9	5.5	5.0	5.9	5.7	27.2	24.7	27.0
Silica as SiO2, Dissolved	EPA 200.7	mg/L	32	31	29	30	31.3	28.8	32.5	36.8	33.6	32.9	33	34	30
Sodium	EPA 200.7	mg/L	348	357	363	431	426	415	427	492	417	461	6,680	6,890	6,450
Sodium, Dissolved	EPA 200.7	mg/L	344	355	382	414	403	427	435	486	432	459	6,470	6,570	6,480
Specific Conductance (E.C)	SM2510B	µmhos/cm	8,030	8,109	8,610	8,680	9,710	8,880	9,842	8,960	10,450	10,040	38,240	38,900	37,940
Specific Conductance (E.C) (Field)	SM2510B	µmhos/cm	8,106	8,271	8,583	8,495	10,090	9,271	9,936	9,308	10,530	9,655	38,970	38,540	39,360
Strontium, Dissolved	EPA 200.8	µg/L	4,570	5,530	5,280	5,930	5,950	6,180	7,310	6,530	6,910	6,790	10,000	9,130	10,300
Sulfate, Dissolved	EPA 300.0	mg/L	211	231	228	248	236	239	239	243	278	277	1,980	2,100	2,010
Temperature (Field)	SM2550	°C	18.3	18.2	18.1	18.0	18.2	17.9	18.2	18.1	18.5	18.7	19.4	16.1	19.3
Total Diss. Solids	SM2540C	mg/L	4,850	5,450	4,980	5,070	7,800	5,600	7,900	5,510	6,000	6,700	27,700	25,900	27,000
Turbidity	EPA 180.1	NTU	0.15	0.20	0.10	0.20	0.85	0.10	0.10	0.20	0.20	ND	0.15	0.15	0.10
Turbidity (Field)	EPA 180.1	NTU	0.49	0.27	0.49	0.94	0.94	0.55	0.71	0.25	0.91	0.00	0.4	0.61	0.22
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-7D										MW-85				
			Sample Collection Date:														
			16-Oct-19	7-Apr-20	14-Oct-20	13-Apr-21	13-Oct-21	13-Apr-22	18-Oct-22	10-Apr-23	24-Apr-18	11-Oct-18	8-Apr-19	15-Oct-19	7-Apr-20		
Alkalinity, Total (as CaCO3)	SM2320B	mg/L	100	103	115	102	101	101	93	93	330	341	331	337	353		
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	0.56	0.59	0.59	0.57	0.58	0.57	0.63	0.70	0.26	0.25	0.21	0.25	0.23		
Barium, Dissolved	EPA 200.8	µg/L	99.7	90	78	92	93.1	82.0	89	103	107	138.0	522	101	95.0		
Bicarbonate (as HCO3-)	SM2320B	mg/L	122	121	140	125	124	123	113	403	416	403	411	417			
Boron, Dissolved	EPA 200.7	mg/L	1.9	1.7	1.90	1.7	2.2	2.2	2.1	2.0	0.25	0.26	0.28	0.30	0.31		
Bromide, Dissolved	EPA 300.0	mg/L	45.6	50.5	51.6	48.9	63.6	50.7	72.3	51.7	1.0	1.2	0.6	1.1	1.1		
Calcium	EPA 200.7	mg/L	1,300	1,310	1,160	1,090	1,340	1,150	1,180	1,320	133	143	138	143	143		
Calcium, Dissolved	EPA 200.7	mg/L	1,370	1,340	1,180	1,110	1,290	1,280	1,160	1,270	135	138	137	138	142		
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	14,500	14,700	13,900	13,900	13,900	14,200	14,400	14,400	313	347	307	304	320		
Chlorinated Pesticides and PCB (EPA 508)	EPA 508	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-		
Color, Apparent (Unfiltered)	SM2120B	Color Units	ND	-	-	ND	ND	ND	ND	3	ND	1	3	-	-		
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	453.33	447.01	435.94	437.34	438.36	440.77	445.61	449.18	23.12	24.94	23.23	23.30	24.45		
Total Anions	Calculation	Meq/L	453.33	447.01	435.94	437.34	438.36	440.77	445.61	449.18	23.12	24.94	23.23	23.30	24.45		
Dissolved Cations	Calculation	Meq/L	428.41	426.73	427.59	375.51	444.62	454.06	426.72	430.25	23.34	22.98	23.08	23.00	25.96		
Total Cations	Calculation	Meq/L	424.17	418.77	437.07	372.12	435.90	426.50	433.22	427.27	22.72	23.11	23.47	23.77	25.75		
Fluoride, Dissolved	EPA 300.0	mg/L	0.1	ND	0.2	0.4	0.2	ND	ND	ND	0.3	ND	ND	ND	0.1		
Hardness (as CaCO3)	SM2340B/Calc, EPA200.7	mg/L	6,790	6,820	6,320	5,850	7,110	6,780	6,880	7,094	567	587	580	699	616		
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	7.3	4.6	4.0	6.7		
Iron	EPA 200.7	µg/L	ND	ND	ND	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	ND	ND	ND		
Total Kjeldahl Nitrogen, Dissolved	SM4500-NH3 B,C,E & EPA 351.2	mg/L	ND	ND	ND	0.3	0.2	ND	ND	ND	ND	ND	ND	0.7	ND		
Lead, Total	EPA 200.8	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.4	0.3	ND	ND		
Lithium	EPA 200.8	µg/L	253	184	226	173	192	190	186	147	4	5	4.2	37.5	3.7		
Magnesium	EPA 200.7	mg/L	860	864	834	762	914	952	955	920	57	56	57	57	63.0		
Magnesium, Dissolved	EPA 200.7	mg/L	852	884	860	717	928	1000	941	902	58	56	56	56	64		
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	2	ND	ND	ND	ND		
MBAS (Surfactants)	SM5540C	mg/L	ND	ND	ND	0.03	0.08	0.05	0.03	0.05	ND	ND	ND	ND	ND		
Nitrate as N	EPA 300.0	mg/L	1.0	0.9	0.9	1.4	1.7	0.8	0.9	0.8	27.6	28.4	23.7	23.0	24.2		
Nitrate as NO3	EPA 300.0	mg/L	4.3	4	4	6.0	7.4	3.5	3.8	3.5	120	126	100	102	107		
Nitrate+Nitrite as N	EPA 300.0	mg/L	1.0	0.9	0.9	1.4	1.7	0.8	0.9	0.8	27.6	28.4	23.7	23.0	24.2		
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	1	1	ND	ND	ND	<1	ND	ND	1	1	1	1		
o-Phosphate-P	Hach 8048 & EPA 365.1	mg/L	0.03	0.03	0.03	0.06	0.03	0.04	0.03	0.06	0.08	0.06	0.08	0.09	0.07		
pH (Field Test)	SM4500-H+B	pH	6.65	6.64	7.13	6.63	6.63	6.09	6.70	6.73	6.61	6.68	6.72	7.05	6.69		
pH (Laboratory)	SM4500-H+B	pH (H)	7.0	6.9	6.9	7.0	7.4	7.0	7.7	7.4	7.1	7.0	7.1	7.1	7.3		
Phenoxy Acid Herbicides (515.3)	EPA 515.3	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-		
Phosphorus, Dissolved Total	HACH 8190 & EPA 365.1	mg/L	0.05	0.04	0.02	ND	0.04	0.03	0.03	0.03	0.07	0.08	0.10	0.08	0.08		
Potassium	EPA 200.7	mg/L	56.1	50.6	83.8	55.3	58.5	58.8	66.3	64	5.1	5.4	5.7	4.3	4.8		
Potassium, Dissolved	EPA 200.7	mg/L	59.7	51.7	83.7	55.6	61.0	65.0	66.0	64	5	5.3	5.8	4.20	4.75		
QC Ratio TDS/SEC	Calculation	-	0.68	0.70	0.71	0.82	0.67	0.82	0.66	0.70	0.66	0.65	0.65	0.56	0.64		
Reg. Org. Compounds (EPA 525)	EPA 525	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-		
Salinity	SM2520B	psu	27.3	24.0	23.9	23.8	24.0	22.0	24.7	24.3	NA	NA	NA	NA	NA		
Silica as SiO2, Dissolved	EPA 200.7	mg/L	36	32	31.9	27.2	36.2	38.4	38.2	37.0	37	34	38	36	36		
Sodium	EPA 200.7	mg/L	6,600	6,460	7,090	5,830	6,720	6,650	6,760	6,690	259	258	270	272	306		
Sodium, Dissolved	EPA 200.7	mg/L	6,630	6,570	6,800	5,970	6,950	7,040	6,660	6,530	269	261	264	262	310		
Specific Conductance (E.C)	SM2510B	µmhos/cm	38,600	37,800	37,700	37,500	37,800	35,000	38,800	38,200	2,240	2,274	2,249	2,300	2,380		
Specific Conductance (E.C) (Field)	SM2510B	µmhos/cm	38,930	37,980	41,250	39,610	39,471	37,570	38,940	38,074	2,229	2,344	2,228	2,217	2,372		
Strontium, Dissolved	EPA 200.8	µg/L	10,500	9,860	11,700	10,500	10,200	10,200	8,970	9,790	989	1,020	985	864	1,030		
Sulfate, Dissolved	EPA 300.0	mg/L	2,000	1,420	1,960	2,040	2,080	1,800	1,780	1,940	274	302	300	304	318		
Temperature (Field)	SM2550	°C	19.2	19.1	19.5	18.9	18.9	19.1	19.7	19.7	16.6	16.7	16.9	16.5	17.0		
Total Diss. Solids	SM2540C	mg/L	26,100	26,600	26,700	30,600	25,300	28,800	25,700	26,800	1,480	1,470	1,460	1,290	1,530		
Turbidity	EPA 180.1	NTU	0.15	0.20	0.10	0.10	0.10	0.20	ND	ND	0.15	0.10	0.15	ND	0.10		
Turbidity (Field)	EPA 180.1	NTU	0.47	0.68	0.53	0.41	0.83	0.43	0.56	0.00	0.35	0	0.36	0.59	0.64		
Volatile Org. Compounds (524)	EPA 524	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-		
Zinc	EPA 200.7	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	14	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-85													
			Sample Collection Date:													
			13-Oct-20	12-Apr-21	11-Oct-21	14-Apr-22	19-Oct-22	10-Apr-23	24-Apr-18	11-Oct-18	9-Apr-19	15-Oct-19	7-Apr-20	13-Oct-20	12-Apr-21	
Alkalinity, Total (as CaCO ₃)	SM2320B	mg/L	360	345	357	347	335	295	144	142	141	134	133	141	135	
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	0.03	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	0.27	0.24	0.20	0.24	0.30	0.29	0.34	0.32	0.43	0.44	0.45	0.43	0.37	
Barium, Dissolved	EPA 200.8	µg/L	108	96.2	111	91.2	109	68.8	ND	111	98.8	96	97	85	97	
Bicarbonate (as HCO ₃ ⁻)	SM2320B	mg/L	439	421	436	424	409	360	176	173	172	163	161	172	164	
Boron, Dissolved	EPA 200.7	mg/L	0.34	0.33	0.36	0.35	0.4	0.3	1.3	1.2	1.49	1.69	1.7	1.9	1.8	
Bromide, Dissolved	EPA 300.0	mg/L	1.2	1.2	1.2	1.2	1.0	1.1	35.5	38.6	37.7	43.0	38.4	37.6	38.7	
Calcium	EPA 200.7	mg/L	142	134	149	142	127	125	1,420	1,440	925	1,000	844	929	1,000	
Calcium, Dissolved	EPA 200.7	mg/L	133	134	136	142	127	126	1,310	1,420	992	994	838	878	996	
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	309	315	324	327	301	301	11,300	12,100	11,600	12,400	11,600	11,900	11,300	
Chlorinated Pesticides and PCB (EPA 508)	EPA 508	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	
Color, Apparent (Unfiltered)	SM2120B	Color Units	-	ND	3	ND	ND	ND	ND	ND	5	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	23.94	24.11	24.59	24.58	23.46	22.47	354.47	377.60	364.91	387.12	363.11	373.48	355.76	
Total Anions	Calculation	Meq/L	23.94	24.11	24.59	24.58	23.46	22.47	354.47	377.60	364.91	387.12	363.11	373.48	355.76	
Dissolved Cations	Calculation	Meq/L	25.05	24.56	25.80	25.40	24.53	22.15	386.44	356.42	383.16	390.19	358.15	379.23	370.86	
Total Cations	Calculation	Meq/L	26.64	24.38	26.80	25.33	24.60	22.06	382.44	375.79	342.76	401.23	360.66	372.65	381.44	
Fluoride, Dissolved	EPA 300.0	mg/L	0.1	0.06	0.1	ND	ND	0.1	0.5	ND	0.1	0.1	ND	ND	0.1	
Hardness (as CaCO ₃)	SM2340B/Calc, EPA200.7	mg/L	610	576	630	608	576	539	6,360	6,270	4,520	5,220	4,890	4,910	5,290	
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	5.6	4.8	3.4	5.0	4.8	5.1	ND	ND	ND	ND	ND	ND	0.48	
Iron	EPA 200.7	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	36	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	0.6	0.9	ND	ND	0.3	ND	ND	ND	ND	ND	ND	ND	
Lead, Total	EPA 200.8	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	0.9	ND	ND	ND	ND	
Lithium	EPA 200.8	µg/L	4.8	3.9	3.5	4.3	3.8	3.2	106	144	157.0	145	122	144	123	
Magnesium	EPA 200.7	mg/L	62	59	63	62	62.8	55	683	648	536	659	675	629	677	
Magnesium, Dissolved	EPA 200.7	mg/L	58	55	62	62	63	55	703	632	584	586	670	623	675	
Manganese, Dissolved	EPA 200.7	µg/L	ND	3	ND	ND	ND	ND	ND	ND	8	8	ND	ND	ND	
Manganese, Total	EPA 200.7	µg/L	5	ND	ND	ND	ND	ND	ND	ND	9	8	ND	35	ND	
MBAS (Surfactants)	SM5540C	mg/L	ND	0.05	0.04	0.04	0.02	0.04	ND	ND	ND	ND	ND	ND	0.10	
Nitrate as N	EPA 300.0	mg/L	21.4	19.8	21.4	23.8	23.8	30.1	1.4	0.6	0.4	0.6	0.6	1.3	0.7	
Nitrate as NO ₃	EPA 300.0	mg/L	95	88	95	110	110	130	6.0	2.7	1.8	2.7	2.7	5.6	3.1	
Nitrate+Nitrite as N	EPA 300.0	mg/L	21.4	19.8	21.4	23.8	23.8	30.1	1.4	0.6	0.4	0.6	0.6	1.3	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	ND	
Odor Threshold at 60 C	SM2150B	TON	1	ND	ND	ND	<1	ND	ND	1	1	1	1	1	ND	
o-Phosphate-P	Hach 8048 & EPA 365.1	mg/L	0.08	0.09	0.08	ND	0.08	0.08	0.03	0.03	0.03	0.04	0.04	0.04	0.03	
pH (Field Test)	SM4500-H+B	pH	7.05	7.07	7.22	6.34	7.07	7.00	6.46	6.41	6.62	6.81	6.73	6.98	6.77	
pH (Laboratory)	SM4500-H+B	pH (H)	7.1	7.4	7.1	7.4	7.9	7.8	6.9	6.9	6.9	7.1	7.1	7.0	7.0	
Phenoxy Acid Herbicides (515.3)	EPA 515.3	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	
Phosphorus, Dissolved Total	HACH 8190 & EPA 365.1	mg/L	0.08	0.06	0.10	0.08	0.09	0.07	ND	0.04	0.05	0.06	0.05	0.03	0.04	
Potassium	EPA 200.7	mg/L	6.2	4.8	4.9	4.8	5.2	4.5	69.3	86.8	113.0	102	95	104	74.3	
Potassium, Dissolved	EPA 200.7	mg/L	6	4.8	4.8	4.6	5.26	4.4	69.8	83.5	130	104	93	104	74.7	
QC Ratio TDS/SEC	Calculation	-	0.68	0.64	0.62	0.66	0.63	0.63	0.73	0.70	0.70	0.65	0.65	0.71	0.69	
Reg. Org. Compounds (EPA 525)	EPA 525	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	
Salinity	SM2520B	psu	1.2	ND	NA	NA	NA	ND	21.4	19.9	22.7	22.3	19.7	20.1	24.1	
Silica as SiO ₂ , Dissolved	EPA 200.7	mg/L	37.4	35.0	39.6	38.8	40.2	39.2	30	31	28	29	28	29.7	30.1	
Sodium	EPA 200.7	mg/L	329	293	323	300	298	258	5,830	5,710	5,738	6,770	5,990	6,250	6,300	
Sodium, Dissolved	EPA 200.7	mg/L	310	304	317	301	296	257	6,010	5,320	6,489	6,660	5,950	6,470	6,060	
Specific Conductance (E.C)	SM2510B	µmhos/cm	2,340	2,320	2,378	2,170	2,340	2,220	30,770	31,930	32,450	32,400	31,700	32,200	31,800	
Specific Conductance (E.C) (Field)	SM2510B	µmhos/cm	2,232	2,375	2,371	2,235	2,309	2,137	31,970	32,990	32,300	33,060	33,550	32,150	33,460	
Strontium, Dissolved	EPA 200.8	µg/L	996	1,050	1,070	1,060	1,020	895	8,760	8,030	7,330	7,840	6,990	6,880	8,330	
Sulfate, Dissolved	EPA 300.0	mg/L	311	331	325	322	315	284	1,550	1,580	1,650	1,610	1,570	1,610	1,580	
Temperature (Field)	SM2550	° C	16.6	16.4	16.5	16.5	17.2	17.1	16.9	16.7	17.1	16.7	17.2	16.7	16.6	
Total Diss. Solids	SM2540C	mg/L	1,600	1,490	1,470	1,430	1,470	1,400	22,600	22,200	22,600	21,200	20,600	23,000	21,800	
Turbidity	EPA 180.1	NTU	0.15	0.10	0.25	ND	ND	ND	0.25	0.05	0.10	0.10	0.05	0.10	0.10	
Turbidity (Field)	EPA 180.1	NTU	0.58	0.64	0.7	0.38	0.00	0.00	0.64	0	0.28	0.43	0.48	0.54	0.46	
Volatile Org. Compounds (524)	EPA 524	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	
Zinc	EPA 200.7	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	16	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-8M				MW-8D								
Sample Collection Date:			11-Oct-21	11-Apr-22	19-Oct-22	10-Apr-23	26-Apr-18	10-Oct-18	9-Apr-19	14-Oct-19	8-Apr-20	15-Oct-20	15-Apr-21	13-Oct-21	12-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	137	134	126	123	149	156	155	148	154	177	153	152	151
Aluminum, Total	EPA 200.8	µg/L	ND	ND	ND	ND	ND	6	ND	9	ND	ND	ND	10	ND
Ammonia-N, Dissolved	SM4500NH3 D & EPA 350.1	mg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.02	ND	ND	ND
Arsenic, Total ¹	EPA 200.8	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
Arsenic, Total	EPA 1640	µg/L	0.38	0.36	0.48	0.46	0.78	1.0	0.95	1.1	0.94	1.1	0.26	0.95	0.94
Barium, Dissolved	EPA 200.8	µg/L	95.1	85.5	94.8	104	40	50.8	52.7	68.0	61.7	53.9	73.6	66.6	66.4
Bicarbonate (as HCO3-)	SM2320B	mg/L	167	163	153	150	182	190	190	181	188	216	187	186	184
Boron, Dissolved	EPA 200.7	mg/L	1.9	1.90	2.0	1.8	ND	0.08	ND	0.08	0.07	0.07	0.07	0.07	ND
Bromide, Dissolved	EPA 300.0	mg/L	43.0	65.4	38.1	40.0	1.9	0.9	0.8	0.6	0.8	0.6	0.8	0.5	0.5
Calcium	EPA 200.7	mg/L	1,090	908	979	980	67	48	50	49	49	56	48	56	55
Calcium, Dissolved	EPA 200.7	mg/L	1,040	1,060	951	990	67	47	46	48	48	45	51	52	53
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	11,800	17,900	12,000	11,400	692	306	246	177	242	170	227	173	155
Chlorinated Pesticides and PCB (EPA 508)	EPA 508	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
Color, Apparent (Unfiltered)	SM2120B	Color Units	3	ND	ND	ND	4	3	5	3	-	-	5	ND	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	368.01	367.48	374.03	356.65	24.47	12.67	12.56	8.51	10.72	8.83	10.13	8.43	7.85
Total Anions	Calculation	Meq/L	368.01	367.48	374.03	356.65	24.47	12.67	12.56	8.51	10.72	8.83	10.13	8.43	7.85
Dissolved Cations	Calculation	Meq/L	367.98	384.17	374.57	353.77	22.73	12.10	11.72	8.61	10.30	8.01	10.50	8.76	8.03
Total Cations	Calculation	Meq/L	370.87	390.42	383.16	350.34	23.00	11.51	12.81	8.75	10.37	9.09	9.65	8.97	8.25
Fluoride, Dissolved	EPA 300.0	mg/L	ND	ND	ND	ND	0.2	0.3	0.3	0.3	0.2	0.2	0.2	0.3	0.2
Hardness (as CaCO3)	SM2340B/Calc, EPA200.7	mg/L	5,610	5,380	5,630	5,250	359	219	279	207	222	234	220	235	229
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	1.2	ND	ND	ND	ND	ND	ND	ND
Iron	EPA 200.7	µg/L	ND	ND	158	ND	ND	6	ND	35	16	8	21	20	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	0.4	6.5	ND	ND	ND	0.7	ND	ND	ND	ND	0.2	ND	ND
Lead, Total	EPA 200.8	µg/L	ND	ND	ND	ND	ND	0.2	ND	ND	ND	ND	ND	ND	ND
Lithium	EPA 200.8	µg/L	107	103	155	95.2	30	36	43.9	25.0	23.6	30.3	19.7	28.0	20.4
Magnesium	EPA 200.7	mg/L	698	756	773	681	47	24	24	20.4	24	23	24	23	22
Magnesium, Dissolved	EPA 200.7	mg/L	684	733	750	685	46	24	24	21	24	21	25	23	22
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	7	ND	ND	ND	ND	ND
MBAS (Surfactants)	SM5540C	mg/L	0.07	0.04	0.04	0.07	ND	ND	ND	ND	ND	ND	0.02	0.03	0.03
Nitrate as N	EPA 300.0	mg/L	0.6	0.6	0.5	0.45	1.1	0.4	0.5	0.4	0.7	0.4	0.4	0.4	0.4
Nitrate as NO3	EPA 300.0	mg/L	2.5	2.6	2.1	2.0	4.9	ND	2.2	1.8	3.1	1.7	1.6	1.7	1.6
Nitrate+Nitrite as N	EPA 300.0	mg/L	0.6	0.6	0.5	0.45	1.1	0.4	0.5	0.4	0.7	0.4	0.4	0.4	0.4
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	<1	ND	ND	1	1	1	1	1	ND	ND	ND
o-Phosphate-P	Hach 8048 & EPA 365.1	mg/L	0.04	0.05	0.04	0.07	0.02	0.02	0.02	0.02	0.02	0.03	0.04	ND	ND
pH (Field Test)	SM4500-H+B	pH	7.03	6.09	6.74	6.80	7.12	7.31	7.19	7.33	7.17	7.67	7.16	7.33	7.42
pH (Laboratory)	SM4500-H+B	pH (H)	6.9	7.4	7.6	7.6	7.4	7.5	7.5	7.8	7.6	7.8	7.7	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	0.05	0.04	ND	0.02	0.02	0.03	0.03	ND	ND	ND	ND
Potassium	EPA 200.7	mg/L	74	90.8	89.9	70.2	6.4	5.4	7.7	3.6	4.1	5.4	4.0	4.1	3.7
Potassium, Dissolved	EPA 200.7	mg/L	73	83.0	86.8	70.0	6.1	4.97	7.1	3.6	3.9	4.6	4.39	3.9	3.7
QC Ratio TDS/SEC	Calculation	-	0.63	0.72	0.61	0.66	0.57	0.57	0.52	0.51	0.57	0.61	0.57	0.54	0.48
Reg. Org. Compounds (EPA 525)	EPA 525	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
Salinity	SM2520B	psu	20.6	19.8	20.8	19.9	NA	ND	ND	ND	NA	0.4	NA	ND	NA
Silica as SiO2, Dissolved	EPA 200.7	mg/L	31	32.3	34.1	32.1	41	40	41	43	43	47.2	45.5	46.6	45.7
Sodium	EPA 200.7	mg/L	5,910	6,450	6,170	5,660	361	161	187	105	134	98	119	96	82
Sodium, Dissolved	EPA 200.7	mg/L	5,930	6,180	6,050	5,600	355	176	167	101	134	90	133	96	80
Specific Conductance (E.C)	SM2510B	µmhos/cm	32,900	31,800	33,200	32,000	2,544	1,287	1,171	1,010	1,146	836	1,071	943	868
Specific Conductance (E.C) (Field)	SM2510B	µmhos/cm	33,774	33,060	32,720	31,965	2,592	1,345	1,023	1,092	1,139	822	1,091	918	864
Strontium, Dissolved	EPA 200.8	µg/L	7,960	7,200	7,090	7,970	529	350	348	383	400	366	481	412	402
Sulfate, Dissolved	EPA 300.0	mg/L	1,540	1,500	1,560	1,540	90	42	36	25	36	22	30	23	20
Temperature (Field)	SM2550	°C	16.7	16.6	17.2	17.4	20.5	21.0	20.4	20.4	20.3	20.2	19.8	18.2	17.9
Total Diss. Solids	SM2540C	mg/L	20,800	23,000	20,400	21,100	1,440	735	610	518	652	512	606	510	420
Turbidity	EPA 180.1	NTU	0.10	ND	ND	0.20	0.55	0.40	0.35	2.00	0.90	0.40	1.7	0.55	ND
Turbidity (Field)	EPA 180.1	NTU	0.7	1	0.00	0.00	0.68	0	0.53	2.95	3.8	0.95	2.15	0.86	0.85
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
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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**

Monitoring Well Name:			MW-8D					MW-9S							
			Sample Collection Date:	18-Oct-22	11-Apr-23	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
Constituent	Method	Units	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result
Alkalinity, Total (as CaCO3)	SM2320B	mg/L	144	139	964	961	945	915	934	958	938	953	701	926	907
Aluminum, Total	EPA 200.8	µg/L	ND	ND	ND	ND	14	ND	ND	ND	ND	ND	ND	ND	ND
Ammonia-N, Dissolved	SM4500NH3 D & EPA 350.1	mg/L	ND	ND	3.1	3.0	3.3	2.99	3.20	3.03	3.02	3.31	3.56	3.19	2.92
Arsenic, Total ¹	EPA 200.8	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
Arsenic, Total	EPA 1640	µg/L	1.1	1.2	6.3	6.30	6.2	5.5	5.9	7.0	6.3	5.9	6.6	6.9	6.8
Barium, Dissolved	EPA 200.8	µg/L	67.6	70.5	308	314	262	182	305	255	305	315.0	299	304	315
Bicarbonate (as HCO3-)	SM2320B	mg/L	176	169	1,180	1,170	1,150	1,120	1,140	1,170	1,140	1,160	1,140	1,130	1,110
Boron, Dissolved	EPA 200.7	mg/L	0.06	0.1	0.64	0.63	0.62	0.62	0.62	0.69	0.67	0.75	0.75	0.7	0.7
Bromide, Dissolved	EPA 300.0	mg/L	0.8	0.4	3.0	3.2	3.6	3.1	3.3	3.6	3.7	3.8	4.9	3.9	3.7
Calcium	EPA 200.7	mg/L	50	53	213	217	215	198	210	202	213	220	232	210	237
Calcium, Dissolved	EPA 200.7	mg/L	47	51	219	213	215	200	207	198	139	235	247	214	235
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	149	142	1,000	980	950	913	981	975	947	985	1,370	1,160	1,080
Chlorinated Pesticides and PCB (EPA 508)	EPA 508	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
Color, Apparent (Unfiltered)	SM2120B	Color Units	ND	ND	28	20	100	100	-	-	100	75	100	25	150
Color, True ²	SM120C	Color Units	-	-	-	-	-	-	18	20	-	-	-	-	-
Copper	EPA 200.7	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	7	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	7.54	7.22	53.30	54.06	51.61	51.18	53.16	54.02	52.22	54.77	58.84	58.3	54.07
Total Anions	Calculation	Meq/L	7.54	7.22	53.30	54.06	51.61	51.18	53.16	54.02	52.22	54.77	58.84	58.3	54.12
Dissolved Cations	Calculation	Meq/L	7.91	7.41	50.98	52.21	49.73	49.18	52.36	53.87	49.77	53.71	58.55	54.91	53.41
Total Cations	Calculation	Meq/L	8.17	7.49	50.93	52.62	52.09	49.27	52.59	58.27	54.65	52.91	55.07	54.11	53.16
Fluoride, Dissolved	EPA 300.0	mg/L	0.1	0.2	ND	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	ND
Hardness (as CaCO3)	SM2340B/Calc, EPA200.7	mg/L	220	217	1,110	1,090	1,070	997	1,080	1,070	1,100	1,110	1,170	1,140	1,170
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	180	300	180	250	290	680	360	250	270	290	330
Iron	EPA 200.7	µg/L	32	ND	5,570	5,170	5,490	5,250	5,420	5,600	5,390	5,820	6,100	5,900	6,240
Iron, Dissolved	EPA 200.7	µg/L	ND	ND	5,580	5,140	4,950	859	5,050	5,220	5,350	5,850	6,500	5,560	5,990
Total Kjeldahl Nitrogen, Dissolved	SM4500-NH3 B,C,E & EPA 351.2	mg/L	ND	0.2	3.6	4	4	3.5	3.9	3.6	4.0	4.3	3.2	4.1	3.7
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	26.2	25.0	14	22	39.7	21.0	16.6	25.3	14.0	17.3	10.8	18.4	14.9
Magnesium	EPA 200.7	mg/L	23	21	140	133	130	122	136	137	138	137	144	149	141
Magnesium, Dissolved	EPA 200.7	mg/L	23	21	140	132	120	122	134	133	125	137	153	152	140
Manganese, Dissolved	EPA 200.7	µg/L	ND	ND	4,120	3,730	3,730	3,810	3,730	3,770	3,900	4,310	4,760	4,410	4,430
Manganese, Total	EPA 200.7	µg/L	ND	ND	4,100	3,720	4,050	3,970	3,760	3,940	3,880	4,270	4,410	4,300	4,470
MBAS (Surfactants)	SM5540C	mg/L	0.02	ND	0.06	ND	ND	ND	ND	ND	0.06	0.04	0.04	0.04	0.07
Nitrate as N	EPA 300.0	mg/L	0.3	0.4	0.8	ND	ND	ND	ND	ND	ND	ND	ND	0.1	ND
Nitrate as NO3	EPA 300.0	mg/L	1.5	1.6	3.5	ND	ND	ND	ND	ND	ND	ND	ND	0.7	ND
Nitrate+Nitrite as N	EPA 300.0	mg/L	0.3	0.4	0.8	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrite as NO2-N, Dissolved	EPA 300.0	mg/L	ND	ND	ND	ND	0.0	ND	ND	ND	ND	ND	ND	ND	ND
Odor Threshold at 60 C	SM2150B	TON	<1	ND	2	2	3	2	4	2	2	ND	ND	ND	ND
o-Phosphate-P	Hach 8048 & EPA 365.1	mg/L	0.02	0.04	1.38	1.04	0.39	0.50	0.44	0.61	0.45	0.47	ND	0.39	0.34
pH (Field Test)	SM4500-H+B	pH	7.31	7.25	6.65	6.97	7.06	7.00	6.88	6.89	7.46	7.05	7.18	7.13	6.98
pH (Laboratory)	SM4500-H+B	pH (H)	8.2	7.5	7.1	7.2	7.1	7.5	7.2	7.6	7.5	7.6	8.0	7.6	7.6
Phenoxy Acid Herbicides (515.3)	EPA 515.3	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
Phosphorus, Dissolved Total	HACH 8190 & EPA 365.1	mg/L	ND	ND	1.26	1.04	0.39	0.82	0.57	0.63	0.54	0.55	1.40	0.36	0.44
Potassium	EPA 200.7	mg/L	4.2	3.5	14.6	15.7	14.3	13.4	13	16.5	13.6	13.1	14.8	15.2	14.4
Potassium, Dissolved	EPA 200.7	mg/L	4.01	3.5	15.0	15.8	15.6	12.8	13	16.5	13.9	13.2	15.8	15.5	14.3
QC Ratio TDS/SEC	Calculation	-	0.55	0.60	0.57	0.63	0.65	0.60	0.61	0.79	0.59	0.63	0.61	0.61	0.61
Reg. Org. Compounds (EPA 525)	EPA 525	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
Salinity	SM2520B	psu	NA	ND	3.0	2.6	2.7	2.9	2.6	2.7	2.6	2.6	2.6	2.7	2.7
Silica as SiO2, Dissolved	EPA 200.7	mg/L	46.2	46.4	41	37	38	39	38	39.4	38.7	40.5	47.0	46.4	44.4
Sodium	EPA 200.7	mg/L	84	70	648	695	691	662	698	839	738	697	713	707	685
Sodium, Dissolved	EPA 200.7	mg/L	82	70	642	692	655	658	700	750	735	698	758	715	675
Specific Conductance (E.C)	SM2510B	µmhos/cm	831	782	4,963	4,778	4,588	4,880	4,860	4,950	4,930	4,890	4,910	4,970	5,110
Specific Conductance (E.C) (Field)	SM2510B	µmhos/cm	875	757	4,920	4,987	4,404	5,043	4,930	4,939	4,892	5,024	5,314	4,964	5,010
Strontium, Dissolved	EPA 200.8	µg/L	394	380	1,930	1,600	1,660	1,790	1,720	1,170	1,830	1,810	1,860	1,730	1,670
Sulfate, Dissolved	EPA 300.0	mg/L	20	19	274	343	281	339	324	350	321	350	293	336	262
Temperature (Field)	SM2550	° C	20.2	18.6	17.6	17.5	17.4	17.0	17.3	17.4	17.3	17.9	16.9	17.5	17.3
Total Diss. Solids	SM2540C	mg/L	492	466	2,820	2,990	3,000	2,910	2,960	3,895	2,900	3,070	3,000	3,030	3,120
Turbidity	EPA 180.1	NTU	2.2	0.30	60.0	55	42.0	8.00	60	65	60	45	65	79	11
Turbidity (Field)	EPA 180.1	NTU	0	0.00	0.29	0.44	0.680	0.800	0.36	0.47	0.84	0.33	0.38	0.00	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 = 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-9M											MW-9D	
Sample Collection Date:			26-Apr-18	10-Oct-18	8-Apr-19	15-Oct-19	7-Apr-20	13-Oct-20	13-Apr-21	12-Oct-21	12-Apr-22	18-Oct-22	11-Apr-23	26-Apr-18	10-Oct-18
Constituent	Method	Units	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	
Alkalinity, Total (as CaCO3)	SM2320B	mg/L	116	118	117	112	107	118	115	111	115	114	104	168	
Aluminum, Total	EPA 200.8	µg/L	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	
Arsenic, Total ¹	EPA 200.8	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	
Arsenic, Total	EPA 1640	µg/L	0.54	0.54	0.60	0.58	0.59	0.59	0.52	0.41	0.54	0.68	0.64	0.9	
Barium, Dissolved	EPA 200.8	µg/L	ND	83	72.4	82.9	72	66	70.3	73	68.9	74.5	72.2	54	
Bicarbonate (as HCO3-)	SM2320B	mg/L	142	144	142	137	131	144	140	135	140	139	127	205	
Boron, Dissolved	EPA 200.7	mg/L	2.33	1.87	2.20	2.12	2.00	2.30	2.22	2.4	2.37	2.4	2.2	0.07	
Bromide, Dissolved	EPA 300.0	mg/L	49.3	57.0	55.5	55.8	61.5	59.1	58.6	58.4	61.0	92.1	58.4	0.1	
Calcium	EPA 200.7	mg/L	1,370	1,680	1,550	1,480	1,550	1,300	1,480	1,670	1,750	1,520	1,730	32	
Calcium, Dissolved	EPA 200.7	mg/L	1,390	1,450	1,540	1,510	1,580	1,290	1,020	1,600	1,810	1,530	1,740	31	
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	16,800	17,300	17,000	17,200	16,200	16,300	16,300	16,477	17,100	16,900	17,000	66	
Chlorinated Pesticides and PCB (EPA 508)	EPA 508	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	
Color, Apparent (Unfiltered)	SM2120B	Color Units	4	3	8	4	-	-	ND	3	ND	ND	5	4	
Color, True ²	SM2120C	Color Units	-	-	-	-	ND	ND	-	-	-	-	-	-	
Copper	EPA 200.7	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	71	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	526.28	540.24	531.14	539.67	510.40	511.46	509.91	517.18	529.41	527.5	530.79	5.72	
Total Anions	Calculation	Meq/L	526.28	540.24	531.14	539.67	510.40	511.46	509.91	517.18	529.41	527.5	531.52	5.79	
Dissolved Cations	Calculation	Meq/L	477.51	489.73	528.95	484.55	511.05	559.44	504.91	523.16	556.14	517.49	513.46	5.73	
Total Cations	Calculation	Meq/L	477.83	491.20	520.95	494.36	503.46	562.12	500.81	527.98	548.82	510.05	512.12	5.73	
Fluoride, Dissolved	EPA 300.0	mg/L	ND	ND	ND	0.1	0.1	0.2	0.1	ND	0.1	ND	ND	0.2	
Hardness (as CaCO3)	SM2340B/Calc, EPA200.7	mg/L	7,860	8,350	8,110	8,090	8,200	8,770	7,990	8,700	9,100	8,410	8,710	134	
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	ND	ND	13	7.2	4.3	4.1	4.7	2.2	5.1	6.8	5.7	ND	
Iron	EPA 200.7	µg/L	37	140	142	86	ND	ND	ND	207	140	158	153	ND	
Iron, Dissolved	EPA 200.7	µg/L	ND	ND	ND	85	ND	ND	ND	ND	125	155	148	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	209	286	235	338	238	280	211	213	185	298	203	26	
Magnesium	EPA 200.7	mg/L	1,080	1,010	1,030	1,060	1,050	1,130	1,040	1,100	1,150	1,120	1,070	13	
Magnesium, Dissolved	EPA 200.7	mg/L	1,100	1,020	1,030	986	1,060	1,150	968	1,100	1,170	1,130	1,070	13	
Manganese, Dissolved	EPA 200.7	µg/L	ND	218	213	298	165	195	224	223	214	233	215	ND	
Manganese, Total	EPA 200.7	µg/L	96	234	203	306	168	253	188	236	208	234	216	ND	
MBAS (Surfactants)	SM5540C	mg/L	ND	ND	ND	ND	ND	0.08	0.09	0.08	0.04	0.10	ND	ND	
Nitrate as N	EPA 300.0	mg/L	1.0	0.3	0.3	0.4	0.4	0.3	0.5	0.4	0.3	0.3	ND	0.6	
Nitrate as NO3	EPA 300.0	mg/L	4.6	1.3	1.2	1.8	1.7	1.3	ND	1.8	1.2	1.2	ND	2.8	
Nitrate+Nitrite as N	EPA 300.0	mg/L	1.0	0.3	0.3	0.4	0.4	0.3	0.6	0.4	0.3	ND	ND	0.6	
Nitrite as NO2-N, Dissolved	EPA 300.0	mg/L	ND	ND	ND	ND	ND	ND	0.1	ND	ND	ND	ND	ND	
Odor Threshold at 60 C	SM2150B	TON	ND	1	1	1	2	1	ND	ND	ND	ND	ND	1	
o-Phosphate-P	Hach 8048 & EPA 365.1	mg/L	0.04	0.03	0.03	0.04	0.03	0.03	0.03	0.04	0.03	0.03	0.04	0.02	
pH (Field Test)	SM4500-H+B	pH	6.34	6.48	6.72	6.55	6.51	6.55	6.91	6.67	6.81	6.64	6.57	7.09	
pH (Laboratory)	SM4500-H+B	pH (H)	6.8	6.9	6.9	7.2	6.6	7.2	7.2	7.1	7.2	7.7	7.3	7.5	
Phenoxy Acid Herbicides (515.3)	EPA 515.3	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	
Phosphorus, Dissolved Total	HACH 8190 & EPA 365.1	mg/L	0.02	0.04	0.04	0.05	0.04	0.02	ND	0.04	0.02	0.04	0.03	ND	
Potassium	EPA 200.7	mg/L	170.0	177.0	186	156	135	223	149	153	159	158	143	7.6	
Potassium, Dissolved	EPA 200.7	mg/L	173	179	178	158	137	225	150	153	162	159	142	7.56	
QC Ratio TDS/SEC	Calculation	-	0.78	0.67	0.74	0.63	0.79	0.72	0.77	0.68	0.77	0.66	0.70	0.65	
Reg. Org. Compounds (EPA 525)	EPA 525	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	
Salinity	SM2520B	psu	32.1	28.6	32.3	32.0	27.7	28.0	27.9	27.8	28.3	28.7	28.7	NA	
Silica as SiO2, Dissolved	EPA 200.7	mg/L	30	33	29	31	29	35.4	30.3	34.4	37.3	38.3	35.7	46	
Sodium	EPA 200.7	mg/L	7,270	7,350	8,140	7,570	7,730	9,160	7,760	8,050	8,340	7,770	7,700	66	
Sodium, Dissolved	EPA 200.7	mg/L	7,200	7,560	8,340	7,450	7,850	9,070	7,990	8,020	8,400	7,910	7,680	67	
Specific Conductance (E.C)	SM2510B	µmhos/cm	44,400	44,280	44,630	44,200	43,000	43,500	43,300	43,200	43,900	44,500	44,500	571	
Specific Conductance (E.C) (Field)	SM2510B	µmhos/cm	45,130	45,780	44,650	45,160	46,340	46,600	43,540	45,134	46,454	44,484	43,599	587	
Strontium, Dissolved	EPA 200.8	µg/L	9,180	9,330	9,680	10,700	10,200	9,450	10,800	10,500	10,700	8,980	9,730	267	
Sulfate, Dissolved	EPA 300.0	mg/L	2,370	2,360	2,330	2,460	2,440	2,330	2,260	2,370	2,110	2,230	2,360	22	
Temperature (Field)	SM2550	°C	17.6	17.8	17.4	17.2	17.3	17.6	17.1	17.9	16.9	17.3	17.1	21.1	
Total Diss. Solids	SM2540C	mg/L	34,600	29,600	32,900	27,700	33,900	31,300	33,400	29,400	32,300	29,400	31,200	371	
Turbidity	EPA 180.1	NTU	0.45	0.25	0.15	0.35	0.15	0.75	0.20	0.25	0.65	0.80	ND	0.40	
Turbidity (Field)	EPA 180.1	NTU	0.44	0.72	0.35	0.450	0.21	0.45	0.26	0.85	0.3	0.00	0.00	0.6	
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 = 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:			8-Apr-19	15-Oct-19	7-Apr-20	13-Oct-20	13-Apr-21	12-Oct-21	12-Apr-22	18-Oct-22	11-Apr-23
Constituent	Method	Units	Result	Result	Result	Result	Result	Result	Result	Result	Result
Alkalinity, Total (as CaCO3)	SM2320B	mg/L	168	162	159	172	170	169	168	167	154
Aluminum, Total	EPA 200.8	µg/L	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
Arsenic, Total ¹	EPA 200.8	µg/L	-	-	-	-	-	-	-	-	-
Arsenic, Total	EPA 1640	µg/L	1.2	1.3	1.0	1.6	1.5	1.0	1.5	1.7	1.8
Barium, Dissolved	EPA 200.8	µg/L	54.6	47.2	58	56.4	57.6	61.8	56.3	64.4	68.7
Bicarbonate (as HCO3-)	SM2320B	mg/L	205	198	194	210	207	206	205	204	188
Boron, Dissolved	EPA 200.7	mg/L	0.07	0.07	0.06	0.07	0.08	0.07	0.05	0.1	0.1
Bromide, Dissolved	EPA 300.0	mg/L	0.2	0.2	0.2	0.2	0.2	0.2	0.3	ND	ND
Calcium	EPA 200.7	mg/L	35	35	32	36	38	40	38	33	37
Calcium, Dissolved	EPA 200.7	mg/L	36	35	34	34	37	39	38	31	38
Carbamates by HPLC (EPA 531)	EPA 531	µg/L	-	-	-	-	-	-	-	-	-
Carbonate as CaCO3	SM2320B	mg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloride, Dissolved	EPA 300.0	mg/L	64	68	63	64	62.3	62	74	52	66.0
Chlorinated Pesticides and PCB (EPA 508)	EPA 508	µg/L	-	-	-	-	-	-	-	-	-
Color, Apparent (Unfiltered)	SM2120B	Color Units	2	4	-	-	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	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	5.69	5.70	5.45	5.74	5.65	5.61	5.95	5.23	5.40
Total Anions	Calculation	Meq/L	5.69	5.70	5.45	5.74	5.65	5.61	5.95	5.226	5.44
Dissolved Cations	Calculation	Meq/L	5.78	5.38	5.45	5.41	5.95	5.97	5.77	5.03	5.73
Total Cations	Calculation	Meq/L	5.59	5.55	5.23	5.69	6.03	6.17	5.72	5.42	5.68
Fluoride, Dissolved	EPA 300.0	mg/L	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.1	ND
Hardness (as CaCO3)	SM2340B/Calc, EPA200.7	mg/L	143	141	132	148	154	161	152	141	150
Hydroxide	SM2320B	mg/L	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
Iron	EPA 200.7	µg/L	ND	ND	ND	ND	ND	ND	10	ND	ND
Iron, Dissolved	EPA 200.7	µg/L	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	0.2	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	28.0	22.5	25.5	26.8	25.6	24.6	17.6	25.8	18.6
Magnesium	EPA 200.7	mg/L	14	13.2	13	14	14	15	14.0	14	13.9
Magnesium, Dissolved	EPA 200.7	mg/L	14	13	13	13	14	14	14	13	14
Manganese, Dissolved	EPA 200.7	µg/L	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
MBAS (Surfactants)	SM5540C	mg/L	ND	ND	ND	ND	ND	ND	0.05	ND	ND
Nitrate as N	EPA 300.0	mg/L	0.6	0.6	0.5	0.5	0.5	0.5	0.4	0.4	ND
Nitrate as NO3	EPA 300.0	mg/L	2.7	2.7	2.4	2.2	2.2	2.2	1.8	1.9	2.0
Nitrate+Nitrite as N	EPA 300.0	mg/L	0.6	0.6	0.5	0.5	0.5	0.5	0.4	0.4	ND
Nitrite as NO2-N, Dissolved	EPA 300.0	mg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND
Odor Threshold at 60 C	SM2150B	TON	1	1	3	1	ND	ND	ND	ND	ND
o-Phosphate-P	Hach 8048 & EPA 365.1	mg/L	0.02	0.02	0.02	ND	0.04	0.03	0.01	0.03	0.03
pH (Field Test)	SM4500-H+B	pH	7.34	7.12	7.19	7.24	7.69	7.25	7.31	7.21	7.04
pH (Laboratory)	SM4500-H+B	pH (H)	7.4	7.7	7.6	7.7	7.6	7.7	7.8	8.5	7.8
Phenoxy Acid Herbicides (515.3)	EPA 515.3	µg/L	-	-	-	-	-	-	-	-	-
Phosphorus, Dissolved Total	HACH 8190 & EPA 365.1	mg/L	0.03	0.03	0.03	ND	ND	ND	ND	ND	ND
Potassium	EPA 200.7	mg/L	3.3	3.3	2.9	3.6	3.3	3.0	2.6	2.7	2.8
Potassium, Dissolved	EPA 200.7	mg/L	3.7	3.05	3.0	3.06	3.2	2.9	2.8	2.6	2.8
QC Ratio TDS/SEC	Calculation	-	0.59	0.58	0.62	0.52	0.58	0.51	0.57	0.57	0.59
Reg. Org. Compounds (EPA 525)	EPA 525	µg/L	-	-	-	-	-	-	-	-	-
Salinity	SM2520B	psu	ND	ND	NA	0.3	ND	NA	NA	NA	ND
Silica as SiO2, Dissolved	EPA 200.7	mg/L	46	43	45	44.9	48.1	48.6	46.9	47.0	49.0
Sodium	EPA 200.7	mg/L	60	61	58	61	66	66	60	58	60
Sodium, Dissolved	EPA 200.7	mg/L	63	57	60	59	66	64	61	54	60
Specific Conductance (E.C)	SM2510B	µmhos/cm	565	574	572	606	569	575	595	583	594
Specific Conductance (E.C) (Field)	SM2510B	µmhos/cm	510	613	599	267	565	576	584	562	561
Strontium, Dissolved	EPA 200.8	µg/L	268	218	267	267	271	283	270	282	272
Sulfate, Dissolved	EPA 300.0	mg/L	23	24	22	22	22	21	22	19	22
Temperature (Field)	SM2550	°C	21.4	20.8	21.1	21.2	21.0	21.0	20.5	21.4	20.3
Total Diss. Solids	SM2540C	mg/L	334	334	352	360	330	292	342	332	348
Turbidity	EPA 180.1	NTU	0.10	ND	0.10	0.15	0.10	0.25	0.25	ND	ND
Turbidity (Field)	EPA 180.1	NTU	0.46	0.240	0.37	0.99	0.71	0.99	0.39	0.00	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
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).