



February 26, 2021

Ms. Alyx Karpowicz
California Regional Water Quality Control Board
San Francisco Bay Region
1515 Clay Street, Suite 1400
Oakland, CA 94612

Re: East Bay Municipal Utility District Bayside Groundwater Project, 2020 Annual Report, Order No. R2-2007-0038

Dear Ms. Karpowicz:

In accordance with the Waste Discharge Requirements of Order No. R2-2007-0038, the East Bay Municipal Utility District (EBMUD) is submitting the enclosed 2020 annual self-monitoring report (SMR) for the Bayside Groundwater Project. There were no exceedances of the permit's water quality limits.

Table 1 includes construction details for the project's groundwater monitoring wells. Table 2 summarizes historical injected and recovered water volumes. No injection of treated drinking water in the Bayside Well occurred in 2020, and no extraction events took place in 2020.

The Self-Monitoring and Reporting Program (SMP) of Order No. R2-2007-0038 requires EBMUD to implement a phased approach for groundwater quality monitoring. Table 3 of the SMP tabulates groundwater quality monitoring well groups for phased monitoring. There are a total of four groups. Group 3 monitoring, consisting of the Bayside Well, MW-2S, MW-2D¹, MW-4, MW-5D, MW-6, and MW-7, was implemented beginning in 2014.

Table 3 summarizes groundwater level elevations and depths; Table 4 presents the vertical hydraulic gradients at MW-5S, MW-5I, and MW-5D; and Tables 5 and 6 contain current and historical groundwater quality results. Figure 1 is a well location map; Figures 2 and 3 present the groundwater elevation contours on August 1, 2020 and December 1, 2020, respectively; and Figure 4 shows TDS concentration contours. Attachment B contains figures showing the monitoring wells' groundwater elevation trends in 2020.

There were no exceedances of the permit's limits for TTHMs and HAAs.

¹ EBMUD uses slightly different well names than those used in the Permit. For example, "MW-2I" is used instead of "MW-2D" and "MW-9D" instead of "MW-9." EBMUD's well naming convention is used in this Report.

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CERTIFICATION

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

If you have any questions, please contact me at (510) 287-0412 or David Behnken, Environmental Health and Safety Specialist II, at (510) 287-0327.

Sincerely,



Chandra Johannesson
Manager of Environmental Compliance



February 26, 2021

SENT VIA: EMAIL

Mr. David Behnken
Environmental Health and Safety Specialist II
East Bay Municipal Utility District
375 11th Street
Oakland, CA 94607

**Subject: EBMUD Bayside Groundwater Project, 2020 Annual Report,
Waste Discharge Requirements Order No. R2-2007-0038**

Dear Mr. Behnken:

Larry Walker Associates (LWA) has prepared this 2020 Annual Report (Report) on behalf of the East Bay Municipal Utility District (EBMUD) for the Bayside Groundwater Project (Project) located in Alameda County. LWA has prepared this Report in accordance with the Self-Monitoring and Reporting Program (SMRP) of Waste Discharge Requirements Order No. R2-2007-0038 (Permit), which was adopted by the San Francisco Regional Water Quality Control Board (Regional Board) on May 9, 2007 (Regional Board, 2007).

The Project consists of the Bayside Well and a number of additional monitoring wells constructed in the vicinity of the Bayside Well. Depth to groundwater was monitored in the Bayside Well and associated monitoring well network during 2020. Groundwater samples were collected on August 5, 10, 11, 13, 25, and 26, 2020, for analytical testing. Groundwater elevations and analytical results are provided in this Report, along with results from previous years in accordance with the SMRP, for evaluation of long-term trends.

This Report addresses the following topics:

- Project Overview
- Regulatory Requirements
- Injection and Recovery Activities
- Monitoring and Sampling Activities
- Groundwater Elevations and Flow Directions
- Groundwater Quality Results
- Conclusions

PROJECT OVERVIEW

The Project site is located in a predominantly industrial area within unincorporated portions of the City of San Lorenzo and the City of San Leandro. The Bayside Well is located at 2600 Grant Avenue in San Lorenzo. The Project area is bounded by residential communities to the north and east, and the San Francisco Bay about a half-mile to the west.

The Bayside Well is an Aquifer Storage and Recovery (ASR) well designed, constructed, and operated for injection of treated drinking water from EBMUD's distribution system into the South East Bay Plain Groundwater Basin for aquifer storage during wet years and, later, for recovery as a source of supplemental drinking water supply for EBMUD during dry years. No injection of treated drinking water took place 2020. No extraction of water occurred during 2020.

The Bayside Well was constructed with 18-inch diameter stainless steel casing and is screened from 520 feet below ground surface (bgs) to 650 feet bgs. The monitoring well network consists of 17 monitoring wells constructed to various depths (**Figure 1**). Well construction details are summarized in **Table 1**. Additional background information on the Project is provided in the Permit.

REGULATORY REQUIREMENTS

The SMRP requires groundwater level monitoring in 13 of the 17 Project monitoring wells. The 13 Project wells monitored during this reporting period were MW-1, MW-2S, MW-2I, MW-3, MW-4, MW-5S, MW-5I, MW-5D, MW-6, MW-7, MW-9D, MW-10I, and MW-10D¹. After the first year of monitoring in 2009, groundwater levels are required to be monitoring on an hourly basis in 11 of the 13 wells listed above. The exceptions to this monitoring frequency are MW-4 and MW-6, where groundwater level monitoring is required to be performed quarterly only.

To address the primary groundwater quality concern of introducing disinfection by-products (DBPs) into the groundwater basin, the SMRP requires EBMUD to implement a phased approach for sampling and monitoring groundwater quality in subsets of the Project monitoring wells. Each phase is successive and depends on certain SMRP triggers, generally related to the location of the injected water front (i.e. leading edge of the injected water). The SMRP specifies the following phased approach consisting of four groups of monitoring wells:

- Initial monitoring in Group 1 wells (Bayside Well, MW-2S, MW-2I, MW-4, and MW-10D²) is required to start three months prior to the start of Project operations and to continue on an annual basis until Group 2 monitoring is triggered.
- Monitoring of Group 2 wells (Group 1 wells plus MW-6 but excluding MW-10D) would begin once the injected water front reaches MW-4 and would continue on an annual basis until Group 3 monitoring is triggered.

¹ EBMUD uses slightly different well names than those used in the Permit. For example, "MW-2I" is used instead of "MW-2D" and "MW-9D" instead of "MW-9." EBMUD's well naming convention is used in this Report.

² Group 1 monitoring included limited monitoring at MW-10D. Specifically, the SMRP requires monitoring of MW-10D only once in the beginning of the Group 1 monitoring phase.

- Monitoring of Group 3 wells (Group 2 wells plus MW-5D and MW-7) would begin once the injected water front reaches MW-6 and would continue on an annual basis until Group 4 monitoring is triggered.
- Monitoring of Group 4 wells (Group 3 wells plus MW-10D) would begin with the detection of injected water at MW-5D or MW-7, or 15 years after initiating Project operations, whichever is earlier.

Water quality parameters are required to be measured annually per the parameters and test methods listed in Table 4 of the SMRP. These parameters include general water quality parameters, standard minerals, and DBPs. The Permit specifies water quality limits for total trihalomethanes (TTHMs) at 80 micrograms per liter ($\mu\text{g/L}$), and haloacetic acids (HAAs) at 60 $\mu\text{g/L}$. The individual analytes are discussed below in the Groundwater Quality Results section.

The SMRP requires the submission of data from the Project's monitoring well network to the Regional Board in an annual report. Annual reports, due by March 1 of the following year, are required to include the following items, per Part A.4 of the SMRP:

- A table of water injection and recovery data, including the cumulative total volume injected and recovered since Project inception.
- Maps of well locations, groundwater elevation contours, extent of the injected water front, and extent of dissolved water quality parameters (isoconcentration maps).
- A table of location and construction details for the wells.
- A table of current groundwater depths, elevations, and horizontal and vertical gradients.
- A table of current and historical (past five years) water quality results for the wells.
- A discussion of field and laboratory results that includes conclusions, recommendations, and data anomalies.

INJECTION AND RECOVERY ACTIVITIES

No injection of treated drinking water in the Bayside Well took place in 2020 and no extractions from the Bayside Well occurred in 2020. The cumulative volumes of injected and recovered water since the Project inception in 2009 are shown in **Table 2**.

MONITORING AND SAMPLING ACTIVITIES

The SMRP requires groundwater level monitoring on an hourly basis in the applicable monitoring wells with the exception of MW-4 and MW-6, for which quarterly groundwater level monitoring is required. In early 2014, EBMUD installed new dedicated pressure transducers in the wells to collect hourly groundwater level data. Hourly groundwater level data were collected from January through December 2020.

The SMRP also requires groundwater quality monitoring following a phased approach. In 2013, EBMUD initiated monitoring of Group 2 wells, which added MW-6 to the annual monitoring well network. In 2015, EBMUD initiated monitoring of Group 3 wells, which added MW-5D and MW-7 to the annual monitoring well network, in response to the detection of chlorine residual and the HAA, dibromoacetic acid, at MW-6, as detailed in the 2013 Annual Report.

EBMUD collected the 2020 groundwater samples from the required monitoring wells. The required annual water quality sampling was performed on August 5, 10, 11, 13, 25, and 26, 2020.

Submersible pumps fitted with new tubing were used to purge and sample groundwater monitoring wells MW-2S, MW-2I, MW-4, MW-5D, MW-6 and MW-7. The Bayside Well was purged using the dedicated downhole turbine pump with the sample collected from a spigot at the wellhead. Purge water was disposed of on permeable ground adjacent to monitoring wells. Purge water from the Bayside Well was pumped to an onsite holding tank and eventually discharged to Oro Loma Sanitary District (OLSD) under an ‘over the counter’ permit per OLSD Ordinance No. 35-16, including Attachment A to Resolution No. 3627. No surface water discharges occurred during the 2020 reporting period.

Groundwater monitoring and sampling were completed using the following procedures:

1. Measured static water level within each well and calculated three well casing volumes required for purging in accordance with United States Environmental Protection Agency (USEPA) groundwater sampling protocols.
2. Purged the well until three well casing volumes were removed.
3. Measured field water quality parameters (pH, specific conductance, and temperature) periodically during purging.
4. Collected samples in containers with appropriate preservatives in accordance with USEPA sampling protocols for individual constituents.
5. Measured residual chlorine immediately after sample collection.
6. Transported samples to EBMUD's state-certified laboratory in a cooler under chain of custody for analytical testing.

Attachment A provides well purge logs, including the static water level, purge volumes, and field parameter measurements.

GROUNDWATER ELEVATIONS AND FLOW DIRECTIONS

Static depth to groundwater levels measured prior to well purging and sampling in 2020 are summarized in **Table 3**, along with calculated groundwater elevations. The calculated groundwater elevations are based on the reference elevations noted in **Table 1**. The historical static water levels and groundwater elevations are also provided in **Table 3**.

Groundwater elevations derived from the pressure transducers installed in May 2014 and corrected for barometric pressures are plotted by well for January through December 2020 (**Attachment B**). These elevations were calculated by EBMUD staff. It should be noted that MW-7, which was damaged in prior years and unable to generate water quality samples, was repaired on December 6, 2018, and modified with a flush mount surface, resulting in a groundwater elevation shift of approximately -2.78 feet.

Groundwater elevation contour maps were generated using groundwater elevation data collected at specific times using the pressure transducers. Groundwater elevation contours for August 1, 2020, corresponding to a low tide in San Francisco Bay, are shown on **Figure 2**. Groundwater elevation contours for December 1, 2020, corresponding to a high tide in San Francisco Bay, are shown on **Figure 3**. As shown on **Figures 2** and **Figure 3**, the groundwater flow direction was

primarily to the north-northeast at both low tide (**Figure 2**) and high tide (**Figure 3**). The horizontal hydraulic gradients were variable with lower gradients generally further from the bay and higher gradients closer to the bay.

Groundwater elevations during low tide ranged from -17.55 feet above mean sea level (amsl) to -12.00 feet amsl for the five wells shown on **Figure 2**. Groundwater elevations during high tide ranged from -17.86 feet amsl to -11.39 feet amsl at the same wells (**Figure 3**).

Vertical hydraulic gradients were calculated based on groundwater elevations and the distance to the center of the screened interval specified in **Table 4** for the nested wells MW-5S, MW-5I, and MW-5D. Specifically, vertical gradients were calculated for a low tide using groundwater elevation data from around 5:00 on August 1, 2020, and for a high tide using groundwater elevation data from around 11:00 on December 1, 2020. The calculated vertical gradients for these dates, including supporting data for the calculations, are presented in **Table 4**. The overall vertical gradient under both conditions was downward at approximately 0.037 feet per foot. These results are consistent with the vertical gradients reported in the 2019 Annual Report.

GROUNDWATER QUALITY RESULTS

The 2020 analytical results are included in the following tables, along with historical water quality results for the previous six years (2014 through 2019):

- **Table 5** includes data for general water quality parameters (e.g. pH, chlorine residual, total dissolved solids (TDS), ammonia, nitrate, chloride, manganese, and iron) and standard minerals (e.g. calcium, magnesium, potassium, sodium, sulfate, total alkalinity [including alkalinity series], and hardness).
- **Table 6** includes data for DBPs (e.g. TTHMs and HAAs including their individual components).

Copies of the analytical laboratory reports for the 2020 water quality data are provided in **Attachment C**.³ The laboratory report for the Bayside Well also includes data collected by EBMUD for additional constituents beyond those presented in **Table 5** and **Table 6**. These results are for “Title 22” parameters that would be of interest in a future water system permit application to the State.

For wells with pre-2020 data (Bayside Well, MW-2S, MW-2I, MW-4, MW-5D, MW-6 and MW-7), the 2020 water quality results summarized in **Table 5** are generally consistent. A number of parameters detected in MW-2S have significantly higher concentrations than the same parameter detected in the other monitoring wells and calcium in MW-2S was noted to be abnormally low in 2020 compared to historical data. Monitoring well MW-2S is a much shallower well and may be affected by seawater intrusion.

For the 2020 groundwater quality results summarized in **Table 5**, TDS has been used as a representative constituent to evaluate overall groundwater quality conditions. The isoconcentration contours shown on **Figure 4** are based on TDS concentrations for deep

³ The laboratory reports in Attachment C include results for additional parameters beyond those required by the SMRP. EBMUD collected this information for reasons unrelated to the Permit and SMRP. These data are not discussed in this Report.

monitoring wells, including the Bayside Well, MW-4, MW-5D, MW-6 and MW-7. The isoconcentration contours indicate the lowest concentration of 160 milligrams per liter (mg/L) occurs at the Bayside Well with increasing TDS concentrations in a northerly direction (i.e. further inland). The highest TDS concentration of 460 mg/L was detected at well MW-5D. TDS concentrations increase in a northeasterly direction away from the Bayside Well. The TDS concentration trend shown on **Figure 4** is similar in shape and direction to the northeasterly groundwater gradients (**Figure 2** and **Figure 3**). Comparison between Figures 2, 3 and 4 shows that TDS concentrations increase hydraulically downgradient from the Bayside Well.

The current DBPs data summarized in **Table 6** are consistent with the historical groundwater monitoring results. A few analytes were above the method detection limits (MDLs) and the combined DBPs as HAA(5),⁴ HAA(9),⁵ and TTHMs are within the range of historical results in the monitoring wells. Results are notable for the Bayside Well with elevated results for chloroform and bromodichloromethane that are comparable to results in 2018. The data indicates there are no exceedances of the Permit's water quality limits for HAAs and TTHMs at 60 µg/L and 80 µg/L, respectively.

CONCLUSIONS

EBMUD conducted the 2020 groundwater monitoring for the Bayside Groundwater Project site in accordance with the Self-Monitoring and Reporting Program of Waste Discharge Requirements Order No. R2-2007-0038. EBMUD will continue to implement groundwater monitoring for the Group 3 wells during 2021. The 2021 Annual Report will be submitted to the Regional Board by March 1, 2022.

⁴ HAA(5) includes the sum of dibromoacetic, dichloroacetic, monobromoacetic, monochloroacetic, and trichloroacetic acids.

⁵ HAA(9) includes the sum of all nine haloacetic acids.

East Bay Municipal Utility District Bayside Groundwater Project Annual Report 2020

Prepared for

East Bay Municipal Utility District
February 2021

The material and data in this report, including all attachments and supplemental information, were prepared under the supervision and direction of the undersigned. The information submitted is, to the best of my knowledge, true, accurate, and complete.



Alina Constantinescu

Alina Constantinescu
P.E. C72181



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- Attachment B. Groundwater Elevation Trends for Monitoring Wells
- Attachment C. Analytical Lab Reports for 2020 Water Quality Monitoring

LIST OF REFERENCES

1. San Francisco Regional Water Quality Control Board (Regional Board). Order No. R2-2007-0038. *Waste Discharge Requirements for East Bay Municipal Utility District, Bayside Groundwater Project, San Lorenzo, Alameda County*. Adopted May 9, 2007.

Table 1. Groundwater Monitoring Well Construction Details

Well ID	Latitude	Longitude	Address	City	Completion Date	Drilled Depth, feet bgs ^(a)	Casing Depth, feet bgs	Depth to Top of Perforation, feet bgs	Depth to Bottom of Perforation, feet bgs	Casing Diameter, inches	Reference Elevation, feet amsl ^(b)	Reference Location on Well	
MW-1	37° 40' 4.8"	122° 9' 25.2"	2600 Grant Avenue	San Lorenzo		665	650	520	640	2	8.71	Top of steel casing	
MW-2S						210	60	40	60	2	9.90	Top of steel casing	
MW-2I ^(c)						210	200	160	190	2			
MW-3	37° 40' 4.8"	122° 9' 28.8"					665	660	520	650	2	8.12	Top of steel casing
MW-4	37° 40' 11.6"	122° 9' 28.8"	2575 Grant Avenue				705	650	520	650	2	8.96	Top of steel rim
MW-5S	37° 40' 34.4"	122° 9' 06.6"	2006 Via Barrett			Sep. 2008	460	210	200	210	2	13.88	Seal of vault lid at easterly edge
MW-5I	37° 40' 34.4"	122° 9' 06.6"	2005 Via Barrett			Sep. 2008	460	325	315	325	2		
MW-5D	37° 40' 34.4"	122° 9' 06.6"	2007 Via Barrett			Feb. 2001	1,025	640	500	630	4	13.76	Top of casing at northerly edge
MW-6	37° 40' 07"	122° 9' 04.5"	15600 Worthley			Nov. 2000	1,000	655	480	650	4	9.46	Top of casing at easterly edge
MW-7	37° 39' 56.5"	122° 8' 44.2"	Western tip of San Lorenzo Park			Dec. 2018	972	680	510	630	4	4.64	Top of vault lid ^(e)
MW-8D	37° 43' 04"	122° 11' 50.3"	1970 Davis Street				910	490	420	480	2	14.76	Top of steel rim
MW-9S	37° 41' 11"	122° 6' 46"	589 E. Lewelling Avenue			Jan. 2008	460	120	110	120	2	54.39	Seal of vault lid at westerly edge
MW-9I						Jan. 2008	460	210	200	210	2		
MW-9D ^(d)					Jan. 2008	460	335	325	335	2			
MW-10S	37° 41' 19"	122° 9' 43"	15526 Wick Boulevard	San Leandro	Sep. 2008	680	120	100	120	2	11.76	Seal of vault lid at easterly edge	
MW-10I					Sep. 2008	680	360	340	360	2			
MW-10D					Sep. 2008	680	610	590	610	2			

(a) bgs = below ground surface
 (b) amsl = above Mean Sea Level
 (c) Well MW-2I is referred to in the Permit as "MW-2D."
 (d) Well MW-9D is referred to in the Permit as "MW-9."
 (e) Well surface completion was modified to fix the monitoring well. The difference between the top of casing reference point and current flush mounted vault was measure to be 2.78 feet, which will be used until MW-7 is resurveyed.

Table 2. Historical Injected and Recovered Water Volumes

Year	Injected Volume, gallons	Recovered Volume, gallons
2009	445,000	4,545,000
2010	0	113,000,000
2011	28,432,401	0
2012	0	0
2013	0	0
2014	0	0
2015	0	0
2016	0	0
2017	1,310,000	0
2018	8,340,000	0
2019	8,390,000	0
2020	0	0
Total	46,917,401	117,545,000

Table 3. Summary of Groundwater Elevation and Depth

Measurement Date	Groundwater Elevation, ft amsl								Depth to Groundwater, ft							
	Bayside	MW-1 ^(a)	MW-2S	MW-2I	MW-4	MW-6	MW-5D	MW-7	Bayside	MW-1	MW-2S	MW-2I	MW-4	MW-6	MW-5D	MW-7
12/8/08			0.99		-4.07	^(b)					8.78 ^(c)		12.68 ^(c)			
12/9/08		-5.06		1.09						13.74 ^(c)		8.73 ^(c)				
12/14/09					-3.75								12.71			
12/15/09			0.95	1.44							8.95	8.46				
12/8/10	-7.22		1.71	0.25	-7.45				15.6		8.19	9.65	16.41			
12/21/11		-4.16	1.12	3.59	-4.17					12.87	8.78	6.31	13.13			
1/5/12		-3.94	1.04	6.24	-3.97					12.65	8.86	3.66	12.93			
12/13/12		-4.49	2.38	1.72	-4.16	-4.52				13.20	7.52	8.18	13.12	13.98		
12/18/13		-4.06	1.59	0.37	-6.68	-6.46				12.77	8.31	9.53	15.64	15.92		
12/12-12/17/14		-6.54	2.75	0.18	-6.01	-5.99	-5.76	^(d)		15.25	7.15	9.72	14.97	15.45	19.52	^(d)
11/16-12/15/15		-5.48	2.90	0.32	-4.94	^(d)	-5.87	^(d)		14.19 ^(f)	7.00	9.58	13.9	^(e)	19.63	^(d)
12/21-12/27/16		-2.00	2.90	2.88	-1.95	-1.96	-1.96	^(d)		10.71	7.00	7.02	10.91	11.42	15.72	^(d)
12/19-12/20/17		-5.05	1.86	-1.07	-1.42	-1.80	-1.47	^(d)		13.76	8.04	10.97	10.38	11.26	15.23	^(d)
12/5-12/19/18		-11.12	1.62	-2.17	-2.36	-2.11	-2.14	-4.30		19.83	8.28	12.07	11.32	11.57	15.90	8.94
10/8-10/24/19		-12.43	1.92	-3.39	-2.06	-3.39	-3.06	-5.98		21.14	7.98	13.29	11.02	12.85	16.82	10.62
8/5-8/26/20		-12.36	3.78	-3.32	-3.57	-2.65	-3.55	-8.93		21.07	6.12	13.22	12.53	12.11	17.31	13.57

^(a) Groundwater elevation is averaged over the measurement date period from transducer data, and used to calculate the depth to groundwater using the surveyed elevation.

^(b) Gray shaded cells indicate that no monitoring was required for the well at that time period, reflecting the transition between monitoring groups.

^(c) Applicable well reference elevations are different from those in Table 1.

^(d) Well MW-7 was damaged in 2012, and accurate data collection was not feasible until 2016. In 2017, a sample wasn't collected because the pump EBMUD owns was found to be incompatible with the well.

^(e) Well MW-6 was not monitored in late 2015 due to a pump equipment failure.

^(f) Depth to Groundwater for MW-1 was incorrectly reported in the 2015 Annual Report as -13.56 ft.

Table 4. Calculated Vertical Hydraulic Gradients for Low Tide and High Tide in San Francisco Bay

Nested Well	Measurement Date and Time	Screened Interval, ft	Center of Screened Intervals, ft bgs	Groundwater Elevation, ft amsl	Shallow to Intermediate Vertical Gradient, ft/ft	Intermediate to Deep Vertical Gradient, ft/ft	Shallow to Deep Vertical Gradient, ft/ft	Vertical Gradient Direction
Low Tide								
MW-5S	8/1/2020 @ 05:00	200 - 210	205	-3.95	0.110	--	0.037	downward
MW-5I	8/1/2020 @ 05:00	315 - 325	320	-16.64		0.004		
MW-5D	8/1/2020 @ 05:00	500 - 630	575	-17.55		--		
High Tide								
MW-5S	12/1/2020 @ 11:00	200 - 210	205	-3.75	0.120	--	0.038	downward
MW-5I	12/1/2020 @ 11:00	315 - 325	320	-17.50		0.001		
MW-5D	12/1/2020 @ 11:00	500 - 630	575	-17.86		--		

Table 5. Current and Historical Groundwater Quality Results for General Water Quality Parameters and Standard Minerals^(a)

Sample Date	General Water Quality Parameters								Standard Minerals									
	pH	Chlorine Residual, mg/L	TDS, mg/L	Ammonia, mg/L	Nitrate as N, mg/L	Chloride, mg/L	Manganese, µg/L	Iron, µg/L	Calcium, mg/L	Magnesium, mg/L	Potassium, mg/L	Sodium, mg/L	Sulfate, mg/L	Hardness, mg/L	Alkalinity (as CaCO ₃)			
															Total, mg/L	Hydroxide, mg/L	Carbonate, mg/L	Bicarbonate, mg/L
Bayside Well																		
12/17/2014	8.19	ND	130	0.42	<0.009	15	23.0	52.3	14.7	3.88	1.07	28.0	15	70	69	<0.1	0.99	68
11/16/2015	7.68	0.10	75	<0.3	<0.009	15	22.3	215	13.5	3.64	1.01	23.3	16	48	70	<0.1	<0.1	70
12/7/2016	8.09	0.10	140	0.11	<0.009	17	16.2	70.2	16.4	4.15	1.13	27.1	18	55	68	<0.1	<0.1	68
12/5/2017	7.91	ND	150	0.25	<0.040	16	12.9	66.5	16.5	4.17	1.19	25.0	21	62	68	<0.1	<0.1	68
12/5/2018	7.93	<0.02	170	0.280	0.12	13	13.2	946	23.2	7.66	1.34	24.0	32	94	89	<0.10	<0.10	89
10/8/2019	6.85	<0.02	190	<0.25	<0.035	15	17.0	75.6	21.5	6.65	1.30	24.7	34	87	95	<0.10	<0.10	95
8/25/2020	8.10	0.20	160	<0.25	0.20	13	11.7	269	19.9	6.32	1.19	21.5	23	84	88	<0.10	<0.10	88
MW-2S																		
12/13/2014	6.57	0.20	83,000	<0.3	23(b)	39,000	36,900	<31.2	1,230	2,680	462	22,000	6,100	17,000	380	<0.1	0.13	380
12/10/2015	6.85	ND	76,000	<0.3	27	41,000	21,900	76.8	1,250	3,040	401	20,500	5,200	16,000	390	<0.1	<0.1	390
12/27/2016	6.73	0.07	77,000	0.34	<0.65	42,000	38,100	<62.4	1,330	3,150	510	20,600	5,700	16,000	390	<0.1	<0.1	390
12/19/2017	6.27	ND	73,000	1.23	<11	41,000	33,200	<62.4	1,210	2,800	501	21,200	5,500	17,000	390	<0.1	<0.1	390
12/11/2018	6.66	1	74,000	0.952	<1	41,000	33,200	<52.0	1,150	3,090	439	23,400	5,500	16,000	400	<0.10	<0.10	400
10/22/2019	6.72	0.4	82,000	0.760	<35	42,000	37,400	<54.1	1,240	2,870	405	20,700	5,500	16,000	400	<0.10	<0.10	400
8/11/2020	6.62	0.3	76,000	<0.25	<18	43,000	33,900	<108	280	2,710	495	20,500	5,600	17,000	410	<0.10	<0.10	410
MW-2I																		
12/12/2014	7.90	ND	520	1.1	<0.009	81	98.7	213	14.6	12.6	5.33	153	31	94	310	<0.1	2.3	310
12/15/2015	7.75	ND	490	0.56	0.044	59	105	177	14.4	12.5	6.73	156	34	90	300	<0.1	<0.1	300
12/27/2016	8.10	0.02	540	0.28	0.18	84	111	98.0	15.2	13.2	6.16	148	30	94	320	<0.1	<0.1	320
12/19/2017	7.69	0.05	630	1.0	0.18	150	139	1,220	17.8	15.9	7.61	193	13	130	350	<0.1	<0.1	350
12/11/2018	7.83	<0.02	620	0.280	<0.019	120	124	1,260	15.8	14.2	5.87	184	22	110	330	<0.10	<0.10	330
10/9/2019	7.67	0.20	690	<0.25	<0.07	150	123	458	17.8	15.7	5.82	191	12	120	360	<0.10	<0.10	360
8/26/2020	7.75	0.60	710	<0.25	<0.07	160	138	B 422	19.4	17.3	7.06	B 207	7.3	64	380	<0.10	<0.10	380
MW-4																		
12/16/2014	8.22	0.10	450	<0.3	0.028	56	239	33.7	32.2	12.8	2.72	113	39	130	270	<0.1	4.2	270
12/8/2015	7.98	ND	420	<0.3	0.039	56	215	32.5	28.8	11.7	3.08	106	41	130	250	<0.1	<0.1	250
12/27/2016	8.14	ND	440	0.34	0.098	59	222	31.6	31.4	12.6	2.76	108	42	120	260	<0.1	<0.1	260
12/20/2017	7.55	ND	410	0.25	0.091	57	196	24.4	27.9	10.7	2.69	107	40	130	240	<0.1	<0.1	240
12/11/2018	7.73	<0.02	380	0.280	<0.019	48	192	39.1	24.6	9.01	2.12	102	37	100	220	<0.10	<0.10	220
10/9/2019	7.63	0.20	420	<0.25	<0.070	53	199	32.2	26.7	9.98	2.18	97.1	40	120	240	<0.10	<0.10	240
8/11/2020	7.89	0.20	390	<0.25	<0.035	49	179	21.5	23.7	8.98	2.25	92.3	38	--	230	<0.10	<0.10	230
MW-5D																		
12/16/2014	7.00	0.40	490	<0.3	<0.009	96	241	180	42.8	10.8	2.59	123	46	150	230	<0.1	0.22	230
11/18/2015	7.53	0.20	450	<0.3	<0.009	82	175	46.4	35.6	9.06	2.30	112	49	140	240	<0.1	<0.1	240
12/21/2016	7.68	0.02	470	<0.3	<0.013	84	195	34.6	39.0	9.74	2.34	130	49	130	230	<0.1	<0.1	230
12/19/2017	7.55	ND	410	<0.25	<0.091	57	196	24.4	27.9	10.70	2.69	107	40	130	240	<0.1	<0.1	240
12/10/2018	7.57	<0.02	460	0.280	0.19	79	197	270	35.6	9.13	1.96	112	46	130	230	<0.10	<0.10	230
10/10/2019	7.10	0.10	460	<0.25	<0.070	81	188	58.0	35.2	8.58	1.79	107	51	140	240	<0.10	<0.10	240
8/10/2020	7.56	0.60	460	<0.25	<0.035	84	179	197.0	32.3	8.25	2.20	100	50	140	230	<0.10	<0.10	230

Table 5. Current and Historical Groundwater Quality Results for General Water Quality Parameters and Standard Minerals^(a)

Sample Date	General Water Quality Parameters								Standard Minerals									
	pH	Chlorine Residual, mg/L	TDS, mg/L	Ammonia, mg/L	Nitrate as N, mg/L	Chloride, mg/L	Manganese, µg/L	Iron, µg/L	Calcium, mg/L	Magnesium, mg/L	Potassium, mg/L	Sodium, mg/L	Sulfate, mg/L	Hardness, mg/L	Alkalinity (as CaCO ₃)			
															Total, mg/L	Hydroxide, mg/L	Carbonate, mg/L	Bicarbonate, mg/L
MW-6																		
12/13/2014	7.92	0.10	430	<0.3	<0.009	58	209	25.4	34.1	8.89	2.39	110	56	120	230	<0.1	1.8	230
12/10/2015	(c)	(c)	(c)	(c)	(c)	(c)	(c)	(c)	(c)	(c)	(c)	(c)	(c)	(c)	(c)	(c)	(c)	(c)
12/27/2016	7.72	ND	400	0.34	0.17	68	192	21.0	35.6	8.25	3.00	87.7	40	120	210	<0.1	<0.1	210
12/20/2017	7.37	0.01	450	<0.3	<0.19	83	164	130.0	34.2	8.56	2.39	99	49	150	230	<0.1	<0.1	230
12/12/2018	6.9	0.10	410	0.280	<0.019	54	234	43.4	30.5	7.10	3.56	97.2	46	110	230	<0.10	<0.10	230
10/11/2019	7.17	0.50	400	<0.25	<0.070	54	171	14.9	29.2	7.34	1.91	98.5	47	110	230	<0.10	<0.10	230
8/13/2020	7.40	0.30	420	<0.25	<0.035 ^(d)	54	176	20.5	31.2	7.54	2.06	102.0	48	120	230	<0.10	<0.10	230
MW-7																		
2016	(e)	(e)	(e)	(e)	(e)	(e)	(e)	(e)	(e)	(e)	(e)	(e)	(e)	(e)	(e)	(e)	(e)	(e)
2017	(e)	(e)	(e)	(e)	(e)	(e)	(e)	(e)	(e)	(e)	(e)	(e)	(e)	(e)	(e)	(e)	(e)	(e)
12/19/2018	8.32	0.30	470	0.280	<0.095	86	236	164	36.1	8.97	2.46	118	50	130	230	<0.10	<0.10	230
10/24/2019	7.49	0.10	470	<0.25	0.33	91	207	26.4	32.8	8.44	1.77	108	54	140	230	<0.10	<0.10	230
8/5/2020	7.06	0.20	500	<0.25	<0.088	93	237	37.2	36.6	9.38	2.15	121	53	140	240	<0.10	<0.10	240

^(a) Symbols and data qualifiers are described as follows:
 "<" or "ND" indicates non-detect (ND) results, with the Method Detection Limit (MDL) shown as the value following "<".
 "B" preceding a value indicates that the parameter was detected in the laboratory blank associated with the reported result.
 "E" preceding a value indicates a detected results with a value reported as "estimated" between the MDL and the Reporting Limit.
 "--" indicates that no result was reported for the analyte on the corresponding sample date.

^(b) The analytical laboratory report notes that the analysis for nitrate exceeded the hold time for the MW-2S sample collected 12/13/2014.

^(c) Well MW-6 was not sampled in 2015 due to pump equipment failure.

^(d) The analytical laboratory report notes that the analysis for nitrate exceeded the hold time for the MW-6 sample collected 8/13/2020.

^(e) Well MW-7 was not sampled in 2016 and 2017 because the pump EBMUD owns was found to be incompatible with the well.

Table 6. Current and Historical Groundwater Quality Results for Disinfection Byproducts^(a)

Sample Date	Haloacetic Acids											Trihalomethanes				
	HAA(5), ^(b) µg/L	HAA(9), ^(c) µg/L	Bromochloroacetic Acid, µg/L	Bromodichloroacetic Acid, µg/L	Chlorodibromoacetic Acid, µg/L	Dibromoacetic Acid, µg/L	Dichloroacetic Acid, µg/L	Monobromoacetic Acid, µg/L	Monochloroacetic Acid, µg/L	Tribromoacetic Acid, µg/L	Trichloroacetic Acid, µg/L	TTHMs, ^(d) µg/L	Chloroform, µg/L	Bromodichloromethane, µg/L	Dibromochloromethane, µg/L	Bromoform, µg/L
Bayside Well																
12/17/2014	ND	ND	<0.15	<0.31	<0.31	<0.25	<0.18	<0.29	<0.65	<0.72	<0.17	<0.89	0.45	<0.079	<0.13	<0.23
11/16/2015	1.7	<3.2	<0.15	<0.31	<0.31	<0.25	<0.18	<0.29	<0.65	<0.72	0.36	<0.98	0.37	<0.145	<0.20	<0.27
12/7/2016	ND	ND	<0.15	<0.31	<0.31	<0.25	<0.18	<0.29	<0.65	<0.72	<0.17	<4.95	4.4	0.19	<0.13	<0.23
12/5/2017	1.6	<3.1	<0.15	<0.31	<0.31	<0.25	<0.18	<0.29	<0.65	<0.72	0.26	<15.56	14	1.2	<0.13	<0.23
12/5/2018	<10.4	<12.8	<0.15	1.2	<0.31	1.1	3.4	<0.29	<0.65	<0.72	5.0	<35.22	29.71	3.56	1.65	<0.3
10/8/2019	<1.5	3.3	<0.15	<0.31	<0.31	<0.25	<0.18	<0.29	<0.65	0.99	<0.17	10.51	9.14	0.67	<0.4	<0.3
8/25/2020	1.6	3.6	<0.16	<0.20	1.20	<0.28	<0.25	<0.25	<0.25	<0.35	0.61	30.82	28.26	1.86	<0.4	<0.3
MW-2S																
12/13/2014	ND	ND	<0.15	<0.31	<0.31	<0.25	<0.18	<0.29	<0.65	<0.72	<0.17	<0.609	<0.17	<0.079	<0.13	<0.23
12/10/2015	ND	ND	<0.15	<0.31	<0.31	<0.25	<0.18	<0.29	<0.65	<0.72	<0.17	<0.609	<0.17	<0.079	<0.13	<0.23
12/27/2016	ND	ND	<0.15	<0.31	<0.31	<0.25	<0.18	<0.29	<0.65	<0.72	<0.17	<0.609	<0.17	<0.079	<0.13	<0.23
12/19/2017	ND	ND	<0.15	<0.31	<0.31	<0.25	<0.18	<0.29	<0.65	<0.72	<0.17	<0.609	<0.17	<0.079	<0.13	<0.23
12/11/2018	<1.5	<3.5	<0.15	0.75	<0.31	<0.25	<0.18	<0.29	<0.65	<0.72	<0.17	<1.50	<0.4	<0.4	<0.4	<0.3
10/22/2019	<1.5	3.1	<0.15	E 0.36	<0.31	<0.25	<0.18	<0.29	<0.65	<0.72	<0.17	<1.50	<0.4	<0.4	<0.4	<0.3
8/11/2020	<1.2	<1.8	<0.16	<0.20	<0.22	<0.28	<0.25	<0.25	<0.25	--	<0.17	<1.50	<0.4	<0.4	<0.4	<0.3
MW-2I																
12/12/2014	ND	3.4	0.50	<0.31	<0.31	<0.25	<0.18	<0.29	<0.65	J <0.72	<0.17	<0.609	<0.17	<0.079	<0.13	<0.23
12/15/2015	ND	ND	<0.15	<0.31	<0.31	<0.25	<0.18	<0.29	<0.65	<0.72	<0.17	<0.609	<0.17	<0.079	<0.13	<0.23
12/27/2016	ND	ND	<0.15	<0.31	<0.31	<0.25	<0.18	<0.29	<0.65	<0.72	<0.17	<0.609	<0.17	<0.079	<0.13	<0.23
12/19/2017	ND	ND	<0.15	<0.31	<0.31	<0.25	<0.18	<0.29	<0.65	<0.72	<0.17	<0.609	<0.17	<0.079	<0.13	<0.23
12/11/2018	<1.6	<3.5	<0.15	0.73	<0.31	<0.25	<0.18	<0.29	<0.65	<0.72	E 0.22	<1.50	<0.4	<0.4	<0.4	<0.3
10/9/2019	<1.5	<3.3	<0.15	<0.57	<0.31	<0.25	<0.18	<0.29	<0.65	<0.72	<0.17	<1.50	<0.4	<0.4	<0.4	<0.3
8/26/2020	<1.2	<2.1	<0.16	<0.20	<0.22	<0.28	<0.25	<0.25	<0.25	<0.35	<0.17	1.83	0.73	<0.4	<0.4	<0.3
MW-4																
12/16/2014	<1.6	<3.1	<0.15	<0.31	<0.31	<0.25	<0.18	<0.29	0.72	<0.72	<0.17	<0.609	<0.17	<0.079	<0.13	<0.23
12/8/2015	ND	ND	<0.15	<0.31	<0.31	<0.25	<0.18	<0.29	<0.65	<0.72	<0.17	<0.609	<0.17	<0.079	<0.13	<0.23
12/27/2016	ND	ND	<0.15	<0.31	<0.31	<0.25	<0.18	<0.29	<0.65	<0.72	<0.17	<0.609	<0.17	<0.079	<0.13	<0.23
12/20/2017	ND	ND	<0.15	<0.31	<0.31	<0.25	<0.18	<0.29	<0.65	<0.72	<0.17	<0.609	<0.17	<0.079	<0.13	<0.23
12/11/2018	<1.6	<3.1	<0.15	<0.31	<0.31	E 0.27	<0.18	<0.29	<0.65	<0.72	E 0.21	<1.50	<0.4	<0.4	<0.4	<0.3
10/9/2019	<1.5	<3.0	<0.15	<0.31	<0.31	<0.25	<0.18	<0.29	<0.65	<0.72	<0.17	<1.50	<0.4	<0.4	<0.4	<0.3
8/11/2020	<1.2	<1.8	<0.16	<0.20	<0.22	<0.28	<0.25	<0.25	<0.25	--	<0.17	<1.50	<0.4	<0.4	<0.4	<0.3
MW-5D																
12/16/2014	ND	ND	<0.15	<0.31	<0.31	<0.25	<0.18	<0.29	<0.65	<0.72	<0.17	<0.609	<0.17	<0.079	<0.13	<0.23
11/18/2015	ND	ND	<0.15	<0.31	<0.31	<0.25	<0.18	<0.29	<0.65	<0.72	<0.17	<0.170	<0.17	<0.079	<0.13	<0.23
12/21/2016	ND	ND	<0.15	<0.31	<0.31	<0.25	<0.18	<0.29	<0.65	<0.72	<0.17	<0.609	<0.17	<0.079	<0.13	<0.23
12/19/2017	ND	ND	<0.15	<0.31	<0.31	<0.25	<0.18	<0.29	<0.65	<0.72	<0.17	<0.609	<0.17	<0.079	<0.13	<0.23
12/10/2018	<1.5	<3.1	E 0.19	<0.31	<0.31	<0.25	<0.18	<0.29	<0.65	<0.72	<0.17	<1.50	<0.4	<0.4	<0.4	<0.3
10/10/2019	<1.5	<3.1	E 0.18	<0.31	<0.31	<0.25	<0.18	<0.29	<0.65	<0.72	<0.17	<1.50	<0.4	<0.4	<0.4	<0.3
8/10/2020	<1.2	<1.8	<0.16	<0.20	<0.22	<0.28	<0.25	<0.25	<0.25	--	<0.17	<1.50	<0.4	<0.4	<0.4	<0.3

Table 6. Current and Historical Groundwater Quality Results for Disinfection Byproducts^(a)

Sample Date	Haloacetic Acids											Trihalomethanes				
	HAA(5), ^(b) µg/L	HAA(9), ^(c) µg/L	Bromochloroacetic Acid, µg/L	Bromodichloroacetic Acid, µg/L	Chlorodibromoacetic Acid, µg/L	Dibromoacetic Acid, µg/L	Dichloroacetic Acid, µg/L	Monobromoacetic Acid, µg/L	Monochloroacetic Acid, µg/L	Tribromoacetic Acid, µg/L	Trichloroacetic Acid, µg/L	TTHMs, ^(d) µg/L	Chloroform, µg/L	Bromodichloromethane, µg/L	Dibromochloromethane, µg/L	Bromoform, µg/L
MW-6																
12/13/2014	(e)	(e)	(e)	(e)	(e)	(e)	(e)	(e)	(e)	(e)	(e)	<0.609	<0.17	<0.079	<0.13	<0.23
12/10/2015	(f)	(f)	(f)	(f)	(f)	(f)	(f)	(f)	(f)	(f)	(f)	(f)	(f)	(f)	(f)	(f)
12/27/2016	ND	ND	<0.15	<0.31	<0.31	<0.25	<0.18	<0.29	<0.65	<0.72	<0.17	<0.609	<0.17	<0.079	<0.13	<0.23
12/19/2017	ND	ND	<0.15	<0.31	<0.31	<0.25	<0.18	<0.29	<0.65	<0.72	<0.17	<0.609	<0.17	<0.079	<0.13	<0.23
12/12/2018	<1.6	<3.1	<0.15	<0.31	<0.31	<0.25	<0.18	<0.29	<0.65	<0.72	E 0.21	<1.50	<0.4	<0.4	<0.4	<0.3
10/11/2019	<1.5	<3.0	<0.15	<0.31	<0.31	<0.25	<0.18	<0.29	<0.65	<0.72	<0.17	<1.50	<0.4	<0.4	<0.4	<0.3
8/13/2020	<1.2	<2.1	<0.16	<0.20	<0.22	<0.28	<0.25	<0.25	<0.25	<0.35	<0.17	<1.50	<0.4	<0.4	<0.4	<0.3
MW-7																
2016	(g)	(g)	(g)	(g)	(g)	(g)	(g)	(g)	(g)	(g)	(g)	(g)	(g)	(g)	(g)	(g)
2017	(g)	(g)	(g)	(g)	(g)	(g)	(g)	(g)	(g)	(g)	(g)	(g)	(g)	(g)	(g)	(g)
12/19/2018	<1.5	<3.0	<0.15	<0.31	<0.31	<0.25	<0.18	<0.29	<0.65	<0.72	<0.17	<1.50	<0.4	<0.4	<0.4	<0.3
10/24/2019	<1.5	<3.0	<0.15	<0.31	<0.31	<0.25	<0.18	<0.29	<0.65	<0.72	<0.17	<1.50	<0.4	<0.4	<0.4	<0.3
8/5/2020	<1.2	<1.8	<0.16	<0.20	<0.22	<0.28	<0.25	<0.25	<0.25	--	<0.17	<1.50	<0.4	<0.4	<0.4	<0.3

^(a) Symbols and data qualifiers are described as follows:
 "<" or "ND" indicates non-detect (ND) results, with the Method Detection Limit (MDL) shown as the value following "<", except for total haloacetic acids (HAA) and total trihalomethanes (TTHMs) as detailed below.
 "J" preceding a value indicates that the quantitation of the result does not meet the laboratory's Standard Operating Procedure criteria.
 "E" indicates that value is estimated, concentration is outside calibration range.
 "--" indicates that no result was reported for the analyte on the corresponding sample date.

^(b) HAA5 value is calculated by adding values for dibromoacetic, dichloroacetic, monobromoacetic, monochloroacetic, and trichloroacetic acids, with "<" indicating that the total includes ND data (MDLs used). If all results are ND, then the total is indicated as ND.

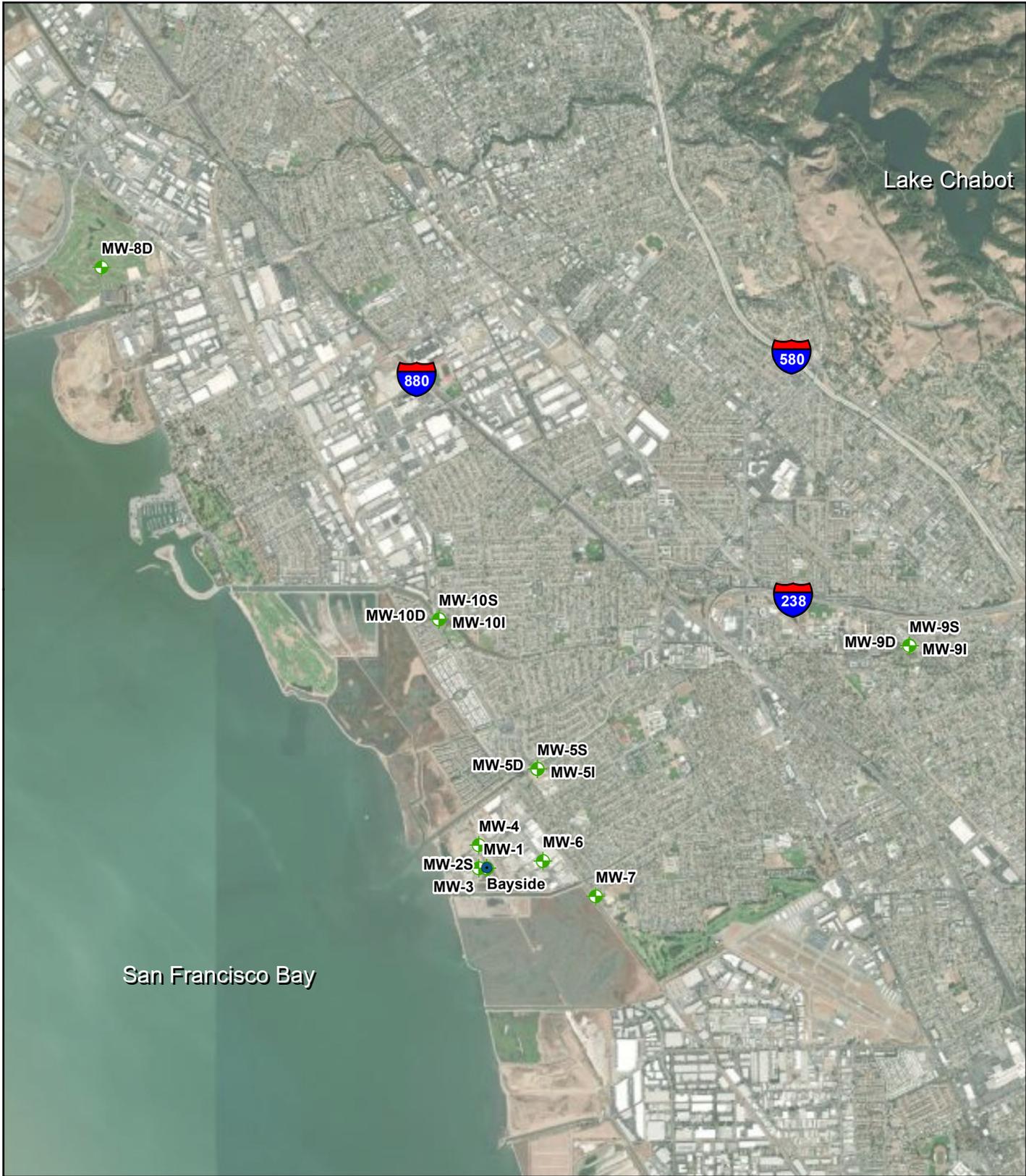
^(c) HAA9 value is calculated by adding results for all individual haloacetic acids shown, with "<" indicating that the total includes ND data (MDLs used). If all results are ND, then the total is indicated as ND.

^(d) TTHMs value is calculated by adding individual trihalomethane results (including MDLs for ND data). If ND data is included, "<" is indicated with the TTHMs result.

^(e) Well MW-6 was not monitored for haloacetic acids in 2014.

^(f) Well MW-6 was not monitored in 2015 due to pump equipment failure.

^(g) Well MW-7 was not sampled in 2016 and 2017 because the pump EBMUD owns was found to be incompatible with the well.



LEGEND

-  Groundwater Monitoring Well
-  Bayside Aquifer Storage and Recovery Well

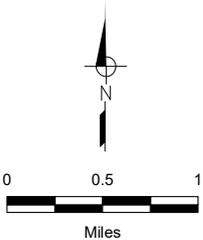
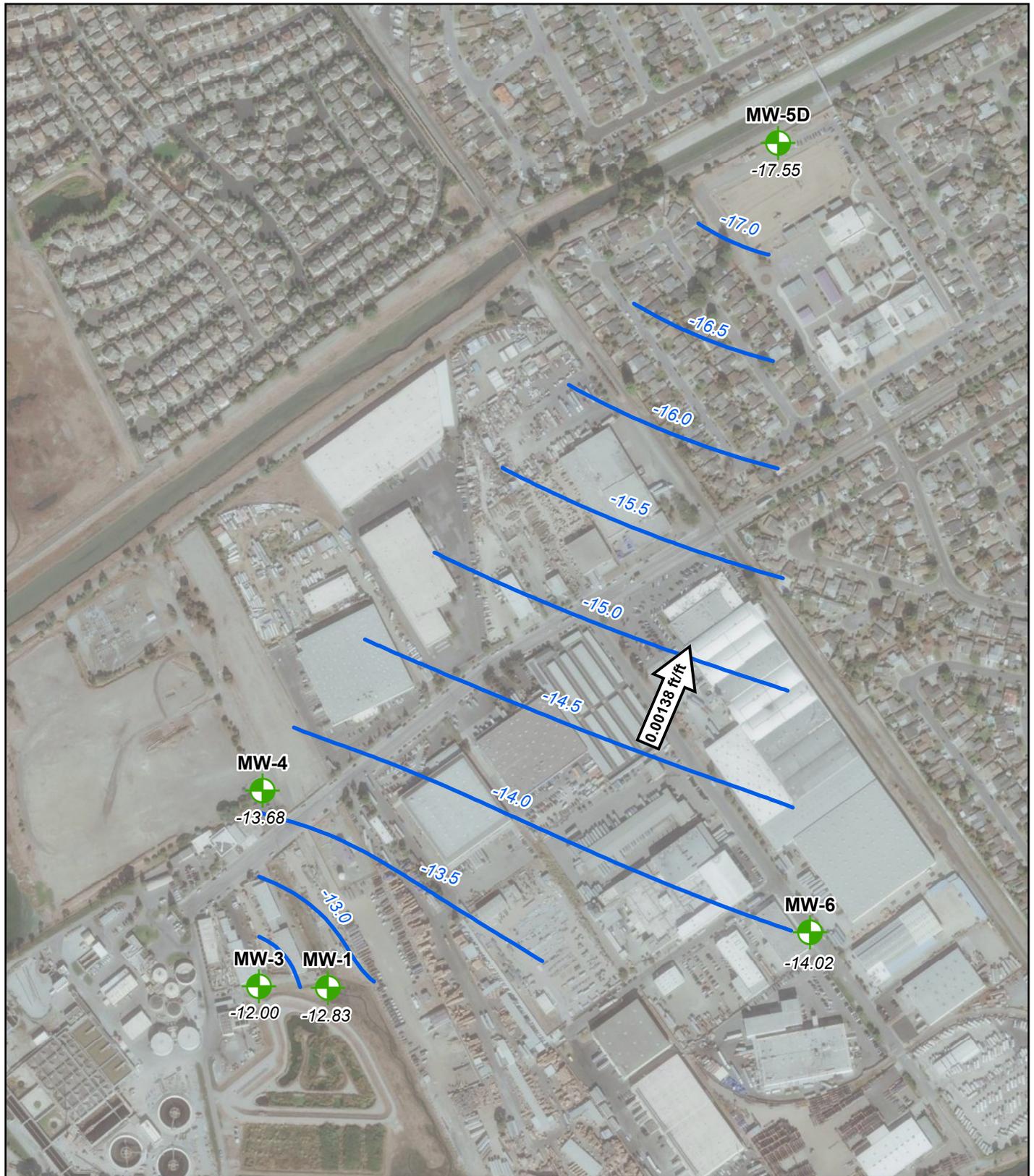


FIGURE 1
East Bay Municipal Utility District
2020 Bayside Annual Report

Well Location Map



LEGEND

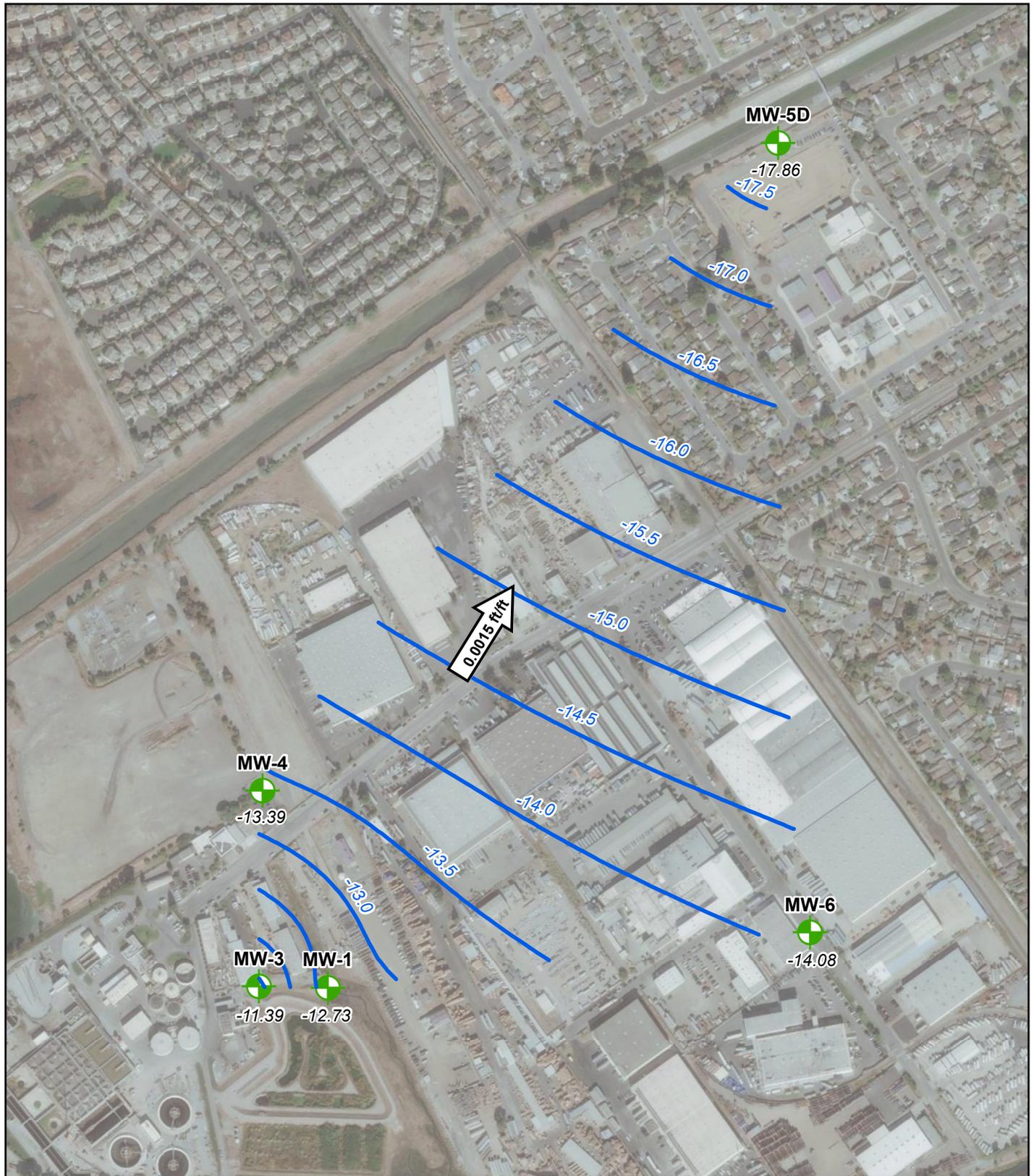
-  Groundwater monitoring well and elevation, feet above mean sea level (amsl)
 -  Groundwater elevation contour, feet amsl, dashed where approximate
 -  Approximate horizontal groundwater gradient direction and magnitude
- 

 Scale in Feet

FIGURE 2

**East Bay Municipal Utility District
2020 Bayside Annual Report**

**Groundwater Elevation Contours
Low Tide (August 1, 2020)**



LEGEND

-  Groundwater monitoring well and elevation, feet above mean sea level (amsl)
-  Groundwater elevation contour, feet amsl, dashed where approximate
-  Approximate horizontal groundwater gradient direction and magnitude

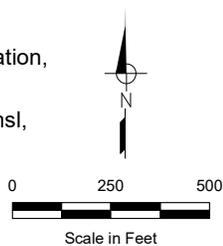


FIGURE 3

**East Bay Municipal Utility District
2020 Bayside Annual Report**

**Groundwater Elevation Contours
High Tide (December 1, 2020)**



LEGEND

-  Groundwater monitoring well and TDS concentration in mg/L.
-  TDS concentration contour.

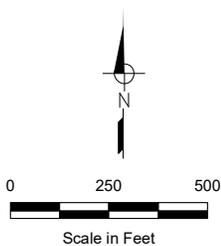


FIGURE 4

**East Bay Municipal Utility District
2020 Bayside Annual Report**

**Groundwater TDS Contours
December 2020**

Attachment A – Groundwater Purging Logs

GROUNDWATER PURGING LOG

SITE NAME: Bayside Well		
WELL NO: Bayside	INSPECTOR: NK/KK/CP	DATE: 8/25/20

PURGING DATA

WELL DIAMETER (inches): 18	TUBING DIAMETER (inches): NA	WELL SCREEN INTERVAL DEPTH: NA	INITIAL TOTALIZER READING (gal): 2,075,250	PURGE PUMP TYPE: O – dedicated well pump
-----------------------------------	-------------------------------------	---------------------------------------	--	--

WELL VOLUME PURGE:

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): NA	PURGING INITIATED AT: 10:09	PURGING ENDED AT: 1048	TOTAL VOLUME PURGED (gallons): 30,000	FINAL TOTALIZER READING (gal): 2,105,250
--	------------------------------------	-------------------------------	---	--

TIME	VOLUME PURGED (gallons)	TOTAL VOLUME PURGED (gallons)	pH (standard units)	TEMP. (°C)	COND. (circle units) mS/cm or <u>µS/cm</u>				
1022	10,000	2,085,250	6.06	19.2	282.9				
1035	10,000	2,095,250	6.88	19.0	236.5				
1048	10,000	2,105,250	7.24	19.2	227.4				

WELL CAPACITY (Gallons Per Foot): 2" = 0.16; 4" = 0.65	
PURGING EQUIPMENT CODES: B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)	

GROUNDWATER PURGING LOG

SITE NAME: Bayside Wells		
WELL NO: 4	INSPECTOR: P/GE	DATE: 8/11/20

PURGING DATA

WELL DIAMETER (inches): 2	TUBING DIAMETER (inches): 1/2	WELL SCREEN INTERVAL DEPTH: 520 feet to 650 feet	STATIC DEPTH TO WATER (feet): 2.53	PURGE PUMP TYPE: ESP
---------------------------	-------------------------------	--	---	----------------------

WELL VOLUME PURGE: (650 ft - 2.53 ft) X 0.16 gal/ft = 101.99 gallons X 3 = 305.98 total purge gallons

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 30	PURGING INITIATED AT: 910	PURGING ENDED AT: 1000	TOTAL VOLUME PURGED (gallons): 319.2	FINAL STATIC DEPTH TO WATER (feet): 2.47
--	----------------------------------	-------------------------------	---	---

TIME	VOLUME PURGED (gallons)	TOTAL VOLUME PURGED (gallons)	pH (standard units)	TEMP (°C) *	COND. (circle units) mS/cm or μS/cm				
930	79.8	79.8	7.59	25	648				
940	79.8	159.6	7.78	25	608				
950	79.8	239.4	7.82	25	594				
1000	79.8	319.2	7.84	25	594				

* Temp meter malfunctioning.

Attachment B – Groundwater Elevation Trends for Monitoring Wells

Figure B-1. 2020 MW-1 Groundwater Elevation Trend

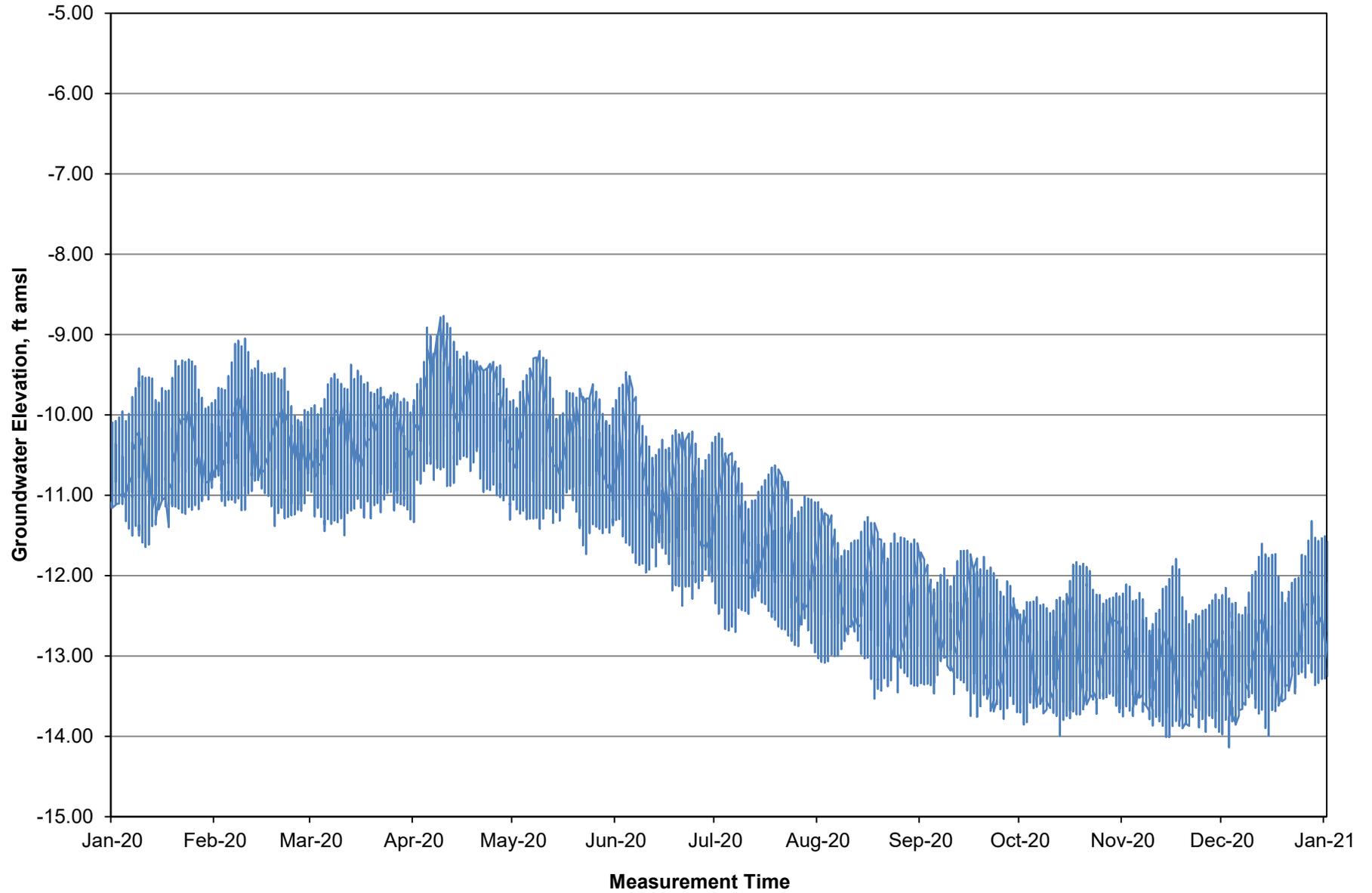


Figure B-2. 2020 MW-2S Groundwater Elevation Trend

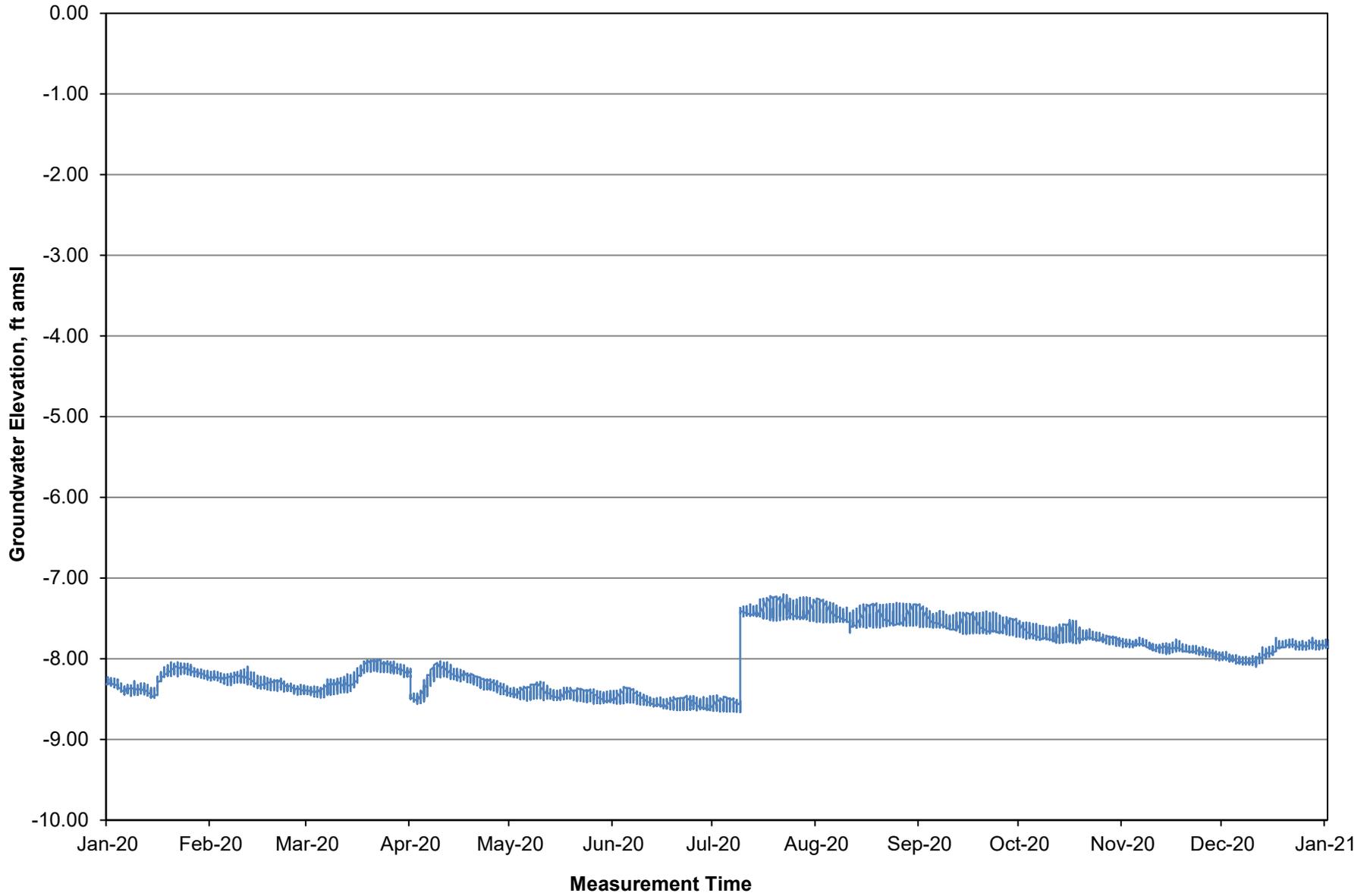


Figure B-3. 2020 MW-21 Groundwater Elevation Trend

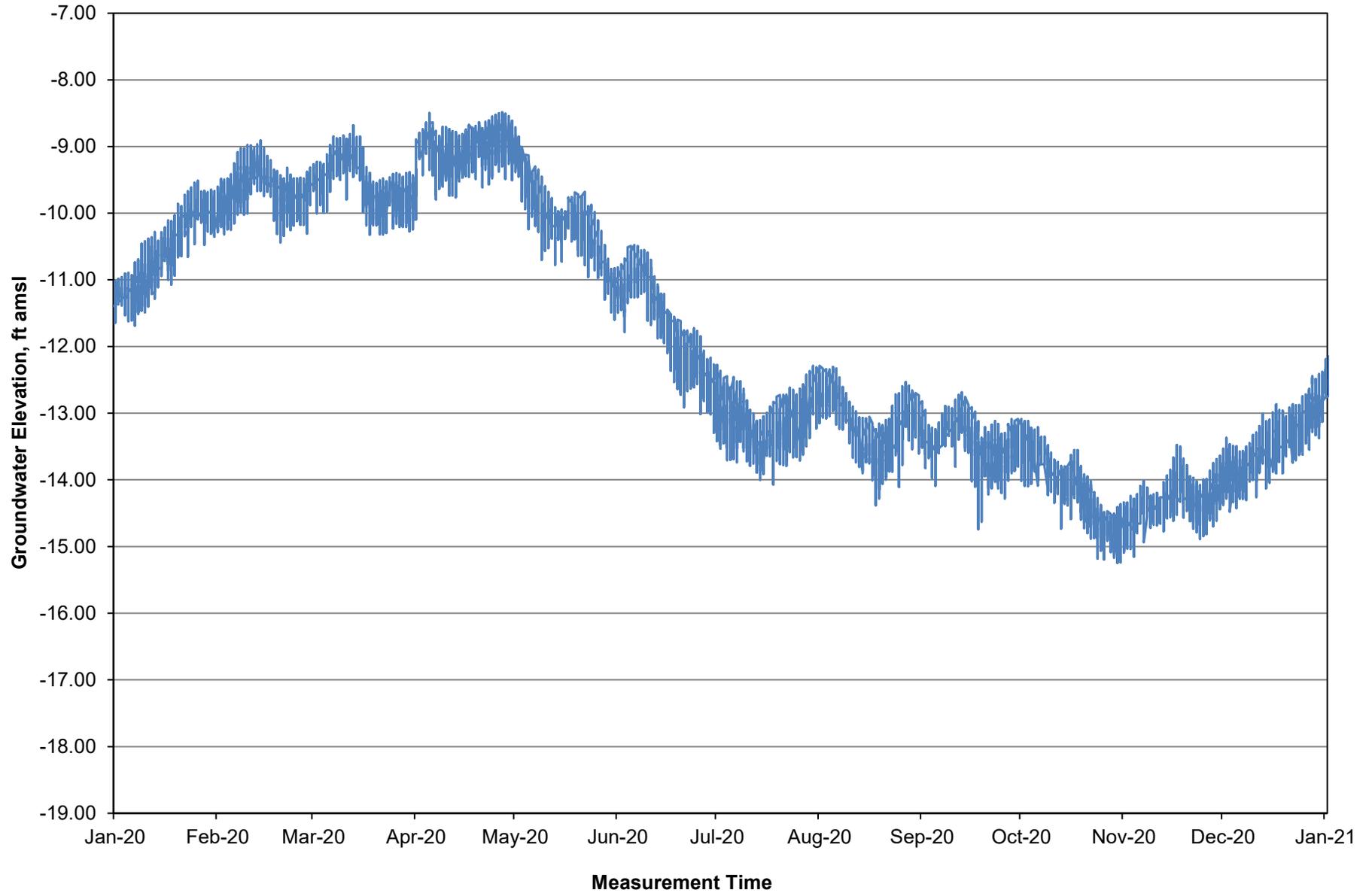


Figure B-4. 2020 MW-3 Groundwater Elevation Trend

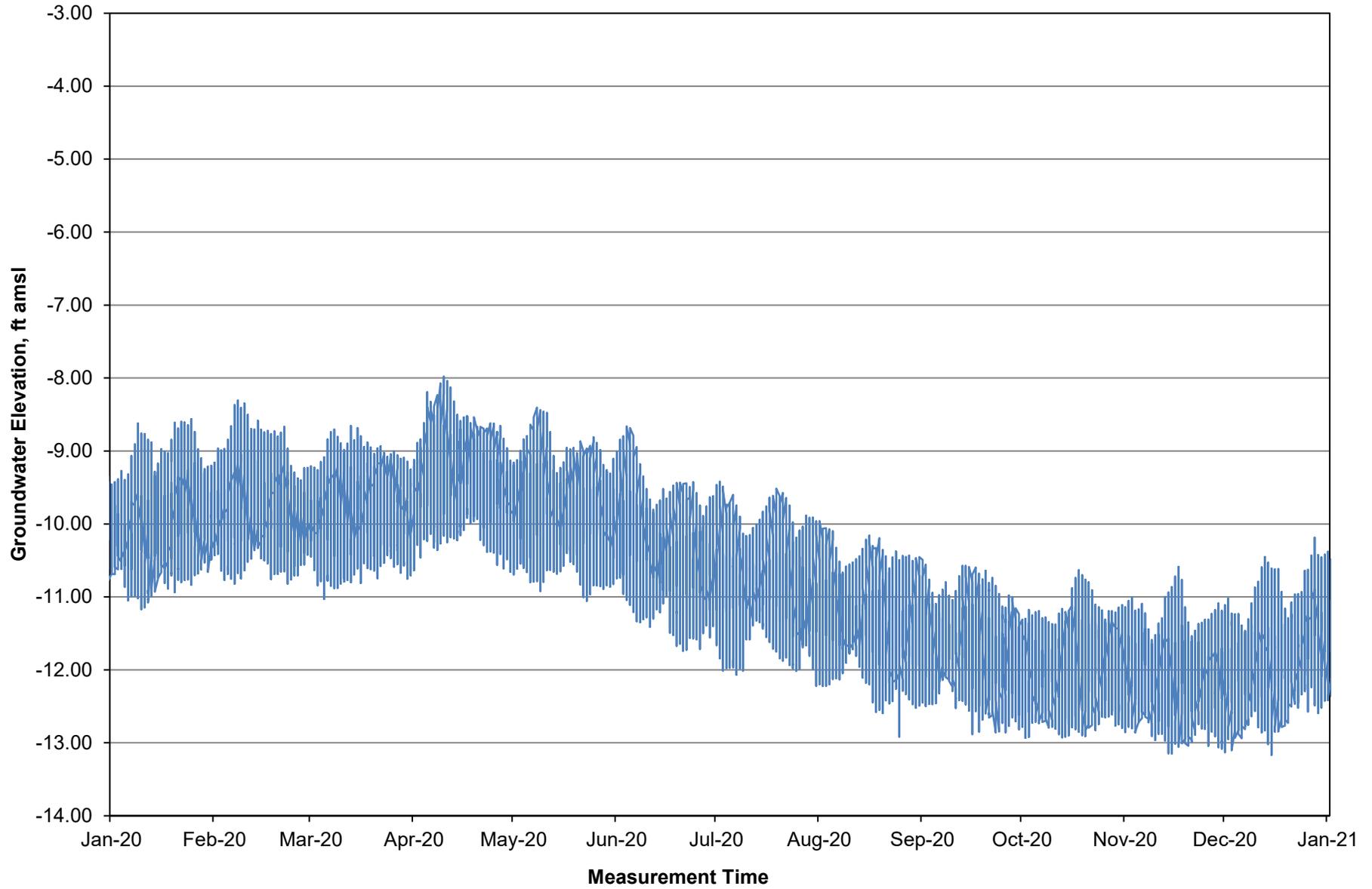


Figure B-5. 2020 MW-4 Groundwater Elevation Trend

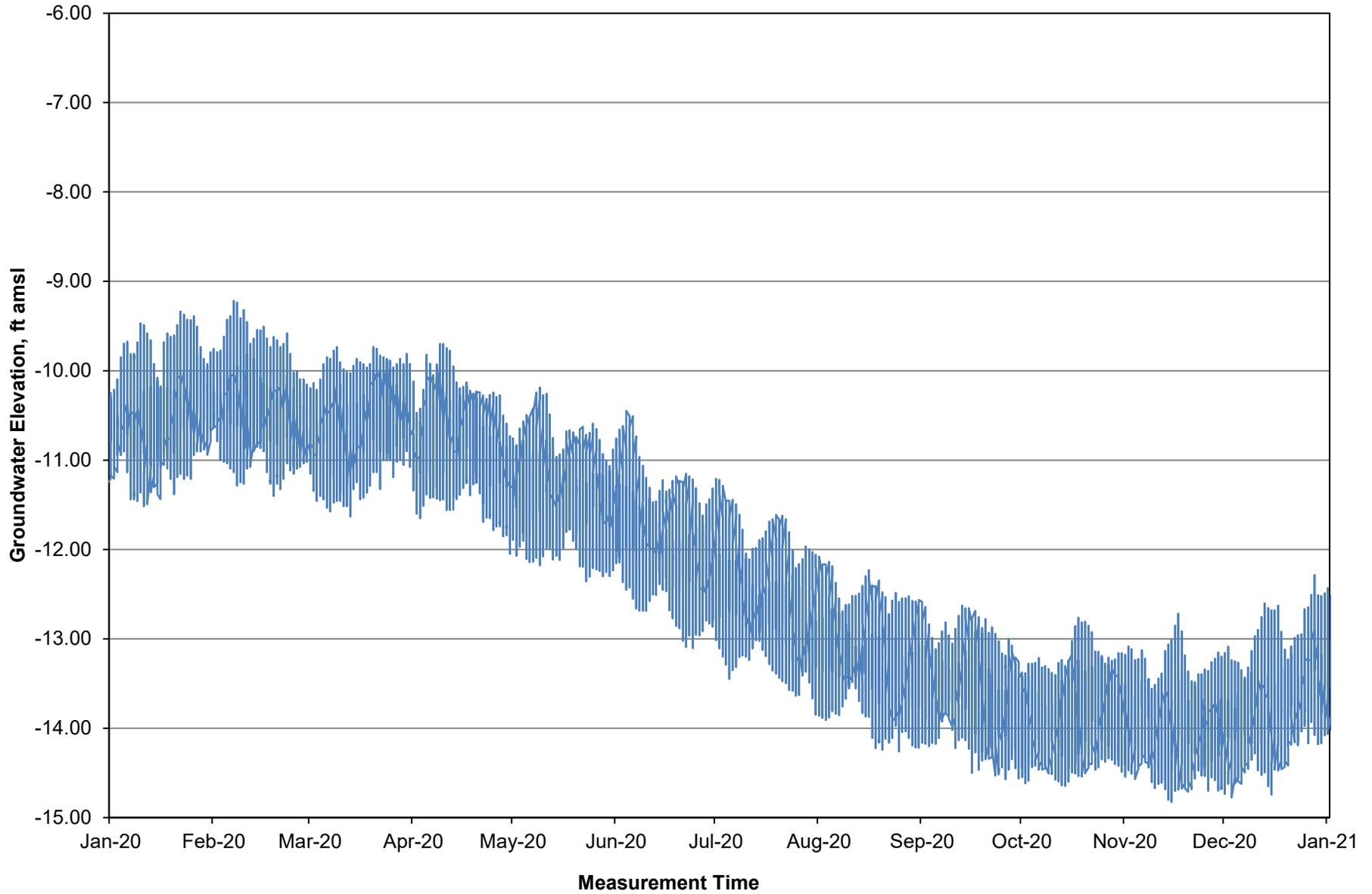


Figure B-6. 2020 MW-5S Groundwater Elevation Trend

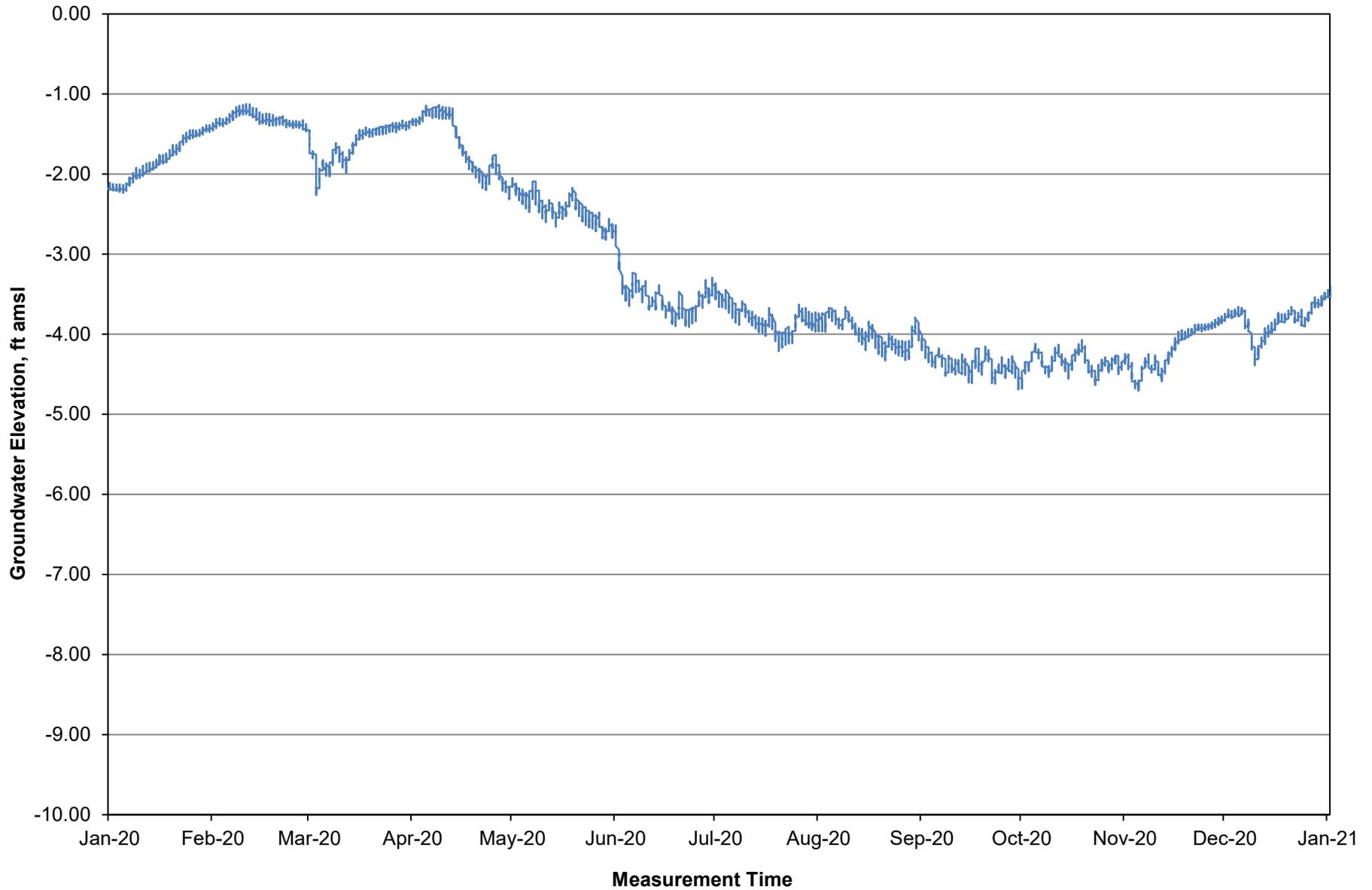


Figure B-7. 2020 MW-5I Groundwater Elevation Trend

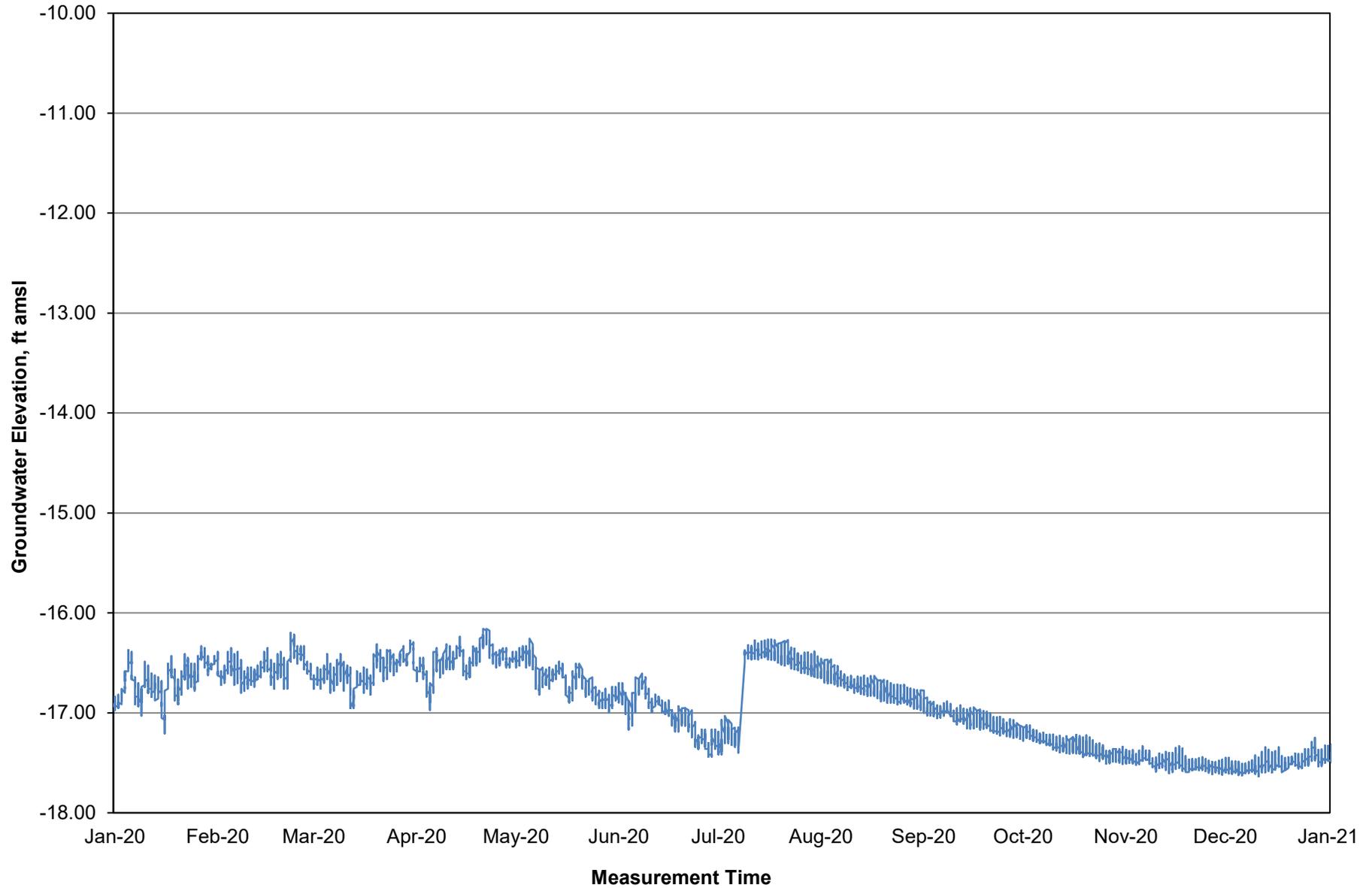


Figure B-8. 2020 MW-5D Groundwater Elevation Trend

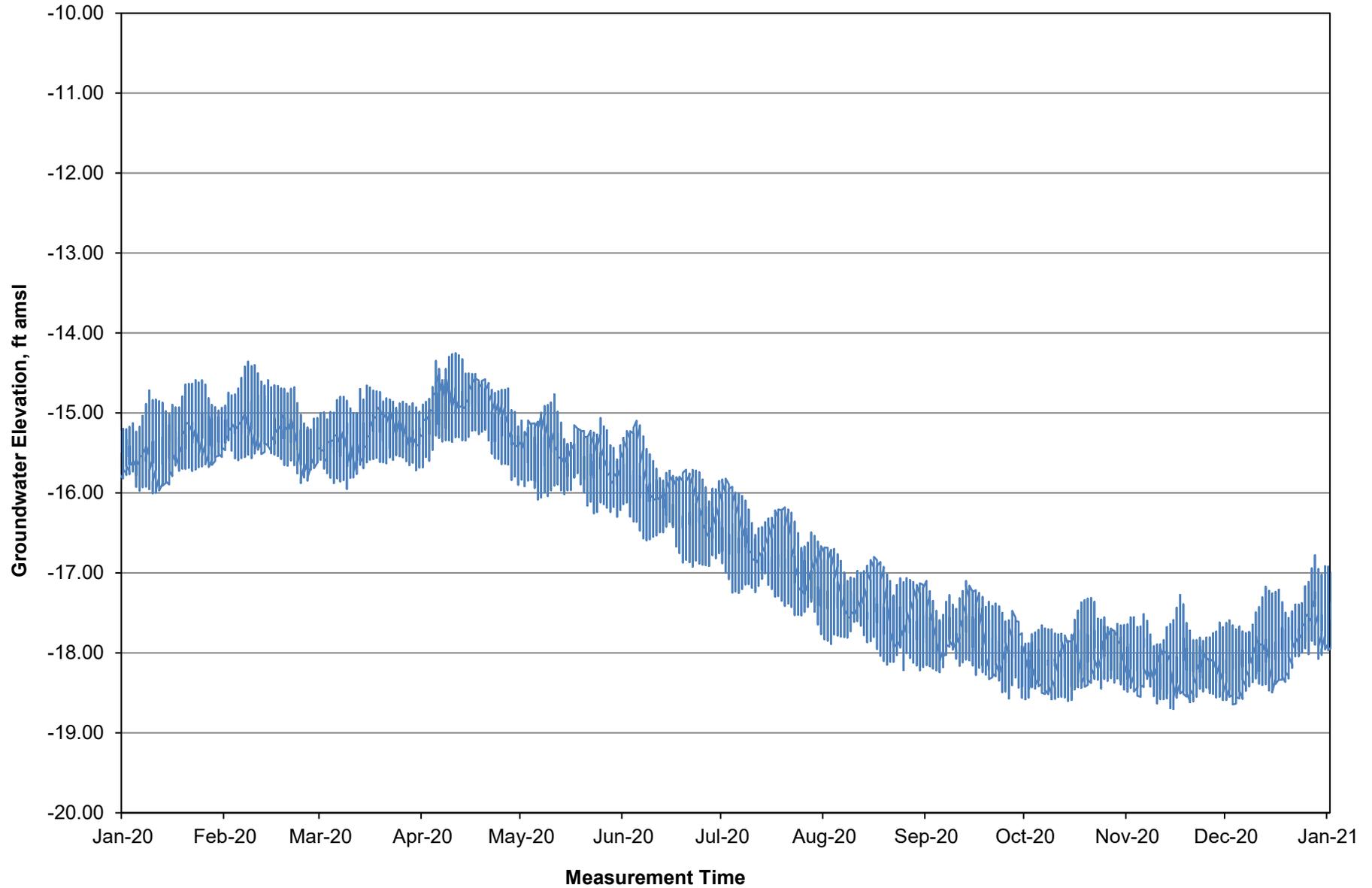


Figure B-9. 2020 MW-6 Groundwater Elevation Trend

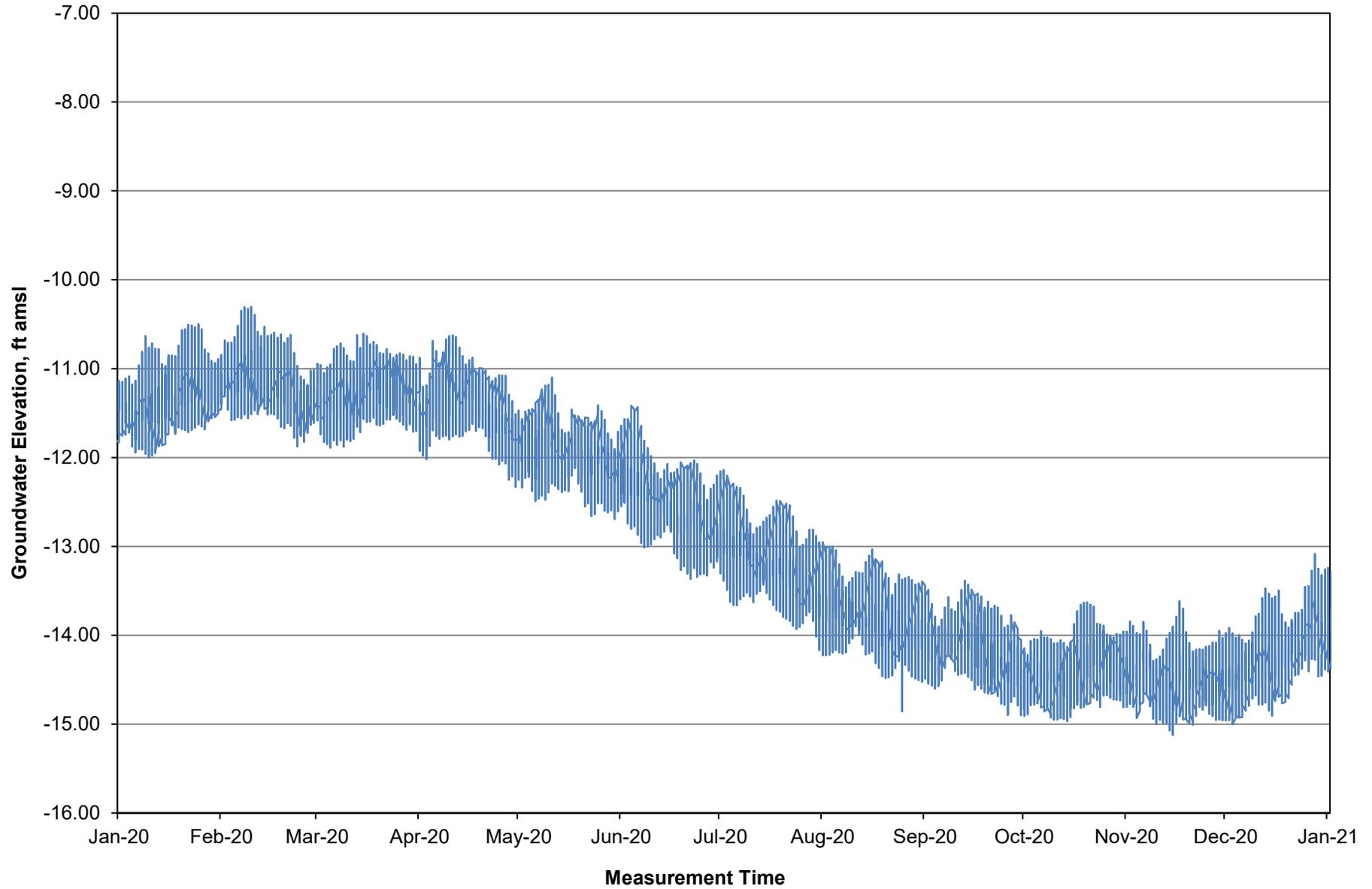


Figure B-10. 2020 MW-7 Groundwater Elevation Trend

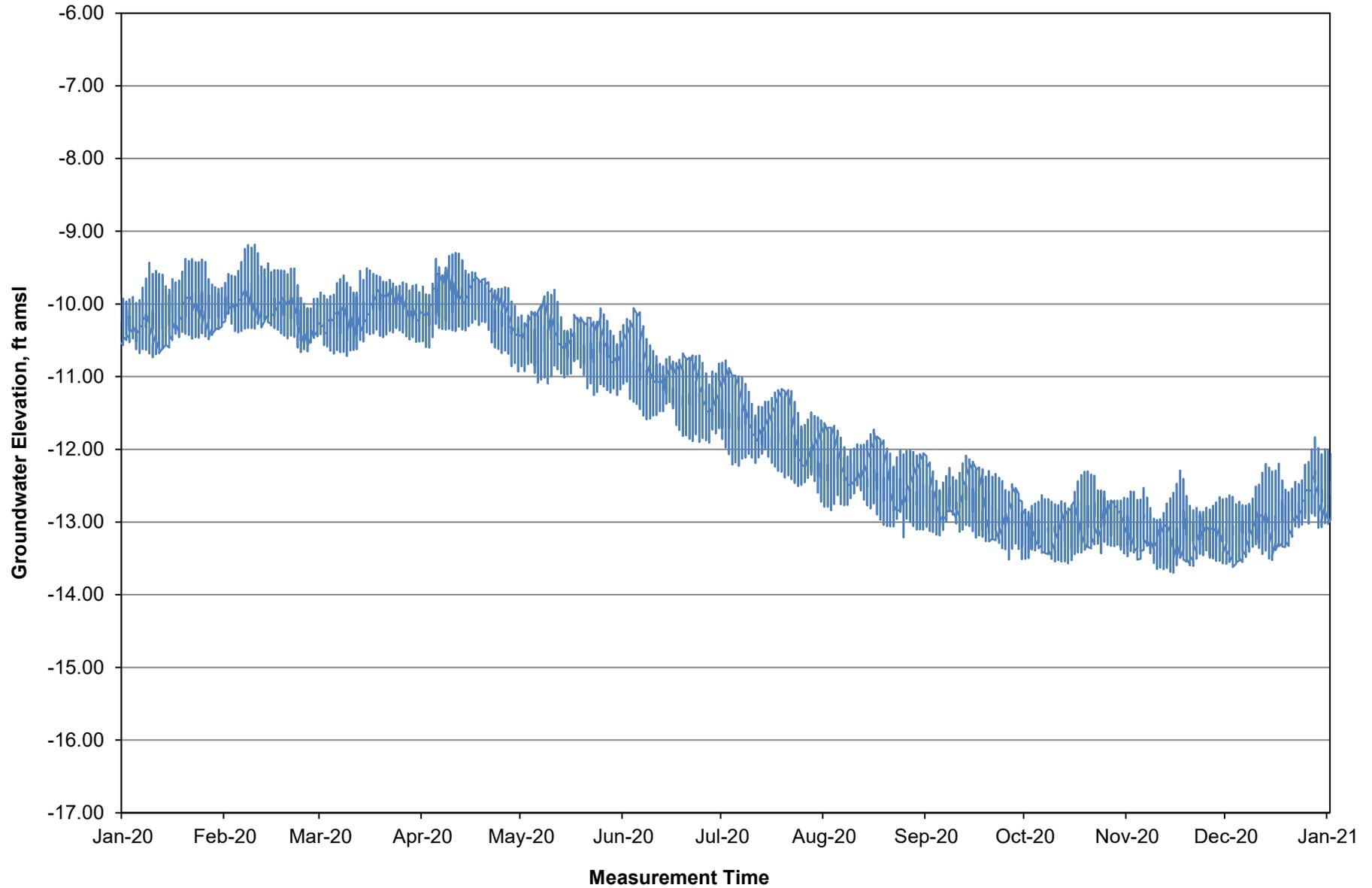


Figure B-11. 2020 MW-9D Groundwater Elevation Trend

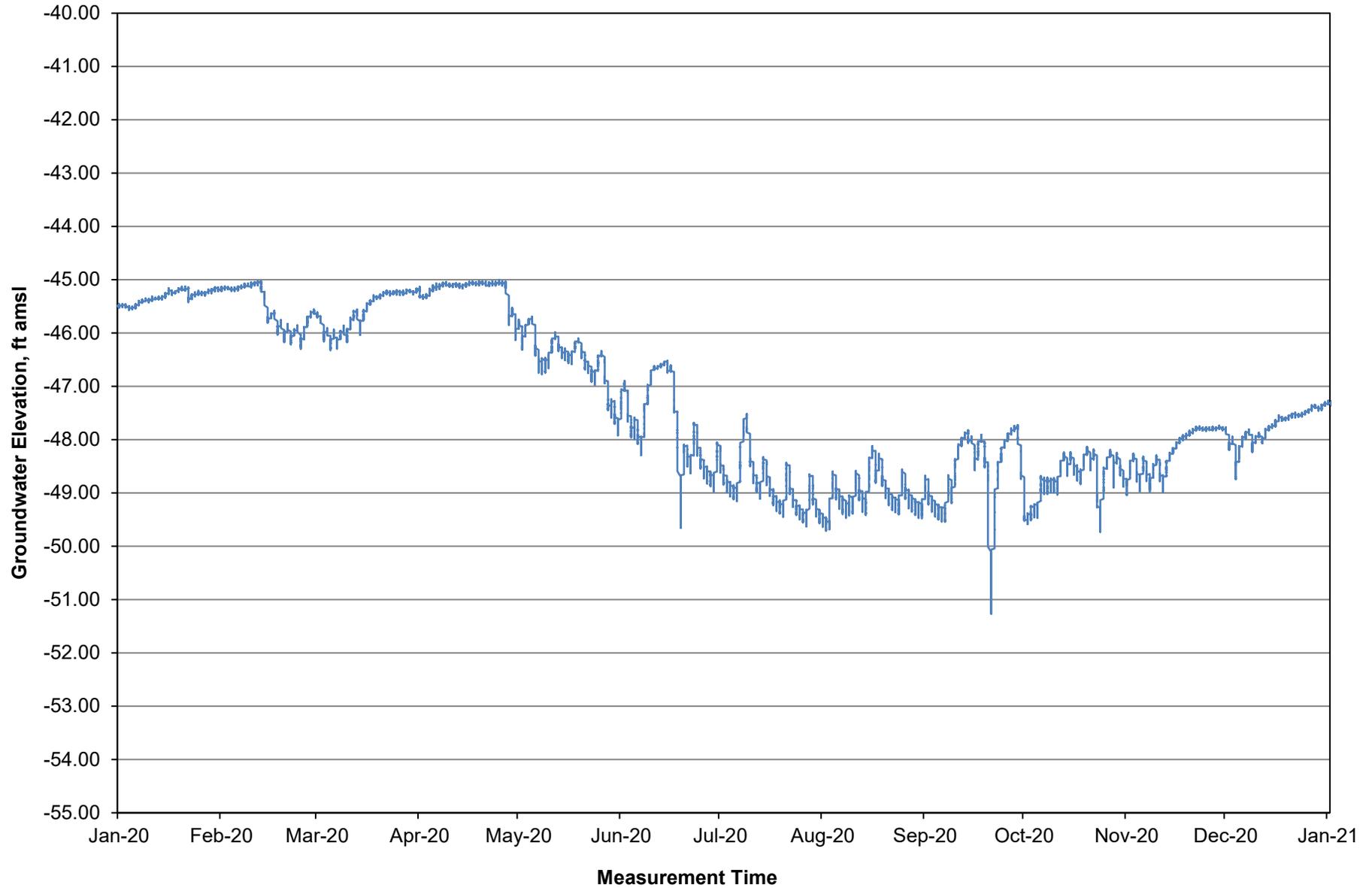


Figure B-12. 2020 MW-10I Groundwater Elevation Trend

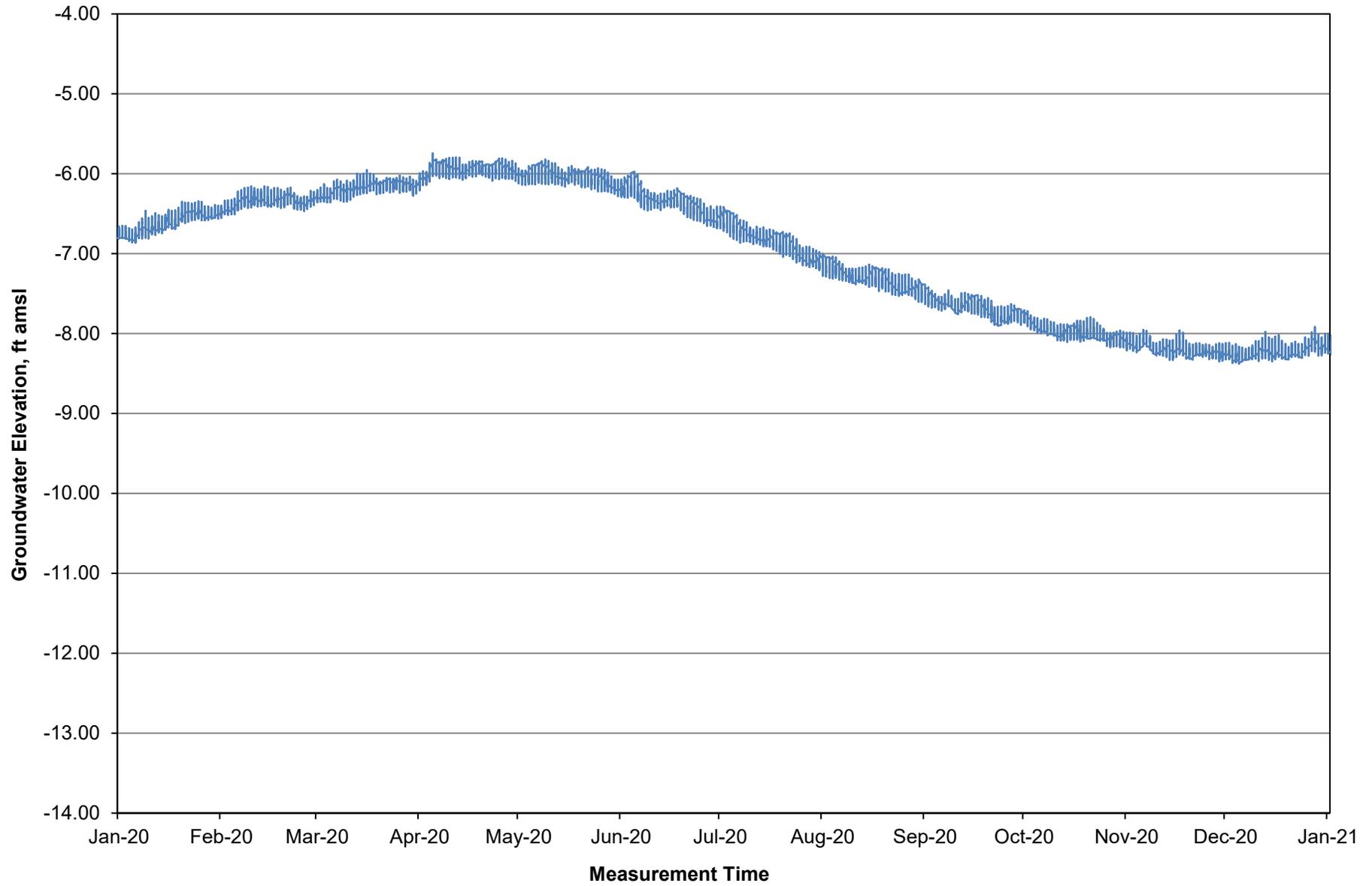
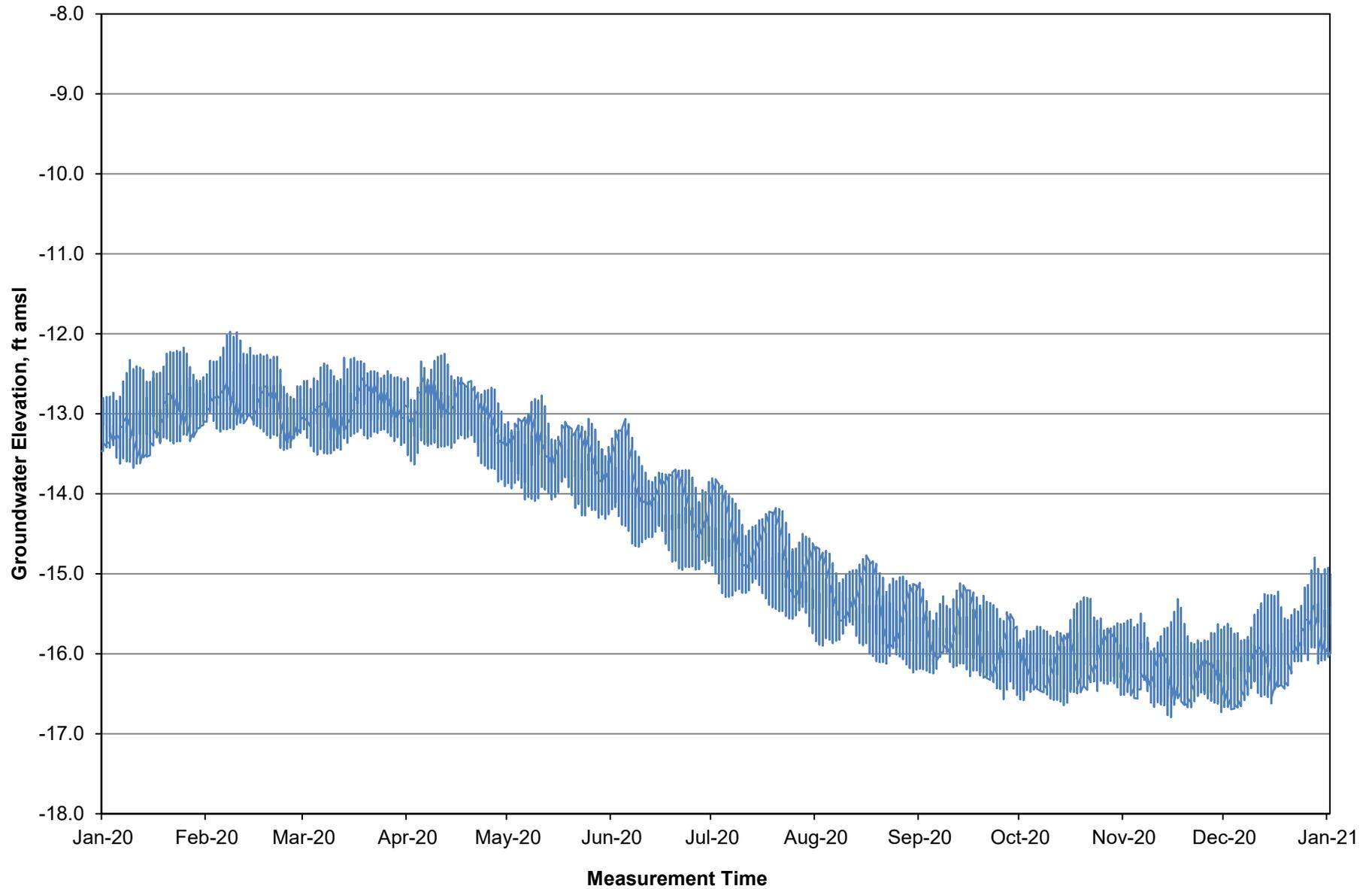


Figure B-13. 2020 MW-10D Groundwater Elevation Trend



Attachment C – Analytical Lab Reports for 2020 Water Quality Monitoring

Analytical Report Prepared for DAVID BEHNKEN

Report generated on: Sep 22, 2020 01:46 pm
Login No.: L237557

Reported by:



KRISTI LORENSON
Laboratory Program Manager

Approved by:



Yuyun Shang
Laboratory Services Division Manager

LSR B455-0706-1

Project Title: BAYSIDE GROUND WATER PROJECT

Login Performance Summary

1 - Sample received by the lab on: Aug 11 2020, 02:35 pm
0 - Lost Analyses
0 - Hold Time Exceedences
Turn-around-time not met

Samples included in this report:

Sample	Type Collected	Site	Locator	ClientID
L237557-1	GRAB 11-Aug-2020 12:05	GW BAYSIDE	BAY1-MW2S	MW2S

Legend to the laboratory qualifiers used in this report:

U - Analyte not detected
Qualifiers for subcontract work - See textvalue for description



EAST BAY MUNICIPAL UTILITY DISTRICT
 Laboratory Services Division
 PO Box 24055, MS 59, Oakland, CA 94623
 Phone (510)287-1432 Fax (510)465-5462
Analytical Results Report

LSR B455-0706-1 BAYSIDE GROUND WATER PROJECT
 Site: GW BAYSIDE East Bay Ground Water Injection/Extraction Project Bayside Groundwater
 Locator: BAY1-MW2S OW-1 the same parcel as the Bayside Well on Oro Loma Property; formerly BAY1-MW2-60
 ClientID: MW2S
 Lab ID: L237557-1 (P246968-1)
 Sample Type: GRAB (Instantaneous Grab)
 Date Collected: Aug 11 2020, 12:05pm Sample collector: C. PAGTAKHAN
 Date Received: Aug 11 2020, 02:35pm Sample receiver: VNGUYEN
 Sample Comments: MW-2S; +FLD DATA: pH = 6.62 ; Cl2R = 0.3 mg/L; Depth to GW = 6.19 feet;
 Temp =25.0deg C; Labelled as RAW WATER for the program. [Analyst Note: May
 need to dilute for ICP & IC due to salt water intrusion]

Method Reference	Qualifier	Result	Units	Dilution	MDL	Matrix	Tag
Parameter						RL/ML	
Method: EPA 8260B - Trihalomethanes, GC/MS						GroundH2O	
<i>Subcontract data from Alpha Analytical Lab</i>							
Comment: U - ANALYTE INCLUDED IN ANALYSIS BUT NOT DETECTED AT OR ABOVE MDL							
<i>SUBCONTRACT LAB DATA</i>							
BROMODICHLOROMETHANE	U	0.4	ug/L	1	0.4	0.5	
BROMOFORM	U	0.3	ug/L	1	0.3	0.5	
CHLOROFORM	U	0.4	ug/L	1	0.4	0.5	
DIBROMOCHLOROMETHANE	U	0.4	ug/L	1	0.4	0.5	
TRIHALOMETHANES	U	0.4	ug/L	1	0.4	0.5	
Run ID: R306511 / Work Group No.: WG237971							
Prep Date1: 18-AUG-20 Analyzed 18-Aug-20 13:35							
Method: PER SUBCONTRACT LABORATORY REPORT - Subcontract data transmittal for oxygen 18						GroundH2O	
<i>Subcontract data from Alpha Analytical Lab</i>							
Comment: Refer to sublab data report attached							
<i>SUBCONTRACT LAB DATA</i>							
DATA TRANSMITTAL							
Run ID: R307090 / Work Group No.: WG238277							
Prep Date1: 08-SEP-20 Analyzed 08-Sep-20 00:00							
Method: PER SUBCONTRACT LABORATORY REPORT - Subcontract data transmittal						GroundH2O	
<i>Subcontract data</i>							
Comment: Original report transmitted to client. Copy of report archived with data packet.							
<i>SUBCONTRACT LAB DATA</i>							
DATA TRANSMITTAL							
Run ID: R307089 / Work Group No.: WG237970							
Prep Date1: 16-SEP-20 Analyzed 16-Sep-20 00:00							
Method: SAMPLER PROVIDED FIELD MEASUREMENTS - DATA ENTRY LIST FOR FIELD DATA						GroundH2O	
<i>FIELD ANALYSIS/OBSERVATION DATA PARAMETERS</i>							
PH		6.62	pH units	1			
TEMPERATURE		25	deg C	1			
DEPTH		6.19	feet	1			
CHLORINE RESIDUAL: TOTAL		0.3	mg/L	1	0.08		
Run ID: R306101 / Work Group No.: WG237641							
Prep Date1: 11-AUG-20 Analyzed 11-Aug-20 12:05							
Method: EPA 300.1 - Ion Chromatography						GroundH2O	
<i>Instrument calibrated 10-AUG-20</i>							
<i>TARGET ANALYTES</i>							
CHLORIDE		43,000	mg/L	5000	140		
NITRATE AS N	U	18	mg/L	5000	18	0.4	
SULFATE		5,600	mg/L	5000	150	0.5	
<i>SURROGATE</i>							
DICHLOROACETATE		98	% recovery	5000			
Run ID: R306043 / Work Group No.: WG237559							
Prep Date1: 11-AUG-20 Analyzed 11-Aug-20 22:44							

RL is either the client requested or regulatory mandated Reporting Limit. ML is the regulatory mandated Minimum Level



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Analytical Results Report

LSR B455-0706-1 BAYSIDE GROUND WATER PROJECT
 Site: GW BAYSIDE East Bay Ground Water Injection/Extraction Project Bayside Groundwater
 Locator: BAY1-MW2S OW-1 the same parcel as the Bayside Well on Oro Loma Property; formerly BAY1-MW2-60
 ClientID: MW2S
 Lab ID: L237557-1 (P246968-1)
 Sample Type: GRAB (Instantaneous Grab)
 Date Collected: Aug 11 2020, 12:05pm Sample collector: C. PAGTAKHAN
 Date Received: Aug 11 2020, 02:35pm Sample receiver: VNGUYEN
 Sample Comments: MW-2S; +FLD DATA: pH = 6.62 ; Cl2R = 0.3 mg/L; Depth to GW = 6.19 feet;
 Temp =25.0deg C; Labelled as RAW WATER for the program. [Analyst Note: May
 need to dilute for ICP & IC due to salt water intrusion]

Method Reference	Qualifier	Result	Units	Dilution	MDL	Matrix	Tag
Parameter						RL/ML	
Method: EPA 552.2 - Haloacetic Acids						GroundH2O	
<i>TARGET ANALYTES</i>							
BROMOCHLOROACETIC ACID	U	0.16	ug/L	1	0.16		
BROMODICHLOROACETIC ACID	U	0.20	ug/L	1	0.2		
CHLORODIBROMOACETIC ACID	U	0.22	ug/L	1	0.22		
DIBROMOACETIC ACID	U	0.28	ug/L	1	0.28	1	
DICHLOROACETIC ACID	U	0.25	ug/L	1	0.25	1	
MONOBROMOACETIC ACID	U	0.25	ug/L	1	0.25	1	
MONOCHLOROACETIC ACID	U	0.25	ug/L	1	0.25	2	
TRICHLOROACETIC ACID	U	0.17	ug/L	1	0.17	1	
<i>VALUE CALCULATED FROM OTHER RESULTS</i>							
HAA(5)	U	1.0	ug/L				
HAA (5) calculation uses a zero for any individual HAA result less than the California DLR for that HAA							
<i>INTERNAL STANDARD</i>							
1,2,3-TRICHLOROPROPANE		100	% recovery		1		
<i>SURROGATE</i>							
2,3-DIBROMOPROPIONIC ACID		94	% recovery		1		
Run ID: R306520 / Work Group No.: WG237626							
Prep Date1: Analyzed 13-Aug-20 23:39							
Method: SM2320B - 2011, Titration						GroundH2O	
<i>TARGET ANALYTES</i>							
ALKALINITY: TOTAL AS CaCO3		410	mg/L	1	5		
Run ID: R306053 / Work Group No.: WG237588							
Prep Date1: 12-AUG-20 Analyzed 12-Aug-20 07:59							
Method: SM2320B-1997 - Calculation						GroundH2O	
<i>TARGET ANALYTES</i>							
ALKALINITY: BICARBONATE		410	mg/L	1	5		
Run ID: R306054 / Work Group No.: WG237591							
Prep Date1: 12-AUG-20 Analyzed 12-Aug-20 11:22							
Method: SM2320B-1997 - Calculation						GroundH2O	
<i>TARGET ANALYTES</i>							
ALKALINITY: HYDROXIDE	U	0.10	mg/L	1	0.1		
Run ID: R306054 / Work Group No.: WG237591							
Prep Date1: 12-AUG-20 Analyzed 12-Aug-20 11:22							
Method: SM2320B-1997 - Calculation						GroundH2O	
<i>TARGET ANALYTES</i>							
ALKALINITY: CARBONATE	U	0.10	mg/L	1	0.1		
Run ID: R306054 / Work Group No.: WG237591							
Prep Date1: 12-AUG-20 Analyzed 12-Aug-20 11:22							
Method: SM2340C - 2011, Titration: EDTA						GroundH2O	
<i>TARGET ANALYTES</i>							
HARDNESS: TOTAL AS CaCO3		17,000	mg/L	50	150		
Run ID: R306547 / Work Group No.: WG237996							
Prep Date1: 01-SEP-20 Analyzed 01-Sep-20 13:15							

RL is either the client requested or regulatory mandated Reporting Limit. ML is the regulatory mandated Minimum Level



EAST BAY MUNICIPAL UTILITY DISTRICT
 Laboratory Services Division
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Analytical Results Report

LSR B455-0706-1 BAYSIDE GROUND WATER PROJECT
 Site: GW BAYSIDE East Bay Ground Water Injection/Extraction Project Bayside Groundwater
 Locator: BAY1-MW2S OW-1 the same parcel as the Bayside Well on Oro Loma Property; formerly BAY1-MW2-60
 ClientID: MW2S
 Lab ID: L237557-1 (P246968-1)
 Sample Type: GRAB (Instantaneous Grab)
 Date Collected: Aug 11 2020, 12:05pm Sample collector: C. PAGTAKHAN
 Date Received: Aug 11 2020, 02:35pm Sample receiver: VNGUYEN
 Sample Comments: MW-2S; +FLD DATA: pH = 6.62 ; Cl2R = 0.3 mg/L; Depth to GW = 6.19 feet;
 Temp =25.0deg C; Labelled as RAW WATER for the program. [Analyst Note: May
 need to dilute for ICP & IC due to salt water intrusion]

Method Reference	Qualifier	Result	Units	Dilution	MDL	Matrix	Tag	
Parameter						RL/ML		
Method: SM2540C - 2011, Dried at 180C							GroundH2O	
<i>TARGET ANALYTES</i>								
TOTAL DISSOLVED SOLIDS		76,000	mg/L	100	1000			
Run ID: R306091 / Work Group No.: WG237585								
Prep Date1: 12-AUG-20 Analyzed 12-Aug-20 07:30								
Method: SM4500-NH3 B, C - 2011, Distillation & Titration							GroundH2O	
<i>TARGET ANALYTES</i>								
AMMONIA AS N	U	0.250	mg/L	1	0.25			
Run ID: R306441 / Work Group No.: WG237868								
Prep Date1: 27-AUG-20 Analyzed 27-Aug-20 09:45								
Method: EPA 200.7 - Rev. 4.4, ICP Scan							RawH2O	2
<i>TARGET ANALYTES</i>								
MAGNESIUM		2.71E+06	ug/L	41.6	229			
MANGANESE		33,900	ug/L	41.6	5.41	20		
Run ID: R306502 / Work Group No.: WG237955								
Prep Date1: 25-AUG-20 Prep Date2: 30-AUG-20 Analyzed 31-Aug-20 13:45								
Method: EPA 200.7 - Rev. 4.4, ICP Scan							RawH2O	1
<i>TARGET ANALYTES</i>								
SODIUM		2.05E+07	ug/L	416	1710			
Run ID: R306502 / Work Group No.: WG237955								
Prep Date1: 25-AUG-20 Prep Date2: 30-AUG-20 Analyzed 31-Aug-20 13:27								
Method: EPA 200.7 - Rev. 4.4, ICP Scan							RawH2O	
<i>TARGET ANALYTES</i>								
CALCIUM		280,000	ug/L	20.8	451			
IRON	U	108	ug/L	20.8	108	100		
POTASSIUM		495,000	ug/L	20.8	397			
Run ID: R306491 / Work Group No.: WG237944								
Prep Date1: 25-AUG-20 Prep Date2: 30-AUG-20 Analyzed 30-Aug-20 15:16								

Results with 6 figures or more are expressed in scientific notation.
 RL is either the client requested or regulatory mandated Reporting Limit. ML is the regulatory mandated Minimum Level

Analytical Report Prepared for DAVID BEHNKEN

Report generated on: Sep 25, 2020 12:50 pm
Login No.: L237889

Reported by:



KRISTI LORENSON
Laboratory Program Manager

Approved by:



Yuyun Shang
Laboratory Services Division Manager

LSR B455-0706-1

Project Title: BAYSIDE GROUND WATER PROJECT

Login Performance Summary

1 - Sample received by the lab on: Aug 26 2020, 02:04 pm
0 - Lost Analyses
0 - Hold Time Exceedences
Turn-around-time not met

Samples included in this report:

Sample	Type Collected	Site	Locator	ClientID
L237889-1	GRAB 26-Aug-2020 10:25	GW BAYSIDE	BAY1-MW2I	MW2I

Legend to the laboratory qualifiers used in this report:

B - Analyte detected in method blank
U - Analyte not detected
Qualifiers for subcontract work - See textvalue for description



EAST BAY MUNICIPAL UTILITY DISTRICT
 Laboratory Services Division
 PO Box 24055, MS 59, Oakland, CA 94623
 Phone (510)287-1432 Fax (510)465-5462
Analytical Results Report

LSR B455-0706-1 BAYSIDE GROUND WATER PROJECT
 Site: GW BAYSIDE East Bay Ground Water Injection/Extraction Project Bayside Groundwater
 Locator: BAY1-MW2I OW-1 the same parcel as the Bayside Well on Oro Loma Property; aka BAY1-MW2D until 11-2009;
 formerly BAY1-MW2-190
 ClientID: MW2I
 Lab ID: L237889-1 (P246967-1)
 Sample Type: GRAB (Instantaneous Grab)
 Date Collected: Aug 26 2020, 10:25am Sample collector: B. Chan
 Date Received: Aug 26 2020, 02:04pm Sample receiver: ANG
 Sample Comments: MW-2I; +FLD DATA: pH = 7.75 ; Cl2R = 0.6 mg/L; Depth to GW = 17.55
 feet; GW Elevation = NA feet; Temp = 19.0 deg C; Labelled as RAW
 WATER for the program.

Method Reference	Qualifier	Result	Units	Dilution	MDL	Matrix	Tag
Parameter						RL/ML	
Method: EPA 8260B - Trihalomethanes, GC/MS						GroundH2O	
<i>Subcontract data from Alpha Analytical Lab</i>							
Comment: U - ANALYTE INCLUDED IN ANALYSIS BUT NOT DETECTED AT OR ABOVE MDL							
SUBCONTRACT LAB DATA							
BROMODICHLOROMETHANE	U	0.4	ug/L	1	0.4	0.5	
BROMOFORM	U	0.3	ug/L	1	0.3	0.5	
CHLOROFORM		0.73	ug/L	1	0.4	0.5	
DIBROMOCHLOROMETHANE	U	0.4	ug/L	1	0.4	0.5	
TRIHALOMETHANES		0.73	ug/L	1	0.4	0.5	
Run ID: R306980 / Work Group No.: WG238152							
Prep Date: 02-SEP-20 Analyzed 02-Sep-20 15:51							
Method: PER SUBCONTRACT LABORATORY REPORT - Subcontract data transmittal for oxygen 18						GroundH2O	
<i>Subcontract data from Alpha Analytical Lab</i>							
Comment: Refer to sublab data report attached							
SUBCONTRACT LAB DATA							
DATA TRANSMITTAL							
Run ID: R307325 / Work Group No.: WG238384							
Prep Date: 21-SEP-20 Analyzed 21-Sep-20 00:00							
Method: PER SUBCONTRACT LABORATORY REPORT - Subcontract data transmittal						GroundH2O	
<i>Subcontract data</i>							
Comment: Original report transmitted to client. Copy of report archived with data packet.							
SUBCONTRACT LAB DATA							
DATA TRANSMITTAL							
Run ID: R307324 / Work Group No.: WG238383							
Prep Date: 22-SEP-20 Analyzed 22-Sep-20 00:00							
Method: SAMPLER PROVIDED FIELD MEASUREMENTS - DATA ENTRY LIST FOR FIELD DATA						GroundH2O	
FIELD ANALYSIS/OBSERVATION DATA PARAMETERS							
PH		7.75	pH units	1			
TEMPERATURE		19	deg C	1			
DEPTH		17.55	feet	1			
CHLORINE RESIDUAL: TOTAL		0.6	mg/L	1	0.08		
Run ID: R306480 / Work Group No.: WG237936							
Prep Date: 26-AUG-20 Analyzed 26-Aug-20 10:25							
Method: EPA 300.1 - Ion Chromatography						GroundH2O	
<i>Instrument calibrated 10-AUG-20</i>							
TARGET ANALYTES							
CHLORIDE		160	mg/L	20	0.54		
NITRATE AS N	U	0.070	mg/L	20	0.07	0.4	
SURROGATE							
DICHLOROACETATE		99	% recovery	20			
Run ID: R306417 / Work Group No.: WG237858							
Prep Date: 26-AUG-20 Analyzed 26-Aug-20 18:44							

RL is either the client requested or regulatory mandated Reporting Limit. ML is the regulatory mandated Minimum Level



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 Laboratory Services Division
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Analytical Results Report

LSR B455-0706-1 BAYSIDE GROUND WATER PROJECT
 Site: GW BAYSIDE East Bay Ground Water Injection/Extraction Project Bayside Groundwater
 Locator: BAY1-MW2I OW-1 the same parcel as the Bayside Well on Oro Loma Property; aka BAY1-MW2D until 11-2009;
 formerly BAY1-MW2-190
 ClientID: MW2I
 Lab ID: L237889-1 (P246967-1)
 Sample Type: GRAB (Instantaneous Grab)
 Date Collected: Aug 26 2020, 10:25am Sample collector: B. Chan
 Date Received: Aug 26 2020, 02:04pm Sample receiver: ANG
 Sample Comments: MW-2I; +FLD DATA: pH = 7.75 ; Cl2R = 0.6 mg/L; Depth to GW = 17.55
 feet; GW Elevation = NA feet; Temp = 19.0 deg C; Labelled as RAW
 WATER for the program.

Method Reference	Qualifier	Result	Units	Dilution	MDL	Matrix	Tag
Parameter						RL/ML	
Method: EPA 300.1 - Ion Chromatography						GroundH2O	1
<i>Instrument calibrated 10-AUG-20</i>							
TARGET ANALYTES							
SULFATE		7.3	mg/L	1	0.03	0.5	
SURROGATE							
DICHLOROACETATE		96	% recovery	1			
Run ID: R306505 / Work Group No.: WG237908							
Prep Date1: 28-AUG-20 Analyzed 28-Aug-20 18:26							
Method: EPA 552.2 - Haloacetic Acids						GroundH2O	
TARGET ANALYTES							
BROMOCHLOROACETIC ACID	U	0.16	ug/L	1	0.16		
BROMODICHLOROACETIC ACID	U	0.20	ug/L	1	0.2		
CHLORODIBROMOACETIC ACID	U	0.22	ug/L	1	0.22		
DIBROMOACETIC ACID	U	0.28	ug/L	1	0.28	1	
DICHLOROACETIC ACID	U	0.25	ug/L	1	0.25	1	
MONOBROMOACETIC ACID	U	0.25	ug/L	1	0.25	1	
MONOCHLOROACETIC ACID	U	0.25	ug/L	1	0.25	2	
TRIBROMOACETIC ACID	U	0.35	ug/L	1	0.35		
TRICHLOROACETIC ACID	U	0.17	ug/L	1	0.17	1	
VALUE CALCULATED FROM OTHER RESULTS							
HAA(5)	U	1.0	ug/L				
HAA (5) calculation uses a zero for any individual HAA result less than the California DLR for that HAA							
HAA(9)	U	1.0	ug/L				
INTERNAL STANDARD							
1,2,3-TRICHLOROPROPANE		100	% recovery		1		
SURROGATE							
2,3-DIBROMOPROPIONIC ACID		100	% recovery		1		
Run ID: R306537 / Work Group No.: WG237958							
Prep Date1: Analyzed 31-Aug-20 19:53							
Method: SM2320B - 2011, Titration						GroundH2O	
TARGET ANALYTES							
ALKALINITY: TOTAL AS CaCO3		380	mg/L	1	5		
Run ID: R306472 / Work Group No.: WG237909							
Prep Date1: 28-AUG-20 Analyzed 28-Aug-20 08:02							
Method: SM2320B-1997 - Calculation						GroundH2O	
TARGET ANALYTES							
ALKALINITY: CARBONATE	U	0.10	mg/L	1	0.1		
Run ID: R306479 / Work Group No.: WG237933							
Prep Date1: 28-AUG-20 Analyzed 28-Aug-20 14:18							
Method: SM2320B-1997 - Calculation						GroundH2O	
TARGET ANALYTES							
ALKALINITY: HYDROXIDE	U	0.10	mg/L	1	0.1		
Run ID: R306479 / Work Group No.: WG237933							
Prep Date1: 28-AUG-20 Analyzed 28-Aug-20 14:18							

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Analytical Results Report

LSR B455-0706-1 BAYSIDE GROUND WATER PROJECT
 Site: GW BAYSIDE East Bay Ground Water Injection/Extraction Project Bayside Groundwater
 Locator: BAY1-MW2I OW-1 the same parcel as the Bayside Well on Oro Loma Property; aka BAY1-MW2D until 11-2009; formerly BAY1-MW2-190
 ClientID: MW2I
 Lab ID: L237889-1 (P246967-1)
 Sample Type: GRAB (Instantaneous Grab)
 Date Collected: Aug 26 2020, 10:25am Sample collector: B. Chan
 Date Received: Aug 26 2020, 02:04pm Sample receiver: ANG
 Sample Comments: MW-2I; +FLD DATA: pH = 7.75 ; Cl2R = 0.6 mg/L; Depth to GW = 17.55 feet; GW Elevation = NA feet; Temp = 19.0 deg C; Labelled as RAW WATER for the program.

Method Reference	Qualifier	Result	Units	Dilution	MDL	Matrix	Tag	
Parameter						RL/ML		
Method: SM2320B-1997 - Calculation							GroundH2O	
TARGET ANALYTES								
ALKALINITY: BICARBONATE		380	mg/L	1	5			
Run ID: R306479 / Work Group No.: WG237933								
Prep Date1: 28-AUG-20 Analyzed 28-Aug-20 14:18								
Method: SM2340C - 2011, Titration: EDTA							GroundH2O	
TARGET ANALYTES								
HARDNESS: TOTAL AS CaCO3		64	mg/L	1	3			
Run ID: R306547 / Work Group No.: WG237996								
Prep Date1: 01-SEP-20 Analyzed 01-Sep-20 13:15								
Method: SM2540C - 2011, Dried at 180C							GroundH2O	
TARGET ANALYTES								
TOTAL DISSOLVED SOLIDS		710	mg/L	2	20			
Run ID: R306541 / Work Group No.: WG237950								
Prep Date1: 31-AUG-20 Analyzed 31-Aug-20 09:10								
Method: SM4500-NH3 B, C - 2011, Distillation & Titration							GroundH2O	
TARGET ANALYTES								
AMMONIA AS N	U	0.250	mg/L	1	0.25			
Run ID: R306521 / Work Group No.: WG237967								
Prep Date1: 01-SEP-20 Analyzed 01-Sep-20 09:15								
Method: EPA 200.7 - Rev. 4.4, ICP Scan							RawH2O	1
TARGET ANALYTES								
CALCIUM		19,400	ug/L	1.04	22.6			
IRON	B	422	ug/L	1.04	5.41	100		
POTASSIUM		7,060	ug/L	1.04	19.9			
MAGNESIUM		17,300	ug/L	1.04	5.72			
MANGANESE		138	ug/L	1.04	0.135	20		
Run ID: R307116 / Work Group No.: WG238276								
Prep Date1: 14-SEP-20 Prep Date2: 16-SEP-20 Analyzed 16-Sep-20 14:08								
Method: EPA 200.7 - Rev. 4.4, ICP Scan							RawH2O	
TARGET ANALYTES								
SODIUM	B	207,000	ug/L	4.16	17.1			
Run ID: R307116 / Work Group No.: WG238276								
Prep Date1: 14-SEP-20 Prep Date2: 16-SEP-20 Analyzed 16-Sep-20 14:02								

RL is either the client requested or regulatory mandated Reporting Limit. ML is the regulatory mandated Minimum Level

Analytical Report Prepared for DAVID BEHNKEN

Report generated on: Sep 22, 2020 01:46 pm
Login No.: L237556

Reported by:



KRISTI LORENSON
Laboratory Program Manager

Approved by:



Yuyun Shang
Laboratory Services Division Manager

LSR B455-0706-1

Project Title: BAYSIDE GROUND WATER PROJECT

Login Performance Summary

1 - Sample received by the lab on: Aug 11 2020, 02:17 pm
0 - Lost Analyses
0 - Hold Time Exceedences
Turn-around-time not met

Samples included in this report:

Sample	Type Collected	Site	Locator	ClientID
L237556-1	GRAB 11-Aug-2020 10:15	GW BAYSIDE	BAY1-MW4	MW4

Legend to the laboratory qualifiers used in this report:

U - Analyte not detected
Qualifiers for subcontract work - See textvalue for description



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Analytical Results Report

LSR B455-0706-1 BAYSIDE GROUND WATER PROJECT
 Site: GW BAYSIDE East Bay Ground Water Injection/Extraction Project Bayside Groundwater
 Locator: BAY1-MW4 OW-1 the same parcel as the Bayside Well on Oro Loma Property; formerly BAY1-MW5
 ClientID: MW4
 Lab ID: L237556-1 (P246970-1)
 Sample Type: GRAB (Instantaneous Grab)
 Date Collected: Aug 11 2020, 10:15am Sample collector: C. PAGTAKHAN
 Date Received: Aug 11 2020, 02:17pm Sample receiver: ANG
 Sample Comments: MW-4; +FLD DATA: pH = 7.89 ; Cl2R = 0.2 mg/L; Depth to GW = 12.42 feet; Temp = 25 deg C; Labelled as RAW WATER for the program.

Method Reference	Qualifier	Result	Units	Dilution	MDL	Matrix	Tag
Parameter						RL/ML	

Method: EPA 8260B - Trihalomethanes, GC/MS GroundH2O

Subcontract data from Alpha Analytical Lab

Comment: U - ANALYTE INCLUDED IN ANALYSIS BUT NOT DETECTED AT OR ABOVE MDL

SUBCONTRACT LAB DATA

BROMODICHLOROMETHANE	U	0.4	ug/L	1	0.4	0.5
BROMOFORM	U	0.3	ug/L	1	0.3	0.5
CHLOROFORM	U	0.4	ug/L	1	0.4	0.5
DIBROMOCHLOROMETHANE	U	0.4	ug/L	1	0.4	0.5
TRIHALOMETHANES	U	0.4	ug/L	1	0.4	0.5

Run ID: R306511 / Work Group No.: WG237971

Prep Date: 18-AUG-20 Analyzed 18-Aug-20 12:59

Method: PER SUBCONTRACT LABORATORY REPORT - Subcontract data transmittal GroundH2O

Subcontract data

Comment: Original report transmitted to client. Copy of report archived with data packet.

SUBCONTRACT LAB DATA

DATA TRANSMITTAL

Run ID: R307089 / Work Group No.: WG237970

Prep Date: 16-SEP-20 Analyzed 16-Sep-20 00:00

Method: PER SUBCONTRACT LABORATORY REPORT - Subcontract data transmittal for oxygen 18 GroundH2O

Subcontract data from Alpha Analytical Lab

Comment: Refer to sublab data report attached

SUBCONTRACT LAB DATA

DATA TRANSMITTAL

Run ID: R307090 / Work Group No.: WG238277

Prep Date: 08-SEP-20 Analyzed 08-Sep-20 00:00

Method: SAMPLER PROVIDED FIELD MEASUREMENTS - DATA ENTRY LIST FOR FIELD DATA GroundH2O

FIELD ANALYSIS/OBSERVATION DATA PARAMETERS

PH		7.89	pH units	1		
TEMPERATURE		25	deg C	1		
DEPTH		12.42	feet	1		
CHLORINE RESIDUAL: TOTAL		0.2	mg/L	1	0.08	

Run ID: R306099 / Work Group No.: WG237640

Prep Date: 11-AUG-20 Analyzed 11-Aug-20 10:15

Method: EPA 300.1 - Ion Chromatography GroundH2O

Instrument calibrated 10-AUG-20

TARGET ANALYTES

CHLORIDE		49	mg/L	10	0.27	
NITRATE AS N	U	0.035	mg/L	10	0.035	0.4
SULFATE		38	mg/L	10	0.3	0.5
SURROGATE						
DICHLOROACETATE		99	% recovery	10		

Run ID: R306043 / Work Group No.: WG237559

Prep Date: 11-AUG-20 Analyzed 11-Aug-20 22:09

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Analytical Results Report

LSR B455-0706-1 BAYSIDE GROUND WATER PROJECT
Site: GW BAYSIDE East Bay Ground Water Injection/Extraction Project Bayside Groundwater
Locator: BAY1-MW4 OW-1 the same parcel as the Bayside Well on Oro Loma Property; formerly BAY1-MW5
ClientID: MW4
Lab ID: L237556-1 (P246970-1)
Sample Type: GRAB (Instantaneous Grab)
Date Collected: Aug 11 2020, 10:15am Sample collector: C. PAGTAKHAN
Date Received: Aug 11 2020, 02:17pm Sample receiver: ANG
Sample Comments: MW-4; +FLD DATA: pH = 7.89 ; Cl2R = 0.2 mg/L; Depth to GW = 12.42 feet; Temp = 25 deg C; Labelled as RAW WATER for the program.

Method Reference	Qualifier	Result	Units	Dilution	MDL	Matrix	Tag
Method: EPA 552.2 - Haloacetic Acids						GroundH2O	
TARGET ANALYTES							
BROMOCHLOROACETIC ACID	U	0.16	ug/L	1	0.16		
BROMODICHLOROACETIC ACID	U	0.20	ug/L	1	0.2		
CHLORODIBROMOACETIC ACID	U	0.22	ug/L	1	0.22		
DIBROMOACETIC ACID	U	0.28	ug/L	1	0.28	1	
DICHLOROACETIC ACID	U	0.25	ug/L	1	0.25	1	
MONOBROMOACETIC ACID	U	0.25	ug/L	1	0.25	1	
MONOCHLOROACETIC ACID	U	0.25	ug/L	1	0.25	2	
TRICHLOROACETIC ACID	U	0.17	ug/L	1	0.17	1	
VALUE CALCULATED FROM OTHER RESULTS							
HAA(5)	U	1.0	ug/L				
HAA (5) calculation uses a zero for any individual HAA result less than the California DLR for that HAA							
INTERNAL STANDARD							
1,2,3-TRICHLOROPROPANE		93	% recovery		1		
SURROGATE							
2,3-DIBROMOPROPIONIC ACID		96	% recovery		1		
Run ID: R306520 / Work Group No.: WG237626 Prep Date1: Analyzed 13-Aug-20 23:14							
Method: SM2320B - 2011, Titration						GroundH2O	
TARGET ANALYTES							
ALKALINITY: TOTAL AS CaCO3		230	mg/L	1	5		
Run ID: R306053 / Work Group No.: WG237588 Prep Date1: 12-AUG-20 Analyzed 12-Aug-20 07:59							
Method: SM2320B-1997 - Calculation						GroundH2O	
TARGET ANALYTES							
ALKALINITY: CARBONATE	U	0.10	mg/L	1	0.1		
Run ID: R306054 / Work Group No.: WG237591 Prep Date1: 12-AUG-20 Analyzed 12-Aug-20 11:22							
Method: SM2320B-1997 - Calculation						GroundH2O	
TARGET ANALYTES							
ALKALINITY: HYDROXIDE	U	0.10	mg/L	1	0.1		
Run ID: R306054 / Work Group No.: WG237591 Prep Date1: 12-AUG-20 Analyzed 12-Aug-20 11:22							
Method: SM2320B-1997 - Calculation						GroundH2O	
TARGET ANALYTES							
ALKALINITY: BICARBONATE		230	mg/L	1	5		
Run ID: R306054 / Work Group No.: WG237591 Prep Date1: 12-AUG-20 Analyzed 12-Aug-20 11:22							
Method: SM2540C - 2011, Dried at 180C						GroundH2O	
TARGET ANALYTES							
TOTAL DISSOLVED SOLIDS		390	mg/L	1	10		
Run ID: R306091 / Work Group No.: WG237585 Prep Date1: 12-AUG-20 Analyzed 12-Aug-20 07:30							

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Analytical Results Report

LSR B455-0706-1 BAYSIDE GROUND WATER PROJECT
 Site: GW BAYSIDE East Bay Ground Water Injection/Extraction Project Bayside Groundwater
 Locator: BAY1-MW4 OW-1 the same parcel as the Bayside Well on Oro Loma Property; formerly BAY1-MW5
 ClientID: MW4
 Lab ID: L237556-1 (P246970-1)
 Sample Type: GRAB (Instantaneous Grab)
 Date Collected: Aug 11 2020, 10:15am Sample collector: C. PAGTAKHAN
 Date Received: Aug 11 2020, 02:17pm Sample receiver: ANG
 Sample Comments: MW-4; +FLD DATA: pH = 7.89 ; Cl2R = 0.2 mg/L; Depth to GW = 12.42 feet; Temp = 25 deg C; Labelled as RAW WATER for the program.

Method Reference	Qualifier	Result	Units	Dilution	MDL	Matrix	Tag
Parameter						RL/ML	
Method: SM4500-NH3 B, C - 2011, Distillation & Titration						GroundH2O	
TARGET ANALYTES							
AMMONIA AS N	U	0.250	mg/L	1	0.25		
Run ID: R306441 / Work Group No.: WG237868							
Prep Date1: 27-AUG-20 Analyzed 27-Aug-20 09:45							
Method: EPA 200.7 - Rev. 4.4, ICP Scan						RawH2O	
TARGET ANALYTES							
CALCIUM		23,700	ug/L	1.04	22.6		
IRON		21.5	ug/L	1.04	5.41	100	
POTASSIUM		2,250	ug/L	1.04	19.9		
Run ID: R306491 / Work Group No.: WG237944							
Prep Date1: 25-AUG-20 Prep Date2: 30-AUG-20 Analyzed 30-Aug-20 13:33							
Method: EPA 200.7 - Rev. 4.4, ICP Scan						RawH2O	1
TARGET ANALYTES							
MAGNESIUM		8,980	ug/L	1.04	5.72		
MANGANESE		179	ug/L	1.04	0.135	20	
SODIUM		92,300	ug/L	1.04	4.26		
Run ID: R306502 / Work Group No.: WG237955							
Prep Date1: 25-AUG-20 Prep Date2: 30-AUG-20 Analyzed 31-Aug-20 12:47							

RL is either the client requested or regulatory mandated Reporting Limit. ML is the regulatory mandated Minimum Level

Analytical Report Prepared for DAVID BEHNKEN

Report generated on: Sep 22, 2020 01:45 pm
Login No.: L237519

Reported by:



KRISTI LORENSON
Laboratory Program Manager

Approved by:



Yuyun Shang
Laboratory Services Division Manager

LSR B455-0706-1

Project Title: BAYSIDE GROUND WATER PROJECT

Login Performance Summary

1 - Sample received by the lab on: Aug 10 2020, 02:10 pm
0 - Lost Analyses
0 - Hold Time Exceedences
Turn-around-time not met

Samples included in this report:

Sample	Type Collected	Site	Locator	ClientID
L237519-1	GRAB 10-Aug-2020 12:26	GW BAYSIDE	BAY1-MW5D	MW5D

Legend to the laboratory qualifiers used in this report:

U - Analyte not detected
Qualifiers for subcontract work - See textvalue for description



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Analytical Results Report

LSR B455-0706-1 BAYSIDE GROUND WATER PROJECT
 Site: GW BAYSIDE East Bay Ground Water Injection/Extraction Project Bayside Groundwater
 Locator: BAY1-MW5D Q APN 411-0003-0083 Via Barrett, San Lorenzo; Formerly BAY-MW-BARETT
 ClientID: MW5D
 Lab ID: L237519-1 (P246974-1)
 Sample Type: GRAB (Instantaneous Grab)
 Date Collected: Aug 10 2020, 12:26pm Sample collector: CYee
 Date Received: Aug 10 2020, 02:10pm Sample receiver: CSOOHOO
 Sample Comments: MW-5D; +FLD DATA: pH = 7.56 ; Cl2R = 0.6 mg/L; Depth to GW = 17.32 feet; GW
 Elevation = feet; Temp = 22.0 deg C; Labelled as RAW WATER for the
 program.

Method Reference	Qualifier	Result	Units	Dilution	MDL	Matrix	Tag
Parameter						RL/ML	
Method: EPA 8260B - Trihalomethanes, GC/MS						GroundH2O	
<i>Subcontract data from Alpha Analytical Lab</i>							
Comment: U - ANALYTE INCLUDED IN ANALYSIS BUT NOT DETECTED AT OR ABOVE MDL							
<i>SUBCONTRACT LAB DATA</i>							
BROMODICHLOROMETHANE	U	0.4	ug/L	1	0.4	0.5	
BROMOFORM	U	0.3	ug/L	1	0.3	0.5	
CHLOROFORM	U	0.4	ug/L	1	0.4	0.5	
DIBROMOCHLOROMETHANE	U	0.4	ug/L	1	0.4	0.5	
TRIHALOMETHANES	U	0.4	ug/L	1	0.4	0.5	
Run ID: R306511 / Work Group No.: WG237971							
Prep Date1: 18-AUG-20 Analyzed 18-Aug-20 12:23							
Method: PER SUBCONTRACT LABORATORY REPORT - Subcontract data transmittal						GroundH2O	
<i>Subcontract data</i>							
Comment: Original report transmitted to client. Copy of report archived with data packet.							
<i>SUBCONTRACT LAB DATA</i>							
DATA TRANSMITTAL							
Run ID: R307089 / Work Group No.: WG237970							
Prep Date1: 16-SEP-20 Analyzed 16-Sep-20 00:00							
Method: PER SUBCONTRACT LABORATORY REPORT - Subcontract data transmittal for oxygen 18						GroundH2O	
<i>Subcontract data from Alpha Analytical Lab</i>							
Comment: Refer to sublab data report attached							
<i>SUBCONTRACT LAB DATA</i>							
DATA TRANSMITTAL							
Run ID: R307090 / Work Group No.: WG238277							
Prep Date1: 08-SEP-20 Analyzed 08-Sep-20 00:00							
Method: SAMPLER PROVIDED FIELD MEASUREMENTS - DATA ENTRY LIST FOR FIELD DATA						GroundH2O	
<i>FIELD ANALYSIS/OBSERVATION DATA PARAMETERS</i>							
PH		7.56	pH units	1			
TEMPERATURE		22	deg C	1			
DEPTH		17.32	feet	1			
CHLORINE RESIDUAL: TOTAL		0.6	mg/L	1	0.08		
Run ID: R306096 / Work Group No.: WG237636							
Prep Date1: 10-AUG-20 Analyzed 10-Aug-20 12:26							
Method: EPA 300.1 - Ion Chromatography						GroundH2O	
<i>Instrument calibrated 10-AUG-20</i>							
<i>TARGET ANALYTES</i>							
CHLORIDE		84	mg/L	10	0.27		
NITRATE AS N	U	0.035	mg/L	10	0.035	0.4	
SULFATE		50	mg/L	10	0.3	0.5	
<i>SURROGATE</i>							
DICHLOROACETATE		99	% recovery	10			
Run ID: R306043 / Work Group No.: WG237559							
Prep Date1: 11-AUG-20 Analyzed 11-Aug-20 12:52							

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Analytical Results Report

LSR B455-0706-1 BAYSIDE GROUND WATER PROJECT
 Site: GW BAYSIDE East Bay Ground Water Injection/Extraction Project Bayside Groundwater
 Locator: BAY1-MW5D Q APN 411-0003-0083 Via Barrett, San Lorenzo; Formerly BAY-MW-BARETT
 ClientID: MW5D
 Lab ID: L237519-1 (P246974-1)
 Sample Type: GRAB (Instantaneous Grab)
 Date Collected: Aug 10 2020, 12:26pm Sample collector: CYee
 Date Received: Aug 10 2020, 02:10pm Sample receiver: CSOOHOO
 Sample Comments: MW-5D; +FLD DATA: pH = 7.56 ; Cl2R = 0.6 mg/L; Depth to GW = 17.32 feet; GW
 Elevation = feet; Temp = 22.0 deg C; Labelled as RAW WATER for the
 program.

Method Reference	Qualifier	Result	Units	Dilution	MDL	Matrix	Tag
Parameter						RL/ML	
Method: EPA 552.2 - Haloacetic Acids						GroundH2O	
<i>TARGET ANALYTES</i>							
BROMOCHLOROACETIC ACID	U	0.16	ug/L	1	0.16		
BROMODICHLOROACETIC ACID	U	0.20	ug/L	1	0.2		
CHLORODIBROMOACETIC ACID	U	0.22	ug/L	1	0.22		
DIBROMOACETIC ACID	U	0.28	ug/L	1	0.28	1	
DICHLOROACETIC ACID	U	0.25	ug/L	1	0.25	1	
MONOBROMOACETIC ACID	U	0.25	ug/L	1	0.25	1	
MONOCHLOROACETIC ACID	U	0.25	ug/L	1	0.25	2	
TRICHLOROACETIC ACID	U	0.17	ug/L	1	0.17	1	
<i>VALUE CALCULATED FROM OTHER RESULTS</i>							
HAA(5)	U	1.0	ug/L				
HAA (5) calculation uses a zero for any individual HAA result less than the California DLR for that HAA							
<i>INTERNAL STANDARD</i>							
1,2,3-TRICHLOROPROPANE		100	% recovery		1		
<i>SURROGATE</i>							
2,3-DIBROMOPROPIONIC ACID		93	% recovery		1		
Run ID: R306520 / Work Group No.: WG237626							
Prep Date1: Analyzed 13-Aug-20 19:12							
Method: SM2320B - 2011, Titration						GroundH2O	
<i>TARGET ANALYTES</i>							
ALKALINITY: TOTAL AS CaCO3		230	mg/L	1	5		
Run ID: R306053 / Work Group No.: WG237588							
Prep Date1: 12-AUG-20 Analyzed 12-Aug-20 07:59							
Method: SM2320B-1997 - Calculation						GroundH2O	
<i>TARGET ANALYTES</i>							
ALKALINITY: CARBONATE	U	0.10	mg/L	1	0.1		
Run ID: R306054 / Work Group No.: WG237591							
Prep Date1: 12-AUG-20 Analyzed 12-Aug-20 11:22							
Method: SM2320B-1997 - Calculation						GroundH2O	
<i>TARGET ANALYTES</i>							
ALKALINITY: BICARBONATE		230	mg/L	1	5		
Run ID: R306054 / Work Group No.: WG237591							
Prep Date1: 12-AUG-20 Analyzed 12-Aug-20 11:22							
Method: SM2320B-1997 - Calculation						GroundH2O	
<i>TARGET ANALYTES</i>							
ALKALINITY: HYDROXIDE	U	0.10	mg/L	1	0.1		
Run ID: R306054 / Work Group No.: WG237591							
Prep Date1: 12-AUG-20 Analyzed 12-Aug-20 11:22							
Method: SM2340C - 2011, Titration: EDTA						GroundH2O	
<i>TARGET ANALYTES</i>							
HARDNESS: TOTAL AS CaCO3		140	mg/L	1	3		
Run ID: R306234 / Work Group No.: WG237753							
Prep Date1: 19-AUG-20 Analyzed 19-Aug-20 16:00							

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Analytical Results Report

LSR B455-0706-1 BAYSIDE GROUND WATER PROJECT
 Site: GW BAYSIDE East Bay Ground Water Injection/Extraction Project Bayside Groundwater
 Locator: BAY1-MW5D Q APN 411-0003-0083 Via Barrett, San Lorenzo; Formerly BAY-MW-BARETT
 ClientID: MW5D
 Lab ID: L237519-1 (P246974-1)
 Sample Type: GRAB (Instantaneous Grab)
 Date Collected: Aug 10 2020, 12:26pm Sample collector: CYee
 Date Received: Aug 10 2020, 02:10pm Sample receiver: CSOOHOO
 Sample Comments: MW-5D; +FLD DATA: pH = 7.56 ; Cl2R = 0.6 mg/L; Depth to GW = 17.32 feet; GW
 Elevation = feet; Temp = 22.0 deg C; Labelled as RAW WATER for the
 program.

Method Reference	Qualifier	Result	Units	Dilution	MDL	Matrix	Tag
Parameter						RL/ML	
Method: SM2540C - 2011, Dried at 180C						GroundH2O	
<i>TARGET ANALYTES</i>							
TOTAL DISSOLVED SOLIDS		460	mg/L	1	10		
Run ID: R306091 / Work Group No.: WG237585							
Prep Date1: 12-AUG-20 Analyzed 12-Aug-20 07:30							
Method: SM4500-NH3 B, C - 2011, Distillation & Titration						GroundH2O	
<i>TARGET ANALYTES</i>							
AMMONIA AS N	U	0.250	mg/L	1	0.25		
Run ID: R306441 / Work Group No.: WG237868							
Prep Date1: 27-AUG-20 Analyzed 27-Aug-20 09:45							
Method: EPA 200.7 - Rev. 4.4, ICP Scan						RawH2O	
<i>TARGET ANALYTES</i>							
CALCIUM		32,300	ug/L	1.04	22.6		
IRON		197	ug/L	1.04	5.41	100	
POTASSIUM		2,200	ug/L	1.04	19.9		
MAGNESIUM		8,250	ug/L	1.04	5.72		
MANGANESE		179	ug/L	1.04	0.135	20	
Run ID: R306491 / Work Group No.: WG237944							
Prep Date1: 25-AUG-20 Prep Date2: 30-AUG-20 Analyzed 30-Aug-20 12:25							
Method: EPA 200.7 - Rev. 4.4, ICP Scan						RawH2O	1
<i>TARGET ANALYTES</i>							
SODIUM		99,600	ug/L	2.08	8.53		
Run ID: R306502 / Work Group No.: WG237955							
Prep Date1: 25-AUG-20 Prep Date2: 30-AUG-20 Analyzed 31-Aug-20 11:44							

RL is either the client requested or regulatory mandated Reporting Limit. ML is the regulatory mandated Minimum Level

Analytical Report Prepared for DAVID BEHNKEN

Report generated on: Sep 22, 2020 01:46 pm
Login No.: L237613

Reported by:



KRISTI LORENSON
Laboratory Program Manager

Approved by:



Yuyun Shang
Laboratory Services Division Manager

LSR B455-0706-1

Project Title: BAYSIDE GROUND WATER PROJECT

Login Performance Summary

1 - Sample received by the lab on: Aug 13 2020, 02:14 pm
0 - Lost Analyses
1 - Hold Time Exceedences
Turn-around-time not met

Samples included in this report:

Sample	Type Collected	Site	Locator	ClientID
L237613-1	GRAB 13-Aug-2020 12:40	GW BAYSIDE	BAY1-MW6	MW6

Legend to the laboratory qualifiers used in this report:

H - Analyzed past hold time
U - Analyte not detected
Qualifiers for subcontract work - See textvalue for description



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LSR B455-0706-1 BAYSIDE GROUND WATER PROJECT
 Site: GW BAYSIDE East Bay Ground Water Injection/Extraction Project Bayside Groundwater
 Locator: BAY1-MW6 R APN 438-0010-003 2364 Baumann Ave., San Lorenzo; formerly BAY-MW-WORTHLEY
 ClientID: MW6
 Lab ID: L237613-1 (P246975-1)
 Sample Type: GRAB (Instantaneous Grab)
 Date Collected: Aug 13 2020, 12:40pm Sample collector: B. Chan
 Date Received: Aug 13 2020, 02:14pm Sample receiver: VNGUYEN
 Sample Comments: MW-6; +FLD DATA: pH = 7.40; Cl2R = 0.3 mg/L; Depth to GW = N/A (Indicator/
 Battery not functioning); GW Elevation = N/A; Temp = 23.2 deg C. Labelled
 as RAW WATER for the program.

Method Reference	Qualifier	Result	Units	Dilution	MDL	Matrix	Tag
Parameter						RL/ML	
Method: EPA 8260B - Trihalomethanes, GC/MS						GroundH2O	
<i>Subcontract data from Alpha Analytical Lab</i>							
Comment: U - ANALYTE INCLUDED IN ANALYSIS BUT NOT DETECTED AT OR ABOVE MDL							
<i>SUBCONTRACT LAB DATA</i>							
BROMODICHLOROMETHANE	U	0.4	ug/L	1	0.4	0.5	
BROMOFORM	U	0.3	ug/L	1	0.3	0.5	
CHLOROFORM	U	0.4	ug/L	1	0.4	0.5	
DIBROMOCHLOROMETHANE	U	0.4	ug/L	1	0.4	0.5	
TRIHALOMETHANES	U	0.4	ug/L	1	0.4	0.5	
Run ID: R306511 / Work Group No.: WG237971							
Prep Date1: 18-AUG-20 Analyzed 18-Aug-20 11:48							
Method: PER SUBCONTRACT LABORATORY REPORT - Subcontract data transmittal for oxygen 18						GroundH2O	
<i>Subcontract data from Alpha Analytical Lab</i>							
Comment: Refer to sublab data report attached							
<i>SUBCONTRACT LAB DATA</i>							
DATA TRANSMITTAL							
Run ID: R307090 / Work Group No.: WG238277							
Prep Date1: 08-SEP-20 Analyzed 08-Sep-20 00:00							
Method: PER SUBCONTRACT LABORATORY REPORT - Subcontract data transmittal						GroundH2O	
<i>Subcontract data</i>							
Comment: Original report transmitted to client. Copy of report archived with data packet.							
<i>SUBCONTRACT LAB DATA</i>							
DATA TRANSMITTAL							
Run ID: R307089 / Work Group No.: WG237970							
Prep Date1: 16-SEP-20 Analyzed 16-Sep-20 00:00							
Method: SAMPLER PROVIDED FIELD MEASUREMENTS - DATA ENTRY LIST FOR FIELD DATA						GroundH2O	
<i>FIELD ANALYSIS/OBSERVATION DATA PARAMETERS</i>							
PH		7.4	pH units	1			
TEMPERATURE		23.2	deg C	1			
CHLORINE RESIDUAL: TOTAL		0.3	mg/L	1	0.08		
Run ID: R306119 / Work Group No.: WG237664							
Prep Date1: 13-AUG-20 Analyzed 13-Aug-20 12:40							
Method: EPA 300.1 - Ion Chromatography						GroundH2O	
<i>Instrument calibrated 10-AUG-20</i>							
<i>TARGET ANALYTES</i>							
CHLORIDE		54	mg/L	10	0.27		
NITRATE AS N	U,H	0.035	mg/L	10	0.035	0.4	
SULFATE		48	mg/L	10	0.3	0.5	
<i>SURROGATE</i>							
DICHLOROACETATE		97	% recovery	10			
Run ID: R306191 / Work Group No.: WG237687							
Prep Date1: 17-AUG-20 Analyzed 17-Aug-20 23:19							

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LSR B455-0706-1 BAYSIDE GROUND WATER PROJECT
 Site: GW BAYSIDE East Bay Ground Water Injection/Extraction Project Bayside Groundwater
 Locator: BAY1-MW6 R APN 438-0010-003 2364 Baumann Ave., San Lorenzo; formerly BAY-MW-WORTHLEY
 ClientID: MW6
 Lab ID: L237613-1 (P246975-1)
 Sample Type: GRAB (Instantaneous Grab)
 Date Collected: Aug 13 2020, 12:40pm Sample collector: B. Chan
 Date Received: Aug 13 2020, 02:14pm Sample receiver: VNGUYEN
 Sample Comments: MW-6; +FLD DATA: pH = 7.40; Cl2R = 0.3 mg/L; Depth to GW = N/A (Indicator/
 Battery not functioning); GW Elevation = N/A; Temp = 23.2 deg C. Labelled
 as RAW WATER for the program.

Method Reference	Qualifier	Result	Units	Dilution	MDL	Matrix	Tag
Parameter						RL/ML	
Method: EPA 552.2 - Haloacetic Acids						GroundH2O	
<i>TARGET ANALYTES</i>							
BROMOCHLOROACETIC ACID	U	0.16	ug/L	1	0.16		
BROMODICHLOROACETIC ACID	U	0.20	ug/L	1	0.2		
CHLORODIBROMOACETIC ACID	U	0.22	ug/L	1	0.22		
DIBROMOACETIC ACID	U	0.28	ug/L	1	0.28	1	
DICHLOROACETIC ACID	U	0.25	ug/L	1	0.25	1	
MONOBROMOACETIC ACID	U	0.25	ug/L	1	0.25	1	
MONOCHLOROACETIC ACID	U	0.25	ug/L	1	0.25	2	
TRIBROMOACETIC ACID	U	0.35	ug/L	1	0.35		
TRICHLOROACETIC ACID	U	0.17	ug/L	1	0.17	1	
<i>VALUE CALCULATED FROM OTHER RESULTS</i>							
HAA(5)	U	1.0	ug/L				
HAA (5) calculation uses a zero for any individual HAA result less than the California DLR for that HAA							
HAA(9)	U	1.0	ug/L				
<i>INTERNAL STANDARD</i>							
1,2,3-TRICHLOROPROPANE		97	% recovery		1		
<i>SURROGATE</i>							
2,3-DIBROMOPROPIONIC ACID		100	% recovery		1		
Run ID: R306534 / Work Group No.: WG237778							
Prep Date1: Analyzed 21-Aug-20 00:43							
Method: SM2320B - 2011, Titration						GroundH2O	
<i>TARGET ANALYTES</i>							
ALKALINITY: TOTAL AS CaCO3		230	mg/L	1	5		
Run ID: R306113 / Work Group No.: WG237649							
Prep Date1: 14-AUG-20 Analyzed 14-Aug-20 08:15							
Method: SM2320B-1997 - Calculation						GroundH2O	
<i>TARGET ANALYTES</i>							
ALKALINITY: BICARBONATE		230	mg/L	1	5		
Run ID: R306123 / Work Group No.: WG237658							
Prep Date1: 14-AUG-20 Analyzed 14-Aug-20 13:25							
Method: SM2320B-1997 - Calculation						GroundH2O	
<i>TARGET ANALYTES</i>							
ALKALINITY: HYDROXIDE	U	0.10	mg/L	1	0.1		
Run ID: R306123 / Work Group No.: WG237658							
Prep Date1: 14-AUG-20 Analyzed 14-Aug-20 13:25							
Method: SM2320B-1997 - Calculation						GroundH2O	
<i>TARGET ANALYTES</i>							
ALKALINITY: CARBONATE	U	0.10	mg/L	1	0.1		
Run ID: R306123 / Work Group No.: WG237658							
Prep Date1: 14-AUG-20 Analyzed 14-Aug-20 13:25							

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Analytical Results Report

LSR B455-0706-1 BAYSIDE GROUND WATER PROJECT
 Site: GW BAYSIDE East Bay Ground Water Injection/Extraction Project Bayside Groundwater
 Locator: BAY1-MW6 R APN 438-0010-003 2364 Baumann Ave., San Lorenzo; formerly BAY-MW-WORTHLEY
 ClientID: MW6
 Lab ID: L237613-1 (P246975-1)
 Sample Type: GRAB (Instantaneous Grab)
 Date Collected: Aug 13 2020, 12:40pm Sample collector: B. Chan
 Date Received: Aug 13 2020, 02:14pm Sample receiver: VNGUYEN
 Sample Comments: MW-6; +FLD DATA: pH = 7.40; Cl2R = 0.3 mg/L; Depth to GW = N/A (Indicator/
 Battery not functioning); GW Elevation = N/A; Temp = 23.2 deg C. Labelled
 as RAW WATER for the program.

Method Reference	Qualifier	Result	Units	Dilution	MDL	Matrix	Tag	
Parameter						RL/ML		
Method: SM2340C - 2011, Titration: EDTA							GroundH2O	
TARGET ANALYTES								
HARDNESS: TOTAL AS CaCO3		120	mg/L	1	3			
Run ID: R306234 / Work Group No.: WG237753								
Prep Date1: 19-AUG-20 Analyzed 19-Aug-20 16:00								
Method: SM2540C - 2011, Dried at 180C							GroundH2O	
TARGET ANALYTES								
TOTAL DISSOLVED SOLIDS		420	mg/L	1	10			
Run ID: R306372 / Work Group No.: WG237752								
Prep Date1: 20-AUG-20 Analyzed 20-Aug-20 06:45								
Method: SM4500-NH3 B, C - 2011, Distillation & Titration							GroundH2O	
TARGET ANALYTES								
AMMONIA AS N	U	0.250	mg/L	1	0.25			
Run ID: R306441 / Work Group No.: WG237868								
Prep Date1: 27-AUG-20 Analyzed 27-Aug-20 09:45								
Method: EPA 200.7 - Rev. 4.4, ICP Scan							RawH2O	2
TARGET ANALYTES								
SODIUM		102,000	ug/L	2.08	8.53			
Run ID: R306502 / Work Group No.: WG237955								
Prep Date1: 25-AUG-20 Prep Date2: 30-AUG-20 Analyzed 31-Aug-20 13:21								
Method: EPA 200.7 - Rev. 4.4, ICP Scan							RawH2O	1
TARGET ANALYTES								
MAGNESIUM		7,540	ug/L	1.04	5.72			
MANGANESE		176	ug/L	1.04	0.135	20		
Run ID: R306502 / Work Group No.: WG237955								
Prep Date1: 25-AUG-20 Prep Date2: 30-AUG-20 Analyzed 31-Aug-20 12:53								
Method: EPA 200.7 - Rev. 4.4, ICP Scan							RawH2O	
TARGET ANALYTES								
CALCIUM		31,200	ug/L	1.04	22.6			
IRON		20.5	ug/L	1.04	5.41	100		
POTASSIUM		2,060	ug/L	1.04	19.9			
Run ID: R306491 / Work Group No.: WG237944								
Prep Date1: 25-AUG-20 Prep Date2: 30-AUG-20 Analyzed 30-Aug-20 14:21								

RL is either the client requested or regulatory mandated Reporting Limit. ML is the regulatory mandated Minimum Level

Analytical Report Prepared for DAVID BEHNKEN

Report generated on: Sep 11, 2020 02:04 pm
Login No.: L237432

Reported by:



KRISTI LORENSON
Laboratory Program Manager

Approved by:



Yuyun Shang
Laboratory Services Division Manager

LSR B455-0706-1

Project Title: BAYSIDE GROUND WATER PROJECT

Login Performance Summary

1 - Sample received by the lab on: Aug 05 2020, 03:09 pm
0 - Lost Analyses
0 - Hold Time Exceedences
Turn-around-time not met

Samples included in this report:

Sample	Type Collected	Site	Locator	ClientID
L237432-1	GRAB 05-Aug-2020 12:40	GW BAYSIDE	BAY1-MW7	MW7

Legend to the laboratory qualifiers used in this report:

U - Analyte not detected
Qualifiers for subcontract work - See textvalue for description



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Analytical Results Report

LSR B455-0706-1 BAYSIDE GROUND WATER PROJECT
 Site: GW BAYSIDE East Bay Ground Water Injection/Extraction Project Bayside Groundwater
 Locator: BAY1-MW7 S APN 411-0078-001 Via Buena Vista; formerly BAY-MW-SL PARK
 ClientID: MW7
 Lab ID: L237432-1 (P246976-1)
 Sample Type: GRAB (Instantaneous Grab)
 Date Collected: Aug 05 2020, 12:40pm Sample collector: D. Williams
 Date Received: Aug 05 2020, 03:09pm Sample receiver: ANG
 Sample Comments: MW-7; +FLD DATA: pH = 7.06 ; Cl2R = 0.2 mg/L; Depth to GW = 11 feet; GW Elevation = — feet; Temp = 22 deg C; Labelled as RAW WATER for the program.

Method Reference	Qualifier	Result	Units	Dilution	MDL	Matrix	Tag
Parameter						RL/ML	
Method: EPA 8260B - Trihalomethanes, GC/MS						GroundH2O	
<i>Subcontract data from Alpha Analytical Lab</i>							
Comment: U - ANALYTE INCLUDED IN ANALYSIS BUT NOT DETECTED AT OR ABOVE MDL							
<i>SUBCONTRACT LAB DATA</i>							
BROMODICHLOROMETHANE	U	0.4	ug/L	1	0.4	0.5	
BROMOFORM	U	0.3	ug/L	1	0.3	0.5	
CHLOROFORM	U	0.4	ug/L	1	0.4	0.5	
DIBROMOCHLOROMETHANE	U	0.4	ug/L	1	0.4	0.5	
TRIHALOMETHANES	U	0.4	ug/L	1	0.4	0.5	
Run ID: R306437 / Work Group No.: WG237896							
Prep Date1: 12-AUG-20 Analyzed 13-Aug-20 06:09							
Method: PER SUBCONTRACT LABORATORY REPORT - Subcontract data transmittal						GroundH2O	
<i>Subcontract data</i>							
Comment: Original report transmitted to client. Copy of report archived with data packet.							
<i>SUBCONTRACT LAB DATA</i>							
DATA TRANSMITTAL							
Run ID: R306431 / Work Group No.: WG237893							
Prep Date1: 27-AUG-20 Analyzed 27-Aug-20 00:00							
Method: PER SUBCONTRACT LABORATORY REPORT - Subcontract data transmittal for oxygen 18						GroundH2O	
<i>Subcontract data from Alpha Analytical Lab</i>							
Comment: Refer to sublab data report attached							
<i>SUBCONTRACT LAB DATA</i>							
DATA TRANSMITTAL							
Run ID: R306634 / Work Group No.: WG238086							
Prep Date1: 01-SEP-20 Analyzed 01-Sep-20 00:00							
Method: SAMPLER PROVIDED FIELD MEASUREMENTS - DATA ENTRY LIST FOR FIELD DATA						GroundH2O	
<i>FIELD ANALYSIS/OBSERVATION DATA PARAMETERS</i>							
PH		7.06	pH units	1			
TEMPERATURE		22	deg C	1			
DEPTH		11	feet	1			
CHLORINE RESIDUAL: TOTAL		0.2	mg/L	1	0.08		
Run ID: R305976 / Work Group No.: WG237512							
Prep Date1: 05-AUG-20 Analyzed 05-Aug-20 12:40							
Method: EPA 300.1 - Ion Chromatography						GroundH2O	
<i>Instrument calibrated 16-JUL-20</i>							
<i>TARGET ANALYTES</i>							
CHLORIDE		93	mg/L	25	0.68		
NITRATE AS N	U	0.088	mg/L	25	0.088	0.4	
SULFATE		53	mg/L	25	0.75	0.5	
<i>SURROGATE</i>							
DICHLOROACETATE		96	% recovery	25			
Run ID: R305946 / Work Group No.: WG237459							
Prep Date1: 05-AUG-20 Analyzed 06-Aug-20 08:33							

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Analytical Results Report

LSR B455-0706-1 BAYSIDE GROUND WATER PROJECT
 Site: GW BAYSIDE East Bay Ground Water Injection/Extraction Project Bayside Groundwater
 Locator: BAY1-MW7 S APN 411-0078-001 Via Buena Vista; formerly BAY-MW-SL PARK
 ClientID: MW7
 Lab ID: L237432-1 (P246976-1)
 Sample Type: GRAB (Instantaneous Grab)
 Date Collected: Aug 05 2020, 12:40pm Sample collector: D. Williams
 Date Received: Aug 05 2020, 03:09pm Sample receiver: ANG
 Sample Comments: MW-7; +FLD DATA: pH = 7.06 ; Cl2R = 0.2 mg/L; Depth to GW = 11 feet; GW Elevation = — feet; Temp = 22 deg C; Labelled as RAW WATER for the program.

Method Reference	Qualifier	Result	Units	Dilution	MDL	Matrix	Tag
Parameter						RL/ML	
Method: EPA 552.2 - Haloacetic Acids						GroundH2O	
<i>TARGET ANALYTES</i>							
BROMOCHLOROACETIC ACID	U	0.16	ug/L	1	0.16		
BROMODICHLOROACETIC ACID	U	0.20	ug/L	1	0.2		
CHLORODIBROMOACETIC ACID	U	0.22	ug/L	1	0.22		
DIBROMOACETIC ACID	U	0.28	ug/L	1	0.28	1	
DICHLOROACETIC ACID	U	0.25	ug/L	1	0.25	1	
MONOBROMOACETIC ACID	U	0.25	ug/L	1	0.25	1	
MONOCHLOROACETIC ACID	U	0.25	ug/L	1	0.25	2	
TRICHLOROACETIC ACID	U	0.17	ug/L	1	0.17	1	
<i>VALUE CALCULATED FROM OTHER RESULTS</i>							
HAA(5)	U	1.0	ug/L				
HAA (5) calculation uses a zero for any individual HAA result less than the California DLR for that HAA							
<i>INTERNAL STANDARD</i>							
1,2,3-TRICHLOROPROPANE		100	% recovery		1		
<i>SURROGATE</i>							
2,3-DIBROMOPROPIONIC ACID		97	% recovery		1		
Run ID: R306114 / Work Group No.: WG237494							
Prep Date1: Analyzed 10-Aug-20 20:26							
Method: SM2320B - 2011, Titration						GroundH2O	
<i>TARGET ANALYTES</i>							
ALKALINITY: TOTAL AS CaCO3		240	mg/L	1	5		
Run ID: R306004 / Work Group No.: WG237532							
Prep Date1: 10-AUG-20 Analyzed 10-Aug-20 08:59							
Method: SM2320B-1997 - Calculation						GroundH2O	
<i>TARGET ANALYTES</i>							
ALKALINITY: CARBONATE	U	0.10	mg/L	1	0.1		
Run ID: R306014 / Work Group No.: WG237551							
Prep Date1: 11-AUG-20 Analyzed 11-Aug-20 07:17							
Method: SM2320B-1997 - Calculation						GroundH2O	
<i>TARGET ANALYTES</i>							
ALKALINITY: BICARBONATE		240	mg/L	1	5		
Run ID: R306014 / Work Group No.: WG237551							
Prep Date1: 11-AUG-20 Analyzed 11-Aug-20 07:17							
Method: SM2320B-1997 - Calculation						GroundH2O	
<i>TARGET ANALYTES</i>							
ALKALINITY: HYDROXIDE	U	0.10	mg/L	1	0.1		
Run ID: R306014 / Work Group No.: WG237551							
Prep Date1: 11-AUG-20 Analyzed 11-Aug-20 07:17							
Method: SM2340C - 2011, Titration: EDTA						GroundH2O	
<i>TARGET ANALYTES</i>							
HARDNESS: TOTAL AS CaCO3		140	mg/L	1	3		
Run ID: R306234 / Work Group No.: WG237753							
Prep Date1: 19-AUG-20 Analyzed 19-Aug-20 16:00							

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Analytical Results Report

LSR B455-0706-1 BAYSIDE GROUND WATER PROJECT
 Site: GW BAYSIDE East Bay Ground Water Injection/Extraction Project Bayside Groundwater
 Locator: BAY1-MW7 S APN 411-0078-001 Via Buena Vista; formerly BAY-MW-SL PARK
 ClientID: MW7
 Lab ID: L237432-1 (P246976-1)
 Sample Type: GRAB (Instantaneous Grab)
 Date Collected: Aug 05 2020, 12:40pm Sample collector: D. Williams
 Date Received: Aug 05 2020, 03:09pm Sample receiver: ANG
 Sample Comments: MW-7; +FLD DATA: pH = 7.06 ; Cl2R = 0.2 mg/L; Depth to GW = 11 feet; GW Elevation = — feet; Temp = 22 deg C; Labelled as RAW WATER for the program.

Method Reference	Qualifier	Result	Units	Dilution	MDL	Matrix	Tag
Parameter						RL/ML	
Method: SM2540C - 2011, Dried at 180C						GroundH2O	
<i>TARGET ANALYTES</i>							
TOTAL DISSOLVED SOLIDS		500	mg/L	2	20		
Run ID: R305970 / Work Group No.: WG237462							
Prep Date1: 06-AUG-20 Analyzed 06-Aug-20 06:45							
Method: SM4500-NH3 B, C - 2011, Distillation & Titration						GroundH2O	
<i>TARGET ANALYTES</i>							
AMMONIA AS N	U	0.250	mg/L	1	0.25		
Run ID: R306093 / Work Group No.: WG237608							
Prep Date1: 13-AUG-20 Analyzed 13-Aug-20 10:52							
Method: EPA 200.7 - Rev. 4.4, ICP Scan						RawH2O	
<i>TARGET ANALYTES</i>							
SODIUM		121,000	ug/L	4.16	17.1		
Run ID: R306357 / Work Group No.: WG237815							
Prep Date1: 11-AUG-20 Prep Date2: 24-AUG-20 Analyzed 24-Aug-20 15:34							
Method: EPA 200.7 - Rev. 4.4, ICP Scan						RawH2O	1
<i>TARGET ANALYTES</i>							
CALCIUM		36,600	ug/L	1.04	22.6		
IRON		37.2	ug/L	1.04	5.41	100	
POTASSIUM		2,150	ug/L	1.04	19.9		
MAGNESIUM		9,380	ug/L	1.04	5.72		
MANGANESE		237	ug/L	1.04	0.135	20	
Run ID: R306357 / Work Group No.: WG237815							
Prep Date1: 11-AUG-20 Prep Date2: 24-AUG-20 Analyzed 24-Aug-20 15:40							

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Analytical Report Prepared for DAVID BEHNKEN

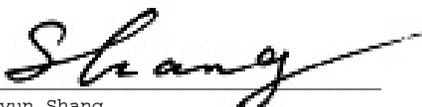
Report generated on: Oct 22, 2020 09:09 pm
Login No.: L237848

Reported by:



KRISTI LORENSON
Laboratory Program Manager

Approved by:



Yuyun Shang
Laboratory Services Division Manager

LSR B455-0706-1

Project Title: BAYSIDE GROUND WATER PROJECT

Login Performance Summary

4 - Samples received by the lab on: Aug 25 2020, 01:25 pm
0 - Lost Analyses
0 - Hold Time Exceedences
Turn-around-time not met

Samples included in this report:

Sample	Type Collected	Site	Locator	ClientID
L237848-1	GRAB 25-Aug-2020 10:50	WTP BAYSIDE	BAY WELL HEAD	-
L237848-2	GRAB 25-Aug-2020 11:20	WTP BAYSIDE	BAY WELL HEAD	-
L237848-3	QCFB 25-Aug-2020 11:15	FIELD QC	COLLECTION QC	-
L237848-4	QCTB 25-Aug-2020 11:15	FIELD QC	COLLECTION QC	-

Legend to the laboratory qualifiers used in this report:

< - Less than
D - Surrogate spike outside of control limits
E - Estimated value, concentration outside calibration range. For SIP, E=DNQ, Estimated Concentration.
N - Spike recovery outside of control limits
U - Analyte not detected
Qualifiers for subcontract work - See textvalue for description



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LSR B455-0706-1 BAYSIDE GROUND WATER PROJECT
Site: WTP BAYSIDE Bayside GW Project Extraction Wells at 2540 Grant Avenue, San Lorenzo
Locator: BAY WELL HEAD Sample tap at the well, as shown in Drawing No. 2097-C-002
Lab ID: L237848-1 (P246700-1)
Sample Type: GRAB (Instantaneous Grab)
Date Collected: Aug 25 2020, 10:50am Sample collector: C. PAGTAKHAN
Date Received: Aug 25 2020, 01:25pm Sample receiver: ANG
Sample Comments: Annual Bayside Sampling per DDW T22 and WDR; +FLD DATA: pH = 8.10 CL2R
= 0.2 mg/L (MDL=0.02 mg/L)

Method Reference	Qualifier	Result	Units	Dilution	MDL	Matrix	Tag
Parameter						RL/ML	
Method: SAMPLER PROVIDED FIELD MEASUREMENTS - DATA ENTRY LIST FOR FIELD DATA							RawH2O
<i>FIELD ANALYSIS/OBSERVATION DATA PARAMETERS</i>							
PH		8.1	pH units	1			
CHLORINE RESIDUAL: TOTAL		0.2	mg/L	1	0.02		
Run ID: R306625 / Work Group No.: WG238079							
Prep Date: 25-AUG-20 Analyzed 25-Aug-20 10:50							
Method: EPA 524.4 - Volatile Organics, GC/MS							RawH2O
<i>TARGET ANALYTES</i>							
ALLYL CHLORIDE	U	0.51	ug/L	1	0.51		
TERT-AMYL METHYL ETHER	U	0.15	ug/L	1	0.15	3	
BENZENE	U	0.10	ug/L	1	0.1	0.5	
BROMOBENZENE	U	0.091	ug/L	1	0.091		
BROMOCHLOROMETHANE	E	0.36	ug/L	1	0.2		
BROMODICHLOROMETHANE		2.0	ug/L	1	0.11		
BROMOFORM	U	0.26	ug/L	1	0.26		
BROMOMETHANE	U	2.3	ug/L	1	2.3		
TERT-BUTYL ALCOHOL	U	0.55	ug/L	1	0.55	2	
N-BUTYLBENZENE	U	0.076	ug/L	1	0.076		
SEC-BUTYLBENZENE	U	0.086	ug/L	1	0.086		
TERT-BUTYLBENZENE	U	0.15	ug/L	1	0.15		
CARBON DISULFIDE	U	0.16	ug/L	1	0.16		
CARBON TETRACHLORIDE	U	0.12	ug/L	1	0.12	0.5	
CHLOROBENZENE	U	0.067	ug/L	1	0.067	0.5	
1-CHLOROBUTANE	U	0.085	ug/L	1	0.085		
CHLOROFORM		28	ug/L	1	0.12		
CHLOROMETHANE	U	0.36	ug/L	1	0.36		
O-CHLOROTOLUENE	U	0.093	ug/L	1	0.093		
P-CHLOROTOLUENE	U	0.083	ug/L	1	0.083		
DIBROMOCHLOROMETHANE	E	0.50	ug/L	1	0.17		
DIBROMOMETHANE	U	0.14	ug/L	1	0.14		
1,2-DICHLOROBENZENE	U	0.070	ug/L	1	0.07	0.5	
1,3-DICHLOROBENZENE	U	0.064	ug/L	1	0.064		
1,4-DICHLOROBENZENE	U	0.058	ug/L	1	0.058	0.5	
DICHLORODIFLUOROMETHANE	U	0.23	ug/L	1	0.23	0.5	
1,1-DICHLOROETHANE	U	0.15	ug/L	1	0.15	0.5	
1,2-DICHLOROETHANE	U	0.10	ug/L	1	0.1	0.5	
1,1-DICHLOROETHENE	U	0.15	ug/L	1	0.15	0.5	
CIS-1,2-DICHLOROETHENE	U	0.14	ug/L	1	0.14	0.5	
TRANS-1,2-DICHLOROETHENE	U	0.093	ug/L	1	0.093	0.5	
1,2-DICHLOROPROPANE	U	0.10	ug/L	1	0.1	0.5	
1,3-DICHLOROPROPANE	U	0.071	ug/L	1	0.071		
1,1-DICHLOROPROPENE	U	0.089	ug/L	1	0.089		
CIS-1,3-DICHLOROPROPENE	U	0.084	ug/L	1	0.084	0.5	
TRANS-1,3-DICHLOROPROPENE	U	0.068	ug/L	1	0.068	0.5	
DIISOPROPYL ETHER	U	0.087	ug/L	1	0.087		
ETHYL BENZENE	U	0.092	ug/L	1	0.092	0.5	
ETHYL ETHER	U	0.17	ug/L	1	0.17		
ETHYLMETHACRYLATE	U	0.11	ug/L	1	0.11		
ETHYL-T-BUTYL ETHER	U	0.080	ug/L	1	0.08	3	
FLUOROTRICHLOROMETHANE	U	0.19	ug/L	1	0.19	5	
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	U	0.17	ug/L	1	0.17	10	
HEXACHLOROBUTADIENE	U	0.093	ug/L	1	0.093		

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LSR B455-0706-1 BAYSIDE GROUND WATER PROJECT
 Site: WTP BAYSIDE Bayside GW Project Extraction Wells at 2540 Grant Avenue, San Lorenzo
 Locator: BAY WELL HEAD Sample tap at the well, as shown in Drawing No. 2097-C-002
 Lab ID: L237848-1 (P246700-1)
 Sample Type: GRAB (Instantaneous Grab)
 Date Collected: Aug 25 2020, 10:50am Sample collector: C. PAGTAKHAN
 Date Received: Aug 25 2020, 01:25pm Sample receiver: ANG
 Sample Comments: Annual Bayside Sampling per DDW T22 and WDR; +FLD DATA: pH = 8.10 CL2R
 = 0.2 mg/L (MDL=0.02 mg/L)

Method Reference	Parameter	Qualifier	Result	Units	Dilution	MDL	Matrix	Tag	
	HEXACHLOROETHANE	U	0.17	ug/L	1	0.17	RL/ML		
	IODOMETHANE	U	2.7	ug/L	1	2.7			
	ISOPROPYLBENZENE	U	0.086	ug/L	1	0.086			
	P-ISOPROPYLTOLUENE	U	0.080	ug/L	1	0.08			
	METHYLENE CHLORIDE		1.2	ug/L	1	0.15	0.5		
	METHYL-T-BUTYL ETHER	U	0.058	ug/L	1	0.058	3		
	NAPHTHALENE	U	0.084	ug/L	1	0.084			
	PENTACHLOROETHANE	U	0.25	ug/L	1	0.25			
	N-PROPYLBENZENE	U	0.078	ug/L	1	0.078			
	STYRENE	U	0.11	ug/L	1	0.11	0.5		
	1,1,1,2-TETRACHLOROETHANE	U	0.073	ug/L	1	0.073			
	1,1,2,2-TETRACHLOROETHANE	U	0.11	ug/L	1	0.11	0.5		
	TETRACHLOROETHENE	U	0.12	ug/L	1	0.12	0.5		
	TETRAHYDROFURAN	U	0.24	ug/L	1	0.24			
	TOLUENE	U	0.075	ug/L	1	0.075	0.5		
	1,2,3-TRICHLOROBENZENE	U	0.082	ug/L	1	0.082			
	1,2,4-TRICHLOROBENZENE	U	0.10	ug/L	1	0.1	0.5		
	1,1,1-TRICHLOROETHANE	U	0.13	ug/L	1	0.13	0.5		
	1,1,2-TRICHLOROETHANE	U	0.11	ug/L	1	0.11	0.5		
	TRICHLOROETHENE	U	0.12	ug/L	1	0.12	0.5		
	1,2,4-TRIMETHYLBENZENE	U	0.088	ug/L	1	0.088			
	1,3,5-TRIMETHYLBENZENE	U	0.071	ug/L	1	0.071			
	VINYL CHLORIDE	U	0.20	ug/L	1	0.2	0.5		
	O-XYLENE	U	0.079	ug/L	1	0.079	0.5		
	M+P XYLENES	U	0.18	ug/L	1	0.18	0.5		
	<i>VALUE(S) USED TO CALCULATE OTHER VALUE(S)</i>								
	TOTAL 1,3-DICHLOROPROPENES	U	0.50	ug/L	1		0.5		
	TOTAL XYLENES	U	0.50	ug/L	1	0.22	0.5		
	INTERNAL STANDARD								
	1,4-DIFLUOROBENZENE		80.9	% recovery	1				
	D4-1,4-DICHLOROBENZENE		81.8	% recovery	1				
	D5-CHLOROBENZENE		81.3	% recovery	1				
	SURROGATE								
	4-BROMOFLUOROBENZENE		95.2	% recovery	1				
	D3-METHYL-T-BUTYL-ETHER		94.8	% recovery	1				
	D4-1,2-DICHLOROBENZENE		106	% recovery	1				

Run ID: R306412 / Work Group No.: WG237838
 Prep Date1: 25-AUG-20 Analyzed 25-AUG-20 15:17

Method: EPA 525.2 - Semivolatile Organics, GC/MS	RawH2O	1
TARGET ANALYTES		
TOXAPHENE	U	0.50 ug/L 1 0.5 1
INTERNAL STANDARD		
D10-ACENAPHTHENE		74.0 % recovery 1 1
D10-PHENANTHRENE		83.5 % recovery 1 1
D12-CHRYSENE		79.4 % recovery 1 1
SURROGATE		
D12-PERYLENE	D	30 % recovery 1 1
1,3-DIMETHYL-2-NITROBENZENE		110 % recovery 1 1
TRIPHENYL PHOSPHATE	D	160 % recovery 1 1
D10-PYRENE		84 % recovery 1 1

Run ID: R306241 / Work Group No.: WG237750
 Prep Date1: 26-AUG-20 Prep Date2: 26-AUG-20 Analyzed 01-Sep-20 17:37

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Analytical Results Report

LSR B455-0706-1 BAYSIDE GROUND WATER PROJECT
Site: WTP BAYSIDE Bayside GW Project Extraction Wells at 2540 Grant Avenue, San Lorenzo
Locator: BAY WELL HEAD Sample tap at the well, as shown in Drawing No. 2097-C-002
Lab ID: L237848-1 (P246700-1)
Sample Type: GRAB (Instantaneous Grab)
Date Collected: Aug 25 2020, 10:50am Sample collector: C. PAGTAKHAN
Date Received: Aug 25 2020, 01:25pm Sample receiver: ANG
Sample Comments: Annual Bayside Sampling per DDW T22 and WDR; +FLD DATA: pH = 8.10 CL2R
= 0.2 mg/L (MDL=0.02 mg/L)

Method Reference	Qualifier	Result	Units	Dilution	MDL	Matrix	Tag
Parameter						RL/ML	
Method: EPA 525.2 - Semivolatile Organics, GC/MS							RawH2O
TARGET ANALYTES							
ACENAPHTHYLENE	U	0.036	ug/L	1	0.036		
ALACHLOR	U	0.021	ug/L	1	0.021	1	
ALDRIN	U	0.011	ug/L	1	0.011		
ANTHRACENE	U,N	0.042	ug/L	1	0.042		
ATRAZINE	U	0.026	ug/L	1	0.026	0.5	
BENZO(A)ANTHRACENE	U,N	0.017	ug/L	1	0.017		
BENZO(B)FLUORANTHENE	U	0.014	ug/L	1	0.014		
BENZO(K)FLUORANTHENE	U	0.013	ug/L	1	0.013		
BENZO(A)PYRENE	U,N	0.011	ug/L	1	0.011	0.1	
BENZO(GHI)PERYLENE	U	0.016	ug/L	1	0.016		
BIS(2-ETHYLHEXYL)ADIPATE	U	0.029	ug/L	1	0.029	5	
BIS(2-ETHYLHEXYL)PHTHALATE	U	0.059	ug/L	1	0.059	3	
ALPHA BHC	U	0.012	ug/L	1	0.012		
BETA BHC	U	0.020	ug/L	1	0.02		
DELTA BHC	U	0.012	ug/L	1	0.012		
GAMMA BHC	U	0.017	ug/L	1	0.017	0.2	
BROMACIL	U,N	0.018	ug/L	1	0.018		
BUTACHLOR	U	0.026	ug/L	1	0.026		
BUTYLBENZYL PHTHALATE	U	0.026	ug/L	1	0.026		
CHLORDANE	U	0.10	ug/L	1	0.1	0.1	
CHLORDANE-ALPHA	U	0.018	ug/L	1	0.018		
CHLORDANE-GAMMA	U	0.018	ug/L	1	0.018		
CHLOROBENZILATE	U,N	0.047	ug/L	1	0.047		
CHLORONEB	U	0.052	ug/L	1	0.052		
CHLOROTHALONIL	U	0.032	ug/L	1	0.032		
CHRYSENE	U	0.012	ug/L	1	0.012		
DCPA	U	0.028	ug/L	1	0.028		
4,4'-DDD	U	0.022	ug/L	1	0.022		
4,4'-DDE	U	0.025	ug/L	1	0.025		
4,4'-DDT	U	0.023	ug/L	1	0.023		
DIBENZO(A,H)ANTHRACENE	U	0.014	ug/L	1	0.014		
DI-N-BUTYL PHTHALATE	U	0.028	ug/L	1	0.028		
DIELDRIN	U	0.023	ug/L	1	0.023		
DIETHYL PHTHALATE	U	0.014	ug/L	1	0.014		
DIMETHYL PHTHALATE	U	0.010	ug/L	1	0.01		
2,4-DINITROTOLUENE	U	0.025	ug/L	1	0.025		
2,6-DINITROTOLUENE	U	0.019	ug/L	1	0.019		
ALPHA ENDOSULFAN	U	0.012	ug/L	1	0.012		
BETA ENDOSULFAN	U	0.019	ug/L	1	0.019		
ENDOSULFAN SULFATE	U	0.035	ug/L	1	0.035		
ENDRIN	U,N	0.031	ug/L	1	0.031	0.1	
ENDRIN ALDEHYDE	U	0.029	ug/L	1	0.029		
EPTC	U	0.010	ug/L	1	0.01		
ETRIDIAZOLE	U	0.010	ug/L	1	0.01		
FLUORENE	U	0.022	ug/L	1	0.022		
HEPTACHLOR	U	0.0060	ug/L	1	0.006	0.01	
HEPTACHLOR EPOXIDE	U	0.0060	ug/L	1	0.006	0.01	
HEXACHLOROBENZENE	U	0.018	ug/L	1	0.018	0.5	
HEXACHLOROCYCLOPENTADIENE	U	0.019	ug/L	1	0.019	1	
HEXAZINONE	U	0.035	ug/L	1	0.035		
INDENO(1,2,3-CD)PYRENE	U	0.013	ug/L	1	0.013		

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Analytical Results Report

LSR B455-0706-1 BAYSIDE GROUND WATER PROJECT
 Site: WTP BAYSIDE Bayside GW Project Extraction Wells at 2540 Grant Avenue, San Lorenzo
 Locator: BAY WELL HEAD Sample tap at the well, as shown in Drawing No. 2097-C-002
 Lab ID: L237848-1 (P246700-1)
 Sample Type: GRAB (Instantaneous Grab)
 Date Collected: Aug 25 2020, 10:50am Sample collector: C. PAGTAKHAN
 Date Received: Aug 25 2020, 01:25pm Sample receiver: ANG
 Sample Comments: Annual Bayside Sampling per DDW T22 and WDR; +FLD DATA: pH = 8.10 CL2R
 = 0.2 mg/L (MDL=0.02 mg/L)

Method Reference	Qualifier	Result	Units	Dilution	MDL	Matrix	Tag
Parameter						RL/ML	
ISOPHORONE	U	0.011	ug/L	1	0.011		
METHOXYCHLOR	U	0.011	ug/L	1	0.011	10	
METOLACHLOR	U	0.023	ug/L	1	0.023		
METIBUZIN	U	0.025	ug/L	1	0.025		
MOLINATE	U	0.026	ug/L	1	0.026	2	
CIS-PERMETHRIN	U	0.047	ug/L	1	0.047		
TRANS-PERMETHRIN	U	0.020	ug/L	1	0.02		
PHENANTHRENE	U	0.015	ug/L	1	0.015		
PROMETRYN	U	0.022	ug/L	1	0.022		
PROPACHLOR	U	0.014	ug/L	1	0.014		
PYRENE	U	0.030	ug/L	1	0.03		
SIMAZINE	U	0.028	ug/L	1	0.028	1	
TERBACIL	U,N	0.032	ug/L	1	0.032		
THIOBENCARB	U	0.018	ug/L	1	0.018	1	
TRIFLURALIN	U	0.010	ug/L	1	0.01		
<i>INTERNAL STANDARD</i>							
D10-ACENAPHTHENE		77.3	% recovery		1		
D10-PHENANTHRENE		88.0	% recovery		1		
D12-CHRYSENE		84.2	% recovery		1		
<i>SURROGATE</i>							
D12-PERYLENE	D	30	% recovery		1		
1,3-DIMETHYL-2-NITROBENZENE		110	% recovery		1		
TRIPHENYL PHOSPHATE	D	150	% recovery		1		
D10-PYRENE		88	% recovery		1		

Run ID: R306241 / Work Group No.: WG237750
 Prep Date1: 26-AUG-20 Prep Date2: 26-AUG-20 Analyzed 27-Aug-20 17:55

Method: SRL 524M-TCP - SIM for TCP, PT, GC/MS	RawH2O						
<i>TARGET ANALYTES</i>							
1,2,3-TRICHLOROPROPANE	U	0.85	ng/L	1	0.85		
<i>INTERNAL STANDARD</i>							
D5-1,2,3-TRICHLOROPROPANE		98.5	% recovery				

Run ID: R306504 / Work Group No.: WG237952
 Prep Date1: 28-AUG-20 Analyzed 31-Aug-20 11:00

Method: EPA 300.1 - Ion Chromatography	RawH2O						
<i>Instrument calibrated 10-AUG-20</i>							
<i>TARGET ANALYTES</i>							
FLUORIDE		0.62	mg/L	10	0.12	0.1	
CHLORIDE		13	mg/L	10	0.27		
NITRITE AS N		0.46	mg/L	10	0.033	0.4	
NITRATE AS N		0.20	mg/L	10	0.035	0.4	
SULFATE		23	mg/L	10	0.3	0.5	
<i>SURROGATE</i>							
DICHLOROACETATE		99	% recovery	10			

Run ID: R306398 / Work Group No.: WG237830
 Prep Date1: 25-AUG-20 Analyzed 25-Aug-20 18:37

Method: EPA 552.2 - Haloacetic Acids	RawH2O						
<i>TARGET ANALYTES</i>							
BROMOCHLOROACETIC ACID	U	0.16	ug/L	1	0.16		
BROMODICHLOROACETIC ACID	U	0.20	ug/L	1	0.2		
CHLORODIBROMOACETIC ACID		1.2	ug/L	1	0.22		
DIBROMOACETIC ACID	U	0.28	ug/L	1	0.28	1	

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Analytical Results Report

LSR B455-0706-1 BAYSIDE GROUND WATER PROJECT
 Site: WTP BAYSIDE Bayside GW Project Extraction Wells at 2540 Grant Avenue, San Lorenzo
 Locator: BAY WELL HEAD Sample tap at the well, as shown in Drawing No. 2097-C-002
 Lab ID: L237848-1 (P246700-1)
 Sample Type: GRAB (Instantaneous Grab)
 Date Collected: Aug 25 2020, 10:50am Sample collector: C. PAGTAKHAN
 Date Received: Aug 25 2020, 01:25pm Sample receiver: ANG
 Sample Comments: Annual Bayside Sampling per DDW T22 and WDR; +FLD DATA: pH = 8.10 CL2R
 = 0.2 mg/L (MDL=0.02 mg/L)

Method Reference	Parameter	Qualifier	Result	Units	Dilution	MDL	Matrix	Tag
	DICHLOROACETIC ACID	U	0.25	ug/L	1	0.25	RL/ML	1
	MONOBROMOACETIC ACID	U	0.25	ug/L	1	0.25		1
	MONOCHLOROACETIC ACID	U	0.25	ug/L	1	0.25		2
	TRIBROMOACETIC ACID	U	0.35	ug/L	1	0.35		
	TRICHLOROACETIC ACID		0.61	ug/L	1	0.17		1
<i>VALUE CALCULATED FROM OTHER RESULTS</i>								
	HAA(5)	U	1.0	ug/L				
HAA (5) calculation uses a zero for any individual HAA result less than the California DLR for that HAA								
	HAA(9)		1.2	ug/L				
<i>INTERNAL STANDARD</i>								
	1,2,3-TRICHLOROPROPANE SURROGATE		100	% recovery		1		
	2,3-DIBROMOPROPIONIC ACID		110	% recovery		1		
Run ID: R306537 / Work Group No.: WG237958								
Prep Date1: Analyzed 31-Aug-20 19:29								
Method: SM5310C - 5310 C. Heated-Persulfate Oxidation Method								RawH2O
<i>TARGET ANALYTES</i>								
	TOTAL ORGANIC CARBON		1.4	mg/L	1	0.12		
Run ID: R306770 / Work Group No.: WG238045								
Prep Date1: 03-SEP-20 Analyzed 03-Sep-20 11:56								
Method: SM2120B - 2001, Visual Comparison								RawH2O
<i>TARGET ANALYTES</i>								
	COLOR		3.0	color unit	1	1		
pH=6								
Run ID: R306414 / Work Group No.: WG237867								
Prep Date1: 26-AUG-20 Analyzed 26-Aug-20 14:40								
Method: SM2130B - 2011, Nephelometric								RawH2O
<i>TARGET ANALYTES</i>								
	TURBIDITY		0.60	NTU	1	0.1		
Run ID: R306407 / Work Group No.: WG237848								
Prep Date1: 26-AUG-20 Analyzed 26-Aug-20 10:00								
Method: SM2320B - 2011, Titration								RawH2O
<i>TARGET ANALYTES</i>								
	ALKALINITY: TOTAL AS CaCO3		88	mg/L	1	5		
Run ID: R306402 / Work Group No.: WG237845								
Prep Date1: 26-AUG-20 Analyzed 26-Aug-20 07:00								
Method: SM2320B-1997 - Calculation								RawH2O
<i>TARGET ANALYTES</i>								
	ALKALINITY: HYDROXIDE	U	0.10	mg/L	1	0.1		
Run ID: R306429 / Work Group No.: WG237889								
Prep Date1: 27-AUG-20 Analyzed 27-Aug-20 10:45								
Method: SM2320B-1997 - Calculation								RawH2O
<i>TARGET ANALYTES</i>								
	ALKALINITY: BICARBONATE		88	mg/L	1	5		
Run ID: R306429 / Work Group No.: WG237889								
Prep Date1: 27-AUG-20 Analyzed 27-Aug-20 10:45								

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LSR B455-0706-1 BAYSIDE GROUND WATER PROJECT
 Site: WTP BAYSIDE Bayside GW Project Extraction Wells at 2540 Grant Avenue, San Lorenzo
 Locator: BAY WELL HEAD Sample tap at the well, as shown in Drawing No. 2097-C-002
 Lab ID: L237848-1 (P246700-1)
 Sample Type: GRAB (Instantaneous Grab)
 Date Collected: Aug 25 2020, 10:50am Sample collector: C. PAGTAKHAN
 Date Received: Aug 25 2020, 01:25pm Sample receiver: ANG
 Sample Comments: Annual Bayside Sampling per DDW T22 and WDR; +FLD DATA: pH = 8.10 CL2R
 = 0.2 mg/L (MDL=0.02 mg/L)

Method Reference	Qualifier	Result	Units	Dilution	MDL	Matrix	Tag
Parameter						RL/ML	
Method: SM2320B-1997 - Calculation							RawH2O
TARGET ANALYTES							
ALKALINITY: CARBONATE	U	0.10	mg/L	1	0.1		
Run ID: R306429 / Work Group No.: WG237889							
Prep Date1: 27-AUG-20 Analyzed 27-Aug-20 10:45							
Method: SM2340C - 2011, Titration: EDTA							RawH2O
TARGET ANALYTES							
HARDNESS: TOTAL AS CaCO3		84	mg/L	1	3		
Run ID: R306547 / Work Group No.: WG237996							
Prep Date1: 01-SEP-20 Analyzed 01-Sep-20 13:15							
Method: SM2510B - 2011, Meter: Platinum Electrode							RawH2O
TARGET ANALYTES							
CONDUCTIVITY		269	umhos/cm	1	0.55		
Run ID: R306484 / Work Group No.: WG237939							
Prep Date1: 28-AUG-20 Analyzed 28-Aug-20 15:46							
Method: SM2540C - 2011, Dried at 180C							RawH2O
TARGET ANALYTES							
TOTAL DISSOLVED SOLIDS		160	mg/L	1	10		
Run ID: R306541 / Work Group No.: WG237950							
Prep Date1: 31-AUG-20 Analyzed 31-Aug-20 09:10							
Method: SM4500-CN C, E - 2011, Distillation & Colorimetric							RawH2O
TARGET ANALYTES							
CYANIDE: TOTAL	U	0.0016	mg/L	1	0.0016		
Run ID: R306610 / Work Group No.: WG238033							
Prep Date1: 03-SEP-20 Analyzed 03-Sep-20 10:03							
Method: SM4500-NH3 B, C - 2011, Distillation & Titration							GroundH2O
TARGET ANALYTES							
AMMONIA AS N	U	0.250	mg/L	1	0.25		
Run ID: R306521 / Work Group No.: WG237967							
Prep Date1: 01-SEP-20 Analyzed 01-Sep-20 09:15							
Method: EPA 200.7 - Rev. 4.4, ICP Scan							RawH2O
TARGET ANALYTES							
ALUMINUM	U	16.3	ug/L	1.04	16.3	50	
CALCIUM		19,900	ug/L	1.04	22.6		
COPPER		4.43	ug/L	1.04	4.16	50	
IRON		269	ug/L	1.04	5.41	100	
POTASSIUM		1,190	ug/L	1.04	19.9		
MAGNESIUM		6,320	ug/L	1.04	5.72		
MANGANESE		11.7	ug/L	1.04	0.135	20	
SODIUM		21,500	ug/L	1.04	4.26		
ZINC		7.28	ug/L	1.04	0.728	50	
Run ID: R307208 / Work Group No.: WG238350							
Prep Date1: 17-SEP-20 Prep Date2: 21-SEP-20 Analyzed 21-Sep-20 11:48							

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LSR B455-0706-1 BAYSIDE GROUND WATER PROJECT
 Site: WTP BAYSIDE Bayside GW Project Extraction Wells at 2540 Grant Avenue, San Lorenzo
 Locator: BAY WELL HEAD Sample tap at the well, as shown in Drawing No. 2097-C-002
 Lab ID: L237848-1 (P246700-1)
 Sample Type: GRAB (Instantaneous Grab)
 Date Collected: Aug 25 2020, 10:50am Sample collector: C. PAGTAKHAN
 Date Received: Aug 25 2020, 01:25pm Sample receiver: ANG
 Sample Comments: Annual Bayside Sampling per DDW T22 and WDR; +FLD DATA: pH = 8.10 CL2R
 = 0.2 mg/L (MDL=0.02 mg/L)

Method Reference	Qualifier	Result	Units	Dilution	MDL	Matrix	Tag
Parameter						RL/ML	

Method: EPA 200.8 - Rev. 5.4, ICP-MS Scan RawH2O

Method Reference	Qualifier	Result	Units	Dilution	MDL	Matrix	Tag
TARGET ANALYTES							
SILVER	U	0.017	ug/L	1.02	0.017	10	
ARSENIC		0.46	ug/L	1.02	0.22	2	
BARIUM		36	ug/L	1.02	0.026	100	
BERYLLIUM	U	0.010	ug/L	1.02	0.01	1	
CADMIUM		0.018	ug/L	1.02	0.0071	1	
NICKEL		0.23	ug/L	1.02	0.025	10	
LEAD		0.16	ug/L	1.02	0.021	5	
ANTIMONY	U	0.12	ug/L	1.02	0.12	6	
SELENIUM	U	0.60	ug/L	1.02	0.6	5	
THALLIUM	U	0.010	ug/L	1.02	0.01	1	

Method Reference	Qualifier	Result	Units	Dilution	MDL	Matrix	Tag
INTERNAL STANDARD							
SCANDIUM		109	% response	1.02			
GERMANIUM		103	% response	1.02			
RHODIUM		97.7	% response	1.02			
INDIUM		99.5	% response	1.02			
TERBIUM		102	% response	1.02			

Run ID: R306975 / Work Group No.: WG238138
 Prep Date1: 03-SEP-20 Prep Date2: 09-SEP-20 Analyzed 09-Sep-20 08:59

Method: EPA 200.8 - Rev. 5.4, ICP-MS Scan RawH2O 1

Method Reference	Qualifier	Result	Units	Dilution	MDL	Matrix	Tag
TARGET ANALYTES							
CHROMIUM		0.22	ug/L	1.02	0.12	10	
INTERNAL STANDARD							
SCANDIUM		107	% response	1.02			
GERMANIUM		101	% response	1.02			
RHODIUM		98.2	% response	1.02			
INDIUM		99.0	% response	1.02			
TERBIUM		101	% response	1.02			

Run ID: R306975 / Work Group No.: WG238138
 Prep Date1: 03-SEP-20 Prep Date2: 09-SEP-20 Analyzed 09-Sep-20 10:13

Method: EPA 245.1 - Cold Vapor AA RawH2O

Method Reference	Qualifier	Result	Units	Dilution	MDL	Matrix	Tag
TARGET ANALYTES							
MERCURY	U	0.037	ug/L	1	0.037		

Run ID: R306538 / Work Group No.: WG237951
 Prep Date1: 31-AUG-20 Analyzed 31-Aug-20 11:02

Method: SM9223B - 22nd Edition, Colilert-18, Quantitray Enumeration RawH2O

Method Reference	Qualifier	Result	Units	Dilution	MDL	Matrix	Tag
TARGET ANALYTES							
TOTAL COLIFORMS	<	1.0	MPN/100 mL	1	1		
E. COLI	<	1.0	MPN/100 mL	1	1		

Run ID: R306401 / Work Group No.: WG237841
 Prep Date1: 25-AUG-20 Analyzed 25-Aug-20 14:52

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LSR B455-0706-1 BAYSIDE GROUND WATER PROJECT
 Site: WTP BAYSIDE Bayside GW Project Extraction Wells at 2540 Grant Avenue, San Lorenzo
 Locator: BAY WELL HEAD Sample tap at the well, as shown in Drawing No. 2097-C-002
 Lab ID: L237848-2 (P246700-2)
 Sample Type: GRAB (Instantaneous Grab)
 Date Collected: Aug 25 2020, 11:20am Sample collector: C. PAGTAKHAN
 Date Received: Aug 25 2020, 01:25pm Sample receiver: ANG
 Sample Comments: Annual Sampling per DDW T22 and WDR; SUBCONTRACT DATA; 1613 for 2,3,7,8-TCDD only; 1562681 dropped/broken for TON Ambient

Method Reference	Qualifier	Result	Units	Dilution	MDL	Matrix	Tag
Parameter						RL/ML	
Method: EPA 100.1: EPA 100.2 - Asbestos by Electron Microscopy							RawH2O
<i>Subcontract data from Forensic Analytical</i>							
Comment: SUB ND-None Detected							
<i>SUBCONTRACT LAB DATA</i>							
ASBESTOS	<	0.2	MFL	1	0.2	0.2	
Run ID: R307311 / Work Group No.: WG238377							
Prep Date1: 25-AUG-20 Analyzed 18-Sep-20 00:00							
Method: EPA 1613 - DIOXIN 1613A TCDD							RawH2O
<i>Subcontract data from Frontier Analytical Laboratory</i>							
Comment: ND - ANALYTE NOT DETECTED AT DETECTION LIMIT LEVEL OF 0.476 pg/L.							
<i>SUBCONTRACT LAB DATA</i>							
2,3,7,8-TETRACHLORODIBENZO DIOXIN	ND	0.368	pg/L	1	0.368	5	
Run ID: R307058 / Work Group No.: WG238236							
Prep Date1: 02-SEP-20 Analyzed 10-Sep-20 00:00							
Method: EPA 218.6 - Hexavalent Chromium by IC							RawH2O
<i>Subcontract data from Alpha Analytical Lab</i>							
Comment: U - ANALYTE INCLUDED IN ANALYSIS BUT NOT DETECTED AT OR ABOVE MDL							
<i>SUBCONTRACT LAB DATA</i>							
HEXAVALENT CHROMIUM	U	0.2	ug/L	1	0.2	1	
Run ID: R307335 / Work Group No.: WG238400							
Prep Date1: 02-SEP-20 Analyzed 02-Sep-20 21:47							
Method: EPA 314.0 - Ion Chromatography							RawH2O
<i>Subcontract data from Alpha Analytical Lab</i>							
Comment: U - ANALYTE INCLUDED IN ANALYSIS BUT NOT DETECTED AT OR ABOVE MDL							
<i>SUBCONTRACT LAB DATA</i>							
PERCHLORATE	U	0.9	ug/L	1	0.9	4	
Run ID: R307335 / Work Group No.: WG238400							
Prep Date1: 26-AUG-20 Analyzed 26-Aug-20 18:51							
Method: EPA 504.1 - EDB & DBCP, GC/ECD							RawH2O
<i>Subcontract data from Alpha Analytical Lab</i>							
Comment: U - ANALYTE INCLUDED IN ANALYSIS BUT NOT DETECTED AT OR ABOVE MDL							
<i>SUBCONTRACT LAB DATA</i>							
DIBROMOCHLOROPROPANE	U	0.001	ug/L	1	0.001	0.01	
ETHYLENE DIBROMIDE	U	0.002	ug/L	1	0.002	0.02	
Run ID: R307335 / Work Group No.: WG238400							
Prep Date1: 02-SEP-20 Analyzed 03-Sep-20 09:23							
Method: EPA 508 - PCBS by 508							RawH2O
<i>Subcontract data from Alpha Analytical Lab</i>							
Comment: U - ANALYTE INCLUDED IN ANALYSIS BUT NOT DETECTED AT OR ABOVE MDL							
<i>SUBCONTRACT LAB DATA</i>							
AROCLOR 1016	U	0.3	ug/L	1	0.3	0.5	
AROCLOR 1221	U	0.3	ug/L	1	0.3	0.5	
AROCLOR 1232	U	0.3	ug/L	1	0.3	0.5	
AROCLOR 1242	U	0.3	ug/L	1	0.3	0.5	
AROCLOR 1248	U	0.3	ug/L	1	0.3	0.5	
AROCLOR 1254	U	0.3	ug/L	1	0.3	0.5	
AROCLOR 1260	U	0.2	ug/L	1	0.2	0.5	
TOTAL PCB'S	U	0.3	ug/L	1	0.3	0.5	

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LSR B455-0706-1 BAYSIDE GROUND WATER PROJECT
 Site: WTP BAYSIDE Bayside GW Project Extraction Wells at 2540 Grant Avenue, San Lorenzo
 Locator: BAY WELL HEAD Sample tap at the well, as shown in Drawing No. 2097-C-002
 Lab ID: L237848-2 (P246700-2)
 Sample Type: GRAB (Instantaneous Grab)
 Date Collected: Aug 25 2020, 11:20am Sample collector: C. PAGTAKHAN
 Date Received: Aug 25 2020, 01:25pm Sample receiver: ANG
 Sample Comments: Annual Sampling per DDW T22 and WDR; SUBCONTRACT DATA; 1613 for 2,3,7,8-TDD only; 1562681 dropped/broken for TON Ambient

Method Reference	Parameter	Qualifier	Result	Units	Dilution	MDL	Matrix	Tag
	Run ID: R307335 / Work Group No.: WG238400						RL/ML	
	Prep Date: 28-AUG-20 Analyzed 03-Sep-20 10:25							

Method Reference	Parameter	Qualifier	Result	Units	Dilution	MDL	Matrix	Tag
Method: EPA 515.3 - Chlorinated Acids, GC/ECD							RawH2O	
<i>Subcontract data from Alpha Analytical Lab</i>								
Comment: U - ANALYTE INCLUDED IN ANALYSIS BUT NOT DETECTED AT OR ABOVE MDL								
<i>SUBCONTRACT LAB DATA</i>								
	2,4,5-TRICHLOROPHENOL	U	0.2	ug/L	1	0.2	1	
	(2,4-DICHLOROPHENOXY)ACETIC ACID	U	1	ug/L	1	1	10	
	BENTAZON	U	0.2	ug/L	1	0.2	2	
	DALAPON	U	2	ug/L	1	2	10	
	DINOSEB	U	0.2	ug/L	1	0.2	2	
	PENTACHLOROPHENOL	U	0.2	ug/L	1	0.2	0.2	
	PCCLORAM	U	0.1	ug/L	1	0.1	1	
	Run ID: R307335 / Work Group No.: WG238400							
	Prep Date: 08-SEP-20 Analyzed 15-Sep-20 11:07							

Method Reference	Parameter	Qualifier	Result	Units	Dilution	MDL	Matrix	Tag
Method: EPA 531.1 - Carbamates, HPLC							RawH2O	
<i>Subcontract data from Alpha Analytical Lab</i>								
Comment: U - ANALYTE INCLUDED IN ANALYSIS BUT NOT DETECTED AT OR ABOVE MDL								
<i>SUBCONTRACT LAB DATA</i>								
	3-HYDROXYCARBOFURAN	U	0.6	ug/L	1	0.6	3	
	ALDICARB	U	0.6	ug/L	1	0.6	3	
	ALDICARB SULFONE	U	0.5	ug/L	1	0.5	4	
	CARBARYL	U	0.8	ug/L	1	0.8	5	
	CARBOFURAN	U	0.4	ug/L	1	0.4	5	
	METHIOCARB	U	0.9	ug/L	1	0.9	5	
	METHOMYL	U	0.9	ug/L	1	0.9	2	
	OXAMYL	U	0.9	ug/L	1	0.9	20	
	PROPOXUR	U	0.9	ug/L	1	0.9	5	
	Run ID: R307335 / Work Group No.: WG238400							
	Prep Date: 16-SEP-20 Analyzed 18-Sep-20 23:02							

Method Reference	Parameter	Qualifier	Result	Units	Dilution	MDL	Matrix	Tag
Method: EPA 547 - Glyphosate, HPLC							RawH2O	
<i>Subcontract data from Alpha Analytical Lab</i>								
Comment: U - ANALYTE INCLUDED IN ANALYSIS BUT NOT DETECTED AT OR ABOVE MDL								
<i>SUBCONTRACT LAB DATA</i>								
	GLYPHOSATE	U	6	ug/L	1	6	25	
	Run ID: R307335 / Work Group No.: WG238400							
	Prep Date: 26-AUG-20 Analyzed 27-Aug-20 09:19							

Method Reference	Parameter	Qualifier	Result	Units	Dilution	MDL	Matrix	Tag
Method: EPA 548.1 - Endothall, GC/MS							RawH2O	
<i>Subcontract data from Alpha Analytical Lab</i>								
Comment: U - ANALYTE INCLUDED IN ANALYSIS BUT NOT DETECTED AT OR ABOVE MDL								
<i>SUBCONTRACT LAB DATA</i>								
	ENDOTHALL	U	20	ug/L	1	20	45	
	Run ID: R307335 / Work Group No.: WG238400							
	Prep Date: 31-AUG-20 Analyzed 02-Sep-20 06:00							

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 Site: WTP BAYSIDE Bayside GW Project Extraction Wells at 2540 Grant Avenue, San Lorenzo
 Locator: BAY WELL HEAD Sample tap at the well, as shown in Drawing No. 2097-C-002
 Lab ID: L237848-2 (P246700-2)
 Sample Type: GRAB (Instantaneous Grab)
 Date Collected: Aug 25 2020, 11:20am Sample collector: C. PAGTAKHAN
 Date Received: Aug 25 2020, 01:25pm Sample receiver: ANG
 Sample Comments: Annual Sampling per DDW T22 and WDR; SUBCONTRACT DATA; 1613 for 2,3,7,8-TDCC only; 1562681 dropped/broken for TON Ambient

Method Reference	Qualifier	Result	Units	Dilution	MDL	Matrix	Tag
Parameter						RL/ML	

Method Reference	Qualifier	Result	Units	Dilution	MDL	Matrix	Tag
Method: EPA 549.2 - Diquat & Paraquat, HPLC Subcontract data from Alpha Analytical Lab Comment: U - ANALYTE INCLUDED IN ANALYSIS BUT NOT DETECTED AT OR ABOVE MDL SUBCONTRACT LAB DATA						RawH2O	
DIQUAT	U	0.6	ug/L	1	0.6		2
Run ID: R307335 / Work Group No.: WG238400 Prep Date1: 01-SEP-20 Analyzed 03-Sep-20 00:56							

Method Reference	Qualifier	Result	Units	Dilution	MDL	Matrix	Tag
Method: EPA 8260B - Trihalomethanes, GC/MS Subcontract data from Alpha Analytical Lab Comment: U - ANALYTE INCLUDED IN ANALYSIS BUT NOT DETECTED AT OR ABOVE MDL SUBCONTRACT LAB DATA						GroundH2O	
BROMODICHLOROMETHANE		1.86	ug/L	1	0.4		0.5
BROMOFORM	U	0.3	ug/L	1	0.3		0.5
CHLOROFORM		28.26	ug/L	1	0.4		0.5
DIBROMOCHLOROMETHANE	U	0.4	ug/L	1	0.4		0.5
TRIHALOMETHANES		30.12	ug/L	1	0.4		0.5
Run ID: R307335 / Work Group No.: WG238400 Prep Date1: 26-AUG-20 Analyzed 27-Aug-20 12:01							

Method Reference	Qualifier	Result	Units	Dilution	MDL	Matrix	Tag
Method: EPA 900.0 - NONE Subcontract data from FG Labs - Santa Paula Comment: MDL value is the MDA. SUBCONTRACT LAB DATA						RawH2O	
RADIONUCLIDES: ALPHA		1.64	pCi/L		1.15		3
RADIONUCLIDES: BETA		2.2	pCi/L		1.13		4
RADIONUCLIDES: ALPHA COUNTING ERROR	+/-	0.996	pCi/L				
RADIONUCLIDES: BETA COUNTING ERROR	+/-	1.01	pCi/L				
GROSS ALPHA MDA95		1.15	pCi/L				
GROSS BETA MDA95		1.13	pCi/L				
Run ID: R307845 / Work Group No.: WG238766 Prep Date1: 17-SEP-20 Analyzed 05-Oct-20 09:09							

Method Reference	Qualifier	Result	Units	Dilution	MDL	Matrix	Tag
Method: EPA 903.0,903.1, 904.0 - Radium 226 by 903.0 or 903.1 and Radium 228 by 904.0 Subcontract data from FG Labs - Santa Paula Comment: MDL value is the MDA95. SUBCONTRACT LAB DATA						RawH2O	
RADIUM 226		0.256	pCi/L	1	0.362		1
RADIUM 226 COUNTING ERROR	+/-	0.183	pCi/L				
RADIUM 226 MDA95		0.362	pCi/L				
Run ID: R307845 / Work Group No.: WG238766 Prep Date1: 05-SEP-20 Analyzed 14-Sep-20 11:11							

Method Reference	Qualifier	Result	Units	Dilution	MDL	Matrix	Tag
Method: EPA 903.0,903.1, 904.0 - Radium 226 by 903.0 or 903.1 and Radium 228 by 904.0 Subcontract data from FG Labs - Santa Paula Comment: MDL value is the MDA95. SUBCONTRACT LAB DATA						RawH2O	1
RADIUM 228		0	pCi/L	1	0.4		1
RADIUM 228 COUNTING ERROR	+/-	0.758	pCi/L				
RADIUM 228 MDA95		0.4	pCi/L				
Run ID: R307845 / Work Group No.: WG238766 Prep Date1: 19-SEP-20 Analyzed 22-Sep-20 20:00							

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EAST BAY MUNICIPAL UTILITY DISTRICT
 Laboratory Services Division
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Analytical Results Report

LSR B455-0706-1 BAYSIDE GROUND WATER PROJECT
 Site: WTP BAYSIDE Bayside GW Project Extraction Wells at 2540 Grant Avenue, San Lorenzo
 Locator: BAY WELL HEAD Sample tap at the well, as shown in Drawing No. 2097-C-002
 Lab ID: L237848-2 (P246700-2)
 Sample Type: GRAB (Instantaneous Grab)
 Date Collected: Aug 25 2020, 11:20am Sample collector: C. PAGTAKHAN
 Date Received: Aug 25 2020, 01:25pm Sample receiver: ANG
 Sample Comments: Annual Sampling per DDW T22 and WDR; SUBCONTRACT DATA; 1613 for 2,3,7,8-TD
 TDD only; 1562681 dropped/broken for TON Ambient

Method Reference	Qualifier	Result	Units	Dilution	MDL	Matrix	Tag
Parameter						RL/ML	
Method: EPA 905.0 -							RawH2O
<i>Subcontract data from FG Labs - Santa Paula</i>							
Comment: MDL value is the MDA. Analyzed by EPA 905.0							
SUBCONTRACT LAB DATA							
STRONTIUM 90		0.301	pCi/L	1	0.659	2	
STRONTIUM 90 COUNTING ERROR	+/-	0.397	pCi/L				
STRONTIUM 90 MDA95		0.659	pCi/L				
Run ID: R307845 / Work Group No.: WG238766							
Prep Date1: 18-SEP-20 Analyzed 18-Sep-20 15:39							
Method: EPA 906.0 -							RawH2O
<i>Subcontract data from FG Labs - Santa Paula</i>							
Comment: MDL value is the MDA.							
SUBCONTRACT LAB DATA							
TRITIUM		269	pCi/L	1	434	1000	
TRITIUM COUNTING ERROR	+/-	273	pCi/L				
TRITIUM MDA95		434	pCi/L				
Run ID: R307845 / Work Group No.: WG238766							
Prep Date1: 14-SEP-20 Analyzed 18-Sep-20 14:41							
Method: EPA 908.0 -							RawH2O
<i>Subcontract data from FG Labs - Santa Paula</i>							
Comment: Analyzed by EPA 200.8							
SUBCONTRACT LAB DATA							
URANIUM		0.222	pCi/L	1	0.13	1	
Run ID: R307845 / Work Group No.: WG238766							
Prep Date1: 27-AUG-20 Analyzed 27-Aug-20 00:00							
Method: EPA 913.0 - RADON: EPA 913.0							RawH2O
<i>Subcontract data from FG Labs - Santa Paula</i>							
Comment: MDL value is the MDA.							
SUBCONTRACT LAB DATA							
RADON 222		102	pCi/L	1	18.2		
RADON 222 COUNTING ERROR	+/-	20.6	pCi/L				
RADON 222 MDA95	+/-	18.2	pCi/L				
Run ID: R307845 / Work Group No.: WG238766							
Prep Date1: 27-AUG-20 Analyzed 27-Aug-20 19:37							
Method: PER SUBCONTRACT LABORATORY REPORT - Subcontract data transmittal							RawH2O
<i>Subcontract data</i>							
Comment: Original report transmitted to client. Copy of report archived with data packet.							
SUBCONTRACT LAB DATA							
DATA TRANSMITTAL							
Run ID: R307836 / Work Group No.: WG238764							
Prep Date1: 15-OCT-20 Analyzed 15-Oct-20 00:00							
Method: SM2150B - 1997, Ambient Temperature, one panelist							RawH2O
<i>Subcontract data from Caltest Analytical</i>							
Comment: The odor of the sample was characterized as musty. Per client request, the sample was tested at ambient conditions (19 degrees C) and was not dechlorinated.; Musty							
SUBCONTRACT LAB DATA							
THRESHOLD ODOR NUMBER		1	TON	1		1	
ODOR CHARACTERIZATION (SEE COMMENT)		1	Panelists				

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LSR B455-0706-1 BAYSIDE GROUND WATER PROJECT
 Site: WTP BAYSIDE Bayside GW Project Extraction Wells at 2540 Grant Avenue, San Lorenzo
 Locator: BAY WELL HEAD Sample tap at the well, as shown in Drawing No. 2097-C-002
 Lab ID: L237848-2 (P246700-2)
 Sample Type: GRAB (Instantaneous Grab)
 Date Collected: Aug 25 2020, 11:20am Sample collector: C. PAGTAKHAN
 Date Received: Aug 25 2020, 01:25pm Sample receiver: ANG
 Sample Comments: Annual Sampling per DDW T22 and WDR; SUBCONTRACT DATA; 1613 for 2,3,7,8-TCDD only; 1562681 dropped/broken for TON Ambient

Method Reference	Qualifier	Result	Units	Dilution	MDL	Matrix	Tag
Parameter						RL/ML	
NUMBER ANALYZING SAMPLE		1	Panelists				
TEMPERATURE		19	deg C				
Run ID: R306509 / Work Group No.: WG237975							
Prep Date: 25-AUG-20 Analyzed 25-Aug-20 15:57							

Method Reference	Qualifier	Result	Units	Dilution	MDL	Matrix	Tag
Method: SM5540C - 2000, Colorimetric						RawH2O	
<i>Subcontract data from Alpha Analytical Lab</i>							
Comment: U - ANALYTE INCLUDED IN ANALYSIS BUT NOT DETECTED AT OR ABOVE MDL							
<i>SUBCONTRACT LAB DATA</i>							
MBAS	U	0.03	mg/L	1	0.03	0.05	
Run ID: R307335 / Work Group No.: WG238400							
Prep Date: 26-AUG-20 Analyzed 26-Aug-20 16:00							

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Analytical Results Report

LSR B455-0706-1 BAYSIDE GROUND WATER PROJECT
Site: FIELD QC Sample collection QC
Locator: COLLECTION QC Field QC Sample submitted for analysis
Lab ID: L237848-3 (P246700-3)
Sample Type: QCFB (Field Blank Grab)
Date Collected: Aug 25 2020, 11:15am Sample collector: C. PAGTAKHAN
Date Received: Aug 25 2020, 01:25pm Sample receiver: ANG
Sample Comments: QCFB for L237848-1; Prep'd on mm/dd/2020 by VOA Chemist

Method Reference						Matrix	Tag
Parameter	Qualifier	Result	Units	Dilution	MDL	RL/ML	
Method: EPA 524.4 - Volatile Organics, GC/MS						DrinkH2O	
TARGET ANALYTES							
ALLYL CHLORIDE	U	0.51	ug/L	1	0.51		
TERT-AMYL METHYL ETHER	U	0.15	ug/L	1	0.15	3	
BENZENE	U	0.10	ug/L	1	0.1	0.5	
BROMOBENZENE	U	0.091	ug/L	1	0.091		
BROMOCHLOROMETHANE	U	0.20	ug/L	1	0.2		
BROMODICHLOROMETHANE	U	0.11	ug/L	1	0.11		
BROMOFORM	U	0.26	ug/L	1	0.26		
BROMOMETHANE	U	2.3	ug/L	1	2.3		
TERT-BUTYL ALCOHOL	U	0.55	ug/L	1	0.55	2	
N-BUTYLBENZENE	U	0.076	ug/L	1	0.076		
SEC-BUTYLBENZENE	U	0.086	ug/L	1	0.086		
TERT-BUTYLBENZENE	U	0.15	ug/L	1	0.15		
CARBON DISULFIDE	U	0.16	ug/L	1	0.16		
CARBON TETRACHLORIDE	U	0.12	ug/L	1	0.12	0.5	
CHLOROBENZENE	U	0.067	ug/L	1	0.067	0.5	
1-CHLOROBUTANE	U	0.085	ug/L	1	0.085		
CHLOROFORM	U	0.12	ug/L	1	0.12		
CHLOROMETHANE	U	0.36	ug/L	1	0.36		
O-CHLOROTOLUENE	U	0.093	ug/L	1	0.093		
P-CHLOROTOLUENE	U	0.083	ug/L	1	0.083		
DIBROMOCHLOROMETHANE	U	0.17	ug/L	1	0.17		
DIBROMOMETHANE	U	0.14	ug/L	1	0.14		
1,2-DICHLOROBENZENE	U	0.070	ug/L	1	0.07	0.5	
1,3-DICHLOROBENZENE	U	0.064	ug/L	1	0.064		
1,4-DICHLOROBENZENE	U	0.058	ug/L	1	0.058	0.5	
DICHLORODIFLUOROMETHANE	U	0.23	ug/L	1	0.23	0.5	
1,1-DICHLOROETHANE	U	0.15	ug/L	1	0.15	0.5	
1,2-DICHLOROETHANE	U	0.10	ug/L	1	0.1	0.5	
1,1-DICHLOROETHENE	U	0.15	ug/L	1	0.15	0.5	
CIS-1,2-DICHLOROETHENE	U	0.14	ug/L	1	0.14	0.5	
TRANS-1,2-DICHLOROETHENE	U	0.093	ug/L	1	0.093	0.5	
1,2-DICHLOROPROPANE	U	0.10	ug/L	1	0.1	0.5	
1,3-DICHLOROPROPANE	U	0.071	ug/L	1	0.071		
1,1-DICHLOROPROPENE	U	0.089	ug/L	1	0.089		
CIS-1,3-DICHLOROPROPENE	U	0.084	ug/L	1	0.084	0.5	
TRANS-1,3-DICHLOROPROPENE	U	0.068	ug/L	1	0.068	0.5	
DIISOPROPYL ETHER	U	0.087	ug/L	1	0.087		
ETHYL BENZENE	U	0.092	ug/L	1	0.092	0.5	
ETHYL ETHER	U	0.17	ug/L	1	0.17		
ETHYLMETHACRYLATE	U	0.11	ug/L	1	0.11		
ETHYL-T-BUTYL ETHER	U	0.080	ug/L	1	0.08	3	
FLUOROTRICHLOROMETHANE	U	0.19	ug/L	1	0.19	5	
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	U	0.17	ug/L	1	0.17	10	
HEXACHLOROBUTADIENE	U	0.093	ug/L	1	0.093		
HEXACHLOROETHANE	U	0.17	ug/L	1	0.17		
IODOMETHANE	U	2.7	ug/L	1	2.7		
ISOPROPYLBENZENE	U	0.086	ug/L	1	0.086		
P-ISOPROPYLTOLUENE	U	0.080	ug/L	1	0.08		
METHYLENE CHLORIDE	U	0.15	ug/L	1	0.15	0.5	
METHYL-T-BUTYL ETHER	U	0.058	ug/L	1	0.058	3	
NAPHTHALENE	U	0.084	ug/L	1	0.084		
PENTACHLOROETHANE	U	0.25	ug/L	1	0.25		

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Analytical Results Report

LSR B455-0706-1 BAYSIDE GROUND WATER PROJECT
 Site: FIELD QC Sample collection QC
 Locator: COLLECTION QC Field QC Sample submitted for analysis
 Lab ID: L237848-3 (P246700-3)
 Sample Type: QCFB (Field Blank Grab)
 Date Collected: Aug 25 2020, 11:15am Sample collector: C. PAGTAKHAN
 Date Received: Aug 25 2020, 01:25pm Sample receiver: ANG
 Sample Comments: QCFB for L237848-1; Prep'd on mm/dd/2020 by VOA Chemist

Method Reference	Qualifier	Result	Units	Dilution	MDL	Matrix	Tag
Parameter						RL/ML	
N-PROPYLBENZENE	U	0.078	ug/L	1	0.078		
STYRENE	U	0.11	ug/L	1	0.11	0.5	
1,1,1,2-TETRACHLOROETHANE	U	0.073	ug/L	1	0.073		
1,1,2,2-TETRACHLOROETHANE	U	0.11	ug/L	1	0.11	0.5	
TETRACHLOROETHENE	U	0.12	ug/L	1	0.12	0.5	
TETRAHYDROFURAN	U	0.24	ug/L	1	0.24		
TOLUENE	U	0.075	ug/L	1	0.075	0.5	
1,2,3-TRICHLOROBENZENE	U	0.082	ug/L	1	0.082		
1,2,4-TRICHLOROBENZENE	U	0.10	ug/L	1	0.1	0.5	
1,1,1-TRICHLOROETHANE	U	0.13	ug/L	1	0.13	0.5	
1,1,2-TRICHLOROETHANE	U	0.11	ug/L	1	0.11	0.5	
TRICHLOROETHENE	U	0.12	ug/L	1	0.12	0.5	
1,2,4-TRIMETHYLBENZENE	U	0.088	ug/L	1	0.088		
1,3,5-TRIMETHYLBENZENE	U	0.071	ug/L	1	0.071		
VINYL CHLORIDE	U	0.20	ug/L	1	0.2	0.5	
O-XYLENE	U	0.079	ug/L	1	0.079	0.5	
M+P XYLENES	U	0.18	ug/L	1	0.18	0.5	
<i>VALUE(S) USED TO CALCULATE OTHER VALUE(S)</i>							
TOTAL 1,3-DICHLOROPROPENES	U	0.50	ug/L	1		0.5	
TOTAL XYLENES	U	0.50	ug/L	1	0.22	0.5	
<i>INTERNAL STANDARD</i>							
1,4-DIFLUOROBENZENE		81.9	% recovery	1			
D4-1,4-DICHLOROBENZENE		81.5	% recovery	1			
D5-CHLOROBENZENE		81.8	% recovery	1			
<i>SURROGATE</i>							
4-BROMOFLUOROBENZENE		95.7	% recovery	1			
D3-METHYL-T-BUTYL-ETHER		94.5	% recovery	1			
D4-1,2-DICHLOROBENZENE		103	% recovery	1			
Run ID: R306412 / Work Group No.: WG237838							
Prep Date1: 25-AUG-20 Analyzed 25-Aug-20 15:40							

Method Reference	Qualifier	Result	Units	Dilution	MDL	Matrix	Tag
Method: SRL 524M-TCP - SIM for TCP, PT, GC/MS						DrinkH2O	
<i>TARGET ANALYTES</i>							
1,2,3-TRICHLOROPROPANE	U	0.85	ng/L	1	0.85		
<i>INTERNAL STANDARD</i>							
D5-1,2,3-TRICHLOROPROPANE		89.8	% recovery				
Run ID: R306504 / Work Group No.: WG237952							
Prep Date1: 28-AUG-20 Analyzed 31-Aug-20 11:53							

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Analytical Results Report

LSR B455-0706-1 BAYSIDE GROUND WATER PROJECT
Site: FIELD QC Sample collection QC
Locator: COLLECTION QC Field QC Sample submitted for analysis
Lab ID: L237848-4 (P246700-4)
Sample Type: QCTB (Trip Blank Grab)
Date Collected: Aug 25 2020, 11:15am Sample collector: C. PAGTAKHAN
Date Received: Aug 25 2020, 01:25pm Sample receiver: ANG
Sample Comments: QCTB for L237848-2; DO NOT OPEN.

Method Reference							Matrix	Tag
Parameter	Qualifier	Result	Units	Dilution	MDL		RL/ML	
Method: EPA 504.1 - EDB & DBCP, GC/ECD							RawH2O	
<i>Subcontract data from Alpha Analytical Lab</i>								
Comment: U - ANALYTE INCLUDED IN ANALYSIS BUT NOT DETECTED AT OR ABOVE MDL								
SUBCONTRACT LAB DATA								
DIBROMOCHLOROPROPANE	U	0.001	ug/L	1	0.001		0.01	
ETHYLENE DIBROMIDE	U	0.002	ug/L	1	0.002		0.02	
Run ID: R307335 / Work Group No.: WG238400								
Prep Date1: 02-SEP-20 Analyzed 03-Sep-20 09:58								

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