EAST BAY MUNICIPAL UTILITY DISTRICT

February 28, 2023

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, 2022 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 2022 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 2022, and no extraction events took place in 2022.

The Self-Monitoring and Reporting Program (SMRP) of Order No. R2-2007-0038 requires EBMUD to implement a phased approach for groundwater quality monitoring. Table 3 of the SMRP 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-2D[1], 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, 2022 and March 1, 2022, respectively; and Figure 4 shows TDS concentration contours. Attachment B contains figures showing the monitoring wells' groundwater elevation trends in 2022. 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.

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

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Davis, CA 95618

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February 27, 2023 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, 2022 Annual Report, Waste Discharge Requirements Order No. R2-2007-0038**

Dear Mr. Behnken:

Larry Walker Associates (LWA) has prepared this 2022 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 2022. Groundwater samples were collected on November 1, November 2, November 3, and November 9 for analytical testing. The Bayside Well was not sampled in 2022 due to equipment failure. 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 2022. No extraction of water occurred during 2022.

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-10D[1]. 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-10D[2]) 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 (µg/L), and haloacetic acids (HAAs) at 60 µg/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 2022 and no extractions from the Bayside Well occurred in 2022. 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 2022.

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 2022 groundwater samples from the monitoring wells. The required annual water quality sampling was performed on November 1, November 2, November 3, and November 9. The Bayside Well head was not sampled due to equipment failure. The Variable Frequency Drive for the bayside well head failed, and it is currently being evaluated for repair.

At this time, EBMUD is evaluating the Bayside Groundwater Project long term plan. Many of the original Project goals have been met and it is uncertain if the site will continue to be maintained due to property access issues, equipment challenges, and costs. EBMUD will keep The Regional Board apprised of the Project plan and the need for permit coverage as details become available in the year ahead.

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. Purge water was disposed of on permeable ground adjacent to monitoring wells.

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 2022 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 2022 (**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.

Groundwater elevation contour maps were generated using groundwater elevation data collected at specific times using the pressure transducers. Groundwater elevation contours for August 1, 2022, corresponding to a low tide in San Francisco Bay, are shown on **Figure 2**. Groundwater

elevation contours for March 1, 2022, 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 west at low tide (**Figure 2**) and southeasterly at 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 -6.71 feet above mean sea level (amsl) to -5.79 feet amsl for the five wells shown on **Figure 2**. Groundwater elevations during high tide ranged from -2.43 feet amsl to -3.43 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 8:00 on August 1, 2022, and for a high tide using groundwater elevation data from around 10:00 on March 1, 2022. 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 0.038 to 0.042 feet per foot. These results are consistent with the vertical gradients reported in previous Annual Reports.

GROUNDWATER QUALITY RESULTS

The 2022 analytical results are included in the following tables, along with historical water quality results for the previous seven years (2014 through 2021):

- **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 2022 water quality data are provided in **Attachment C**.[3]

For wells with historical data (Bayside Well, MW-2S, MW-2I, MW-4, MW-5D, MW-6 and MW-7), the 2022 water quality results summarized in **Table 5** are generally consistent over time. A number of parameters detected in MW-2S have significantly higher concentrations than the same parameter detected in the other monitoring wells. Monitoring well MW-2S is a much shallower well and may be affected by seawater intrusion.

For the 2022 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 monitoring wells, including the Bayside Well, MW-4, MW-5D, MW-6 and MW-7. Hisotrical isoconcentration contours indicate the lowest concentration occurs at the Bayside Well with

[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.

increasing TDS concentrations in a northerly direction (i.e. further inland). The highest TDS concentration of 510 mg/L was detected at well MW-5D. Therefore, TDS concentrations decrease along the southerly groundwater flow direction (**Figure 4)**.

The current DBPs data summarized in **Table 6** are consistent with the historical groundwater monitoring results with all constituents below the method detection limits (MDLs) in each well. In addition, the combined DBPs as HAA(5),[4] HAA(9),[5] and TTHMs are within the range of historical results in the monitoring wells. These 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 2022 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 2023. The 2023 Annual Report will be submitted to the Regional Board by March 1, 2024.

[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 2022

Prepared for

East Bay Municipal Utility District

February 2023

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
Project Engineer
P.E. C72181

LARRY WALKER ASSOCIATES
science | policy | solutions

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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 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
2021	0	0
2022	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[f]	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		-6.21	2.90	0.32	-4.94	[d]	-5.87	[d]		14.92	7.00	9.58	13.9	[e]	19.63	[d]
12/21-12/27/16		-3.92	2.90	2.88	-1.95	-1.96	-1.96	[d]		12.63	7.00	7.02	10.91	11.42	15.72	[d]
12/19-12/20/17		-2.64	1.86	-1.07	-1.42	-1.80	-1.47	[d]		11.35	8.04	10.97	10.38	11.26	15.23	[d]
12/5-12/19/18		-2.70	1.62	-2.17	-2.36	-2.11	-2.14	-1.24		11.41	8.28	12.07	11.32	11.57	15.90	8.94
10/8-10/24/19		-4.46	1.92	-3.39	-2.06	-3.39	-3.06	-2.92		13.17	7.98	13.29	11.02	12.85	16.82	10.62
8/5-8/26/20		-4.19	3.78	-3.32	-3.57	-2.65	-3.55	-5.87		12.90	6.12	13.22	12.53	12.11	17.31	13.57
10/12-11/2/21		-6.12	1.62	-5.19	-6.28	-6.49	-5.02	-6.24		14.83	8.28	15.09	15.24	15.95	18.78	13.94
11/1-11/9/22		-6.37	1.60	-1.40	3.56	4.16	-5.94	-5.26		15.08	8.30	11.30	5.40	5.30	19.70	12.96

[a] Groundwater elevation is averaged over the measurement date period from tranducer 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 between 2015 and 2020 due to measurement errors.

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	8/1/2022 @ 08:00	200 - 210	205	9.38	0.035	--	0.042	downward
MW-5I	8/1/2022 @ 08:00	315 - 325	320	5.34		0.045		
MW-5D	8/1/2022 @ 08:00	500 - 630	575	-6.20	--			
High Tide								
MW-5S	3/1/2022 @ 10:00	200 - 210	205	10.95	0.045	--	0.038	downward
MW-5I	3/1/2022 @ 10:00	315 - 325	320	5.79		0.035		
MW-5D	3/1/2022 @ 10:00	500 - 630	575	-3.12	--			

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									
															Alkalinity (as CaCO3)			
	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	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
11/2/2021	8.13	0.09	150	E 0.90	<0.036	15	E 17.8	113	22.1	6.83	1.35	24.2	25	78	92	<5.0	<5.0	92
2022	(f)	(f)	(f)	(f)	(f)	(f)	(f)	(f)	(f)	(f)	(f)	(f)	(f)	(f)	(f)	(f)	(f)	(f)
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
10/13/2021	6.54	0.2	80,000	E 1.1	<36	42,000	31,800	<56.7	1,090	2,920	457	19,400	5,200	15,000	400	<5.0	<5.0	400
11/1/2022	6.71	0.5	71,000	E 5.0	<12	42,000	36,000	<500[g]	1,300	3,000	460	22,000	5,200	17,000	410	<5.0	<5.0	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
10/13/2021	7.93	0.08	670	<0.25	<0.07	150	128	404	18.1	16.1	6.76	188	9.2	72	360	<5.0	<5.0	360
11/1/2022	7.94	0.30	560	E 0.90	E 0.076	120	180	2,700	20	17	7.6	190	18	120	350	<5.0	<5.0	350

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									
															Alkalinity (as CaCO3)			
	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	Total, mg/L	Hydroxide, mg/L	Carbonate, mg/L	Bicarbonate, mg/L
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
10/13/2021	7.61	0.85	390	<0.25	<0.07	50	189	E 22.2	25.6	9.84	2.30	102	38	100	230	<5.0	<5.0	230
11/2/2022	7.80	0.10	360	E 0.28	<0.023	48	190	<50	27	9.5	2.4	100	38	110	220	<5.0	<5.0	220
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
11/1/2021	7.42	0.01	470	E 0.5	<0.07	85	210	163	35.2	8.93	1.98	113	50	130	230	<5.0	<5.0	230
11/3/2022	7.33	0.20	510	<0.25	<0.023	83	230	E 67	42	10	2.2	120	50	130	240	<5.0	<5.0	240
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
10/12/2021	7.36	0.04	420	<0.25	<0.07	56	175	E 16.7	29.0	7.46	2.04	97.3	47	110	230	<5.0	<5.0	230
11/2/2022	7.43	0.10	410	<0.25	<0.023	55	200	<50	34	8.5	2.2	110	48	120	230	<5.0	<5.0	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									
															Alkalinity (as CaCO3)			
	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	Total, mg/L	Hydroxide, mg/L	Carbonate, mg/L	Bicarbonate, mg/L
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
10/12/2021	7.17	0.28	480	<0.25	<0.18	90	216	E 23.7	35.1	9.09	2.02	119	51	130	230	<5.0	<5.0	230
11/9/2022	7.36	0.10	430	3.40	E 0.058	93	240	<50	40	10	2.2	120	53	150	230	<5.0	<5.0	230

(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.

(f) Well was not sampled in 2022 due to equipment failure.

(g) The Reporting Limit for this analyte has been raised to account for matrix interference. U-Analyte included in analysis but not detected at or above MDL.

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	Bromochloro-acetic Acid, µg/L	Bromodichloro-acetic Acid, µg/L	Chlorodibromo-acetic Acid, µg/L	Dibromo-acetic Acid, µg/L	Dichloro-acetic Acid, µg/L	Monobromo-acetic Acid, µg/L	Monochloro-acetic Acid, µg/L	Tribromo-acetic Acid, µg/L	Trichloro-acetic Acid, µg/L	TTHMs,[d] µg/L	Chloroform, µg/L	Bromodichloro-methane, µg/L	Dibromochloro-methane, 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
11/2/2021	ND	ND	<0.34	<0.36	<0.36	<0.36	<0.34	<0.29	<0.42	--[h]	<0.35	0.848	0.848	<0.129	<0.131	<0.166
2022	(i)	(i)	(i)	(i)	(i)	(i)	(i)	(i)	(i)	(i)	(i)	(i)	(i)	(i)	(i)	(i)
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	ND	ND	<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
10/13/2021	ND	ND	<0.34	<0.36	<0.36	<0.36	<0.34	<0.29	<0.42	--[h]	<0.35	<0.62	<0.196	<0.129	<0.131	<0.166
11/1/2022	ND	ND	<0.17	<0.29	<0.31	<0.15	<0.20	<0.16	<0.45	<0.49	<0.25	<0.40	<0.06	<0.08	<0.10	<0.30
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	ND	ND	<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
10/13/2021	ND	ND	<0.34	<0.36	<0.36	<0.36	<0.34	<0.29	<0.42	--[h]	<0.35	<0.62	<0.196	<0.129	<0.131	<0.166
11/1/2022	ND	ND	<0.17	<0.29	<0.31	<0.15	<0.20	<0.16	<0.45	<0.49	<0.25	<0.40	<0.06	<0.08	<0.10	<0.30

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	Bromochloro-acetic Acid, µg/L	Bromodichloro-acetic Acid, µg/L	Chlorodibromo-acetic Acid, µg/L	Dibromo-acetic Acid, µg/L	Dichloro-acetic Acid, µg/L	Monobromo-acetic Acid, µg/L	Monochloro-acetic Acid, µg/L	Tribromo-acetic Acid, µg/L	Trichloro-acetic Acid, µg/L	TTHMs,[d] µg/L	Chloroform, µg/L	Bromodichloro-methane, µg/L	Dibromochloro-methane, µg/L	Bromoform, µg/L
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	ND	ND	<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
10/13/2021	ND	ND	<0.34	<0.36	<0.36	<0.36	<0.34	<0.29	<0.42	--[h]	<0.35	<0.62	<0.196	<0.129	<0.131	<0.166
11/2/2022	ND	ND	<0.17	<0.29	<0.31	<0.15	<0.20	<0.16	<0.45	<0.49	<0.25	<0.40	<0.06	<0.08	<0.10	<0.30
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	ND	ND	<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
11/1/2021	ND	ND	<0.34	<0.36	--[h]	<0.36	<0.34	<0.29	<0.42	--[h]	<0.35	<0.62	<0.196	<0.129	<0.131	<0.166
11/3/2022	ND	ND	<0.17	<0.29	<0.31	<0.15	<0.20	<0.16	<0.45	<0.49	<0.25	<0.40	<0.06	<0.08	<0.10	<0.30
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	ND	ND	<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
10/12/2021	ND	ND	<0.34	<0.36	<0.36	<0.36	<0.34	<0.29	<0.42	--[h]	<0.35	<0.62	<0.196	<0.129	<0.131	<0.166
11/2/2022	ND	ND	<0.17	<0.29	<0.31	<0.15	<0.20	<0.16	<0.45	<0.49	<0.25	<0.40	<0.06	<0.08	<0.10	<0.30

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	Bromochloro-acetic Acid, µg/L	Bromodichloro-acetic Acid, µg/L	Chlorodibromo-acetic Acid, µg/L	Dibromo-acetic Acid, µg/L	Dichloro-acetic Acid, µg/L	Monobromo-acetic Acid, µg/L	Monochloro-acetic Acid, µg/L	Tribromo-acetic Acid, µg/L	Trichloro-acetic Acid, µg/L	TTHMs,[d] µg/L	Chloroform, µg/L	Bromodichloro-methane, µg/L	Dibromochloro-methane, µg/L	Bromoform, µg/L
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	ND	ND	<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
10/12/2021	ND	ND	<0.34	<0.36	<0.36	<0.36	<0.34	<0.29	<0.42	--[h]	<0.35	<0.62	<0.196	<0.129	<0.131	<0.166
11/9/2022	ND	ND	<0.17	<0.29	<0.31	<0.15	<0.20	<0.16	<0.45	<0.49	<0.25	<0.40	<0.06	<0.08	<0.10	<0.30

[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.

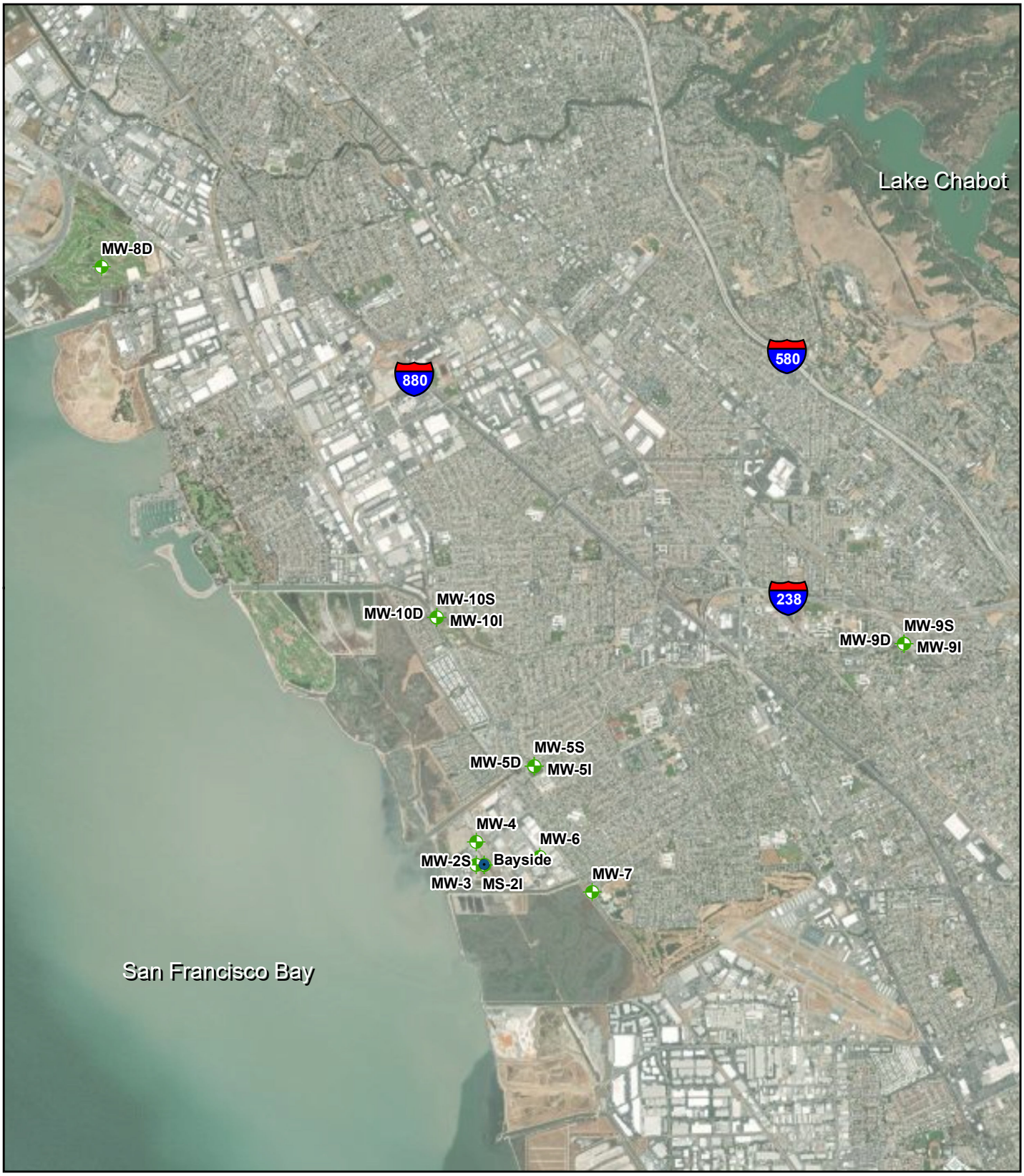
[e] Well MW-6 was not monitored for haloacetic acids in 2014.

[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.

[h] Data omitted due to laboratory batch quality control failure.

[i] Well was not sampled in 2022 due to equipment failure.



LEGEND

- Groundwater Monitoring Well
- Bayside Aquifer Storage and Recovery Well

N

0 0.5 1

Miles

FIGURE 1

East Bay Municipal Utility District
2022 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

N

0 250 500

Scale in Feet

FIGURE 2

East Bay Municipal Utility District
2022 Bayside Annual Report

Groundwater Elevation Contours
Low Tide (August 1, 2022)

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

N

0 250 500

Scale in Feet

FIGURE 3

East Bay Municipal Utility District
2022 Bayside Annual Report

Groundwater Elevation Contours (High Tide March 1, 2022)

LEGEND

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

N

0 250 500

Scale in Feet

FIGURE 4

East Bay Municipal Utility District
2022 Bayside Annual Report

Groundwater TDS Contours
November 2022

Attachment A – Groundwater Purging Logs

GROUNDWATER PURGING LOG

SITE NAME: Bayside Wells		
WELL NO: 2S	INSPECTOR: DW/AB/GE	DATE: 11/1/22

PURGING DATA

WELL DIAMETER (inches): 2	TUBING DIAMETER (inches): 1/2	WELL SCREEN INTERVAL DEPTH: 40 feet to 60 feet	STATIC DEPTH TO WATER (feet): 8.3	PURGE PUMP TYPE: ESP

WELL VOLUME PURGE: (60 ft – 8.3 ft) X 0.16 gal/ft = 8.2 gallons X 3 = 24.8 total purge gallons

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 25.	PURGING INITIATED AT: 233 PM	PURGING ENDED AT: 250 PM	TOTAL VOLUME PURGED (gallons): 30	FINAL STATIC DEPTH TO WATER (feet): 8.5

TIME	VOLUME PURGED (gallons)	TOTAL VOLUME PURGED (gallons)			pH (standard units)	TEMP. (°C)	COND. (circle units) mS/cm or µS/cm				
240 PM	10	10			6.67	17.7	757				
245 PM	10	20			6.67	17.6	75.6				
250 PM	10	30			6.67	17.6	75.6				

GROUNDWATER PURGING LOG

SITE NAME: **Bayside Wells**		
WELL NO: **21**	INSPECTOR: DW/AB/GE	DATE: 11/1/22

PURGING DATA

WELL DIAMETER (inches): **2**	TUBING DIAMETER (inches): **1/2**	WELL SCREEN INTERVAL DEPTH: **160** feet to **190** feet	STATIC DEPTH TO WATER (ft): 11.3	PURGE PUMP TYPE: **ESP**

WELL VOLUME PURGE: (200 ft – 11.3 ft) X **0.16** gal/ft = 30.19 gallons X 3 = 90.58 total purge gallons

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 25	PURGING INITIATED AT: 1118 am	PURGING ENDED AT: 145pm	TOTAL VOLUME PURGED (gallons): 90	FINAL STATIC DEPTH TO WATER (feet):

TIME	VOLUME PURGED (gallons)	TOTAL VOLUME PURGED (gallons)			pH (standard units)	TEMP. (°C)	COND. (circle units) mS/cm or µS/cm				
	30	30									
1259 pm	30	60			7.78	14.7	995				
145 pm	30	90			7.94	16.9	812				

GROUNDWATER PURGING LOG

SITE NAME: **Bayside Wells**		
WELL NO: **4**	INSPECTOR: DW/AB/GE	DATE: 11/2/22

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): 5.4	PURGE PUMP TYPE: **ESP**

WELL VOLUME PURGE: (650 ft – 5.4 ft) X 0.16 gal/ft = 103.13 gallons X 3 = 309 total purge gallons

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 20	PURGING INITIATED AT: 232	PURGING ENDED AT: 335	TOTAL VOLUME PURGED (gallons): 310	FINAL STATIC DEPTH TO WATER (feet): 11.3

TIME	VOLUME PURGED (gallons)	TOTAL VOLUME PURGED (gallons)			pH (standard units)	TEMP. (°C)	COND. (circle units) mS/cm or µS/cm				
255 pm	100	100			6.39	12.8	638				
315 pm	100	200			7.85	19.5	515				
335 pm	110	310			7.88	19.5	514				

GROUNDWATER PURGING LOG

SITE NAME: **Bayside Wells**	
WELL NO: **5D**	INSPECTOR: AB/DW/KH DATE: 11/3/2022

PURGING DATA

WELL DIAMETER (inches): **4**	TUBING DIAMETER (inches): **1/2**	WELL SCREEN INTERVAL DEPTH: **500** feet to **630** feet	STATIC DEPTH TO WATER (feet): 19.7	PURGE PUMP TYPE: **ESP**

WELL VOLUME PURGE: (**640** ft – 19.7 ft) X **0.65** gal/ft = 1103.2 gallons X 3 = 1210 total purge gallons

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 35	PURGING INITIATED AT: 10:05	PURGING ENDED AT: 12:54	TOTAL VOLUME PURGED (gallons): 1210	FINAL STATIC DEPTH TO WATER (feet): 9.3

TIME	VOLUME PURGED (gallons)	TOTAL VOLUME PURGED (gallons)	pH (standard units)	TEMP. (°C)	COND. (circle units) mS/cm or (µS/cm)
10:50	403	403	6.3	16.2	785
11:50	403	806	7.4	22.1	708
12:50	403	1209	7.33	22.9	718

* Tubing depth in well started at 35 ft, and was increased to 45 ft after 1st sample.

GROUNDWATER PURGING LOG

SITE NAME: Bayside Wells		
WELL NO: 6	INSPECTOR: DW/AB/GS	DATE: 11/2/22

PURGING DATA

WELL DIAMETER (inches): 4	TUBING DIAMETER (inches): 1/2	WELL SCREEN INTERVAL DEPTH: 480 feet to 650 feet	STATIC DEPTH TO WATER (feet): 5.3	PURGE PUMP TYPE: ESP

WELL VOLUME PURGE: (655 ft − 5.3 ft) X 0.65 gal/ft = 422.3 gallons X 3 = 1267 total purge gallons

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 25	PURGING INITIATED AT: 1002 AM	PURGING ENDED AT: 1:32 pm	TOTAL VOLUME PURGED (gallons): 1344	FINAL STATIC DEPTH TO WATER (feet): 5.4

TIME	VOLUME PURGED (gallons)	TOTAL VOLUME PURGED (gallons)	pH (standard units)	TEMP. (°C)	COND. (circle units) mS/cm or µS/cm
1102 am	384	384	7.27	19.9	968
1202 pm	384	768	7.87	19.4	578
102 pm	384	1152	7.49	21.2	593
132 pm	192	1344	7.60	20.0	579

GROUNDWATER PURGING LOG

SITE NAME: **Bayside Wells**		
WELL NO: **7**	INSPECTOR: DOW/AB/CR	DATE: 11/9/2022

PURGING DATA

WELL DIAMETER (inches): **4**	TUBING DIAMETER (inches): **1/2**	WELL SCREEN INTERVAL DEPTH: **510** feet to **630** feet	STATIC DEPTH TO WATER (feet): 12.96	PURGE PUMP TYPE: **ESP**

WELL VOLUME PURGE: (**680** ft – 12.96 ft) X **0.65** gal/ft = 433.567 gallons X 3 = 1300.728 total purge gallons

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 30	PURGING INITIATED AT: 10:39 am	PURGING ENDED AT: 2:50 pm	TOTAL VOLUME PURGED (gallons): 1300	FINAL STATIC DEPTH TO WATER (feet): 12.45

TIME	VOLUME PURGED (gallons)	TOTAL VOLUME PURGED (gallons)	pH (standard units)	TEMP. (°C)	COND. (circle units) mS/cm or µS/cm
11:39	325	325	6.40	22.0	747
12:39	325	650	7.42	22.6	745
1:49	325	975	5.75	22.1	727
2:49	325	1300	7.36	21.9	722

Attachment B – Groundwater Elevation Trends for Monitoring Wells

Figure B-1. 2022 MW-1 Groundwater Elevation Trend

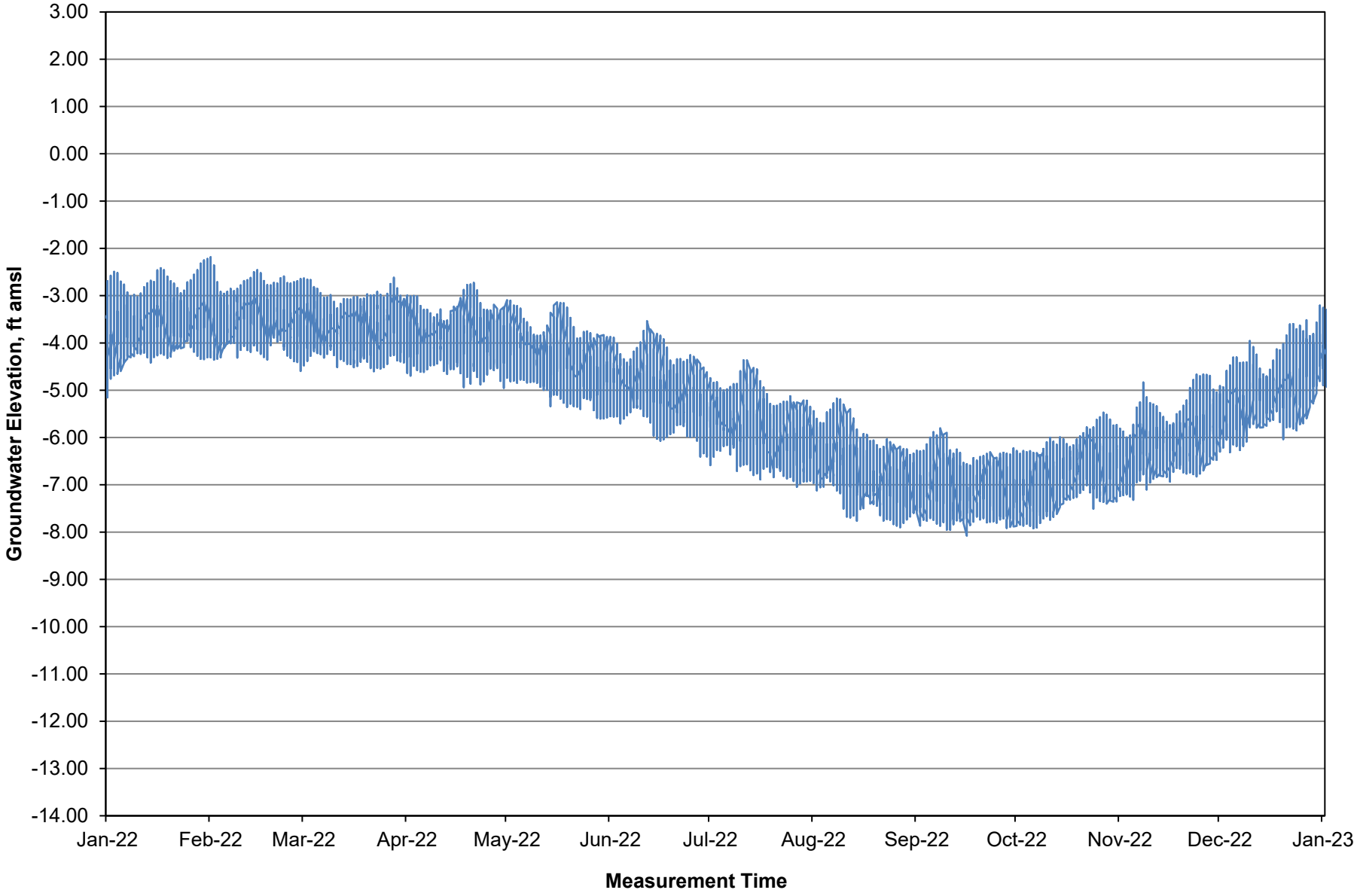


Figure B-2. 2022 MW-2S Groundwater Elevation Trend

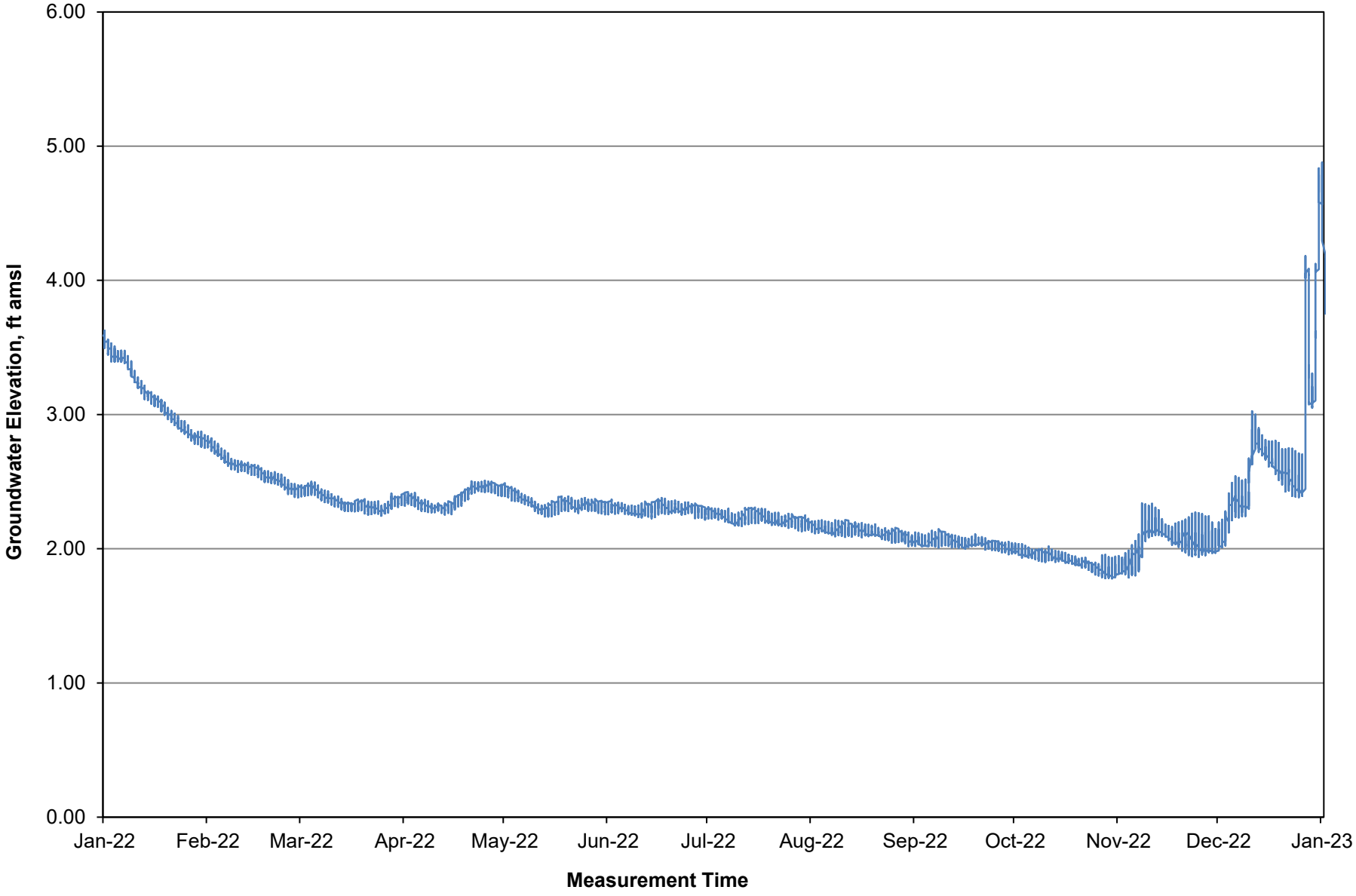


Figure B-3. 2022 MW-2I Groundwater Elevation Trend

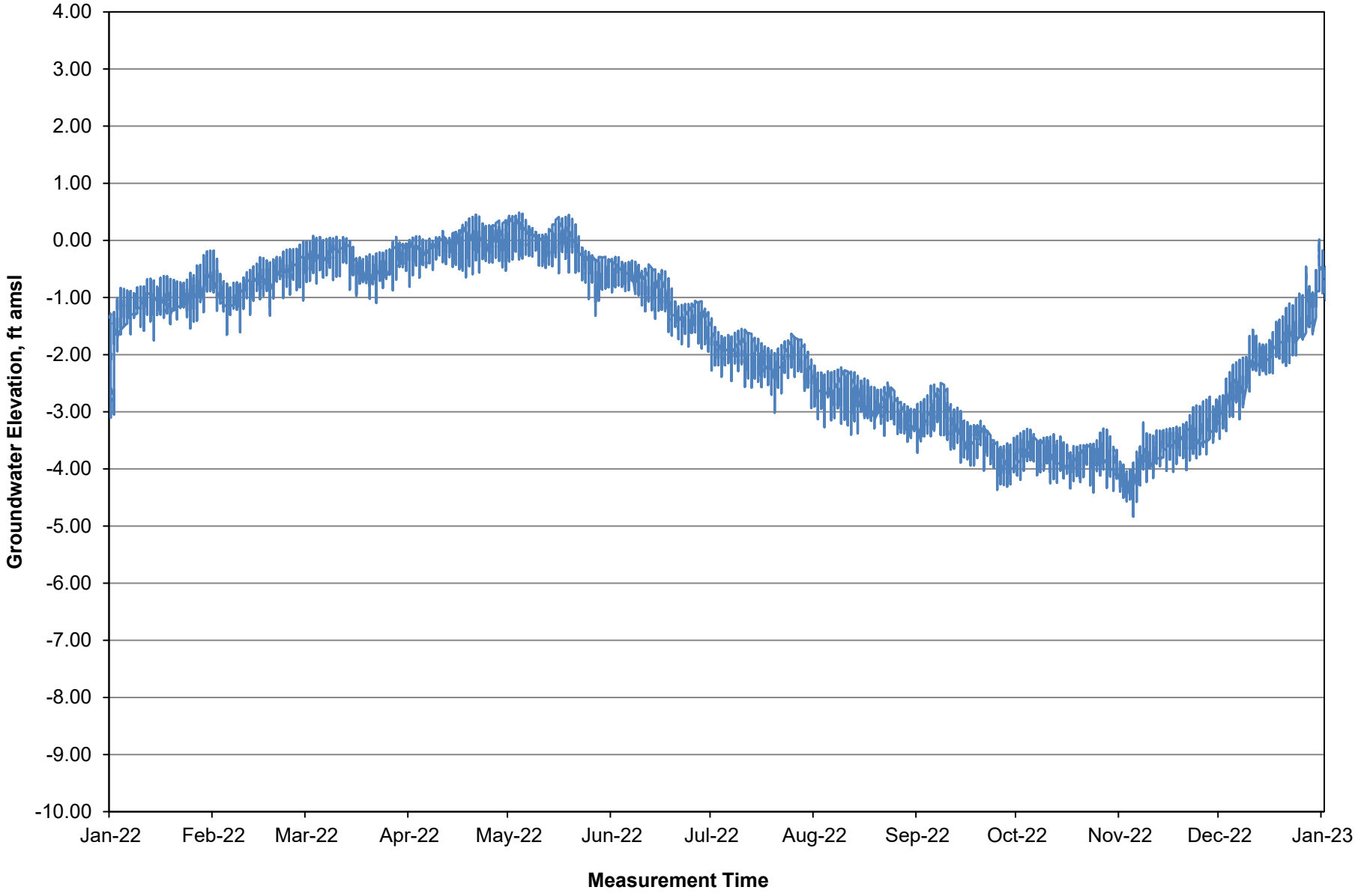


Figure B-4. 2022 MW-3 Groundwater Elevation Trend

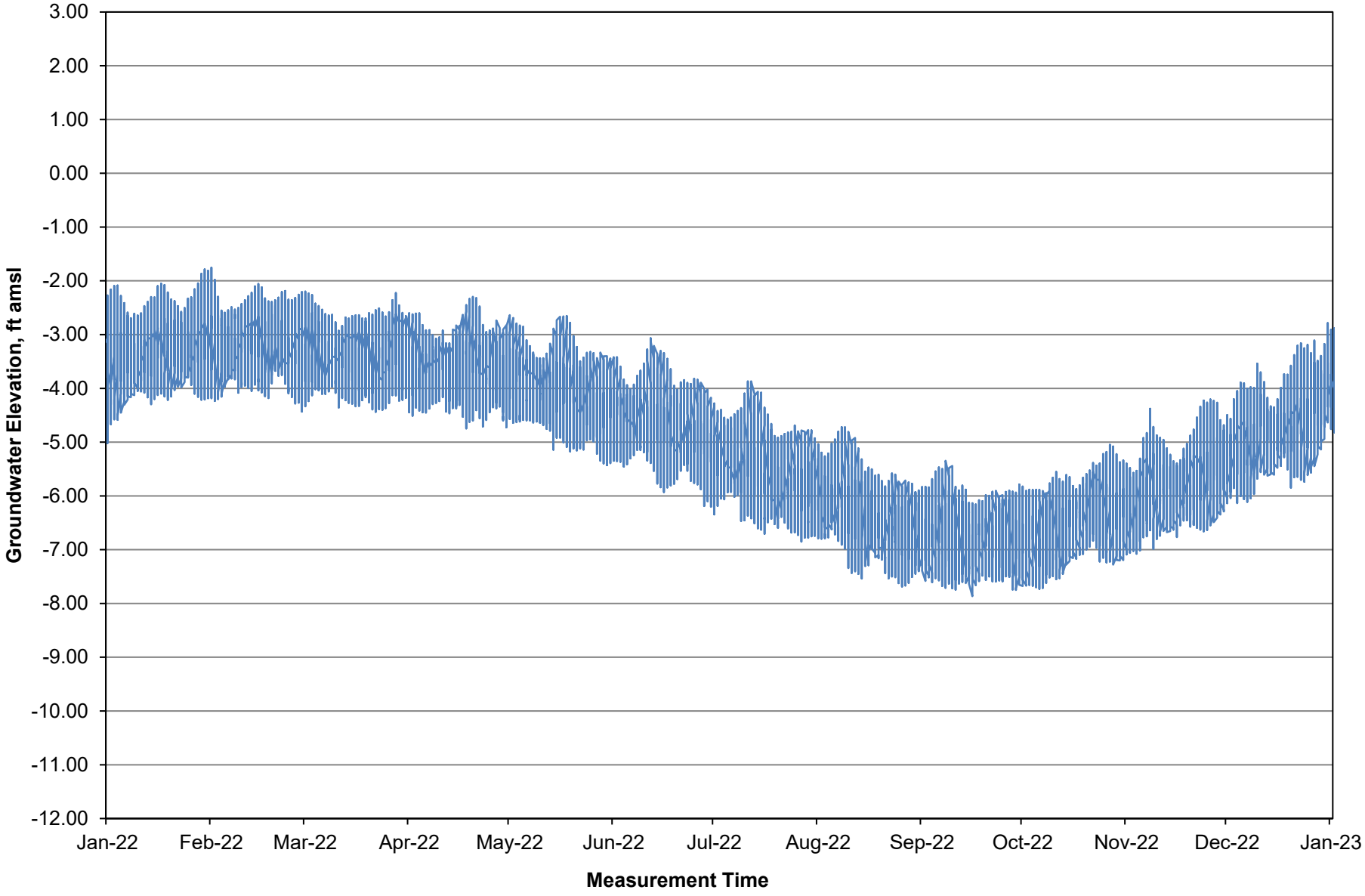


Figure B-5. 2022 MW-4 Groundwater Elevation Trend

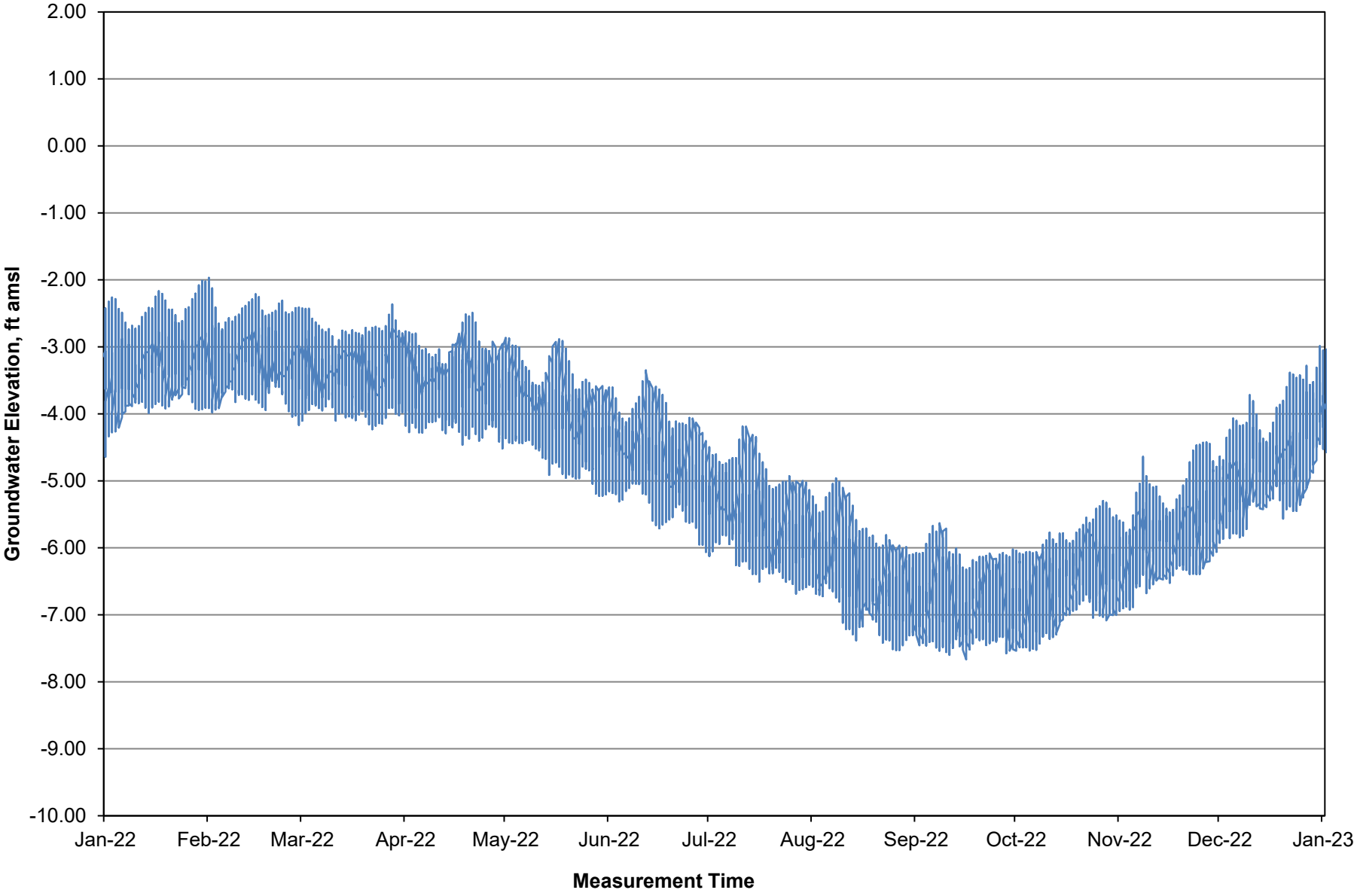


Figure B-6. 2022 MW-5S Groundwater Elevation Trend

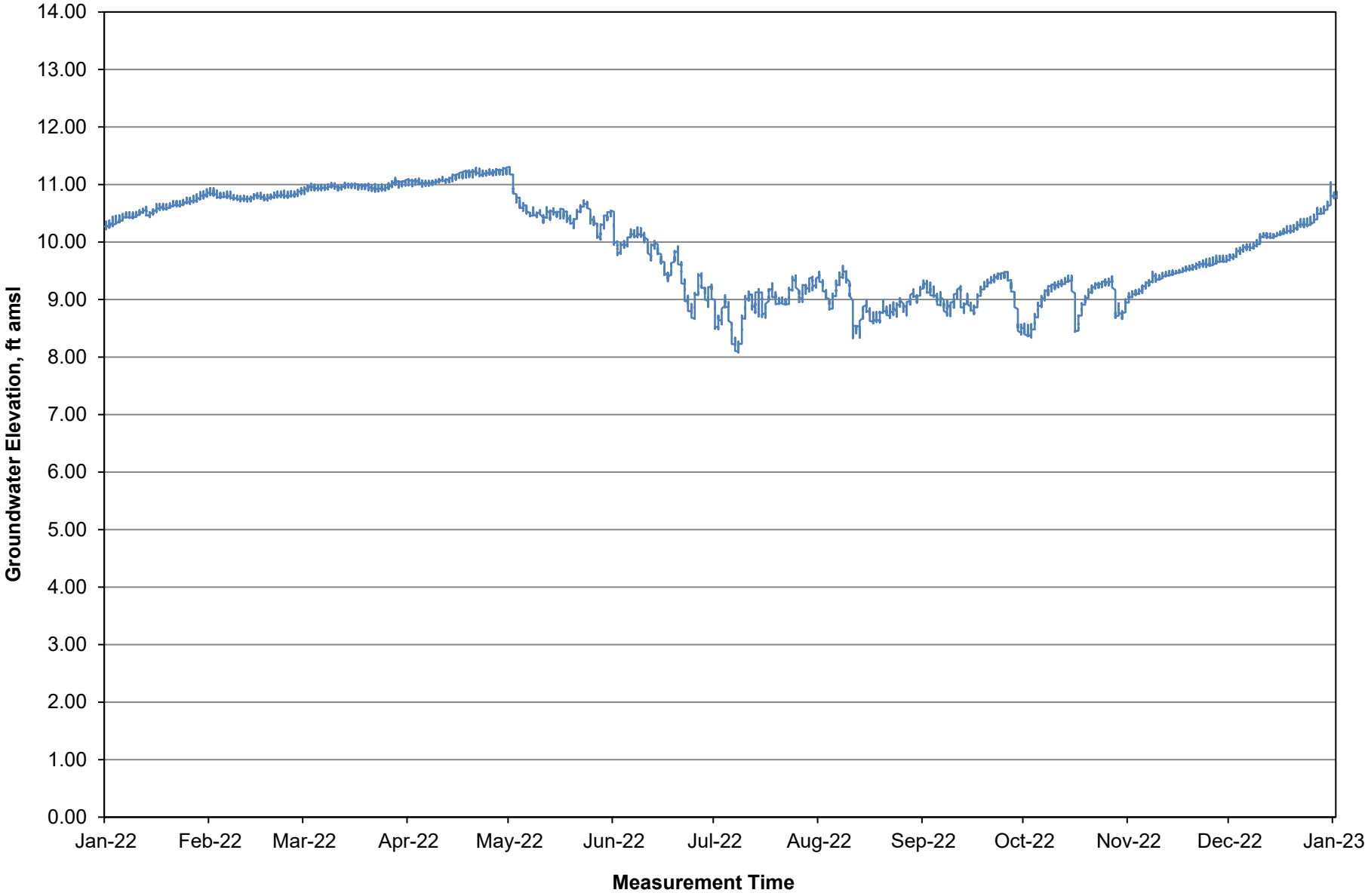


Figure B-7. 2022 MW-5I Groundwater Elevation Trend

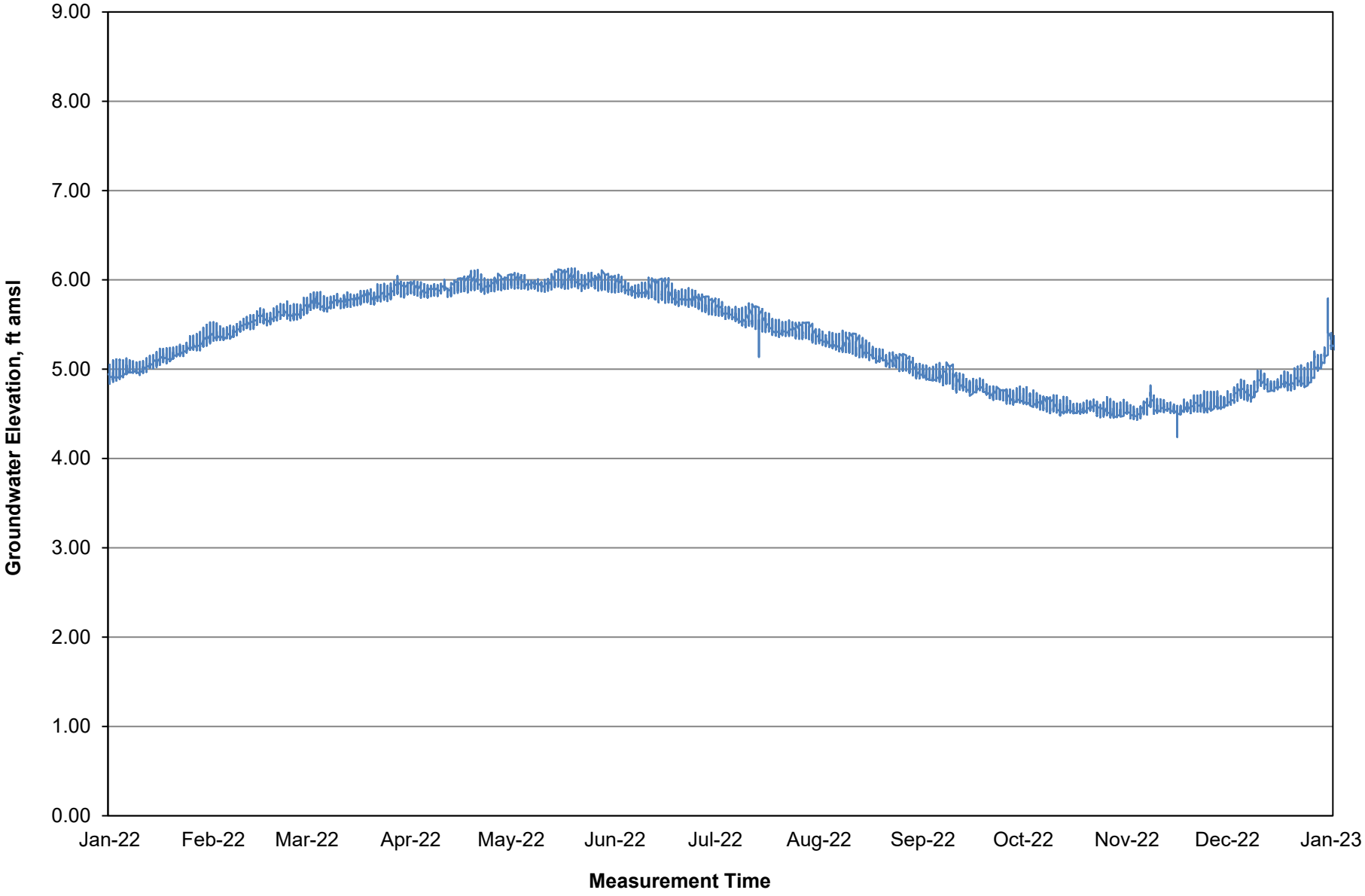


Figure B-8. 2022 MW-5D Groundwater Elevation Trend

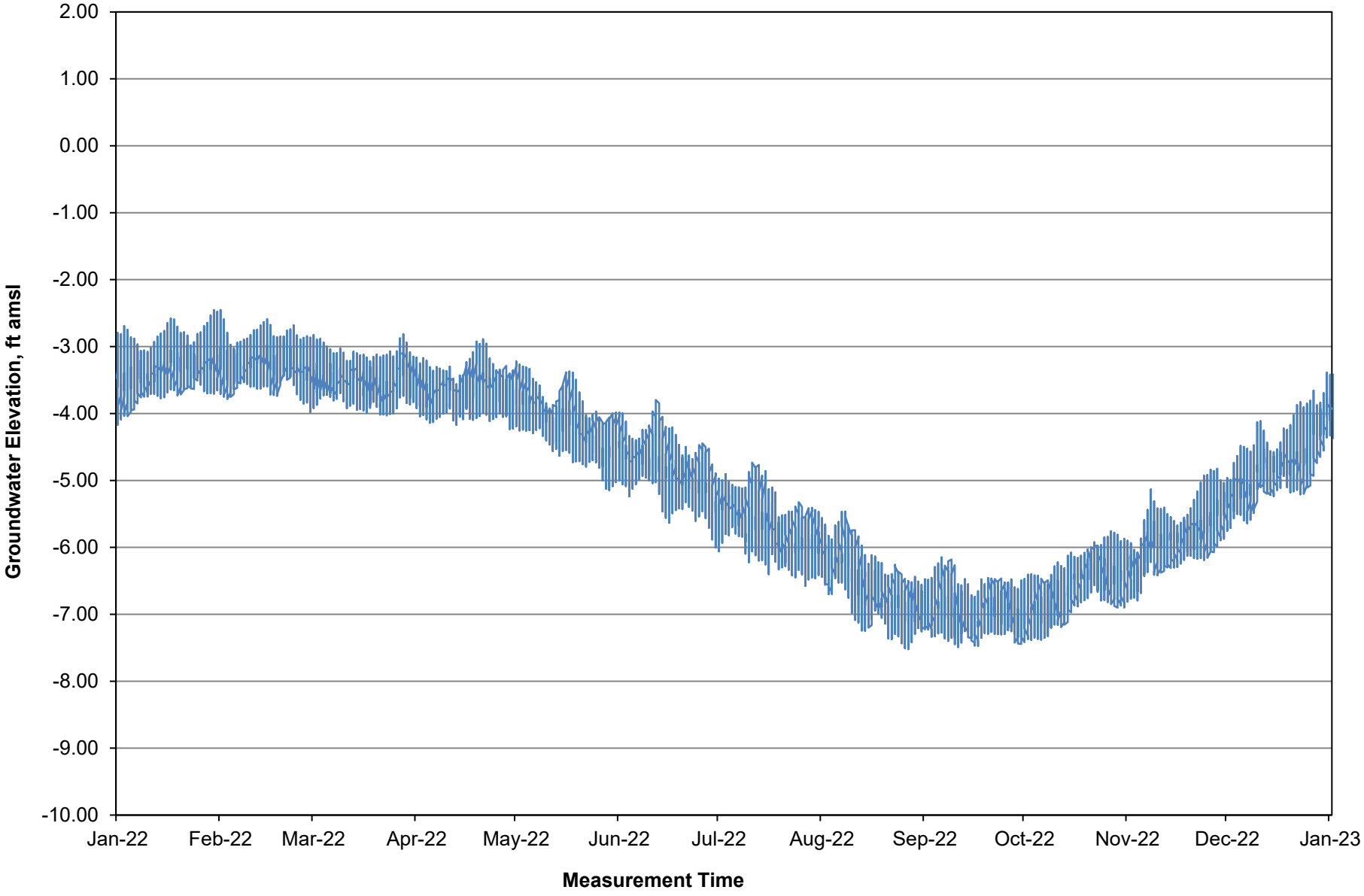


Figure B-9. 2022 MW-6 Groundwater Elevation Trend

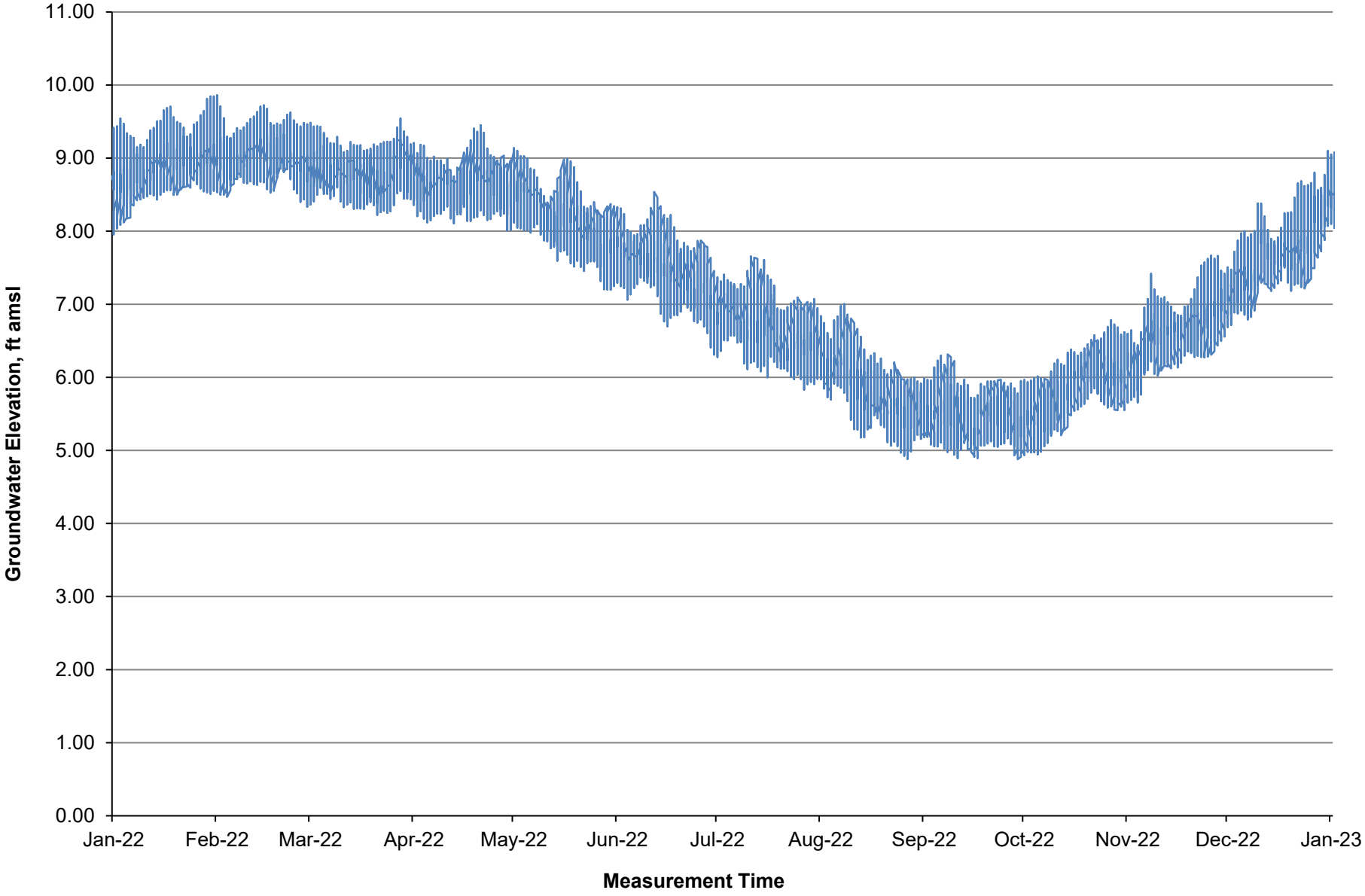


Figure B-10. 2022 MW-7 Groundwater Elevation Trend

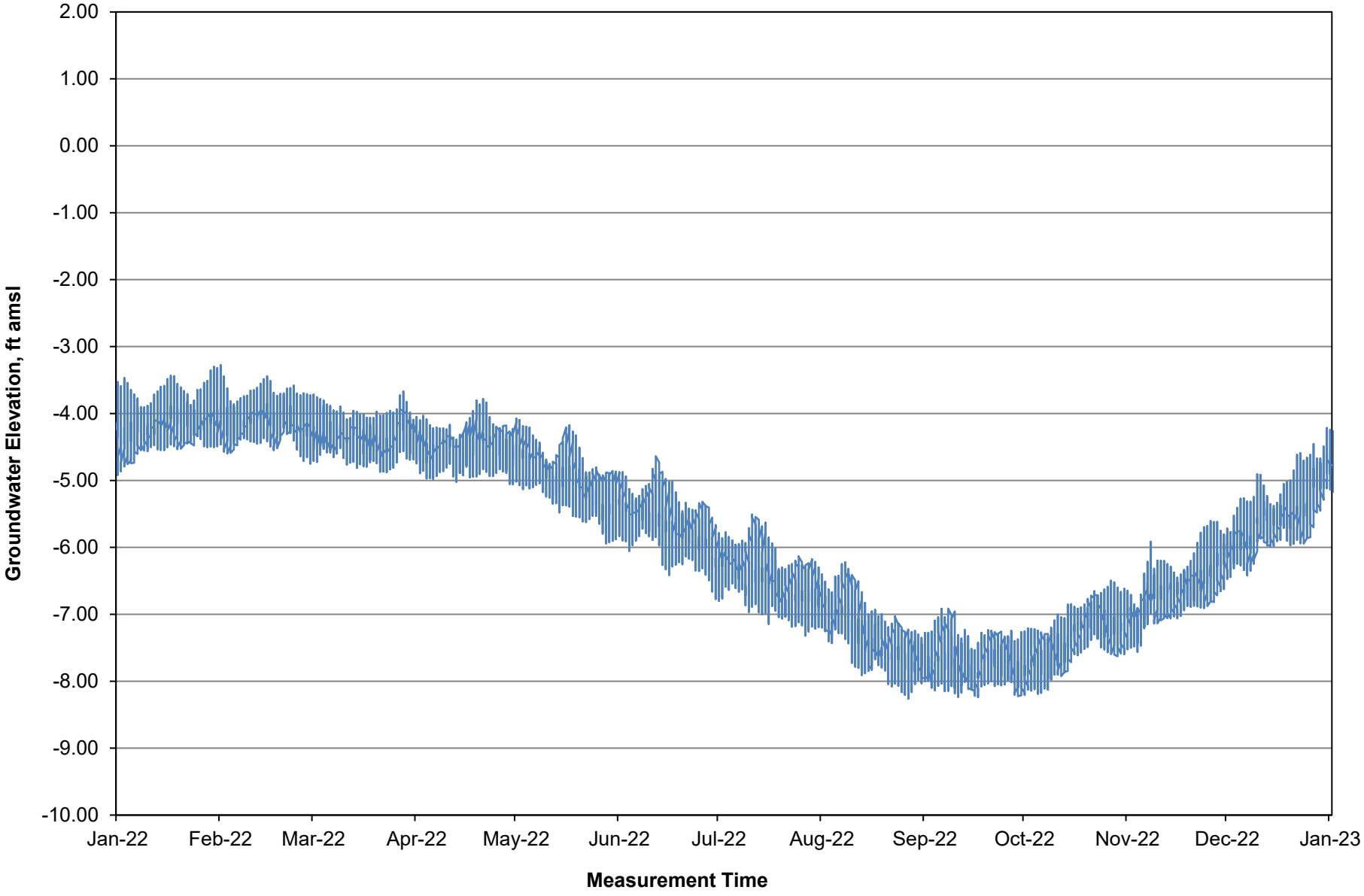


Figure B-11. 2022 MW-9D Groundwater Elevation Trend

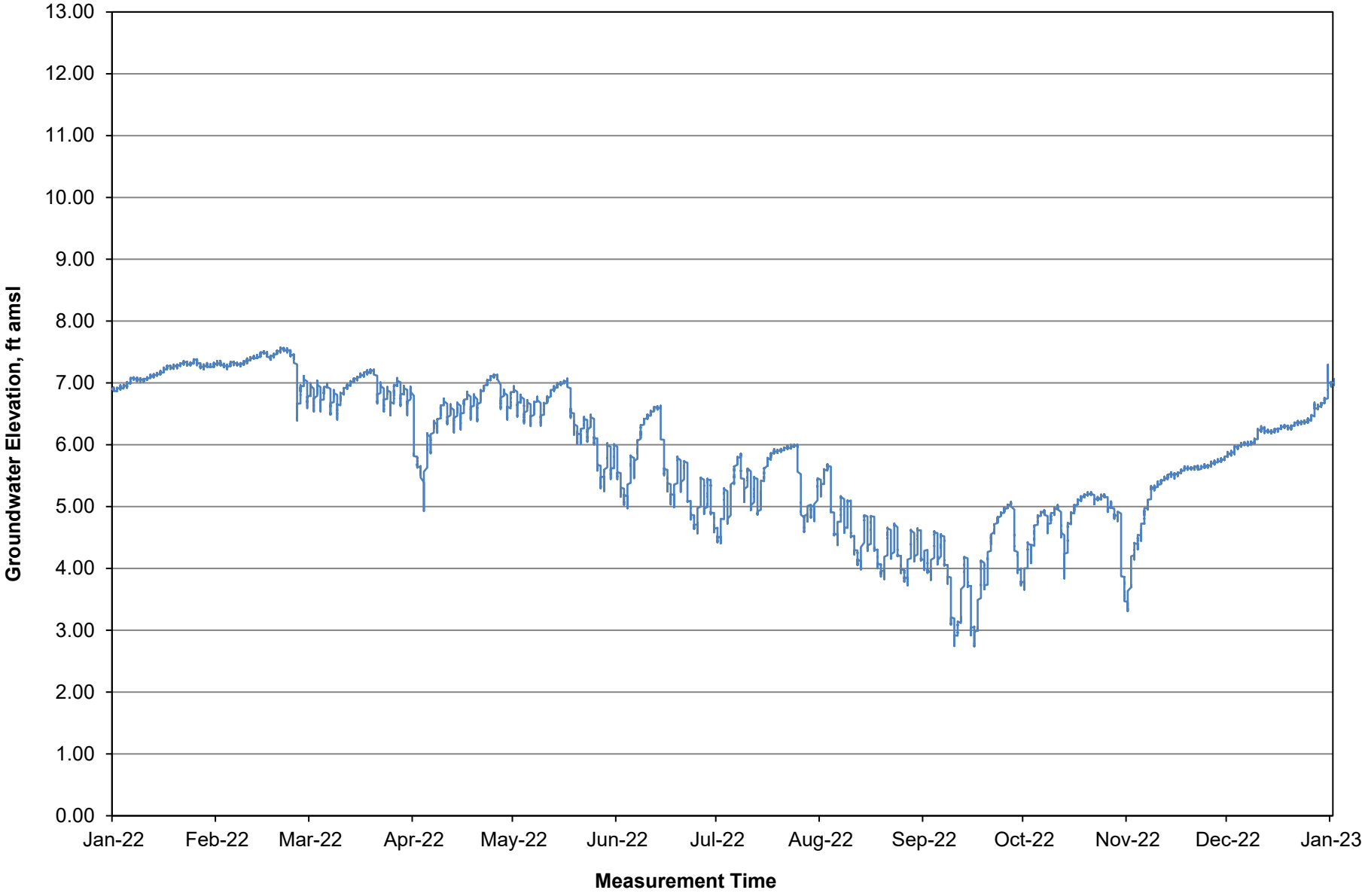


Figure B-12. 2022 MW-10I Groundwater Elevation Trend

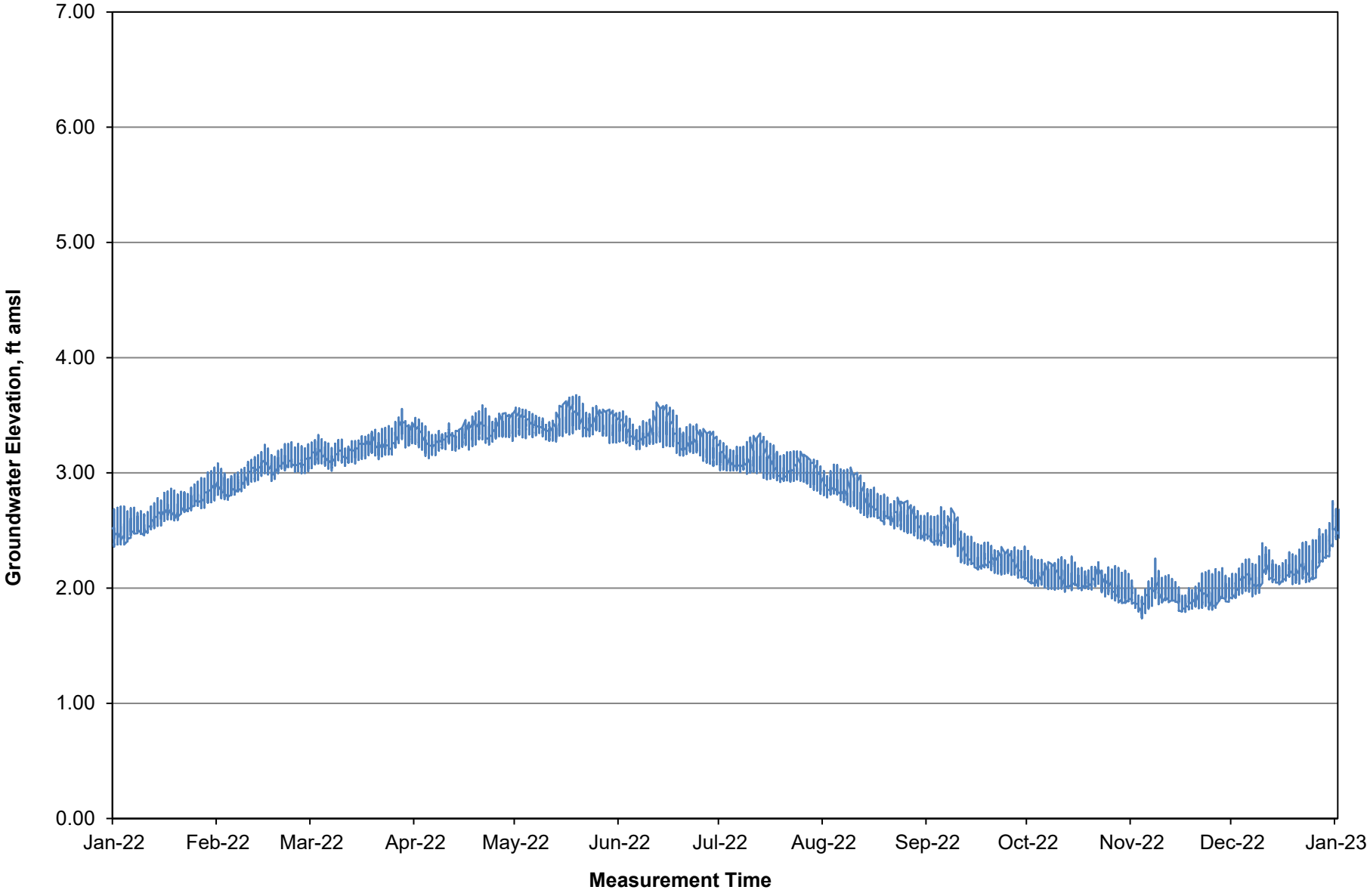
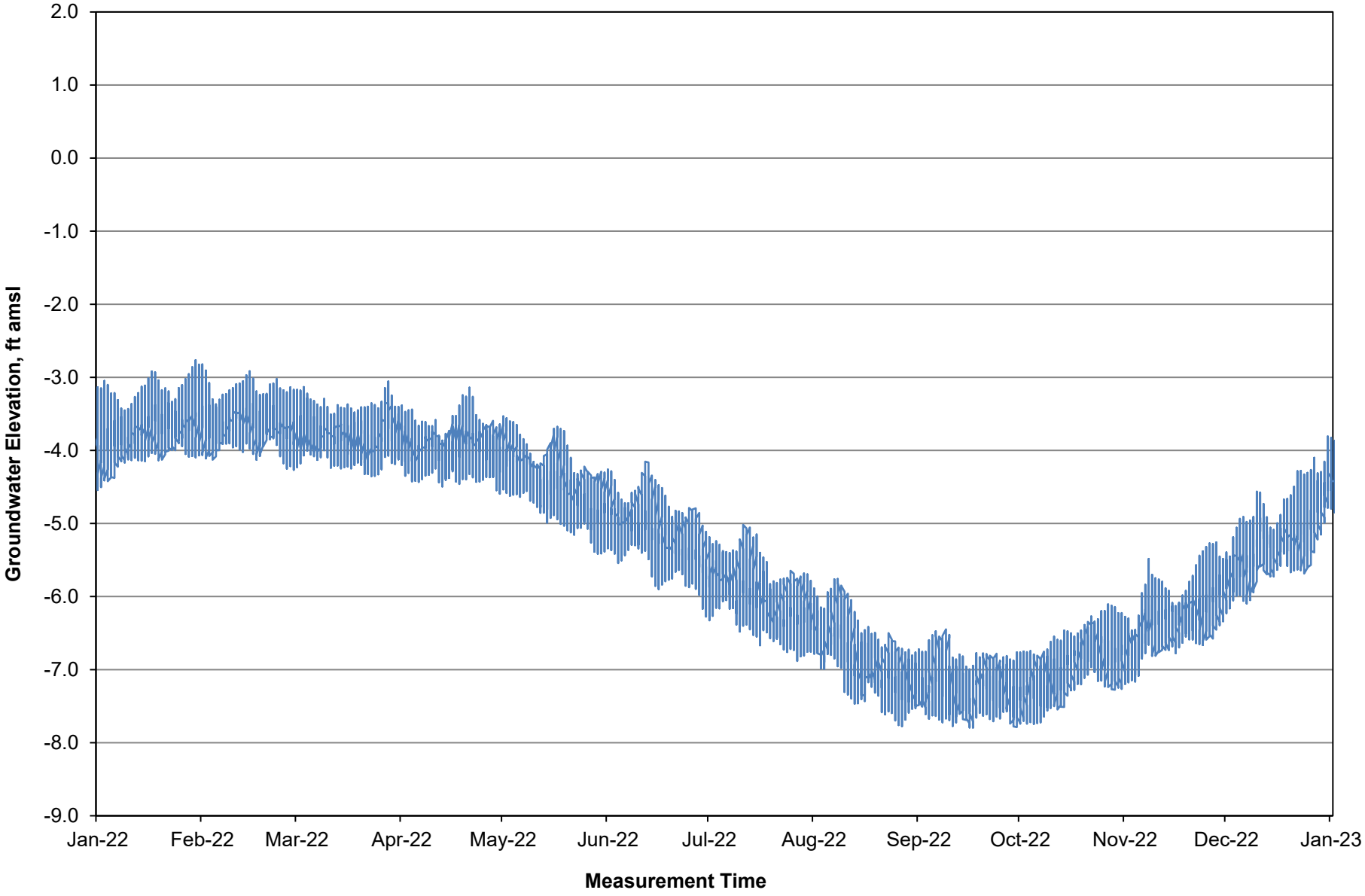


Figure B-13. 2022 MW-10D Groundwater Elevation Trend



Attachment C – Analytical Lab Reports for 2021 Water Quality Monitoring

East Bay Municipal Utility District
2020 Wake Ave, Oakland, CA 94623 T: 510-287-1432

Laboratory Services Division
ELAP#1060

Analytical Results Report

14 December 2022

David Behnken

MS 704

Re: Bayside Ground Water Project

COC# C013030

Report Generated: 12/13/2022 17:48

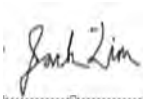
Login Performance Summary

- 0 Lost Analyses
- 0 Hold Time Exceedances
- Analytical analyses did not meet the turnaround time

Report Notes

For questions concerning this report, please contact:

Reported By:



Jack Lim

Senior Chemist

Approved By:

Yuyun Shang

Lab Manager

Samples for C013030

Samples Included in the Report

Sample Number	Sample Type	Sampled Date	Location Name	Sample Name
C013030-01	GRAB	Nov 01 2022 15:00	GW BAYSIDE - BAY1-MW2S	-

Samples Results for C013030

Sample ID: C013030-01
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
Client: Bayside Ground Water Project
Sample Type: GRAB
Date Collected: Nov 01 2022 15:00 **Sample Collector:** DW/AB/GE
Date Received: Nov 02 2022 09:48 **Sample Receiver:** A Ng
Sample Comments:

Analyte	Qualifier	Result	MDL	RL	Units	DF	Batch	Prepared	Analyzed
Field data entry into LIMS									
TARGET ANALYTES									
CL2R		**0.5**	0.02		mg/L				11/01/2022 15:00
Field data entry into LIMS									
TARGET ANALYTES									
Depth		**8.3**			Feet				11/01/2022 15:00
Field data entry into LIMS									
TARGET ANALYTES									
pH		**6.71**			pH Units				11/01/2022 15:00
Field data entry into LIMS									
TARGET ANALYTES									
Temperature		**17.8**			C				11/01/2022 15:00
Total Dissolved Solids by SM2540C									
Subcontract data from: Alpha Analytical Laboratory ELAP#: Refer to external lab report									
TARGET ANALYTES									
Total Dissolved Solids		**71000**	10	10	mg/L	1			11/08/2022 14:00
Comments: SUB: Analysis data reported is date filtered by sublab, as per EBMUD SOP									
Alkalinity by SM 2320 B-2011									
TARGET ANALYTES									
Alkalinity: Total as CaCO3		**410**	5	30	mg/L	1.0	B221104-002		11/04/2022 08:56
Alkalinity: Carbonate	U	5	5	30	mg/L	1.0	B221104-002		11/04/2022 08:56
Alkalinity: Bicarbonate		**410**	5	30	mg/L	1.0	B221104-002		11/04/2022 08:56
Alkalinity: Hydroxide	U	5	5	30	mg/L	1.0	B221104-002		11/04/2022 08:56
Ammonia as N by SM 4500-NH3 C-2011									
TARGET ANALYTES									
Ammonia as N	**E1**	**5.0**	1.2	7.5	mg/L	5.0	B221117-007		11/17/2022 08:31
Hardness as CaCO3 by SM 2340 C-2011									
TARGET ANALYTES									
Hardness as CaCO3		**17000**	400	700	mg/L	100	B221110-012		11/10/2022 07:38
Anions by EPA 300.1									
TARGET ANALYTES									
Chloride		**42000**	230	1000	mg/L	5000	B221102-004		11/02/2022 16:46
Nitrate as N	U	12	12	150	mg/L	5000	B221102-004		11/02/2022 16:46
Sulfate		**5200**	340	1000	mg/L	5000	B221102-004		11/02/2022 16:46

Samples Results for C013030

Sample ID: C013030-01
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
Client: Bayside Ground Water Project
Sample Type: GRAB
Date Collected: Nov 01 2022 15:00 **Sample Collector:** DW/AB/GE
Date Received: Nov 02 2022 09:48 **Sample Receiver:** A Ng
Sample Comments:

Analyte	Qualifier	Result	MDL	RL	Units	DF	Batch	Prepared	Analyzed
Anions by EPA 300.1									
SURROGATES									
Dichloroacetate (%)		100			%	5000	B221102-004		11/02/2022 16:46
Metals by EPA 200.7									
Subcontract data from:		Alpha Analytical Laboratory ELAP#: Refer to external lab report							
TARGET ANALYTES									
Calcium		**1300**	0.80	10	mg/L	10		11/15/2022 10:22	11/18/2022 12:06
Comments: SUB									
Iron	**R-01, U**	**0.50**	0.50	1.0	mg/L	10		11/15/2022 10:22	11/18/2022 12:06
Comments: SUB: R-01-The Reporting Limit for this analyte has been raised to account for matrix interference. U-Analyte included in analysis but not detected at or above MDL.									
Potassium		**460**	2.0	10	mg/L	10		11/15/2022 10:22	11/18/2022 12:06
Comments: SUB									
Magnesium		**3000**	0.30	10	mg/L	10		11/15/2022 10:22	11/18/2022 12:06
Comments: SUB									
Manganese		**36**	0.020	0.20	mg/L	10		11/15/2022 10:22	11/18/2022 12:06
Comments: SUB									
Sodium		**22000**	30	100	mg/L	100		11/15/2022 10:22	11/18/2022 16:13
Comments: SUB									
Haloacetic Acids, GC/ECD by EPA 552.2									
TARGET ANALYTES									
Bromochloroacetic Acid	U	0.17	0.17	1.0	ug/L	1.0	B221103-008	11/02/2022 10:15	11/03/2022 14:30
Comments: Compound not available for certification by ELAP									
Bromodichloroacetic Acid	U	0.29	0.29	1.0	ug/L	1.0	B221103-008	11/02/2022 10:15	11/03/2022 14:30
Comments: Compound not available for certification by ELAP									
Chlorodibromoacetic Acid	U	0.31	0.31	1.0	ug/L	1.0	B221103-008	11/02/2022 10:15	11/03/2022 14:30
Comments: Compound not available for certification by ELAP									
Dibromoacetic Acid	U	0.15	0.15	1.0	ug/L	1.0	B221103-008	11/02/2022 10:15	11/03/2022 14:30
Dichloroacetic Acid	U	0.20	0.20	1.0	ug/L	1.0	B221103-008	11/02/2022 10:15	11/03/2022 14:30
Monobromoacetic Acid	U	0.16	0.16	1.0	ug/L	1.0	B221103-008	11/02/2022 10:15	11/03/2022 14:30
Monochloroacetic Acid	U	0.45	0.45	1.0	ug/L	1.0	B221103-008	11/02/2022 10:15	11/03/2022 14:30
Tribromoacetic Acid	U	0.49	0.49	1.0	ug/L	1.0	B221103-008	11/02/2022 10:15	11/03/2022 14:30
Comments: Compound not available for certification by ELAP									
Trichloroacetic Acid	U	0.25	0.25	1.0	ug/L	1.0	B221103-008	11/02/2022 10:15	11/03/2022 14:30
HAA(5), calculated		**0.00**		1.0	ug/L	1.0	B221103-008	11/02/2022 10:15	11/03/2022 14:30
Comments: HAA (5) calculation uses a zero for any individual HAA result less than the California DLR for that HAA									
HAA(9), calculated		**0.00**		1.0	ug/L	1.0	B221103-008	11/02/2022 10:15	11/03/2022 14:30
INTERNAL STANDARD									
1,2,3-Trichloropropane (%)		110			%	1.0	B221103-008	11/02/2022 10:15	11/03/2022 14:30
SURROGATES									
2,3-Dibromopropionic Acid (%)		94			%	1.0	B221103-008	11/02/2022 10:15	11/03/2022 14:30

Samples Results for C013030

Sample ID: C013030-01
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
Client: Bayside Ground Water Project
Sample Type: GRAB
Date Collected: Nov 01 2022 15:00 **Sample Collector:** DW/AB/GE
Date Received: Nov 02 2022 09:48 **Sample Receiver:** A Ng
Sample Comments:

Analyte	Qualifier	Result	MDL	RL	Units	DF	Batch	Prepared	Analyzed

Oxygen 18 Isotope Analysis

Subcontract data from: Alpha Analytical Laboratory ELAP#: Refer to external lab report
Test External Comments: Original sub report attached at end of this report

TARGET ANALYTES

See subcontract report	Original Report transmitted to client and accessib

Trihalomethanes, Total, GC/MS by EPA 8260B

Subcontract data from: Alpha Analytical Laboratory ELAP#: Refer to external lab report

TARGET ANALYTES

Analyte	Qualifier	Result	MDL	RL	Units	DF	Batch	Prepared	Analyzed
Bromodichloromethane	U	0.08	0.08	0.50	ug/L	1		11/08/2022 11:00	11/08/2022 23:58
Comments: SUB: Analyte included in analysis but not detected at or above MDL									
Bromoform	U	0.30	0.30	0.50	ug/L	1		11/08/2022 11:00	11/08/2022 23:58
Comments: SUB: Analyte included in analysis but not detected at or above MDL									
Chloroform	U	0.06	0.06	0.50	ug/L	1		11/08/2022 11:00	11/08/2022 23:58
Comments: SUB: Analyte included in analysis but not detected at or above MDL									
Dibromochloromethane	U	0.10	0.10	0.50	ug/L	1		11/08/2022 11:00	11/08/2022 23:58
Comments: SUB: Analyte included in analysis but not detected at or above MDL									
Total Trihalomethanes, calculated	U	0.40	0.40	0.50	ug/L	1		11/08/2022 11:00	11/08/2022 23:58
Comments: SUB: Analyte included in analysis but not detected at or above MDL									

Quality Control for C013030

Analyte	Qualifier	Result	MDL	RL	Units	Spike Level	Source Result	% REC	% REC Limits	RPD	RPD Limits
Alkalinity DUP by SM 2320 B-2011, B221104-002											
B221104-002 analyzed on 11/04/2022 09:07; Source = C011937-01											
Alkalinity: Total as CaCO3		**400**	5	30	mg/L		400			0.3	20
Alkalinity LCS by SM 2320 B-2011, B221104-002											
B221104-002 analyzed on 11/04/2022 08:37											
Alkalinity: Total as CaCO3		400	5	30	mg/L	400		101	85 - 115		
Alkalinity MB by SM 2320 B-2011, B221104-002											
B221104-002 analyzed on 11/04/2022 08:29											
Alkalinity: Total as CaCO3	U	5	5	30	mg/L						
Alkalinity MS by SM 2320 B-2011, B221104-002											
B221104-002 analyzed on 11/04/2022 09:13; Source = C011937-01											
Alkalinity: Total as CaCO3		800	5	30	mg/L	400	400	100	80 - 120		
Alkalinity QCS by SM 2320 B-2011, B221104-002											
B221104-002 analyzed on 11/04/2022 08:45											
Alkalinity: Total as CaCO3		85	5	30	mg/L	81		105	91 - 111		
Hardness as CaCO3 DUP by SM 2340 C-2011, B221110-012											
B221110-012 analyzed on 11/10/2022 07:38; Source = C011888-01											
Hardness as CaCO3		**18**	4	7	mg/L		18			0.00	10
Hardness as CaCO3 DUP by SM 2340 C-2011, B221110-012											
B221110-012 analyzed on 11/10/2022 07:38; Source = C013150-01											
Hardness as CaCO3		**21**	4	7	mg/L		22			3.7	10
Hardness as CaCO3 LCS by SM 2340 C-2011, B221110-012											
B221110-012 analyzed on 11/10/2022 07:38											
Hardness as CaCO3		130	4	7	mg/L	120		104	85 - 115		
Hardness as CaCO3 LOQ by SM 2340 C-2011, B221110-012											
B221110-012 analyzed on 11/10/2022 07:38											
Hardness as CaCO3	E1	6	4	7	mg/L	7.0		86	50 - 150		
Hardness as CaCO3 MB by SM 2340 C-2011, B221110-012											
B221110-012 analyzed on 11/10/2022 07:38											
Hardness as CaCO3	U	4	4	7	mg/L						

Quality Control for C013030

Analyte	Qualifier	Result	MDL	RL	Units	Spike Level	Source Result	% REC	% REC Limits	RPD	RPD Limits
Hardness as CaCO3 MS by SM 2340 C-2011, B221110-012											
B221110-012 analyzed on 11/10/2022 07:38; Source = C011888-01											
Hardness as CaCO3		140	4	7	mg/L	120	18	99	85 - 115		
Hardness as CaCO3 MS by SM 2340 C-2011, B221110-012											
B221110-012 analyzed on 11/10/2022 07:38; Source = C013150-01											
Hardness as CaCO3		140	4	7	mg/L	120	22	98	85 - 115		
Hardness as CaCO3 QCS by SM 2340 C-2011, B221110-012											
B221110-012 analyzed on 11/10/2022 07:38											
Hardness as CaCO3		180	4	7	mg/L	170		105	91 - 107		
Ammonia as N DUP by SM 4500-NH3 C-2011, B221117-007											
B221117-007 analyzed on 11/17/2022 08:31; Source = C012590-09											
Ammonia as N		**46**	1.2	7.5	mg/L		45			1.2	10
Ammonia as N LCS by SM 4500-NH3 C-2011, B221117-007											
B221117-007 analyzed on 11/17/2022 08:31											
Ammonia as N		12	0.25	1.5	mg/L	12		98	85 - 115		
Ammonia as N MB by SM 4500-NH3 C-2011, B221117-007											
B221117-007 analyzed on 11/17/2022 08:31											
Ammonia as N	U	0.25	0.25	1.5	mg/L						
Ammonia as N MS by SM 4500-NH3 C-2011, B221117-007											
B221117-007 analyzed on 11/17/2022 08:31; Source = C012590-09											
Ammonia as N		100	1.2	7.5	mg/L	60	45	98	80 - 120		
Ammonia as N MSD by SM 4500-NH3 C-2011, B221117-007											
B221117-007 analyzed on 11/17/2022 08:31; Source = C012590-09											
Ammonia as N		100	1.2	7.5	mg/L	60	45	97	80 - 120	0.3	15
Anions DUP by EPA 300.1, B221102-004											
B221102-004 analyzed on 11/02/2022 18:02; Source = C011937-01											
Chloride		**330**	2.3	10	mg/L		330			0.1	10
Nitrate as N	**E1**	**1.2**	0.12	1.5	mg/L		1.2			0.0	10
Sulfate		**55**	3.4	10	mg/L		55			0.0	10
Dichloroacetate (%)		100			%		100				
Anions DUP by EPA 300.1, B221102-004											
B221102-004 analyzed on 11/02/2022 23:42; Source = C011922-01											
Chloride		**1.6**	0.046	0.20	mg/L		1.6			0.3	10
Nitrate as N	**E1**	**0.018**	0.0023	0.030	mg/L		0.018			0.8	10
Sulfate		**0.94**	0.069	0.20	mg/L		0.94			0.1	10

Quality Control for C013030

Analyte	Qualifier	Result	MDL	RL	Units	Spike Level	Source Result	% REC	% REC Limits	RPD	RPD Limits
Dichloroacetate (%)		102			%		101				
Anions LCS by EPA 300.1, B221102-004											
B221102-004 analyzed on 11/02/2022 15:30											
Chloride		0.98	0.046	0.2	mg/L	1.0		98	85 - 115		
Nitrate as N		0.046	0.0023	0.03	mg/L	0.05		92	85 - 115		
Sulfate		0.94	0.069	0.2	mg/L	1.0		94	85 - 115		
Dichloroacetate (%)		99			%						
Anions LOQ by EPA 300.1, B221102-004											
B221102-004 analyzed on 11/02/2022 10:07											
Chloride		0.21	0.046	0.2	mg/L	0.20		106	50 - 150		
Nitrate as N	E1	0.026	0.0023	0.03	mg/L	0.03		86	50 - 150		
Sulfate		0.22	0.069	0.2	mg/L	0.20		111	50 - 150		
Dichloroacetate (%)		101			%						
Anions MB by EPA 300.1, B221102-004											
B221102-004 analyzed on 11/02/2022 09:29											
Chloride	U	0.046	0.046	0.2	mg/L						
Nitrate as N	U	0.0023	0.0023	0.03	mg/L						
Sulfate	U	0.069	0.069	0.2	mg/L						
Dichloroacetate (%)		101			%						
Anions MS by EPA 300.1, B221102-004											
B221102-004 analyzed on 11/02/2022 18:39; Source = C011937-01											
Chloride		380	2.3	10	mg/L	50	330	101	75 - 125		
Nitrate as N		3.4	0.12	1.5	mg/L	2.5	1.2	88	75 - 125		
Sulfate		100	3.4	10	mg/L	50	55	101	75 - 125		
Dichloroacetate (%)		99			%		100				
Anions MS by EPA 300.1, B221102-004											
B221102-004 analyzed on 11/03/2022 00:20; Source = C011922-01											
Chloride		2.6	0.046	0.20	mg/L	1.0	1.6	103	75 - 125		
Nitrate as N		0.061	0.0023	0.030	mg/L	0.05	0.018	86	75 - 125		
Sulfate		2.0	0.069	0.20	mg/L	1.0	0.94	102	75 - 125		
Dichloroacetate (%)		101			%		101				
Haloacetic Acids, GC/ECD LCS by EPA 552.2, B221103-008											
B221103-008 analyzed on 11/03/2022 10:21; B221102-003 prepared on 11/02/2022 10:15											
Bromochloroacetic Acid		15	0.17	1	ug/L	15		99	70 - 130		
Bromodichloroacetic Acid		15	0.29	1	ug/L	15		99	70 - 130		
Chlorodibromoacetic Acid		16	0.31	1	ug/L	15		105	70 - 130		
Dibromoacetic Acid		15	0.15	1	ug/L	15		99	70 - 130		
Dichloroacetic Acid		15	0.20	1	ug/L	15		100	70 - 130		
Monobromoacetic Acid		15	0.16	1	ug/L	15		100	70 - 130		
Monochloroacetic Acid		16	0.45	1	ug/L	15		104	70 - 130		
Tribromoacetic Acid		15	0.49	1	ug/L	15		100	70 - 130		
Trichloroacetic Acid		15	0.25	1	ug/L	15		100	70 - 130		
1,2,3-Trichloropropane (%)		101			%						

Quality Control for C013030

Analyte	Qualifier	Result	MDL	RL	Units	Spike Level	Source Result	% REC	% REC Limits	RPD	RPD Limits
2,3-Dibromopropionic Acid (%)		94			%						

Haloacetic Acids, GC/ECD LOQ by EPA 552.2, B221103-008

B221103-008 analyzed on 11/03/2022 09:56; B221102-003 prepared on 11/02/2022 10:15

Bromochloroacetic Acid	E1	0.95	0.17	1	ug/L	1.0		95	50 - 150		
Bromodichloroacetic Acid	E1	0.91	0.29	1	ug/L	1.0		91	50 - 150		
Chlorodibromoacetic Acid	E1	0.90	0.31	1	ug/L	1.0		90	50 - 150		
Dibromoacetic Acid	E1	0.93	0.15	1	ug/L	1.0		93	50 - 150		
Dichloroacetic Acid	E1	0.98	0.20	1	ug/L	1.0		98	50 - 150		
Monobromoacetic Acid		1.0	0.16	1	ug/L	1.0		104	50 - 150		
Monochloroacetic Acid	E1	0.97	0.45	1	ug/L	1.0		97	50 - 150		
Tribromoacetic Acid	E1	0.96	0.49	1	ug/L	1.0		96	50 - 150		
Trichloroacetic Acid	E1	0.90	0.25	1	ug/L	1.0		90	50 - 150		
1,2,3-Trichloropropane (%)		101			%						
2,3-Dibromopropionic Acid (%)		98			%						

Haloacetic Acids, GC/ECD MB by EPA 552.2, B221103-008

B221103-008 analyzed on 11/03/2022 09:31; B221102-003 prepared on 11/02/2022 10:15

Bromochloroacetic Acid	U	0.17	0.17	1	ug/L
Bromodichloroacetic Acid	U	0.29	0.29	1	ug/L
Chlorodibromoacetic Acid	U	0.31	0.31	1	ug/L
Dibromoacetic Acid	U	0.15	0.15	1	ug/L
Dichloroacetic Acid	U	0.20	0.20	1	ug/L
Monobromoacetic Acid	U	0.16	0.16	1	ug/L
Monochloroacetic Acid	U	0.45	0.45	1	ug/L
Tribromoacetic Acid	U	0.49	0.49	1	ug/L
Trichloroacetic Acid	U	0.25	0.25	1	ug/L
1,2,3-Trichloropropane (%)		104			%
2,3-Dibromopropionic Acid (%)		99			%

Haloacetic Acids, GC/ECD MS by EPA 552.2, B221103-008

B221103-008 analyzed on 11/03/2022 11:11; B221102-003 prepared on 11/02/2022 10:15; Source = C012212-01

Bromochloroacetic Acid	18	0.17	1.0	ug/L	15	3.1	97	70 - 130	
Bromodichloroacetic Acid	16	0.29	1.0	ug/L	15	1.8	97	70 - 130	
Chlorodibromoacetic Acid	16	0.31	1.0	ug/L	15	0.31	105	70 - 130	
Dibromoacetic Acid	15	0.15	1.0	ug/L	15	0.15	99	70 - 130	
Dichloroacetic Acid	33	0.20	1.0	ug/L	15	19	93	70 - 130	
Monobromoacetic Acid	15	0.16	1.0	ug/L	15	0.29	100	70 - 130	
Monochloroacetic Acid	16	0.45	1.0	ug/L	15	2.6	91	70 - 130	
Tribromoacetic Acid	15	0.49	1.0	ug/L	15	0.49	102	70 - 130	
Trichloroacetic Acid	23	0.25	1.0	ug/L	15	9.5	92	70 - 130	
1,2,3-Trichloropropane (%)	103			%		100			
2,3-Dibromopropionic Acid (%)	92			%		93			

Haloacetic Acids, GC/ECD MSD by EPA 552.2, B221103-008

B221103-008 analyzed on 11/03/2022 11:36; B221102-003 prepared on 11/02/2022 10:15; Source = C012212-01

Bromochloroacetic Acid	18	0.17	1.0	ug/L	15	3.1	99	70 - 130	1.1	20
Bromodichloroacetic Acid	17	0.29	1.0	ug/L	15	1.8	100	70 - 130	2.4	20
Chlorodibromoacetic Acid	16	0.31	1.0	ug/L	15	0.31	107	70 - 130	2.0	20
Dibromoacetic Acid	15	0.15	1.0	ug/L	15	0.15	100	70 - 130	1.3	20
Dichloroacetic Acid	33	0.20	1.0	ug/L	15	19	95	70 - 130	1.0	20

Quality Control for C013030

Analyte	Qualifier	Result	MDL	RL	Units	Spike Level	Source Result	% REC	% REC Limits	RPD	RPD Limits
Monobromoacetic Acid		16	0.16	1.0	ug/L	15	0.29	102	70 - 130	1.5	20
Monochloroacetic Acid		16	0.45	1.0	ug/L	15	2.6	92	70 - 130	0.6	20
Tribromoacetic Acid		15	0.49	1.0	ug/L	15	0.49	103	70 - 130	1.0	20
Trichloroacetic Acid		24	0.25	1.0	ug/L	15	9.5	96	70 - 130	2.4	20
1,2,3-Trichloropropane (%)		102			%		100				
2,3-Dibromopropionic Acid (%)		93			%		93				

Qualifiers and Definitions

E1	Concentration estimated. Analyte detected below reporting limit (RL) but above MDL. For SIP, E1=DNQ, Estimated Concentration.
U	Analyte not detected.

Qualifiers for subcontract work – see parameter comment for description
Corrections for dilutions for matrix effects applied to the MDL and RL.

QC Types and Definitions

DUP	Duplicate Sample
LCS	Laboratory Control Sample
LOQ	Limit of Quantitation
MB	Method Blank
MS	Matrix Spike
MSD	Matrix Spike Duplicate
QCS	Quality Control Sample

East Bay Municipal Utility District Laboratory Services Division Chain of Custody Record

COC #: C013030	Project Title: Bayside Ground Water Project TAT: Standard	Client PM: David Behnken Lab PM: Kristi Schwab Job #:	Expect Date: 11/01/2022 Sampled By: DW/AB/GE [X] Samples transported on ice

Date	Time	Site/Locator	Sample ID	Type	Matrix	ID	Type	Tests Required
11/1/22	1400 W/22 1500 GE	GW BAYSIDE - BAY1-MW2S	C013030-01	GRAB	Aqueous			+SAMP KIT
						-01A	PLSTL	EPA 200.7-NPW (Ca,Fe,K,Mg,Mn,Na)
						-01B	PLSTL	TDS
						-01C	PLSTM	Hardness
						-01D	PLSTS	EPA 300.1 (Cl,NO3,SO4)
						-01F	PSQLT	Ammonia: Titr-AQ
						-01G	A125N	EPA 552.2
						-01H	A125N	EPA 552.2
						-01I	PLSTM	Oxygen 18
						-01J	VOC4T	EPA 8260B THM
						-01K	VOC4T	EPA 8260B
						-01L	VOC4T	EPA 8260B
						-01M	C500Z	Alkalinity: Species

Field Test Parameters:

CL2R = 0.5		mg/L
Depth = 8.9		Feet
pH = 6.71		pH Units
Temperature = 17.8		C

Field Comments:

Field Instructions:

Page 1 of 2 for C013030

East Bay Municipal Utility District Laboratory Services Division Chain of Custody Record

COC #: C013030	Project Title: Bayside Ground Water Project TAT: Standard	Client PM: David Behnken Lab PM: Kristi Schwab Job #:	Expect Date: 11/01/2022 Sampled By: DW/AB/GE ☐ Samples transported on ice

Date	Time	Site/Locator	Sample ID	Type	Matrix	ID	Type	Tests Required

Total Containers for: C013030	12

	Signature	Print Name	Time	Date
Relinquished by:		Gabriela Esparza	1430 GE 1630 11/1/22	11/1/22
Received by:				
Relinquished by:				
Received by:				
Relinquished by:				
Received by:			0948	11/2/22

Container Legend:

A125N = Glass, NM, septa top, 12.5 mg NH4Cl, Amber, 125 mL
C500Z = Glass, NM, septa top, Clear, 500 mL
PLSTL = Plastic, WM, 1000 mL
PLSTM = Plastic, WM, 500 mL
PLSTS = Plastic, NM, 125 mL
PSQLT = Plastic, square, large, 50 mg Na2S2O3, 1000 mL
VOC4T = Glass, clear, septa top, 3.5 mg Na2S2O3, Clear, 40 mL

Page 2 of 2 for C013030

East Bay Municipal Utility District Laboratory Services Division Chain of Custody Record

COC #: C013030	Project Title: Bayside Ground Water Project TAT: Standard	Client PM: David Bohnken Lab PM: Kristi Schwab Job #:	Received Date/Time: 11/02/2022 09:48 Received By: Alvin Ng Sampled By: DW/AB/GE Due Date: 12/05/2022

Date	Time	Site/Locator	Sample ID	Type	Matrix	ID	Type	Tests Required
11/01/2022	15:00	GW BAYSIDE - BAY1-MW2S	C013030-01	GRAB	Aqueous			+SAMP KIT
						-01A	PLSTL	EPA 200.7-NPW (Ca,Fe,K,Mg,Mn,Na)
						-01B	PLSTL	TDS
						-01C	PLSTM	Hardness
						-01D	PLSTS	EPA 300.1 (Cl,NO3,SO4)
						-01F	PSQLT	Ammonia: Tltr-AQ
						-01G	A125N	EPA 552.2
						-01H	A125N	EPA 552.2
						-01I	PLSTM	Oxygen 18
						-01J	VOC4T	EPA 8260B THM
						-01K	VOC4T	EPA 8260B
						-01L	VOC4T	EPA 8260B
						-01M	C500Z	Alkalinity: Species

Field Test Parameters:

CL2R =	0.5	mg/L
Depth =	8.3	Feet
pH =	6.71	pH Units
Temperature =	17.8	C

Field Comments:

Field Instructions:

Sample External Comments:

Total Containers for: C013030 | 12

Page 1 of 4 for C013030

EBMUD

C013030 Sample Acceptance Report

Received: 11/02/2022 09:48
Received By: Alvin Ng

Chain-of-Custody		Comments
Chilled During Transport?	Yes	
CoC signatures?	Yes	
Collector identified?	Yes	
Date time of collection recorded and legible?	Yes	
Project identified?	Yes	
Received from Sample Drop-off room?	Yes	
Requested analysis identified?	Yes	
Sample I.D.?	Yes	
Sample location?	Yes	
Shipping Slip?	No	

Containers		Comments
Container and label match CoC?	Yes	
Correct container?	Yes	
Correct field preservation?	Yes	
Damaged?	No	
Labels are legible?	Yes	
Possible contamination?	No	
Received within holding times?	Yes	
Sufficient volume?	Yes	

Sample: C013030-01		Comments
Bubbles in ZHS/VOA containers	No	

Page 2 of 4 for C013030

C013030 Sample Acceptance Report

Received: 11/02/2022 09:48
Received By: Alvin Ng

Intent to chill

Cooler: 1		Comments
Corrected Temp (° C)	6	
IR Thermometer Number	IR #11	
Representative temperature taken from	-01	
Uncorrected Temp (° C)	5.4	
Visible ice formed inside sample container?	No	

Acceptance		Comments
PM notified?	N/A	
Received client approval to proceed?	N/A	
Samples meet acceptance requirements?	Yes	

Sample Acceptance Preservation Report

COC: C013030

Report Generated: 11/02/2022 09:52

Inventory Item	Inventory ID	Open Date	Prep Date	Expiration Date
H2SO4 15 mL 1:1 LDPE dropper	ST210716-005	09/25/2020	N/A	09/25/2030
Hydrochloric Acid 1+1 (HCl-03)	ST220526-010	N/A	05/26/2022	05/26/2023
NaOH 15 mL 1:1 LDPE dropper	ST220106-019	N/A	N/A	05/31/2026
NaOH 15 mL 1:1 LDPE dropper	ST210716-007	N/A	N/A	06/10/2030
Nitric Acid TMG	ST210819-002	08/19/2021	N/A	01/08/2023
pH Strip 0-14	ST211026-005	04/20/2022	N/A	08/31/2025
pH Strip 7.9-9.8	ST210901-011	N/A	N/A	06/30/2023
Sulfuric Acid Gr ACS	ST210729-010	04/13/2021	N/A	04/13/2025

Container Number	Container Name	Tests	Preservation Requirement	Result	Initial/ Date
C013030-01A	PLSTL	EPA 200.7-NPW	HNO3 to pH <2. Preservation Time = 0955	pH 1	AW 11/2/22
C013030-01C	PLSTM	Hardness	HNO3 to pH <2		
C013030-01F	PSQLT	Ammonia: Titr-AQ	Check Cl2R = 0 [PSQLT], then H2SO4 to pH <2		
C013030-01G	A125N	EPA 552.2	Check Container		
C013030-01H	A125N	EPA 552.2-FR	Check Container		
C013030-01K	VOC4T	EPA 8260B-FR	Check Container		
C013030-01L	VOC4T	EPA 8260B-FR	Check Container		

Page 4 of 4 for C013030

Alpha Analytical Laboratories, Inc. email: clientservices@alpha-labs.com
Corporate: 208 Mason Street | Ukiah, CA 95482 | T: 707-468-0401 | F: 707-468-5267 | ELAP# 1551

12 December 2022

EBMUD
Attn: K. Schwab
PO Box 24055
Oakland, CA 94607
RE: Bayside Ground Water Project WDR
Work Order: 22K0840

Enclosed are the results of analyses for samples received by the laboratory on 11/02/22 23:40. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Robbie C. Phillips
Project Manager

Alpha Analytical Laboratories, Inc. email: clientservices@alpha-labs.com
Corporate: 208 Mason Street | Ukiah, CA 95482 | T: 707-468-0401 | F: 707-468-5267 | ELAP# 1551

EBMUD	Project Manager: K. Schwab	
PO Box 24055	Project: Bayside Ground Water Project WDR	Reported:
Oakland CA, 94607	Project Number: C013030	12/12/22 11:36

Bay Area: 262 Rickenbacker Circle | Livermore, CA 94551 | 925-828-6226 | ELAP# 2728
Central Valley: 9090 Union Park Way Suite 113 | Elk Grove, CA 95624 | 916-686-5190 | ELAP# 2922
North Bay: 737 Southpoint Blvd Unit D| Petaluma, CA 94954 | 707-769-3128 | ELAP# 2303
San Diego: 2722 Loker Avenue West Suite A | Carlsbad, CA 92010 | 760-930-2555 | ELAP# 3055
Los Angeles: 1230 E. 223rd Street Suite 205 | Carson, CA 90745 | 424-267-5032 | Service Center

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
C013030-01	22K0840-01	Water	11/01/22 15:00	11/02/22 23:40

This represents an amended copy of the original report.

Subcontracted results added

Alpha Analytical Laboratories, Inc. email: clientservices@alpha-labs.com
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EBMUD	Project Manager: K. Schwab	
PO Box 24055	Project: Bayside Ground Water Project WDR	Reported:
Oakland CA, 94607	Project Number: C013030	12/12/22 11:36

Metals by EPA 200 Series Methods

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Analyst	ELAP #	Notes
C013030-01 (22K0840-01) Water	**Sampled: 11/01/22 15:00**		**Received: 11/02/22 23:40**									
Calcium	1300	0.80	10	mg/L	10	AK24371	11/15/22 10:22	11/18/22 12:06	EPA 200.7	BED	1551	
Iron	ND	0.50	1.0	mg/L	10	AK24371	11/15/22 10:22	11/18/22 12:06	EPA 200.7	BED	1551	R-01, U
Magnesium	3000	0.30	10	mg/L	10	AK24371	11/15/22 10:22	11/18/22 12:06	EPA 200.7	BED	1551	
Manganese	36	0.020	0.20	mg/L	10	AK24371	11/15/22 10:22	11/18/22 12:06	EPA 200.7	BED	1551	
Potassium	460	2.0	10	mg/L	10	AK24371	11/15/22 10:22	11/18/22 12:06	EPA 200.7	BED	1551	
Sodium	22000	30	100	mg/L	100	AK24371	11/15/22 10:22	11/18/22 16:13	EPA 200.7	BED	1551	

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EBMUD	Project Manager: K. Schwab	
PO Box 24055	Project: Bayside Ground Water Project WDR	Reported:
Oakland CA, 94607	Project Number: C013030	12/12/22 11:36

Conventional Chemistry Parameters by APHA/EPA Methods

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Analyst	ELAP #	Notes
C013030-01 (22K0840-01) Water	**Sampled: 11/01/22 15:00 Received: 11/02/22 23:40**											
Total Dissolved Solids	71000	10	10	mg/L	1	AK23669	11/08/22 14:00	11/21/22 19:55	SM2540C	PBM	1551	

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EBMUD	Project Manager: K. Schwab	
PO Box 24055	Project: Bayside Ground Water Project WDR	Reported:
Oakland CA, 94607	Project Number: C013030	12/12/22 11:36

Volatile Organic Compounds by EPA Method 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Analyst	ELAP #	Notes
C013030-01 (22K0840-01) Water Sampled: 11/01/22 15:00 Received: 11/02/22 23:40												
Bromodichloromethane	ND	0.08	0.50	ug/L	1	AK23652	11/08/22 11:00	11/08/22 23:58	EPA 8260B	JV	1551	U
Bromoform	ND	0.30	0.50	ug/L	1	AK23652	11/08/22 11:00	11/08/22 23:58	EPA 8260B	JV	1551	U
Chloroform	ND	0.06	0.50	ug/L	1	AK23652	11/08/22 11:00	11/08/22 23:58	EPA 8260B	JV	1551	U
Dibromochloromethane	ND	0.10	0.50	ug/L	1	AK23652	11/08/22 11:00	11/08/22 23:58	EPA 8260B	JV	1551	U
Trihalomethanes (total)	ND	0.40	0.50	ug/L	1	AK23652	11/08/22 11:00	11/08/22 23:58	EPA 8260B	JV	1551	U
Surrogate: Bromofluorobenzene		*105 %*	*70-130*			*AK23652*	*11/08/22 11:00*	*11/08/22 23:58*	*EPA 8260B*	*JV*	1551	
Surrogate: Dibromofluoromethane		*84.7 %*	*70-130*			*AK23652*	*11/08/22 11:00*	*11/08/22 23:58*	*EPA 8260B*	*JV*	1551	
Surrogate: Toluene-d8		*102 %*	*70-130*			*AK23652*	*11/08/22 11:00*	*11/08/22 23:58*	*EPA 8260B*	*JV*	1551	

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EBMUD	Project Manager: K. Schwab	
PO Box 24055	Project: Bayside Ground Water Project WDR	Reported:
Oakland CA, 94607	Project Number: C013030	12/12/22 11:36

Metals by EPA 200 Series Methods - Quality Control

Analyte	Result	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch AK24371 - Metals Digest											
Blank (AK24371-BLK1)					Prepared: 11/15/22 Analyzed: 11/16/22						
Calcium	ND	0.080	1.0	mg/L							U
Iron	ND	0.050	0.10	mg/L							U
Magnesium	ND	0.030	1.0	mg/L							U
Manganese	ND	0.0020	0.020	mg/L							U
Potassium	ND	0.20	1.0	mg/L							U
Sodium	ND	0.30	1.0	mg/L							U
LCS (AK24371-BS1)					Prepared: 11/15/22 Analyzed: 11/16/22						
Calcium	2.44	0.080	1.0	mg/L	2.51		97.3	85-115			
Iron	1.94	0.050	0.10	mg/L	2.00		97.1	85-115			
Magnesium	7.71	0.030	1.0	mg/L	8.00		96.4	85-115			
Manganese	0.202	0.0020	0.020	mg/L	0.200		101	85-115			
Potassium	7.98	0.20	1.0	mg/L	8.00		99.8	85-115			
Sodium	7.91	0.30	1.0	mg/L	8.00		98.8	85-115			
Duplicate (AK24371-DUP1)		Source: 22K1003-02			Prepared: 11/15/22 Analyzed: 11/16/22						
Calcium	17.5	0.080	1.0	mg/L		17.8			1.63	20	
Iron	ND	0.050	0.10	mg/L		ND				20	U
Magnesium	5.76	0.030	1.0	mg/L		5.97			3.59	20	
Manganese	ND	0.0020	0.020	mg/L		ND				20	U
Potassium	4.75	0.20	1.0	mg/L		4.75			0.159	20	
Sodium	23.6	0.30	1.0	mg/L		23.6			0.350	20	
Matrix Spike (AK24371-MS1)		Source: 22K1003-02			Prepared: 11/15/22 Analyzed: 11/16/22						
Calcium	20.2	0.080	1.0	mg/L	2.51	17.8	97.6	70-130			
Iron	1.97	0.050	0.10	mg/L	2.00	ND	98.4	70-130			
Magnesium	13.9	0.030	1.0	mg/L	8.00	5.97	99.0	70-130			
Manganese	0.204	0.0020	0.020	mg/L	0.200	ND	102	70-130			
Potassium	13.4	0.20	1.0	mg/L	8.00	4.75	108	70-130			
Sodium	31.4	0.30	1.0	mg/L	8.00	23.6	97.2	70-130			

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EBMUD	Project Manager: K. Schwab	
PO Box 24055	Project: Bayside Ground Water Project WDR	Reported:
Oakland CA, 94607	Project Number: C013030	12/12/22 11:36

Metals by EPA 200 Series Methods - Quality Control

Analyte	Result	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch AK24371 - Metals Digest											
Matrix Spike (AK24371-MS2)		Source: 22K0746-01			Prepared: 11/15/22 Analyzed: 11/16/22						
Calcium	2.45	0.080	1.0	mg/L	2.51	ND	97.7	70-130			
Iron	1.98	0.050	0.10	mg/L	2.00	ND	99.2	70-130			
Magnesium	7.85	0.030	1.0	mg/L	8.00	ND	98.2	70-130			
Manganese	0.206	0.0020	0.020	mg/L	0.200	ND	103	70-130			
Potassium	8.27	0.20	1.0	mg/L	8.00	ND	103	70-130			
Sodium	103	0.30	1.0	mg/L	8.00	95.6	97.5	70-130			
Matrix Spike Dup (AK24371-MSD1)		Source: 22K1003-02			Prepared: 11/15/22 Analyzed: 11/16/22						
Calcium	20.8	0.080	1.0	mg/L	2.51	17.8	120	70-130	2.73	20	
Iron	1.95	0.050	0.10	mg/L	2.00	ND	97.3	70-130	1.17	20	
Magnesium	13.8	0.030	1.0	mg/L	8.00	5.97	98.5	70-130	0.289	20	
Manganese	0.202	0.0020	0.020	mg/L	0.200	ND	101	70-130	0.950	20	
Potassium	13.5	0.20	1.0	mg/L	8.00	4.75	109	70-130	0.993	20	
Sodium	32.5	0.30	1.0	mg/L	8.00	23.6	110	70-130	3.30	20	

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EBMUD	Project Manager: K. Schwab	
PO Box 24055	Project: Bayside Ground Water Project WDR	Reported:
Oakland CA, 94607	Project Number: C013030	12/12/22 11:36

Conventional Chemistry Parameters by APHA/EPA Methods - Quality Control

Analyte	Result	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch AK23669 - General Preparation											
Blank (AK23669-BLK1)					Prepared: 11/07/22 Analyzed: 11/17/22						
Total Dissolved Solids	ND	10	10	mg/L							U
Duplicate (AK23669-DUP1)		Source: 22K0129-04			Prepared: 11/07/22 Analyzed: 11/17/22						
Total Dissolved Solids	204	10	10	mg/L		200			1.98	15	
Duplicate (AK23669-DUP2)		Source: 22K0306-01			Prepared: 11/07/22 Analyzed: 11/17/22						
Total Dissolved Solids	ND	10	10	mg/L		ND				15	U

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EBMUD	Project Manager: K. Schwab	
PO Box 24055	Project: Bayside Ground Water Project WDR	Reported:
Oakland CA, 94607	Project Number: C013030	12/12/22 11:36

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Analyte	Result	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch AK23652 - VOAs in Water GCMS											
Blank (AK23652-BLK1)					Prepared & Analyzed: 11/07/22						
Bromodichloromethane	ND	0.08	0.50	ug/L							U
Bromoform	ND	0.30	0.50	ug/L							U
Chloroform	ND	0.06	0.50	ug/L							U
Dibromochloromethane	ND	0.10	0.50	ug/L							U
Trihalomethanes (total)	ND	0.40	0.50	ug/L							U
Surrogate: Bromofluorobenzene	*28.4*			*ug/L*	*25.0*		*113*	*70-130*			
Surrogate: Dibromofluoromethane	*22.8*			*ug/L*	*25.0*		*91.0*	*70-130*			
Surrogate: Toluene-d8	*26.5*			*ug/L*	*25.0*		*106*	*70-130*			
LCS (AK23652-BS1)					Prepared: 11/07/22 Analyzed: 11/08/22						
Bromodichloromethane	18.7	0.08	0.50	ug/L	20.0		93.7	86-135			
Bromoform	21.7	0.30	0.50	ug/L	20.0		109	57-156			
Chloroform	19.6	0.06	0.50	ug/L	20.0		97.9	81-122			
Dibromochloromethane	20.5	0.10	0.50	ug/L	20.0		103	69-133			
Surrogate: Bromofluorobenzene	*27.2*			*ug/L*	*25.0*		*109*	*70-130*			
Surrogate: Dibromofluoromethane	*23.9*			*ug/L*	*25.0*		*95.6*	*70-130*			
Surrogate: Toluene-d8	*26.4*			*ug/L*	*25.0*		*106*	*70-130*			
LCS Dup (AK23652-BSD1)					Prepared: 11/07/22 Analyzed: 11/08/22						
Bromodichloromethane	17.9	0.08	0.50	ug/L	20.0		89.4	86-135	4.64	25	
Bromoform	20.4	0.30	0.50	ug/L	20.0		102	57-156	6.07	25	
Chloroform	18.7	0.06	0.50	ug/L	20.0		93.4	81-122	4.70	25	
Dibromochloromethane	19.7	0.10	0.50	ug/L	20.0		98.3	69-133	4.38	25	
Surrogate: Bromofluorobenzene	*27.1*			*ug/L*	*25.0*		*108*	*70-130*			
Surrogate: Dibromofluoromethane	*25.3*			*ug/L*	*25.0*		*101*	*70-130*			
Surrogate: Toluene-d8	*25.6*			*ug/L*	*25.0*		*103*	*70-130*			
Matrix Spike (AK23652-MS1)		**Source: 22K0875-01**			Prepared: 11/07/22 Analyzed: 11/08/22						
Bromodichloromethane	19.9	0.08	0.50	ug/L	20.0	ND	99.6	62-140			
Bromoform	20.0	0.30	0.50	ug/L	20.0	ND	99.8	47-165			
Chloroform	21.7	0.06	0.50	ug/L	20.0	ND	108	68-121			
Dibromochloromethane	20.6	0.10	0.50	ug/L	20.0	ND	103	54-157			
Surrogate: Bromofluorobenzene	*26.0*			*ug/L*	*25.0*		*104*	*70-130*			
Surrogate: Dibromofluoromethane	*24.9*			*ug/L*	*25.0*		*99.5*	*70-130*			
Surrogate: Toluene-d8	*25.7*			*ug/L*	*25.0*		*103*	*70-130*			

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Corporate: 208 Mason Street | Ukiah, CA 95482 | T: 707-468-0401 | F: 707-468-5267 | ELAP# 1551

EBMUD	Project Manager: K. Schwab	
PO Box 24055	Project: Bayside Ground Water Project WDR	Reported:
Oakland CA, 94607	Project Number: C013030	12/12/22 11:36

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Analyte	Result	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch AK23652 - VOAs in Water GCMS											
Matrix Spike Dup (AK23652-MSD1)		Source: 22K0875-01			Prepared: 11/07/22 Analyzed: 11/08/22						
Bromodichloromethane	18.6	0.08	0.50	ug/L	20.0	ND	93.1	62-140	6.80	25	
Bromoform	22.3	0.30	0.50	ug/L	20.0	ND	111	47-165	10.9	25	
Chloroform	19.6	0.06	0.50	ug/L	20.0	ND	98.2	68-121	10.0	25	
Dibromochloromethane	21.2	0.10	0.50	ug/L	20.0	ND	106	54-157	3.01	25	
Surrogate: Bromofluorobenzene	*25.9*			*ug/L*	*25.0*		*103*	*70-130*			
Surrogate: Dibromofluoromethane	*22.4*			*ug/L*	*25.0*		*89.6*	*70-130*			
Surrogate: Toluene-d8	*25.6*			*ug/L*	*25.0*		*102*	*70-130*			

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EBMUD	Project Manager: K. Schwab	
PO Box 24055	Project: Bayside Ground Water Project WDR	Reported:
Oakland CA, 94607	Project Number: C013030	12/12/22 11:36

Notes and Definitions

R-01	The Reporting Limit for this analyte has been raised to account for matrix interference
U	Analyte included in analysis, but not detected at or above MDL.
ND	Analyte NOT DETECTED at or above the reporting limit
dry	Sample results reported on a dry weight basis
MDL	Method detection limit
Rec	Recovery
RPD	Relative Percent Difference

Non-accredited analytes are reported only when ELAP accreditation for a requested analyte method pair is not available. For a list of accredited analytes, view our certificates at the Company link on our website at www.alpha-labs.com or contact your Project Manager directly.

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Page 10 of 10

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Lab #: 849579 Job #: 52769 IS-69368 Co. Job#:
Sample Name: 22K0840-01 Co Lab#:
Company: Alpha Analytical Laboratories, Inc.
API/Well:
Container: 500ml Plastic Bottle
Field/Site Name: 22K0840
Location:
Formation/Depth:
Sampling Point: C013030-01
Date Sampled: 11/01/2022 15:00 Date Received: 11/14/2022 Date Reported: 11/30/2022

δD of water	----------	-23.6 ‰ relative to VSMOW
$\delta^{18}O$ of water	----------	-2.52 ‰ relative to VSMOW
Tritium content of water	----------	na
$\delta^{13}C$ of DIC	----------	na
^{14}C content of DIC	----------	na
$\delta^{15}N$ of nitrate	----------	na
$\delta^{18}O$ of nitrate	----------	na
$\delta^{34}S$ of sulfate	----------	na
$\delta^{18}O$ of sulfate	----------	na
Vacuum Distilled? *	----------	No

Remarks:

nd = not detected, na = not analyzed.
*Indicates if vacuum distillation was utilized for hydrogen and oxygen isotopic analysis of water

22K0840

3

East Bay Municipal Utility District Laboratory Services Subcontract Chain of Custody

COC # C013030	Project Title: Bayside Ground Water Project	Lab PM: Kristi Schwab (510) 287-1696 Shipping Method: Alpha Courier	Sampled By DW/AB/GE
	TAT Standard	PO# BRD-13921-AX Expiration 12/31/2023	Submitted Date: 11/2/22

Date	Time	Sample ID	Location/PS Code	Matrix	Container ID	Type	Tests Required	Method Reference
11/01/2022	15:00	C013030-01	GW BAYSIDE - BAY1-MW2S	Aqueous	-01A	PLSTL	EPA 200.7-NPW (Ca,Fe,K,Mg,Mn,Na)	EPA 200.7 (1994 Rev 4.4)
					-01B	PLSTL	TDS	SM 2540 C-2011
					-01I	PLSTM	Oxygen 18	D18O
					-01J	VOC4T	EPA 8260B THM	EPA 8260B
					-01K	VOC4T	EPA 8260B	Bottle for QC (2)
					-01L	VOC4T	EPA 8260B	Bottle for QC (2)

Comments: Alpha Isotope analysis for Oxygen-18 and Hydrogen-2 (subcontracted), Total Dissolved Solids (TDS) by SM2540C, THMs by EPA 8260, Metals by EPA 200.7 (Ca, Fe, K, Mg, Mn, Na). May need to dilute for 200.7 ICP due to high salinity

Total containers received: 6

	Signature	Print Name	Time	Date
Relinquished by	Robert Molina	R. Molina	1250	11/2/22
Received by	ML	Michael Lopez	12:50	11/2/22
Relinquished by	ML			
Received by	JE		2000	11-2
Relinquished by	JE		2340	11-2
Received by	JE			11-2

Send results and invoice to:
Kristi Schwab (kristi.lorenson@ebmud.com)
EBMUD Laboratory
PO Box 24055 MS #59
Oakland, CA 94623
(510) 287-1696

SUBCONTRACT: Please notify Lab PM if TAT is delayed and/or Hold Time will be exceeded
Alpha Analytical Laboratory
208 Mason St
Ukiah, CA 95482
707-468-0401

Page 1 of 1

East Bay Municipal Utility District
2020 Wake Ave, Oakland, CA 94623 T: 510-287-1432

Laboratory Services Division
ELAP#1060

Analytical Results Report

14 December 2022

David Behnken

MS 704

Re: Bayside Ground Water Project

COC# C012687

Report Generated: 12/13/2022 17:49

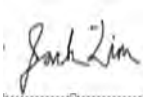
Login Performance Summary

- 0 Lost Analyses
- 0 Hold Time Exceedances
- Analytical analyses did not meet the turnaround time

Report Notes

For questions concerning this report, please contact:

Reported By:



Jack Lim

Senior Chemist

Approved By:

Yuyun Shang

Lab Manager

Samples for C012687

Samples Included in the Report

Sample Number	Sample Type	Sampled Date	Location Name	Sample Name
C012687-01	GRAB	Nov 01 2022 14:11	GW BAYSIDE - BAY1-MW2I	-

Samples Results for C012687

Sample ID: C012687-01
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
Client: Bayside Ground Water Project
Sample Type: GRAB
Date Collected: Nov 01 2022 14:11 **Sample Collector:** DW/AB/GE
Date Received: Nov 02 2022 09:22 **Sample Receiver:** A Ng
Sample Comments:

Analyte	Qualifier	Result	MDL	RL	Units	DF	Batch	Prepared	Analyzed
Field data entry into LIMS									
TARGET ANALYTES									
CL2R		**0.3**	0.02		mg/L				11/02/2022 14:11
Field data entry into LIMS									
TARGET ANALYTES									
Depth		**16.8**			Feet				11/02/2022 14:11
Field data entry into LIMS									
TARGET ANALYTES									
pH		**7.94**			pH Units				11/02/2022 14:11
Field data entry into LIMS									
TARGET ANALYTES									
Temperature		**16.9**			C				11/02/2022 14:11
Total Dissolved Solids by SM2540C									
Subcontract data from: Alpha Analytical Laboratory ELAP#: Refer to external lab report									
TARGET ANALYTES									
Total Dissolved Solids		**560**	10	10	mg/L	1			11/08/2022 20:23
Comments: SUB									
Alkalinity by SM 2320 B-2011									
TARGET ANALYTES									
Alkalinity: Total as CaCO3		**350**	5	30	mg/L	1.0	B221104-002		11/04/2022 08:49
Alkalinity: Carbonate	U	5	5	30	mg/L	1.0	B221104-002		11/04/2022 08:49
Alkalinity: Bicarbonate		**350**	5	30	mg/L	1.0	B221104-002		11/04/2022 08:49
Alkalinity: Hydroxide	U	5	5	30	mg/L	1.0	B221104-002		11/04/2022 08:49
Ammonia as N by SM 4500-NH3 C-2011									
TARGET ANALYTES									
Ammonia as N	**E1**	**0.90**	0.25	1.5	mg/L	1.0	B221117-007		11/17/2022 08:31
Hardness as CaCO3 by SM 2340 C-2011									
TARGET ANALYTES									
Hardness as CaCO3		**120**	4	7	mg/L	1.0	B221110-012		11/10/2022 07:38
Anions by EPA 300.1									
TARGET ANALYTES									
Chloride		**120**	4.6	20	mg/L	100	B221102-004		11/03/2022 02:13
Nitrate as N	**E1**	**0.076**	0.023	0.30	mg/L	10	B221102-004		11/02/2022 16:08
Sulfate		**18**	0.69	2.0	mg/L	10	B221102-004		11/02/2022 16:08

Samples Results for C012687

Sample ID: C012687-01
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
Client: Bayside Ground Water Project
Sample Type: GRAB
Date Collected: Nov 01 2022 14:11 **Sample Collector:** DW/AB/GE
Date Received: Nov 02 2022 09:22 **Sample Receiver:** A Ng
Sample Comments:

Analyte	Qualifier	Result	MDL	RL	Units	DF	Batch	Prepared	Analyzed
Anions by EPA 300.1									
SURROGATES									
Dichloroacetate (%)		100			%	10	B221102-004		11/02/2022 16:08
Dichloroacetate (%)		108			%	100	B221102-004		11/03/2022 02:13
Metals by EPA 200.7									
Subcontract data from:	Alpha Analytical Laboratory ELAP#: Refer to external lab report								
TARGET ANALYTES									
Calcium		**20**	0.080	1.0	mg/L	1		11/15/2022 10:22	11/17/2022 19:16
Comments: SUB									
Iron		**2.7**	0.050	0.10	mg/L	1		11/15/2022 10:22	11/17/2022 19:16
Comments: SUB									
Potassium		**7.6**	0.20	1.0	mg/L	1		11/15/2022 10:22	11/17/2022 19:16
Comments: SUB									
Magnesium		**17**	0.030	1.0	mg/L	1		11/15/2022 10:22	11/17/2022 19:16
Comments: SUB									
Manganese		**0.18**	0.0020	0.020	mg/L	1		11/15/2022 10:22	11/17/2022 19:16
Comments: SUB									
Sodium		**190**	0.30	1.0	mg/L	1		11/15/2022 10:22	11/21/2022 13:28
Comments: SUB									
Haloacetic Acids, GC/ECD by EPA 552.2									
TARGET ANALYTES									
Bromochloroacetic Acid	U	0.17	0.17	1.0	ug/L	1.0	B221103-008	11/02/2022 10:15	11/03/2022 14:05
Comments: Compound not available for certification by ELAP									
Bromodichloroacetic Acid	U	0.29	0.29	1.0	ug/L	1.0	B221103-008	11/02/2022 10:15	11/03/2022 14:05
Comments: Compound not available for certification by ELAP									
Chlorodibromoacetic Acid	U	0.31	0.31	1.0	ug/L	1.0	B221103-008	11/02/2022 10:15	11/03/2022 14:05
Comments: Compound not available for certification by ELAP									
Dibromoacetic Acid	U	0.15	0.15	1.0	ug/L	1.0	B221103-008	11/02/2022 10:15	11/03/2022 14:05
Dichloroacetic Acid	U	0.20	0.20	1.0	ug/L	1.0	B221103-008	11/02/2022 10:15	11/03/2022 14:05
Monobromoacetic Acid	U	0.16	0.16	1.0	ug/L	1.0	B221103-008	11/02/2022 10:15	11/03/2022 14:05
Monochloroacetic Acid	U	0.45	0.45	1.0	ug/L	1.0	B221103-008	11/02/2022 10:15	11/03/2022 14:05
Tribromoacetic Acid	U	0.49	0.49	1.0	ug/L	1.0	B221103-008	11/02/2022 10:15	11/03/2022 14:05
Comments: Compound not available for certification by ELAP									
Trichloroacetic Acid	U	0.25	0.25	1.0	ug/L	1.0	B221103-008	11/02/2022 10:15	11/03/2022 14:05
HAA(5), calculated		**0.00**		1.0	ug/L	1.0	B221103-008	11/02/2022 10:15	11/03/2022 14:05
Comments: HAA (5) calculation uses a zero for any individual HAA result less than the California DLR for that HAA									
HAA(9), calculated		**0.00**		1.0	ug/L	1.0	B221103-008	11/02/2022 10:15	11/03/2022 14:05
INTERNAL STANDARD									
1,2,3-Trichloropropane (%)		81			%	1.0	B221103-008	11/02/2022 10:15	11/03/2022 14:05
SURROGATES									
2,3-Dibromopropionic Acid (%)		104			%	1.0	B221103-008	11/02/2022 10:15	11/03/2022 14:05

Samples Results for C012687

Sample ID: C012687-01
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
Client: Bayside Ground Water Project
Sample Type: GRAB
Date Collected: Nov 01 2022 14:11 **Sample Collector:** DW/AB/GE
Date Received: Nov 02 2022 09:22 **Sample Receiver:** A Ng
Sample Comments:

Analyte	Qualifier	Result	MDL	RL	Units	DF	Batch	Prepared	Analyzed

Oxygen 18 Isotope Analysis

Subcontract data from: Alpha Analytical Laboratory ELAP#: Refer to external lab report
Test External Comments: Original sub report attached to end of this report

TARGET ANALYTES

See subcontract report	Original Report transmitted to client and accessib

Trihalomethanes, Total, GC/MS by EPA 8260B

Subcontract data from: Alpha Analytical Laboratory ELAP#: Refer to external lab report

TARGET ANALYTES

Analyte	Qualifier	Result	MDL	RL	Units	DF	Batch	Prepared	Analyzed
Bromodichloromethane	U	0.08	0.08	0.50	ug/L	1		11/14/2022 16:00	11/15/2022 11:45
Comments: SUB: Analyte included in analysis but not detected at or above MDL									
Bromoform	U	0.30	0.30	0.50	ug/L	1		11/14/2022 16:00	11/15/2022 11:45
Comments: SUB: Analyte included in analysis but not detected at or above MDL									
Chloroform	U	0.06	0.06	0.50	ug/L	1		11/14/2022 16:00	11/15/2022 11:45
Comments: SUB: Analyte included in analysis but not detected at or above MDL									
Dibromochloromethane	U	0.10	0.10	0.50	ug/L	1		11/14/2022 16:00	11/15/2022 11:45
Comments: SUB: Analyte included in analysis but not detected at or above MDL									
Total Trihalomethanes, calculated	U	0.40	0.40	0.50	ug/L	1		11/14/2022 16:00	11/15/2022 11:45
Comments: SUB: Analyte included in analysis but not detected at or above MDL									

Quality Control for C012687

Analyte	Qualifier	Result	MDL	RL	Units	Spike Level	Source Result	% REC	% REC Limits	RPD	RPD Limits
Alkalinity DUP by SM 2320 B-2011, B221104-002											
B221104-002 analyzed on 11/04/2022 09:07; Source = C011937-01											
Alkalinity: Total as CaCO3		**400**	5	30	mg/L		400			0.3	20
Alkalinity LCS by SM 2320 B-2011, B221104-002											
B221104-002 analyzed on 11/04/2022 08:37											
Alkalinity: Total as CaCO3		400	5	30	mg/L	400		101	85 - 115		
Alkalinity MB by SM 2320 B-2011, B221104-002											
B221104-002 analyzed on 11/04/2022 08:29											
Alkalinity: Total as CaCO3	U	5	5	30	mg/L						
Alkalinity MS by SM 2320 B-2011, B221104-002											
B221104-002 analyzed on 11/04/2022 09:13; Source = C011937-01											
Alkalinity: Total as CaCO3		800	5	30	mg/L	400	400	100	80 - 120		
Alkalinity QCS by SM 2320 B-2011, B221104-002											
B221104-002 analyzed on 11/04/2022 08:45											
Alkalinity: Total as CaCO3		85	5	30	mg/L	81		105	91 - 111		
Hardness as CaCO3 DUP by SM 2340 C-2011, B221110-012											
B221110-012 analyzed on 11/10/2022 07:38; Source = C011888-01											
Hardness as CaCO3		**18**	4	7	mg/L		18			0.00	10
Hardness as CaCO3 DUP by SM 2340 C-2011, B221110-012											
B221110-012 analyzed on 11/10/2022 07:38; Source = C013150-01											
Hardness as CaCO3		**21**	4	7	mg/L		22			3.7	10
Hardness as CaCO3 LCS by SM 2340 C-2011, B221110-012											
B221110-012 analyzed on 11/10/2022 07:38											
Hardness as CaCO3		130	4	7	mg/L	120		104	85 - 115		
Hardness as CaCO3 LOQ by SM 2340 C-2011, B221110-012											
B221110-012 analyzed on 11/10/2022 07:38											
Hardness as CaCO3	E1	6	4	7	mg/L	7.0		86	50 - 150		
Hardness as CaCO3 MB by SM 2340 C-2011, B221110-012											
B221110-012 analyzed on 11/10/2022 07:38											
Hardness as CaCO3	U	4	4	7	mg/L						

Quality Control for C012687

Analyte	Qualifier	Result	MDL	RL	Units	Spike Level	Source Result	% REC	% REC Limits	RPD	RPD Limits
Hardness as CaCO3 MS by SM 2340 C-2011, B221110-012											
B221110-012 analyzed on 11/10/2022 07:38; Source = C011888-01											
Hardness as CaCO3		140	4	7	mg/L	120	18	99	85 - 115		
Hardness as CaCO3 MS by SM 2340 C-2011, B221110-012											
B221110-012 analyzed on 11/10/2022 07:38; Source = C013150-01											
Hardness as CaCO3		140	4	7	mg/L	120	22	98	85 - 115		
Hardness as CaCO3 QCS by SM 2340 C-2011, B221110-012											
B221110-012 analyzed on 11/10/2022 07:38											
Hardness as CaCO3		180	4	7	mg/L	170		105	91 - 107		
Ammonia as N DUP by SM 4500-NH3 C-2011, B221117-007											
B221117-007 analyzed on 11/17/2022 08:31; Source = C012590-09											
Ammonia as N		**46**	1.2	7.5	mg/L		45			1.2	10
Ammonia as N LCS by SM 4500-NH3 C-2011, B221117-007											
B221117-007 analyzed on 11/17/2022 08:31											
Ammonia as N		12	0.25	1.5	mg/L	12		98	85 - 115		
Ammonia as N MB by SM 4500-NH3 C-2011, B221117-007											
B221117-007 analyzed on 11/17/2022 08:31											
Ammonia as N	U	0.25	0.25	1.5	mg/L						
Ammonia as N MS by SM 4500-NH3 C-2011, B221117-007											
B221117-007 analyzed on 11/17/2022 08:31; Source = C012590-09											
Ammonia as N		100	1.2	7.5	mg/L	60	45	98	80 - 120		
Ammonia as N MSD by SM 4500-NH3 C-2011, B221117-007											
B221117-007 analyzed on 11/17/2022 08:31; Source = C012590-09											
Ammonia as N		100	1.2	7.5	mg/L	60	45	97	80 - 120	0.3	15
Anions DUP by EPA 300.1, B221102-004											
B221102-004 analyzed on 11/02/2022 18:02; Source = C011937-01											
Chloride		**330**	2.3	10	mg/L		330			0.1	10
Nitrate as N	**E1**	**1.2**	0.12	1.5	mg/L		1.2			0.0	10
Sulfate		**55**	3.4	10	mg/L		55			0.0	10
Dichloroacetate (%)		100			%		100				
Anions DUP by EPA 300.1, B221102-004											
B221102-004 analyzed on 11/02/2022 23:42; Source = C011922-01											
Chloride		**1.6**	0.046	0.20	mg/L		1.6			0.3	10
Nitrate as N	**E1**	**0.018**	0.0023	0.030	mg/L		0.018			0.8	10
Sulfate		**0.94**	0.069	0.20	mg/L		0.94			0.1	10

Quality Control for C012687

Analyte	Qualifier	Result	MDL	RL	Units	Spike Level	Source Result	% REC	% REC Limits	RPD	RPD Limits
Dichloroacetate (%)		102			%		101				
Anions LCS by EPA 300.1, B221102-004											
B221102-004 analyzed on 11/02/2022 15:30											
Chloride		0.98	0.046	0.2	mg/L	1.0		98	85 - 115		
Nitrate as N		0.046	0.0023	0.03	mg/L	0.05		92	85 - 115		
Sulfate		0.94	0.069	0.2	mg/L	1.0		94	85 - 115		
Dichloroacetate (%)		99			%						
Anions LOQ by EPA 300.1, B221102-004											
B221102-004 analyzed on 11/02/2022 10:07											
Chloride		0.21	0.046	0.2	mg/L	0.20		106	50 - 150		
Nitrate as N	E1	0.026	0.0023	0.03	mg/L	0.03		86	50 - 150		
Sulfate		0.22	0.069	0.2	mg/L	0.20		111	50 - 150		
Dichloroacetate (%)		101			%						
Anions MB by EPA 300.1, B221102-004											
B221102-004 analyzed on 11/02/2022 09:29											
Chloride	U	0.046	0.046	0.2	mg/L						
Nitrate as N	U	0.0023	0.0023	0.03	mg/L						
Sulfate	U	0.069	0.069	0.2	mg/L						
Dichloroacetate (%)		101			%						
Anions MS by EPA 300.1, B221102-004											
B221102-004 analyzed on 11/02/2022 18:39; Source = C011937-01											
Chloride		380	2.3	10	mg/L	50	330	101	75 - 125		
Nitrate as N		3.4	0.12	1.5	mg/L	2.5	1.2	88	75 - 125		
Sulfate		100	3.4	10	mg/L	50	55	101	75 - 125		
Dichloroacetate (%)		99			%		100				
Anions MS by EPA 300.1, B221102-004											
B221102-004 analyzed on 11/03/2022 00:20; Source = C011922-01											
Chloride		2.6	0.046	0.20	mg/L	1.0	1.6	103	75 - 125		
Nitrate as N		0.061	0.0023	0.030	mg/L	0.05	0.018	86	75 - 125		
Sulfate		2.0	0.069	0.20	mg/L	1.0	0.94	102	75 - 125		
Dichloroacetate (%)		101			%		101				
Haloacetic Acids, GC/ECD LCS by EPA 552.2, B221103-008											
B221103-008 analyzed on 11/03/2022 10:21; B221102-003 prepared on 11/02/2022 10:15											
Bromochloroacetic Acid		15	0.17	1	ug/L	15		99	70 - 130		
Bromodichloroacetic Acid		15	0.29	1	ug/L	15		99	70 - 130		
Chlorodibromoacetic Acid		16	0.31	1	ug/L	15		105	70 - 130		
Dibromoacetic Acid		15	0.15	1	ug/L	15		99	70 - 130		
Dichloroacetic Acid		15	0.20	1	ug/L	15		100	70 - 130		
Monobromoacetic Acid		15	0.16	1	ug/L	15		100	70 - 130		
Monochloroacetic Acid		16	0.45	1	ug/L	15		104	70 - 130		
Tribromoacetic Acid		15	0.49	1	ug/L	15		100	70 - 130		
Trichloroacetic Acid		15	0.25	1	ug/L	15		100	70 - 130		
1,2,3-Trichloropropane (%)		101			%						

Quality Control for C012687

Analyte	Qualifier	Result	MDL	RL	Units	Spike Level	Source Result	% REC	% REC Limits	RPD	RPD Limits
2,3-Dibromopropionic Acid (%)		94			%						

Haloacetic Acids, GC/ECD LOQ by EPA 552.2, B221103-008

B221103-008 analyzed on 11/03/2022 09:56; B221102-003 prepared on 11/02/2022 10:15

Bromochloroacetic Acid	E1	0.95	0.17	1	ug/L	1.0		95	50 - 150		
Bromodichloroacetic Acid	E1	0.91	0.29	1	ug/L	1.0		91	50 - 150		
Chlorodibromoacetic Acid	E1	0.90	0.31	1	ug/L	1.0		90	50 - 150		
Dibromoacetic Acid	E1	0.93	0.15	1	ug/L	1.0		93	50 - 150		
Dichloroacetic Acid	E1	0.98	0.20	1	ug/L	1.0		98	50 - 150		
Monobromoacetic Acid		1.0	0.16	1	ug/L	1.0		104	50 - 150		
Monochloroacetic Acid	E1	0.97	0.45	1	ug/L	1.0		97	50 - 150		
Tribromoacetic Acid	E1	0.96	0.49	1	ug/L	1.0		96	50 - 150		
Trichloroacetic Acid	E1	0.90	0.25	1	ug/L	1.0		90	50 - 150		
1,2,3-Trichloropropane (%)		101			%						
2,3-Dibromopropionic Acid (%)		98			%						

Haloacetic Acids, GC/ECD MB by EPA 552.2, B221103-008

B221103-008 analyzed on 11/03/2022 09:31; B221102-003 prepared on 11/02/2022 10:15

Bromochloroacetic Acid	U	0.17	0.17	1	ug/L
Bromodichloroacetic Acid	U	0.29	0.29	1	ug/L
Chlorodibromoacetic Acid	U	0.31	0.31	1	ug/L
Dibromoacetic Acid	U	0.15	0.15	1	ug/L
Dichloroacetic Acid	U	0.20	0.20	1	ug/L
Monobromoacetic Acid	U	0.16	0.16	1	ug/L
Monochloroacetic Acid	U	0.45	0.45	1	ug/L
Tribromoacetic Acid	U	0.49	0.49	1	ug/L
Trichloroacetic Acid	U	0.25	0.25	1	ug/L
1,2,3-Trichloropropane (%)		104			%
2,3-Dibromopropionic Acid (%)		99			%

Haloacetic Acids, GC/ECD MS by EPA 552.2, B221103-008

B221103-008 analyzed on 11/03/2022 11:11; B221102-003 prepared on 11/02/2022 10:15; Source = C012212-01

Bromochloroacetic Acid	18	0.17	1.0	ug/L	15	3.1	97	70 - 130	
Bromodichloroacetic Acid	16	0.29	1.0	ug/L	15	1.8	97	70 - 130	
Chlorodibromoacetic Acid	16	0.31	1.0	ug/L	15	0.31	105	70 - 130	
Dibromoacetic Acid	15	0.15	1.0	ug/L	15	0.15	99	70 - 130	
Dichloroacetic Acid	33	0.20	1.0	ug/L	15	19	93	70 - 130	
Monobromoacetic Acid	15	0.16	1.0	ug/L	15	0.29	100	70 - 130	
Monochloroacetic Acid	16	0.45	1.0	ug/L	15	2.6	91	70 - 130	
Tribromoacetic Acid	15	0.49	1.0	ug/L	15	0.49	102	70 - 130	
Trichloroacetic Acid	23	0.25	1.0	ug/L	15	9.5	92	70 - 130	
1,2,3-Trichloropropane (%)	103			%		100			
2,3-Dibromopropionic Acid (%)	92			%		93			

Haloacetic Acids, GC/ECD MSD by EPA 552.2, B221103-008

B221103-008 analyzed on 11/03/2022 11:36; B221102-003 prepared on 11/02/2022 10:15; Source = C012212-01

Bromochloroacetic Acid	18	0.17	1.0	ug/L	15	3.1	99	70 - 130	1.1	20
Bromodichloroacetic Acid	17	0.29	1.0	ug/L	15	1.8	100	70 - 130	2.4	20
Chlorodibromoacetic Acid	16	0.31	1.0	ug/L	15	0.31	107	70 - 130	2.0	20
Dibromoacetic Acid	15	0.15	1.0	ug/L	15	0.15	100	70 - 130	1.3	20
Dichloroacetic Acid	33	0.20	1.0	ug/L	15	19	95	70 - 130	1.0	20

Quality Control for C012687

Analyte	Qualifier	Result	MDL	RL	Units	Spike Level	Source Result	% REC	% REC Limits	RPD	RPD Limits
Monobromoacetic Acid		16	0.16	1.0	ug/L	15	0.29	102	70 - 130	1.5	20
Monochloroacetic Acid		16	0.45	1.0	ug/L	15	2.6	92	70 - 130	0.6	20
Tribromoacetic Acid		15	0.49	1.0	ug/L	15	0.49	103	70 - 130	1.0	20
Trichloroacetic Acid		24	0.25	1.0	ug/L	15	9.5	96	70 - 130	2.4	20
1,2,3-Trichloropropane (%)		102			%		100				
2,3-Dibromopropionic Acid (%)		93			%		93				

Qualifiers and Definitions

E1	Concentration estimated. Analyte detected below reporting limit (RL) but above MDL. For SIP, E1=DNQ, Estimated Concentration.
U	Analyte not detected.

Qualifiers for subcontract work – see parameter comment for description
Corrections for dilutions for matrix effects applied to the MDL and RL.

QC Types and Definitions

DUP	Duplicate Sample
LCS	Laboratory Control Sample
LOQ	Limit of Quantitation
MB	Method Blank
MS	Matrix Spike
MSD	Matrix Spike Duplicate
QCS	Quality Control Sample

East Bay Municipal Utility District Laboratory Services Division Chain of Custody Record

EBMUD

COC #: C012687	Project Title: Bayside Ground Water Project TAT: Standard	Client PM: David Behnken Lab PM: Kristi Schwab Job #:	Expect Date: 11/01/2022 Sampled By: DW/AB/GE ☑ Samples transported on ice

Date	Time	Site/Locator	Sample ID	Type	Matrix	ID	Type	Tests Required
11/1/22	1311 1411 GE 11/1/22	GW BAYSIDE - BAY1-MW2I	C012687-01	GRAB	Aqueous			+SAMP KIT
						-01A	PLSTL	EPA 200.7-NPW (Ca,Fe,K,Mg,Mn,Na)
						-01B	PLSTL	TDS
						-01C	PLSTM	Hardness
						-01D	PLSTS	EPA 300.1 (Cl,NO3,SO4)
						-01F	PSQLT	Ammonia: Tlr-AQ
						-01G	A125N	EPA 552.2
						-01H	A125N	EPA 552.2
						-01I	PLSTM	Oxygen 18
						-01J	VOC4T	EPA 8260B THM
						~~-01K~~	~~VOC4T~~	~~EPA 8260B~~ GE 11/1/22
						-01L	VOC4T	EPA 8260B
						-01M	C500Z	Alkalinity: Species

Field Test Parameters:

CL2R = 0.3		mg/L
Depth = 14.8		Feet
pH = 7.94		pH Units
Temperature = 16.9		C

Field Comments:

Field Instructions:

Page 1 of 2 for C012687

East Bay Municipal Utility District Laboratory Services Division Chain of Custody Record

COC #: C012687	Project Title: Bayside Ground Water Project TAT: Standard	Client PM: David Behnken Lab PM: Kristi Schwab Job #:	Expect Date: 11/01/2022 Sampled By: RW/AB/GE ☑ Samples transported on ice

Date	Time	Site/Locator	Sample ID	Type	Matrix	ID	Type	Tests Required

Total Containers for: C012687 — 12 GE 11/1/22

	Signature	Print Name	Time	Date
Relinquished by:		Gabriela Espana	1630	11/1/22
Received by:				
Relinquished by:				
Received by:				
Relinquished by:				
Received by:		ALWIN NG	0923	11/2/22

Container Legend:

A125N = Glass, NM, septa top, 12.5 mg NH4Cl, Amber, 125 mL
C500Z = Glass, NM, septa top, Clear, 500 mL
PLSTL = Plastic, WM, 1000 mL
PLSTM = Plastic, WM, 500 mL
PLSTS = Plastic, NM, 125 mL
PSQLT = Plastic, square, large, 50 mg Na2S2O3, 1000 mL
VOC4T = Glass, clear, septa top, 3.5 mg Na2S2O3, Clear, 40 mL

Page 2 of 2 for C012687

East Bay Municipal Utility District Laboratory Services Division Chain of Custody Record

COC #: C012687	Project Title: Bayside Ground Water Project TAT: Standard	Client PM: David Behnken Lab PM: Kristi Schwab Job #:	Received Date/Time: 11/02/2022 09:22 Received By: Alvin Ng Sampled By: DW/AB/GE Due Date: 12/05/2022

Date	Time	Site/Locator	Sample ID	Type	Matrix	ID	Type	Tests Required
11/01/2022	14:11	GW BAYSIDE - BAY1-MW2I	C012687-01	GRAB	Aqueous			*SAMP KIT
						-01A	PLSTL	EPA 200.7-NPW (Ca,Fe,K,Mg,Mn,Na)
						-01B	PLSTL	TDS
						-01C	PLSTM	Hardness
						-01D	PLSTS	EPA 300.1 (Cl,NO3,SO4)
						-01F	PSQLT	Ammonia: Titr-AQ
						-01G	A125N	EPA 552.2
						-01H	A125N	EPA 552.2
						-01I	PLSTM	Oxygen 18
						-01J	VOC4T	EPA 8260B THM
						-01L	VOC4T	EPA 8260B
						-01M	C500Z	Alkalinity: Species

Field Test Parameters:

CL2R =	0.3	mg/L
Depth =	16.8	Feet
pH =	7.94	pH Units
Temperature =	16.9	C

Field Comments:
Field Instructions:
Sample External Comments:

Total Containers for: C012687	11

Page 1 of 4 for C012687

C012687 Sample Acceptance Report

Received: 11/02/2022 09:22
Received By: Alvin Ng

Chain-of-Custody		Comments
Chilled During Transport?	Yes	
CoC signatures?	Yes	
Collector identified?	Yes	
Date time of collection recorded and legible?	Yes	
Project identified?	Yes	
Received from Sample Drop-off room?	Yes	
Requested analysis identified?	Yes	
Sample I.D.?	Yes	
Sample location?	Yes	
Shipping Slip?	No	

Containers		Comments
Container and label match CoC?	Yes	
Correct container?	Yes	
Correct field preservation?	Yes	
Damaged?	No	
Labels are legible?	Yes	
Possible contamination?	No	
Received within holding times?	Yes	
Sufficient volume?	Yes	

Sample: C012687-01		Comments
Bubbles in ZHS/VOA containers	No	

Page 2 of 4 for C012687

EBMUD

C012687 Sample Acceptance Report

Received: 11/02/2022 09:22
Received By: Alvin Ng

Intent to chill

Cooler: 1		Comments
Corrected Temp (° C)	7.2	
IR Thermometer Number	IR #11	
Representative temperature taken from	-01	
Uncorrected Temp (° C)	6.6	
Visible ice formed inside sample container?	No	

Acceptance		Comments
PM notified?	N/A	
Received client approval to proceed?	N/A	
Samples meet acceptance requirements?	Yes	

Sample Acceptance Preservation Report

COC: C012687

Report Generated: 11/02/2022 09:49

Inventory Item	Inventory ID	Open Date	Prep Date	Expiration Date
H2SO4 15 mL 1:1 LDPE dropper	ST210716-005	09/25/2020	N/A	09/25/2030
Hydrochloric Acid 1+1 (HCl-03)	ST220526-010	N/A	05/26/2022	05/26/2023
NaOH 15 mL 1:1 LDPE dropper	ST220106-019	N/A	N/A	05/31/2026
NaOH 15 mL 1:1 LDPE dropper	ST210716-007	N/A	N/A	06/10/2030
Nitric Acid TMG	ST210819-002	08/19/2021	N/A	01/08/2023
pH Strip 0-14	ST211026-005	04/20/2022	N/A	08/31/2025
pH Strip 7.9-9.8	ST210901-011	N/A	N/A	06/30/2023
Sulfuric Acid Gr ACS	ST210729-010	04/13/2021	N/A	04/13/2025

Container Number	Container Name	Tests	Preservation Requirement	Result	Initial/ Date
C012687-01A	PLSTL	EPA 200.7-NPW	HNO3 to pH <2. Preservation Time = 0944	pH<2	AG 11/2/22
C012687-01C	PLSTM	Hardness	HNO3 to pH <2		
C012687-01F	PSQLT	Ammonia: Titr-AQ	Check Cl2R = 0 [PSQLT], then H2SO4 to pH <2		
C012687-01G	A125N	EPA 552.2	Check Container		
C012687-01H	A125N	EPA 552.2-FR	Check Container		
C012687-01L	VOC4T	EPA 8260B-FR	Check Container		

Page 4 of 4 for C012687

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12 December 2022

EBMUD
Attn: K. Schwab
PO Box 24055
Oakland, CA 94607
RE: Bayside Ground Water Project WDR
Work Order: 22K0857

Enclosed are the results of analyses for samples received by the laboratory on 11/02/22 23:40. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Robbie C. Phillips
Project Manager

Alpha Analytical Laboratories, Inc. email: clientservices@alpha-labs.com
Corporate: 208 Mason Street | Ukiah, CA 95482 | T: 707-468-0401 | F: 707-468-5267 | ELAP# 1551

EBMUD	Project Manager: K. Schwab	
PO Box 24055	Project: Bayside Ground Water Project WDR	Reported:
Oakland CA, 94607	Project Number: C012687	12/12/22 11:43

Bay Area: 262 Rickenbacker Circle | Livermore, CA 94551 | 925-828-6226 | ELAP# 2728
Central Valley: 9090 Union Park Way Suite 113 | Elk Grove, CA 95624 | 916-686-5190 | ELAP# 2922
North Bay: 737 Southpoint Blvd Unit D| Petaluma, CA 94954 | 707-769-3128 | ELAP# 2303
San Diego: 2722 Loker Avenue West Suite A | Carlsbad, CA 92010 | 760-930-2555 | ELAP# 3055
Los Angeles: 1230 E. 223rd Street Suite 205 | Carson, CA 90745 | 424-267-5032 | Service Center

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
C012687-01	22K0857-01	Water	11/01/22 14:11	11/02/22 23:40

This represents an amended copy of the original report.

Subcontracted results added

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

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EBMUD	Project Manager: K. Schwab	
PO Box 24055	Project: Bayside Ground Water Project WDR	Reported:
Oakland CA, 94607	Project Number: C012687	12/12/22 11:43

Metals by EPA 200 Series Methods

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Analyst	ELAP #	Notes
C012687-01 (22K0857-01) Water	**Sampled: 11/01/22 14:11**		**Received: 11/02/22 23:40**									
Calcium	20	0.080	1.0	mg/L	1	AK24371	11/15/22 10:22	11/17/22 19:16	EPA 200.7	BED	1551	
Iron	2.7	0.050	0.10	mg/L	1	AK24371	11/15/22 10:22	11/17/22 19:16	EPA 200.7	BED	1551	
Magnesium	17	0.030	1.0	mg/L	1	AK24371	11/15/22 10:22	11/17/22 19:16	EPA 200.7	BED	1551	
Manganese	0.18	0.0020	0.020	mg/L	1	AK24371	11/15/22 10:22	11/17/22 19:16	EPA 200.7	BED	1551	
Potassium	7.6	0.20	1.0	mg/L	1	AK24371	11/15/22 10:22	11/17/22 19:16	EPA 200.7	BED	1551	
Sodium	190	0.30	1.0	mg/L	1	AK24371	11/15/22 10:22	11/21/22 13:28	EPA 200.7	BED	1551	

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EBMUD	Project Manager: K. Schwab	
PO Box 24055	Project: Bayside Ground Water Project WDR	Reported:
Oakland CA, 94607	Project Number: C012687	12/12/22 11:43

Conventional Chemistry Parameters by APHA/EPA Methods

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Analyst	ELAP #	Notes
C012687-01 (22K0857-01) Water	**Sampled: 11/01/22 14:11 Received: 11/02/22 23:40**											
Total Dissolved Solids	560	10	10	mg/L	1	AK23796	11/08/22 20:23	11/29/22 20:00	SM2540C	PBM	1551	

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EBMUD	Project Manager: K. Schwab	
PO Box 24055	Project: Bayside Ground Water Project WDR	Reported:
Oakland CA, 94607	Project Number: C012687	12/12/22 11:43

Volatile Organic Compounds by EPA Method 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Analyst	ELAP #	Notes
C012687-01 (22K0857-01) Water Sampled: 11/01/22 14:11 Received: 11/02/22 23:40												
Bromodichloromethane	ND	0.08	0.50	ug/L	1	AK24480	11/14/22 16:00	11/15/22 11:45	EPA 8260B	JV	1551	U
Bromoform	ND	0.30	0.50	ug/L	1	AK24480	11/14/22 16:00	11/15/22 11:45	EPA 8260B	JV	1551	U
Chloroform	ND	0.06	0.50	ug/L	1	AK24480	11/14/22 16:00	11/15/22 11:45	EPA 8260B	JV	1551	U
Dibromochloromethane	ND	0.10	0.50	ug/L	1	AK24480	11/14/22 16:00	11/15/22 11:45	EPA 8260B	JV	1551	U
Trihalomethanes (total)	ND	0.40	0.50	ug/L	1	AK24480	11/14/22 16:00	11/15/22 11:45	EPA 8260B	JV	1551	U
Surrogate: Bromofluorobenzene		*96.0 %*	*70-130*			*AK24480*	*11/14/22 16:00*	*11/15/22 11:45*	*EPA 8260B*	*JV*	1551	
Surrogate: Dibromofluoromethane		*91.2 %*	*70-130*			*AK24480*	*11/14/22 16:00*	*11/15/22 11:45*	*EPA 8260B*	*JV*	1551	
Surrogate: Toluene-d8		*104 %*	*70-130*			*AK24480*	*11/14/22 16:00*	*11/15/22 11:45*	*EPA 8260B*	*JV*	1551	

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EBMUD	Project Manager: K. Schwab	
PO Box 24055	Project: Bayside Ground Water Project WDR	Reported:
Oakland CA, 94607	Project Number: C012687	12/12/22 11:43

Metals by EPA 200 Series Methods - Quality Control

Analyte	Result	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch AK24371 - Metals Digest											
Blank (AK24371-BLK1)					Prepared: 11/15/22 Analyzed: 11/16/22						
Calcium	ND	0.080	1.0	mg/L							U
Iron	ND	0.050	0.10	mg/L							U
Magnesium	ND	0.030	1.0	mg/L							U
Manganese	ND	0.0020	0.020	mg/L							U
Potassium	ND	0.20	1.0	mg/L							U
Sodium	ND	0.30	1.0	mg/L							U
LCS (AK24371-BS1)					Prepared: 11/15/22 Analyzed: 11/16/22						
Calcium	2.44	0.080	1.0	mg/L	2.51		97.3	85-115			
Iron	1.94	0.050	0.10	mg/L	2.00		97.1	85-115			
Magnesium	7.71	0.030	1.0	mg/L	8.00		96.4	85-115			
Manganese	0.202	0.0020	0.020	mg/L	0.200		101	85-115			
Potassium	7.98	0.20	1.0	mg/L	8.00		99.8	85-115			
Sodium	7.91	0.30	1.0	mg/L	8.00		98.8	85-115			
Duplicate (AK24371-DUP1)		Source: 22K1003-02			Prepared: 11/15/22 Analyzed: 11/16/22						
Calcium	17.5	0.080	1.0	mg/L		17.8			1.63	20	
Iron	ND	0.050	0.10	mg/L		ND				20	U
Magnesium	5.76	0.030	1.0	mg/L		5.97			3.59	20	
Manganese	ND	0.0020	0.020	mg/L		ND				20	U
Potassium	4.75	0.20	1.0	mg/L		4.75			0.159	20	
Sodium	23.6	0.30	1.0	mg/L		23.6			0.350	20	
Matrix Spike (AK24371-MS1)		Source: 22K1003-02			Prepared: 11/15/22 Analyzed: 11/16/22						
Calcium	20.2	0.080	1.0	mg/L	2.51	17.8	97.6	70-130			
Iron	1.97	0.050	0.10	mg/L	2.00	ND	98.4	70-130			
Magnesium	13.9	0.030	1.0	mg/L	8.00	5.97	99.0	70-130			
Manganese	0.204	0.0020	0.020	mg/L	0.200	ND	102	70-130			
Potassium	13.4	0.20	1.0	mg/L	8.00	4.75	108	70-130			
Sodium	31.4	0.30	1.0	mg/L	8.00	23.6	97.2	70-130			

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EBMUD	Project Manager: K. Schwab	
PO Box 24055	Project: Bayside Ground Water Project WDR	Reported:
Oakland CA, 94607	Project Number: C012687	12/12/22 11:43

Metals by EPA 200 Series Methods - Quality Control

Analyte	Result	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch AK24371 - Metals Digest											
Matrix Spike (AK24371-MS2)		Source: 22K0746-01			Prepared: 11/15/22 Analyzed: 11/16/22						
Calcium	2.45	0.080	1.0	mg/L	2.51	ND	97.7	70-130			
Iron	1.98	0.050	0.10	mg/L	2.00	ND	99.2	70-130			
Magnesium	7.85	0.030	1.0	mg/L	8.00	ND	98.2	70-130			
Manganese	0.206	0.0020	0.020	mg/L	0.200	ND	103	70-130			
Potassium	8.27	0.20	1.0	mg/L	8.00	ND	103	70-130			
Sodium	103	0.30	1.0	mg/L	8.00	95.6	97.5	70-130			
Matrix Spike Dup (AK24371-MSD1)		Source: 22K1003-02			Prepared: 11/15/22 Analyzed: 11/16/22						
Calcium	20.8	0.080	1.0	mg/L	2.51	17.8	120	70-130	2.73	20	
Iron	1.95	0.050	0.10	mg/L	2.00	ND	97.3	70-130	1.17	20	
Magnesium	13.8	0.030	1.0	mg/L	8.00	5.97	98.5	70-130	0.289	20	
Manganese	0.202	0.0020	0.020	mg/L	0.200	ND	101	70-130	0.950	20	
Potassium	13.5	0.20	1.0	mg/L	8.00	4.75	109	70-130	0.993	20	
Sodium	32.5	0.30	1.0	mg/L	8.00	23.6	110	70-130	3.30	20	

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EBMUD	Project Manager: K. Schwab	
PO Box 24055	Project: Bayside Ground Water Project WDR	Reported:
Oakland CA, 94607	Project Number: C012687	12/12/22 11:43

Conventional Chemistry Parameters by APHA/EPA Methods - Quality Control

Analyte	Result	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch AK23796 - General Preparation											
Blank (AK23796-BLK1)					Prepared: 11/08/22 Analyzed: 11/29/22						
Total Dissolved Solids	ND	10	10	mg/L							U
Duplicate (AK23796-DUP1)		Source: 22K0509-01			Prepared: 11/08/22 Analyzed: 11/29/22						
Total Dissolved Solids	242	10	10	mg/L		238			1.67	15	
Duplicate (AK23796-DUP2)		Source: 22K0638-02			Prepared: 11/08/22 Analyzed: 11/29/22						
Total Dissolved Solids	236	10	10	mg/L		246			4.15	15	

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EBMUD	Project Manager: K. Schwab	
PO Box 24055	Project: Bayside Ground Water Project WDR	Reported:
Oakland CA, 94607	Project Number: C012687	12/12/22 11:43

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Analyte	Result	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch AK24480 - VOAs in Water GCMS											
Blank (AK24480-BLK1)					Prepared & Analyzed: 11/14/22						
Bromodichloromethane	ND	0.08	0.50	ug/L							U
Bromoform	ND	0.30	0.50	ug/L							U
Chloroform	ND	0.06	0.50	ug/L							U
Dibromochloromethane	ND	0.10	0.50	ug/L							U
Trihalomethanes (total)	ND	0.40	0.50	ug/L							U
Surrogate: Bromofluorobenzene	*27.0*			*ug/L*	*25.0*		*108*	*70-130*			
Surrogate: Dibromofluoromethane	*23.7*			*ug/L*	*25.0*		*94.7*	*70-130*			
Surrogate: Toluene-d8	*25.3*			*ug/L*	*25.0*		*101*	*70-130*			
LCS (AK24480-BS1)					Prepared & Analyzed: 11/14/22						
Bromodichloromethane	18.4	0.08	0.50	ug/L	20.0		91.8	86-135			
Bromoform	18.9	0.30	0.50	ug/L	20.0		94.6	57-156			
Chloroform	19.9	0.06	0.50	ug/L	20.0		99.7	81-122			
Dibromochloromethane	20.0	0.10	0.50	ug/L	20.0		100	69-133			
Surrogate: Bromofluorobenzene	*25.4*			*ug/L*	*25.0*		*102*	*70-130*			
Surrogate: Dibromofluoromethane	*25.3*			*ug/L*	*25.0*		*101*	*70-130*			
Surrogate: Toluene-d8	*25.4*			*ug/L*	*25.0*		*102*	*70-130*			
LCS Dup (AK24480-BSD1)					Prepared & Analyzed: 11/14/22						
Bromodichloromethane	19.0	0.08	0.50	ug/L	20.0		95.0	86-135	3.37	25	
Bromoform	18.7	0.30	0.50	ug/L	20.0		93.3	57-156	1.33	25	
Chloroform	19.8	0.06	0.50	ug/L	20.0		98.8	81-122	0.907	25	
Dibromochloromethane	20.6	0.10	0.50	ug/L	20.0		103	69-133	2.90	25	
Surrogate: Bromofluorobenzene	*24.4*			*ug/L*	*25.0*		*97.4*	*70-130*			
Surrogate: Dibromofluoromethane	*25.4*			*ug/L*	*25.0*		*102*	*70-130*			
Surrogate: Toluene-d8	*25.6*			*ug/L*	*25.0*		*102*	*70-130*			
Matrix Spike (AK24480-MS1)		**Source: 22K1503-03**			Prepared: 11/14/22 Analyzed: 11/15/22						
Bromodichloromethane	19.4	0.08	0.50	ug/L	20.0	ND	97.0	62-140			
Bromoform	15.8	0.30	0.50	ug/L	20.0	ND	78.8	47-165			
Chloroform	22.1	0.06	0.50	ug/L	20.0	ND	110	68-121			
Dibromochloromethane	18.5	0.10	0.50	ug/L	20.0	ND	92.4	54-157			
Surrogate: Bromofluorobenzene	*26.6*			*ug/L*	*25.0*		*107*	*70-130*			
Surrogate: Dibromofluoromethane	*25.8*			*ug/L*	*25.0*		*103*	*70-130*			
Surrogate: Toluene-d8	*24.6*			*ug/L*	*25.0*		*98.6*	*70-130*			

Alpha Analytical Laboratories, Inc. email: clientservices@alpha-labs.com
Corporate: 208 Mason Street | Ukiah, CA 95482 | T: 707-468-0401 | F: 707-468-5267 | ELAP# 1551

EBMUD	Project Manager: K. Schwab	
PO Box 24055	Project: Bayside Ground Water Project WDR	Reported:
Oakland CA, 94607	Project Number: C012687	12/12/22 11:43

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Analyte	Result	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch AK24480 - VOAs in Water GCMS											
Matrix Spike Dup (AK24480-MSD1)		**Source: 22K1503-03**			Prepared: 11/14/22 Analyzed: 11/15/22						
Bromodichloromethane	21.3	0.08	0.50	ug/L	20.0	ND	106	62-140	9.10	25	
Bromoform	17.0	0.30	0.50	ug/L	20.0	ND	85.2	47-165	7.75	25	
Chloroform	22.4	0.06	0.50	ug/L	20.0	ND	112	68-121	1.53	25	
Dibromochloromethane	20.2	0.10	0.50	ug/L	20.0	ND	101	54-157	8.75	25	
Surrogate: Bromofluorobenzene	*25.8*			*ug/L*	*25.0*		*103*	*70-130*			
Surrogate: Dibromofluoromethane	*25.6*			*ug/L*	*25.0*		*102*	*70-130*			
Surrogate: Toluene-d8	*24.1*			*ug/L*	*25.0*		*96.4*	*70-130*			

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EBMUD	Project Manager: K. Schwab	
PO Box 24055	Project: Bayside Ground Water Project WDR	Reported:
Oakland CA, 94607	Project Number: C012687	12/12/22 11:43

Notes and Definitions

U	Analyte included in analysis, but not detected at or above MDL
ND	Analyte NOT DETECTED at or above the reporting limit
dry	Sample results reported on a dry weight basis
MDL	Method detection limit
Rec	Recovery
RPD	Relative Percent Difference

Non-accredited analytes are reported only when ELAP accreditation for a requested analyte method pair is not available. For a list of accredited analytes, view our certificates at the Company link on our website at www.alpha-labs.com or contact your Project Manager directly.

Lab #: 849583 Job #: 52769 IS-69368 Co. Job#:
Sample Name: 22K0857-01 Co Lab#:
Company: Alpha Analytical Laboratories, Inc.
API/Well:
Container: 500ml Plastic Bottle
Field/Site Name: 22K0857
Location:
Formation/Depth:
Sampling Point: C012687-01
Date Sampled: 11/01/2022 14:11 Date Received: 11/14/2022 Date Reported: 11/30/2022

δD of water	-41.0 ‰ relative to VSMOW
$\delta^{18}O$ of water	-6.24 ‰ relative to VSMOW
Tritium content of water	na
$\delta^{13}C$ of DIC	na
^{14}C content of DIC	na
$\delta^{15}N$ of nitrate	na
$\delta^{18}O$ of nitrate	na
$\delta^{34}S$ of sulfate	na
$\delta^{18}O$ of sulfate	na
Vacuum Distilled? *	No

Remarks:

nd = not detected, na = not analyzed.
*Indicates if vacuum distillation was utilized for hydrogen and oxygen isotopic analysis of water

22K0857

EBMUD

East Bay Municipal Utility District Laboratory Services Subcontract Chain of Custody

3

COC #: C012687	Project Title: Bayside Ground Water Project	Lab PM: Kristi Schwab (510) 287-1696 Shipping Method: Alpha Courier	Sampled By: DW/AB/GE
	TAT: Standard	PO#: BRD-13921-AX Expiration: 12/31/2023	Submitted Date: 11/2/22

Date	Time	Sample ID	Location/PS Code	Matrix	Container ID	Type	Tests Required	Method Reference
11/01/2022	14:11	C012687-01	GW BAYSIDE - BAY1-MW2I	Aqueous	-01A ✓	PLSTL	EPA 200.7-NPW (Ca,Fe,K,Mg,Mn,Na)	EPA 200.7 (1994 Rev 4.4)
					-01B ✓	PLSTL	TDS	SM 2540 C-2011
					-01I ✓	PLSTM	Oxygen 18	D18O
					-01J ✓	VOC4T	EPA 8260B THM	EPA 8260B
					-01L ✓	VOC4T	EPA 8260B	Bottle for QC (2)
Comments: Alpha: Isotope analysis for Oxygen-18 and Hydrogen-2 (subcontracted). Total Dissolved Solids (TDS) by SM2540C, THMs by EPA 8260, Metals by EPA 200.7 (Ca, Fe, K, Mg, Mn, Na)								
			Total containers received:	5				

	Signature	Print Name	Time	Date
Relinquished by:	Robert Mena	R. Molina	1250	11/2/22
Received by:	MM	Michael Lopez	12:50	11/2/22
Relinquished by:	MM			
Received by:	JE		2000	11-2
Relinquished by:	JE			11-2
Received by:	JE		2340	11-2

Send results and invoice to:
Kristi Schwab (kristi.lorenson@ebmud.com)
EBMUD Laboratory
PO Box 24055 MS #59
Oakland, CA 94623
(510) 287-1696

SUBCONTRACT: Please notify Lab PM if TAT is delayed and/or Hold Time will be exceeded.
Alpha Analytical Laboratory
208 Mason St
Ukiah, CA 95482
707-468-0401

Page 1 of 1

East Bay Municipal Utility District
2020 Wake Ave, Oakland, CA 94623 T: 510-287-1432

Laboratory Services Division
ELAP#1060

Analytical Results Report

14 December 2022

David Behnken

MS 704

Re: Bayside Ground Water Project

COC# C013031

Report Generated: 12/13/2022 16:49

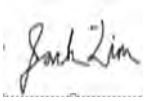
Login Performance Summary

- 0 Lost Analyses
- 0 Hold Time Exceedances
- Analytical analyses did not meet the turnaround time

Report Notes

For questions concerning this report, please contact:

Reported By:



Jack Lim

Senior Chemist

Approved By:

Yuyun Shang

Lab Manager

Samples for C013031

Samples Included in the Report

Sample Number	Sample Type	Sampled Date	Location Name	Sample Name
C013031-01	GRAB	Nov 02 2022 15:41	GW BAYSIDE - BAY1-MW4	-

Samples Results for C013031

Sample ID: C013031-01
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
Client: Bayside Ground Water Project
Sample Type: GRAB
Date Collected: Nov 02 2022 15:41 **Sample Collector:** DW/AB/GE
Date Received: Nov 03 2022 08:03 **Sample Receiver:** R Molina
Sample Comments:

Analyte	Qualifier	Result	MDL	RL	Units	DF	Batch	Prepared	Analyzed
Field data entry into LIMS									
TARGET ANALYTES									
CL2R		**0.1**	0.02		mg/L				11/02/2022 15:41
Field data entry into LIMS									
TARGET ANALYTES									
Depth		**11.3**			Feet				11/02/2022 15:41
Field data entry into LIMS									
TARGET ANALYTES									
pH		**7.8**			pH Units				11/02/2022 15:41
Field data entry into LIMS									
TARGET ANALYTES									
Temperature		**19**			C				11/02/2022 15:41
Total Dissolved Solids by SM2540C									
Subcontract data from: Alpha Analytical Laboratory ELAP#: Refer to external lab report									
TARGET ANALYTES									
Total Dissolved Solids		**360**	10	10	mg/L	1			11/08/2022 20:23
Comments: SUB: Analysis date reported is date filtered by sub lab, as per EBMUD SOP									
Alkalinity by SM 2320 B-2011									
TARGET ANALYTES									
Alkalinity: Total as CaCO3		**220**	5	30	mg/L	1.0	B221104-002		11/04/2022 09:20
Alkalinity: Carbonate	U	5	5	30	mg/L	1.0	B221104-002		11/04/2022 09:20
Alkalinity: Bicarbonate		**220**	5	30	mg/L	1.0	B221104-002		11/04/2022 09:20
Alkalinity: Hydroxide	U	5	5	30	mg/L	1.0	B221104-002		11/04/2022 09:20
Ammonia as N by SM 4500-NH3 C-2011									
TARGET ANALYTES									
Ammonia as N	**E1**	**0.28**	0.25	1.5	mg/L	1.0	B221117-007		11/17/2022 08:31
Hardness as CaCO3 by SM 2340 C-2011									
TARGET ANALYTES									
Hardness as CaCO3		**110**	4	7	mg/L	1.0	B221110-012		11/10/2022 07:38
Anions by EPA 300.1									
TARGET ANALYTES									
Chloride		**48**	0.46	2.0	mg/L	10	B221103-003		11/03/2022 11:40
Nitrate as N	U	0.023	0.023	0.30	mg/L	10	B221103-003		11/03/2022 11:40
Sulfate		**38**	0.69	2.0	mg/L	10	B221103-003		11/03/2022 11:40
SURROGATES									
Dichloroacetate (%)		100			%	10	B221103-003		11/03/2022 11:40

Samples Results for C013031

Sample ID: C013031-01
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
Client: Bayside Ground Water Project
Sample Type: GRAB
Date Collected: Nov 02 2022 15:41 **Sample Collector:** DW/AB/GE
Date Received: Nov 03 2022 08:03 **Sample Receiver:** R Molina
Sample Comments:

Analyte	Qualifier	Result	MDL	RL	Units	DF	Batch	Prepared	Analyzed
Metals by EPA 200.7									
Subcontract data from: Alpha Analytical Laboratory ELAP#: Refer to external lab report									
TARGET ANALYTES									
Calcium		**27**	0.080	1.0	mg/L	1		11/15/2022 16:55	11/17/2022 15:13
Comments: SUB									
Iron	U	0.050	0.050	0.10	mg/L	1		11/15/2022 16:55	11/17/2022 15:13
Comments: SUB: Analyte included in analysis but not detected at or above MDL									
Potassium		**2.4**	0.20	1.0	mg/L	1		11/15/2022 16:55	11/17/2022 15:13
Comments: SUB									
Magnesium		**9.5**	0.030	1.0	mg/L	1		11/15/2022 16:55	11/17/2022 15:13
Comments: SUB									
Manganese		**0.19**	0.0020	0.020	mg/L	1		11/15/2022 16:55	11/17/2022 15:13
Comments: SUB									
Sodium		**100**	0.30	1.0	mg/L	1		11/15/2022 16:55	11/17/2022 16:14
Comments: SUB									
Haloacetic Acids, GC/ECD by EPA 552.2									
TARGET ANALYTES									
Bromochloroacetic Acid	U	0.17	0.17	1.0	ug/L	1.0	B221110-016	11/09/2022 10:00	11/14/2022 20:35
Comments: Compound not available for certification by ELAP									
Bromodichloroacetic Acid	U	0.29	0.29	1.0	ug/L	1.0	B221110-016	11/09/2022 10:00	11/14/2022 20:35
Comments: Compound not available for certification by ELAP									
Chlorodibromoacetic Acid	U	0.31	0.31	1.0	ug/L	1.0	B221110-016	11/09/2022 10:00	11/14/2022 20:35
Comments: Compound not available for certification by ELAP									
Dibromoacetic Acid	U	0.15	0.15	1.0	ug/L	1.0	B221110-016	11/09/2022 10:00	11/14/2022 20:35
Dichloroacetic Acid	U	0.20	0.20	1.0	ug/L	1.0	B221110-016	11/09/2022 10:00	11/14/2022 20:35
Monobromoacetic Acid	U	0.16	0.16	1.0	ug/L	1.0	B221110-016	11/09/2022 10:00	11/14/2022 20:35
Monochloroacetic Acid	U	0.45	0.45	1.0	ug/L	1.0	B221110-016	11/09/2022 10:00	11/14/2022 20:35
Tribromoacetic Acid	U	0.49	0.49	1.0	ug/L	1.0	B221110-016	11/09/2022 10:00	11/14/2022 20:35
Comments: Compound not available for certification by ELAP									
Trichloroacetic Acid	U	0.25	0.25	1.0	ug/L	1.0	B221110-016	11/09/2022 10:00	11/14/2022 20:35
HAA(5), calculated		**0.00**		1.0	ug/L	1.0	B221110-016	11/09/2022 10:00	11/14/2022 20:35
Comments: HAA (5) calculation uses a zero for any individual HAA result less than the California DLR for that HAA									
HAA(9), calculated		**0.00**		1.0	ug/L	1.0	B221110-016	11/09/2022 10:00	11/14/2022 20:35
INTERNAL STANDARD									
1,2,3-Trichloropropane (%)		95			%	1.0	B221110-016	11/09/2022 10:00	11/14/2022 20:35
SURROGATES									
2,3-Dibromopropionic Acid (%)		98			%	1.0	B221110-016	11/09/2022 10:00	11/14/2022 20:35

Samples Results for C013031

Sample ID: C013031-01
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
Client: Bayside Ground Water Project
Sample Type: GRAB
Date Collected: Nov 02 2022 15:41 **Sample Collector:** DW/AB/GE
Date Received: Nov 03 2022 08:03 **Sample Receiver:** R Molina
Sample Comments:

Analyte	Qualifier	Result	MDL	RL	Units	DF	Batch	Prepared	Analyzed

Oxygen 18 Isotope Analysis

Subcontract data from: Alpha Analytical Laboratory ELAP#: Refer to external lab report
Test External Comments: Original sub report attached to end of this report.

TARGET ANALYTES

See subcontract report	Original Report transmitted to client and accessib

Trihalomethanes, Total, GC/MS by EPA 8260B

Subcontract data from: Alpha Analytical Laboratory ELAP#: Refer to external lab report

TARGET ANALYTES

Analyte	Qualifier	Result	MDL	RL	Units	DF	Batch	Prepared	Analyzed
Bromodichloromethane	U	0.08	0.08	0.50	ug/L	1		11/08/2022 11:00	11/09/2022 01:06
Comments: SUB: Analyte included in analysis but not detected at or above MDL									
Bromoform	U	0.30	0.30	0.50	ug/L	1		11/08/2022 11:00	11/09/2022 01:06
Comments: SUB: Analyte included in analysis but not detected at or above MDL									
Chloroform	U	0.06	0.06	0.50	ug/L	1		11/08/2022 11:00	11/09/2022 01:06
Comments: SUB: Analyte included in analysis but not detected at or above MDL									
Dibromochloromethane	U	0.10	0.10	0.50	ug/L	1		11/08/2022 11:00	11/09/2022 01:06
Comments: SUB: Analyte included in analysis but not detected at or above MDL									
Total Trihalomethanes, calculated	U	0.40	0.40	0.50	ug/L	1		11/08/2022 11:00	11/09/2022 01:06
Comments: SUB: Analyte included in analysis but not detected at or above MDL									

Quality Control for C013031

Analyte	Qualifier	Result	MDL	RL	Units	Spike Level	Source Result	% REC	% REC Limits	RPD	RPD Limits
Alkalinity DUP by SM 2320 B-2011, B221104-002											
B221104-002 analyzed on 11/04/2022 09:07; Source = C011937-01											
Alkalinity: Total as CaCO3		**400**	5	30	mg/L		400			0.3	20
Alkalinity LCS by SM 2320 B-2011, B221104-002											
B221104-002 analyzed on 11/04/2022 08:37											
Alkalinity: Total as CaCO3		400	5	30	mg/L	400		101	85 - 115		
Alkalinity MB by SM 2320 B-2011, B221104-002											
B221104-002 analyzed on 11/04/2022 08:29											
Alkalinity: Total as CaCO3	U	5	5	30	mg/L						
Alkalinity MS by SM 2320 B-2011, B221104-002											
B221104-002 analyzed on 11/04/2022 09:13; Source = C011937-01											
Alkalinity: Total as CaCO3		800	5	30	mg/L	400	400	100	80 - 120		
Alkalinity QCS by SM 2320 B-2011, B221104-002											
B221104-002 analyzed on 11/04/2022 08:45											
Alkalinity: Total as CaCO3		85	5	30	mg/L	81		105	91 - 111		
Hardness as CaCO3 DUP by SM 2340 C-2011, B221110-012											
B221110-012 analyzed on 11/10/2022 07:38; Source = C011888-01											
Hardness as CaCO3		**18**	4	7	mg/L		18			0.00	10
Hardness as CaCO3 DUP by SM 2340 C-2011, B221110-012											
B221110-012 analyzed on 11/10/2022 07:38; Source = C013150-01											
Hardness as CaCO3		**21**	4	7	mg/L		22			3.7	10
Hardness as CaCO3 LCS by SM 2340 C-2011, B221110-012											
B221110-012 analyzed on 11/10/2022 07:38											
Hardness as CaCO3		130	4	7	mg/L	120		104	85 - 115		
Hardness as CaCO3 LOQ by SM 2340 C-2011, B221110-012											
B221110-012 analyzed on 11/10/2022 07:38											
Hardness as CaCO3	E1	6	4	7	mg/L	7.0		86	50 - 150		
Hardness as CaCO3 MB by SM 2340 C-2011, B221110-012											
B221110-012 analyzed on 11/10/2022 07:38											
Hardness as CaCO3	U	4	4	7	mg/L						

Quality Control for C013031

Analyte	Qualifier	Result	MDL	RL	Units	Spike Level	Source Result	% REC	% REC Limits	RPD	RPD Limits
Hardness as CaCO3 MS by SM 2340 C-2011, B221110-012											
B221110-012 analyzed on 11/10/2022 07:38; Source = C011888-01											
Hardness as CaCO3		140	4	7	mg/L	120	18	99	85 - 115		
Hardness as CaCO3 MS by SM 2340 C-2011, B221110-012											
B221110-012 analyzed on 11/10/2022 07:38; Source = C013150-01											
Hardness as CaCO3		140	4	7	mg/L	120	22	98	85 - 115		
Hardness as CaCO3 QCS by SM 2340 C-2011, B221110-012											
B221110-012 analyzed on 11/10/2022 07:38											
Hardness as CaCO3		180	4	7	mg/L	170		105	91 - 107		
Ammonia as N DUP by SM 4500-NH3 C-2011, B221117-007											
B221117-007 analyzed on 11/17/2022 08:31; Source = C012590-09											
Ammonia as N		**46**	1.2	7.5	mg/L		45			1.2	10
Ammonia as N LCS by SM 4500-NH3 C-2011, B221117-007											
B221117-007 analyzed on 11/17/2022 08:31											
Ammonia as N		12	0.25	1.5	mg/L	12		98	85 - 115		
Ammonia as N MB by SM 4500-NH3 C-2011, B221117-007											
B221117-007 analyzed on 11/17/2022 08:31											
Ammonia as N	U	0.25	0.25	1.5	mg/L						
Ammonia as N MS by SM 4500-NH3 C-2011, B221117-007											
B221117-007 analyzed on 11/17/2022 08:31; Source = C012590-09											
Ammonia as N		100	1.2	7.5	mg/L	60	45	98	80 - 120		
Ammonia as N MSD by SM 4500-NH3 C-2011, B221117-007											
B221117-007 analyzed on 11/17/2022 08:31; Source = C012590-09											
Ammonia as N		100	1.2	7.5	mg/L	60	45	97	80 - 120	0.3	15
Anions LCS by EPA 300.1, B221103-003											
B221103-003 analyzed on 11/03/2022 11:02											
Chloride		0.98	0.046	0.2	mg/L	1.0		98	85 - 115		
Nitrate as N		0.046	0.0023	0.03	mg/L	0.05		93	85 - 115		
Sulfate		0.94	0.069	0.2	mg/L	1.0		94	85 - 115		
Dichloroacetate (%)		100			%						
Anions LOQ by EPA 300.1, B221103-003											
B221103-003 analyzed on 11/03/2022 10:24											
Chloride		0.21	0.046	0.2	mg/L	0.20		105	50 - 150		
Nitrate as N		0.030	0.0023	0.03	mg/L	0.03		100	50 - 150		
Sulfate		0.22	0.069	0.2	mg/L	0.20		111	50 - 150		

Quality Control for C013031

Analyte	Qualifier	Result	MDL	RL	Units	Spike Level	Source Result	% REC	% REC Limits	RPD	RPD Limits
Dichloroacetate (%)		108			%						
Anions MB by EPA 300.1, B221103-003											
B221103-003 analyzed on 11/03/2022 09:46											
Chloride	U	0.046	0.046	0.2	mg/L						
Nitrate as N	U	0.0023	0.0023	0.03	mg/L						
Sulfate	U	0.069	0.069	0.2	mg/L						
Dichloroacetate (%)		100			%						
Anions DUP by EPA 300.1, B221103-003											
B221103-003 analyzed on 11/03/2022 16:43; Source = C010386-01											
Nitrate as N	U	0.0023	0.0023	0.030	mg/L		0.0023			NC	10
Dichloroacetate (%)		106			%		98				
Anions MS by EPA 300.1, B221103-003											
B221103-003 analyzed on 11/03/2022 17:20; Source = C010386-01											
Nitrate as N		0.048	0.0023	0.030	mg/L	0.05	0.0023	95	75 - 125		
Dichloroacetate (%)		102			%		98				
Haloacetic Acids, GC/ECD LCS by EPA 552.2, B221110-016											
B221110-016 analyzed on 11/14/2022 10:31; B221109-004 prepared on 11/09/2022 10:00											
Bromochloroacetic Acid		16	0.17	1	ug/L	15		105	70 - 130		
Bromodichloroacetic Acid		16	0.29	1	ug/L	15		104	70 - 130		
Chlorodibromoacetic Acid		17	0.31	1	ug/L	15		112	70 - 130		
Dibromoacetic Acid		16	0.15	1	ug/L	15		106	70 - 130		
Dichloroacetic Acid		14	0.20	1	ug/L	15		94	70 - 130		
Monobromoacetic Acid		15	0.16	1	ug/L	15		99	70 - 130		
Monochloroacetic Acid		15	0.45	1	ug/L	15		102	70 - 130		
Tribromoacetic Acid		17	0.49	1	ug/L	15		113	70 - 130		
Trichloroacetic Acid		16	0.25	1	ug/L	15		104	70 - 130		
1,2,3-Trichloropropane (%)		92			%						
2,3-Dibromopropionic Acid (%)		106			%						
Haloacetic Acids, GC/ECD LOQ by EPA 552.2, B221110-016											
B221110-016 analyzed on 11/14/2022 09:36; B221109-004 prepared on 11/09/2022 10:00											
Bromochloroacetic Acid	E1	0.98	0.17	1	ug/L	1.0		98	50 - 150		
Bromodichloroacetic Acid	E1	0.89	0.29	1	ug/L	1.0		89	50 - 150		
Chlorodibromoacetic Acid	E1	0.84	0.31	1	ug/L	1.0		84	50 - 150		
Dibromoacetic Acid	E1	0.98	0.15	1	ug/L	1.0		98	50 - 150		
Dichloroacetic Acid	E1	0.95	0.20	1	ug/L	1.0		95	50 - 150		
Monobromoacetic Acid		1.1	0.16	1	ug/L	1.0		111	50 - 150		
Monochloroacetic Acid	E1	0.94	0.45	1	ug/L	1.0		94	50 - 150		
Tribromoacetic Acid	E1	0.84	0.49	1	ug/L	1.0		84	50 - 150		
Trichloroacetic Acid	E1	0.91	0.25	1	ug/L	1.0		91	50 - 150		
1,2,3-Trichloropropane (%)		100			%						
2,3-Dibromopropionic Acid (%)		103			%						

Quality Control for C013031

Analyte	Qualifier	Result	MDL	RL	Units	Spike Level	Source Result	% REC	% REC Limits	RPD	RPD Limits
Haloacetic Acids, GC/ECD MB by EPA 552.2, B221110-016											
B221110-016 analyzed on 11/14/2022 09:11; B221109-004 prepared on 11/09/2022 10:00											
Bromochloroacetic Acid	U	0.17	0.17	1	ug/L						
Bromodichloroacetic Acid	U	0.29	0.29	1	ug/L						
Chlorodibromoacetic Acid	U	0.31	0.31	1	ug/L						
Dibromoacetic Acid	U	0.15	0.15	1	ug/L						
Dichloroacetic Acid	U	0.20	0.20	1	ug/L						
Monobromoacetic Acid	U	0.16	0.16	1	ug/L						
Monochloroacetic Acid	U	0.45	0.45	1	ug/L						
Tribromoacetic Acid	U	0.49	0.49	1	ug/L						
Trichloroacetic Acid	U	0.25	0.25	1	ug/L						
1,2,3-Trichloropropane (%)		101			%						
2,3-Dibromopropionic Acid (%)		101			%						
Haloacetic Acids, GC/ECD MS by EPA 552.2, B221110-016											
B221110-016 analyzed on 11/14/2022 16:02; B221109-004 prepared on 11/09/2022 10:00; Source = C012088-03											
Bromochloroacetic Acid		16	0.17	1.0	ug/L	15	0.17	104	70 - 130		
Bromodichloroacetic Acid		16	0.29	1.0	ug/L	15	0.29	107	70 - 130		
Chlorodibromoacetic Acid		17	0.31	1.0	ug/L	15	0.31	116	70 - 130		
Dibromoacetic Acid		16	0.15	1.0	ug/L	15	0.15	106	70 - 130		
Dichloroacetic Acid		16	0.20	1.0	ug/L	15	0.20	105	70 - 130		
Monobromoacetic Acid		15	0.16	1.0	ug/L	15	0.16	100	70 - 130		
Monochloroacetic Acid		16	0.45	1.0	ug/L	15	0.45	104	70 - 130		
Tribromoacetic Acid		18	0.49	1.0	ug/L	15	0.49	118	70 - 130		
Trichloroacetic Acid		16	0.25	1.0	ug/L	15	0.25	104	70 - 130		
1,2,3-Trichloropropane (%)		92			%		93				
2,3-Dibromopropionic Acid (%)		105			%		108				
Haloacetic Acids, GC/ECD MS by EPA 552.2, B221110-016											
B221110-016 analyzed on 11/14/2022 21:50; B221109-004 prepared on 11/09/2022 10:00; Source = C012066-01											
Bromochloroacetic Acid		16	0.17	1.0	ug/L	15	0.30	104	70 - 130		
Bromodichloroacetic Acid		16	0.29	1.0	ug/L	15	0.29	109	70 - 130		
Chlorodibromoacetic Acid		18	0.31	1.0	ug/L	15	0.31	118	70 - 130		
Dibromoacetic Acid		16	0.15	1.0	ug/L	15	0.15	104	70 - 130		
Dichloroacetic Acid		22	0.20	1.0	ug/L	15	8.5	93	70 - 130		
Monobromoacetic Acid		17	0.16	1.0	ug/L	15	0.16	116	70 - 130		
Monochloroacetic Acid		16	0.45	1.0	ug/L	15	0.45	110	70 - 130		
Tribromoacetic Acid		19	0.49	1.0	ug/L	15	0.49	124	70 - 130		
Trichloroacetic Acid		22	0.25	1.0	ug/L	15	6.9	98	70 - 130		
1,2,3-Trichloropropane (%)		89			%		93				
2,3-Dibromopropionic Acid (%)		102			%		104				
Haloacetic Acids, GC/ECD MSD by EPA 552.2, B221110-016											
B221110-016 analyzed on 11/14/2022 16:27; B221109-004 prepared on 11/09/2022 10:00; Source = C012088-03											
Bromochloroacetic Acid		15	0.17	1.0	ug/L	15	0.17	99	70 - 130	4.5	20
Bromodichloroacetic Acid		15	0.29	1.0	ug/L	15	0.29	99	70 - 130	7.8	20
Chlorodibromoacetic Acid		16	0.31	1.0	ug/L	15	0.31	108	70 - 130	6.8	20
Dibromoacetic Acid		15	0.15	1.0	ug/L	15	0.15	102	70 - 130	4.4	20
Dichloroacetic Acid		17	0.20	1.0	ug/L	15	0.20	112	70 - 130	6.1	20
Monobromoacetic Acid		15	0.16	1.0	ug/L	15	0.16	100	70 - 130	0.5	20
Monochloroacetic Acid		16	0.45	1.0	ug/L	15	0.45	106	70 - 130	2.2	20
Tribromoacetic Acid		17	0.49	1.0	ug/L	15	0.49	112	70 - 130	5.1	20

Quality Control for C013031

Analyte	Qualifier	Result	MDL	RL	Units	Spike Level	Source Result	% REC	% REC Limits	RPD	RPD Limits
Trichloroacetic Acid		15	0.25	1.0	ug/L	15	0.25	99	70 - 130	4.9	20
1,2,3-Trichloropropane (%)		96			%		93				
2,3-Dibromopropionic Acid (%)		100			%		108				

Haloacetic Acids, GC/ECD MSD by EPA 552.2, B221110-016

B221110-016 analyzed on 11/14/2022 22:15; B221109-004 prepared on 11/09/2022 10:00; Source = C012066-01

Bromochloroacetic Acid		15	0.17	1.0	ug/L	15	0.30	100	70 - 130	3.8	20
Bromodichloroacetic Acid		16	0.29	1.0	ug/L	15	0.29	103	70 - 130	5.6	20
Chlorodibromoacetic Acid		17	0.31	1.0	ug/L	15	0.31	111	70 - 130	5.7	20
Dibromoacetic Acid		15	0.15	1.0	ug/L	15	0.15	98	70 - 130	5.1	20
Dichloroacetic Acid		23	0.20	1.0	ug/L	15	8.5	96	70 - 130	2.1	20
Monobromoacetic Acid		16	0.16	1.0	ug/L	15	0.16	110	70 - 130	5.0	20
Monochloroacetic Acid		16	0.45	1.0	ug/L	15	0.45	106	70 - 130	3.7	20
Tribromoacetic Acid		17	0.49	1.0	ug/L	15	0.49	115	70 - 130	7.8	20
Trichloroacetic Acid		21	0.25	1.0	ug/L	15	6.9	91	70 - 130	4.9	20
1,2,3-Trichloropropane (%)		92			%		93				
2,3-Dibromopropionic Acid (%)		98			%		104				

Qualifiers and Definitions

E1	Concentration estimated. Analyte detected below reporting limit (RL) but above MDL. For SIP, E1=DNQ, Estimated Concentration.
NC	RPD not calculable. Result less than MDL.
U	Analyte not detected.

Qualifiers for subcontract work – see parameter comment for description
Corrections for dilutions for matrix effects applied to the MDL and RL.

QC Types and Definitions

DUP	Duplicate Sample
LCS	Laboratory Control Sample
LOQ	Limit of Quantitation
MB	Method Blank
MS	Matrix Spike
MSD	Matrix Spike Duplicate
QCS	Quality Control Sample

East Bay Municipal Utility District Laboratory Services Division Chain of Custody Record

EBMUD

COC #: C013031	Project Title: Bayside Ground Water Project TAT: Standard	Client PM: David Behnken Lab PM: Kristi Schwab Job #:	Expect Date: 11/02/2022 Sampled By: DW/AB/GE ☒ Samples transported on ice

Date	Time	Site/Locator	Sample ID	Type	Matrix	ID	Type	Tests Required
11/02/22	1541	GW BAYSIDE - BAY1-MW4	C013031-01	GRAB	Aqueous			*SAMP KIT
						-01A	PLSTL	EPA 200.7-NPW (Ca,Fe,K,Mg,Mn,Na)
						-01B	PLSTL	TDS
						-01C	PLSTM	Hardness
						-01D	PLSTS	EPA 300.1 (Cl,NO3,SO4)
						-01F	PSQLT	Ammonia: Tllr-AQ
						-01G	A125N	EPA 552.2
						-01H	A125N	EPA 552.2
						-01I	PLSTM	Oxygen 18 5.4°C @11 RMM 11/3/22
						-01J	VOC4T	EPA 8260B THM
						-01K	VOC4T	EPA 8260B
						-01L	VOC4T	EPA 8260B
						-01M	C500Z	Alkalinity: Species

Field Test Parameters:

CL2R = 0.1		mg/L
Depth = 11.3		Feet
pH = 7.8		pH Units
Temperature = 14		C

Field Comments:

Field Instructions:

Page 1 of 2 for C013031

East Bay Municipal Utility District Laboratory Services Division Chain of Custody Record

COC #: C013031	Project Title: Bayside Ground Water Project TAT: Standard	Client PM: David Behnken Lab PM: Kristi Schwab Job #:	Expect Date: 11/02/2022 Sampled By: DW/AB/GE ☐ Samples transported on ice

Date	Time	Site/Locator	Sample ID	Type	Matrix	ID	Type	Tests Required

Total Containers for: C013031	12

	Signature	Print Name	Time	Date
Relinquished by:	Anne Beaudoin	Anne Beaudoin	4:40pm	11/2/22
Received by:				
Relinquished by:				
Received by:				
Relinquished by:				
Received by:	Robert Molina	Robert Molina	0803	11/3/22

Container Legend:

A125N = Glass, NM, septa top, 12.5 mg NH4Cl, Amber, 125 mL
CS00Z = Glass, NM, septa top, Clear, 500 mL
PLSTL = Plastic, WM, 1000 mL
PLSTM = Plastic, WM, 500 mL
PLSTS = Plastic, NM, 125 mL
PSQLT = Plastic, square, large, 50 mg Na2S2O3, 1000 mL
VOC4T = Glass, clear, septa top, 3.5 mg Na2S2O3, Clear, 40 mL

Page 2 of 2 for C013031

East Bay Municipal Utility District Laboratory Services Division Chain of Custody Record

COC #: C013031	Project Title: Bayside Ground Water Project TAT: Standard	Client PM: David Behnken Lab PM: Kristi Schwab Job #:	Received Date/Time: 11/03/2022 08:03 Received By: Robert Molina Sampled By: DW/AB/GE Due Date: 12/06/2022

Date	Time	Site/Locator	Sample ID	Type	Matrix	ID	Type	Tests Required
11/02/2022	15:41	GW BAYSIDE - BAY1-MW4	C013031-01	GRAB	Aqueous			+SAMP KIT
						-01A	PLSTL	EPA 200.7-NPW (Ca,Fe,K,Mg,Mn,Na)
						-01B	PLSTL	TDS
						-01C	PLSTM	Hardness
						-01D	PLSTS	EPA 300.1 (Cl,NO3,SO4)
						-01F	PSQLT	Ammonia: Titr-AQ
						-01G	A125N	EPA 552.2
						-01H	A125N	EPA 552.2
						-01I	PLSTM	Oxygen 18
						-01J	VOC4T	EPA 8260B THM
						-01K	VOC4T	EPA 8260B
						-01L	VOC4T	EPA 8260B
						-01M	C500Z	Alkalinity: Species

Field Test Parameters:

CL2R =	0.1	mg/L
Depth =	11.3	Feet
pH =	7.8	pH Units
Temperature =	19	C

Field Comments:

Field Instructions:

Sample External Comments:

Total Containers for: C013031	12

Page 1 of 4 for C013031

EBMUD

C013031 Sample Acceptance Report

Received: 11/03/2022 08:03
Received By: Robert Molina

Chain-of-Custody		Comments
Chilled During Transport?	Yes	
CoC signatures?	Yes	
Collector identified?	Yes	
Date time of collection recorded and legible?	Yes	
Project identified?	Yes	
Received from Sample Drop-off room?	Yes	
Requested analysis identified?	Yes	
Sample I.D.?	Yes	
Sample location?	Yes	
Shipping Slip?	No	

Containers		Comments
Container and label match CoC?	Yes	
Correct container?	Yes	
Correct field preservation?	Yes	
Damaged?	No	
Labels are legible?	Yes	
Possible contamination?	No	
Received within holding times?	Yes	
Sufficient volume?	Yes	

Sample: C013031-01		Comments
Bubbles in ZHS/VOA containers	No	

Page 2 of 4 for C013031

C013031 Sample Acceptance Report

Received: 11/03/2022 08:03
Received By: Robert Molina

Intent to chill

Cooler: 1		**Comments**
Corrected Temp (° C)	6	
IR Thermometer Number	IR #11	
Representative temperature taken from	-01	
Uncorrected Temp (° C)	5.4	
Visible ice formed inside sample container?	No	

Acceptance		**Comments**
PM notified?	N/A	
Received client approval to proceed?	N/A	
Samples meet acceptance requirements?	Yes	

Sample Acceptance Preservation Report

COC: C013031

Report Generated: 11/03/2022 08:10

Inventory Item	Inventory ID	Open Date	Prep Date	Expiration Date
H2SO4 15 mL 1:1 LDPE dropper	ST210716-005	09/25/2020	N/A	09/25/2030
Hydrochloric Acid 1+1 (HCl-03)	ST220526-010	N/A	05/26/2022	05/26/2023
NaOH 15 mL 1:1 LDPE dropper	ST220106-019	N/A	N/A	05/31/2026
NaOH 15 mL 1:1 LDPE dropper	ST210716-007	N/A	N/A	06/10/2030
Nitric Acid TMG	ST210819-002	08/19/2021	N/A	01/08/2023
pH Strip 0-14	ST211026-005	04/20/2022	N/A	08/31/2025
pH Strip 7.9-9.8	ST210901-011	N/A	N/A	06/30/2023
Sulfuric Acid Gr ACS	ST210729-010	04/13/2021	N/A	04/13/2025

Container Number	Container Name	Tests	Preservation Requirement	Result	Initial/ Date
C013031-01A	PLSTL	EPA 200.7-NPW	HNO3 to pH <2. Preservation Time = DSW		11/3/22
C013031-01C	PLSTM	Hardness	HNO3 to pH <2		
C013031-01F	PSQLT	Ammonia: Titi-AQ	Check Cl2R = 0 [PSQLT], then H2SO4 to pH <2		
C013031-01G	A125N	EPA 552.2	Check Container		
C013031-01H	A125N	EPA 552.2-FR	Check Container		
C013031-01K	VOC4T	EPA 8260B-FR	Check Container		
C013031-01L	VOC4T	EPA 8260B-FR	Check Container		

Page 4 of 4 for C013031

Alpha Analytical Laboratories, Inc. email: clientservices@alpha-labs.com
Corporate: 208 Mason Street | Ukiah, CA 95482 | T: 707-468-0401 | F: 707-468-5267 | ELAP# 1551

12 December 2022

EBMUD
Attn: K. Schwab
PO Box 24055
Oakland, CA 94607
RE: Bayside Ground Water Project WDR
Work Order: 22K0850

Enclosed are the results of analyses for samples received by the laboratory on 11/03/22 23:15. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Robbie C. Phillips
Project Manager

Alpha Analytical Laboratories, Inc. email: clientservices@alpha-labs.com
Corporate: 208 Mason Street | Ukiah, CA 95482 | T: 707-468-0401 | F: 707-468-5267 | ELAP# 1551

EBMUD	Project Manager: K. Schwab	
PO Box 24055	Project: Bayside Ground Water Project WDR	Reported:
Oakland CA, 94607	Project Number: C013031	12/12/22 11:40

Bay Area: 262 Rickenbacker Circle | Livermore, CA 94551 | 925-828-6226 | ELAP# 2728
Central Valley: 9090 Union Park Way Suite 113 | Elk Grove, CA 95624 | 916-686-5190 | ELAP# 2922
North Bay: 737 Southpoint Blvd Unit D| Petaluma, CA 94954 | 707-769-3128 | ELAP# 2303
San Diego: 2722 Loker Avenue West Suite A | Carlsbad, CA 92010 | 760-930-2555 | ELAP# 3055
Los Angeles: 1230 E. 223rd Street Suite 205 | Carson, CA 90745 | 424-267-5032 | Service Center

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
C013031-01	22K0850-01	Water	11/02/22 15:41	11/03/22 23:15

This represents an amended copy of the original report.

Subcontracted results added

Alpha Analytical Laboratories, Inc. email: clientservices@alpha-labs.com
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EBMUD	Project Manager: K. Schwab	
PO Box 24055	Project: Bayside Ground Water Project WDR	Reported:
Oakland CA, 94607	Project Number: C013031	12/12/22 11:40

Metals by EPA 200 Series Methods

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Analyst	ELAP #	Notes
C013031-01 (22K0850-01) Water	**Sampled: 11/02/22 15:41**	**Received: 11/03/22 23:15**										
Calcium	**27**	**0.080**	**1.0**	**mg/L**	1	AK24372	11/15/22 16:55	11/17/22 15:13	EPA 200.7	BED	1551	
Iron	ND	0.050	0.10	mg/L	1	AK24372	11/15/22 16:55	11/17/22 15:13	EPA 200.7	BED	1551	U
Magnesium	**9.5**	**0.030**	**1.0**	**mg/L**	1	AK24372	11/15/22 16:55	11/17/22 15:13	EPA 200.7	BED	1551	
Manganese	**0.19**	**0.0020**	**0.020**	**mg/L**	1	AK24372	11/15/22 16:55	11/17/22 15:13	EPA 200.7	BED	1551	
Potassium	**2.4**	**0.20**	**1.0**	**mg/L**	1	AK24372	11/15/22 16:55	11/17/22 15:13	EPA 200.7	BED	1551	
Sodium	**100**	**0.30**	**1.0**	**mg/L**	1	AK24372	11/15/22 16:55	11/17/22 16:14	EPA 200.7	BED	1551	

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EBMUD	Project Manager: K. Schwab	
PO Box 24055	Project: Bayside Ground Water Project WDR	Reported:
Oakland CA, 94607	Project Number: C013031	12/12/22 11:40

Conventional Chemistry Parameters by APHA/EPA Methods

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Analyst	ELAP #	Notes
C013031-01 (22K0850-01) Water Sampled: 11/02/22 15:41 Received: 11/03/22 23:15												
Total Dissolved Solids	360	10	10	mg/L	1	AK23796	11/08/22 20:23	11/29/22 20:00	SM2540C	PBM	1551	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Page 3 of 10

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EBMUD	Project Manager: K. Schwab	
PO Box 24055	Project: Bayside Ground Water Project WDR	Reported:
Oakland CA, 94607	Project Number: C013031	12/12/22 11:40

Volatile Organic Compounds by EPA Method 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Analyst	ELAP #	Notes
C013031-01 (22K0850-01) Water Sampled: 11/02/22 15:41 Received: 11/03/22 23:15												
Bromodichloromethane	ND	0.08	0.50	ug/L	1	AK23652	11/08/22 11:00	11/09/22 01:06	EPA 8260B	JV	1551	U
Bromoform	ND	0.30	0.50	ug/L	1	AK23652	11/08/22 11:00	11/09/22 01:06	EPA 8260B	JV	1551	U
Chloroform	ND	0.06	0.50	ug/L	1	AK23652	11/08/22 11:00	11/09/22 01:06	EPA 8260B	JV	1551	U
Dibromochloromethane	ND	0.10	0.50	ug/L	1	AK23652	11/08/22 11:00	11/09/22 01:06	EPA 8260B	JV	1551	U
Trihalomethanes (total)	ND	0.40	0.50	ug/L	1	AK23652	11/08/22 11:00	11/09/22 01:06	EPA 8260B	JV	1551	U
Surrogate: Bromofluorobenzene		*107 %*		*70-130*		*AK23652*	*11/08/22 11:00*	*11/09/22 01:06*	*EPA 8260B*	*JV*	1551	
Surrogate: Dibromofluoromethane		*93.8 %*		*70-130*		*AK23652*	*11/08/22 11:00*	*11/09/22 01:06*	*EPA 8260B*	*JV*	1551	
Surrogate: Toluene-d8		*105 %*		*70-130*		*AK23652*	*11/08/22 11:00*	*11/09/22 01:06*	*EPA 8260B*	*JV*	1551	

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EBMUD	Project Manager: K. Schwab	
PO Box 24055	Project: Bayside Ground Water Project WDR	Reported:
Oakland CA, 94607	Project Number: C013031	12/12/22 11:40

Metals by EPA 200 Series Methods - Quality Control

Analyte	Result	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch AK24372 - Metals Digest											
Blank (AK24372-BLK1)					Prepared: 11/15/22 Analyzed: 11/17/22						
Calcium	ND	0.080	1.0	mg/L							U
Iron	ND	0.050	0.10	mg/L							U
Magnesium	ND	0.030	1.0	mg/L							U
Manganese	ND	0.0020	0.020	mg/L							U
Potassium	ND	0.20	1.0	mg/L							U
Sodium	ND	0.30	1.0	mg/L							U
LCS (AK24372-BS1)					Prepared: 11/15/22 Analyzed: 11/17/22						
Calcium	2.55	0.080	1.0	mg/L	2.51		102	85-115			
Iron	2.05	0.050	0.10	mg/L	2.00		103	85-115			
Magnesium	8.15	0.030	1.0	mg/L	8.00		102	85-115			
Manganese	0.212	0.0020	0.020	mg/L	0.200		106	85-115			
Potassium	8.30	0.20	1.0	mg/L	8.00		104	85-115			
Sodium	8.08	0.30	1.0	mg/L	8.00		101	85-115			
Duplicate (AK24372-DUP1)		Source: 22K0855-01			Prepared: 11/15/22 Analyzed: 11/17/22						
Calcium	43.3	0.080	1.0	mg/L		42.4			2.26	20	
Iron	0.0697	0.050	0.10	mg/L		0.0667			4.39	20	J
Magnesium	10.6	0.030	1.0	mg/L		10.5			1.39	20	
Manganese	0.234	0.0020	0.020	mg/L		0.230			1.49	20	
Potassium	2.22	0.20	1.0	mg/L		2.17			2.00	20	
Sodium	128	0.30	1.0	mg/L		124			3.06	20	
MRL Check (AK24372-MRL1)					Prepared: 11/15/22 Analyzed: 11/17/22						
Sodium	ND	0.30	1.0	mg/L	0.100			0-200			U
Matrix Spike (AK24372-MS1)		Source: 22K0855-01			Prepared: 11/15/22 Analyzed: 11/17/22						
Calcium	45.3	0.080	1.0	mg/L	2.51	42.4	118	70-130			
Iron	2.13	0.050	0.10	mg/L	2.00	0.0667	103	70-130			
Magnesium	18.9	0.030	1.0	mg/L	8.00	10.5	105	70-130			
Manganese	0.443	0.0020	0.020	mg/L	0.200	0.230	106	70-130			
Potassium	11.0	0.20	1.0	mg/L	8.00	2.17	110	70-130			
Sodium	132	0.30	1.0	mg/L	8.00	124	97.3	70-130			

Alpha Analytical Laboratories, Inc. email: clientservices@alpha-labs.com
Corporate: 208 Mason Street | Ukiah, CA 95482 | T: 707-468-0401 | F: 707-468-5267 | ELAP# 1551

EBMUD	Project Manager: K. Schwab	
PO Box 24055	Project: Bayside Ground Water Project WDR	Reported:
Oakland CA, 94607	Project Number: C013031	12/12/22 11:40

Metals by EPA 200 Series Methods - Quality Control

Analyte	Result	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch AK24372 - Metals Digest											
Matrix Spike (AK24372-MS2)		Source: 22K0847-01			Prepared: 11/15/22 Analyzed: 11/17/22						
Calcium	36.9	0.080	1.0	mg/L	2.51	33.9	119	70-130			
Iron	2.04	0.050	0.10	mg/L	2.00	ND	102	70-130			
Magnesium	16.8	0.030	1.0	mg/L	8.00	8.51	104	70-130			
Manganese	0.404	0.0020	0.020	mg/L	0.200	0.198	103	70-130			
Potassium	11.0	0.20	1.0	mg/L	8.00	2.17	110	70-130			
Sodium	124	0.30	1.0	mg/L	8.00	115	115	70-130			
Matrix Spike Dup (AK24372-MSD1)		Source: 22K0855-01			Prepared: 11/15/22 Analyzed: 11/17/22						
Calcium	44.9	0.080	1.0	mg/L	2.51	42.4	101	70-130	0.944	20	
Iron	2.12	0.050	0.10	mg/L	2.00	0.0667	103	70-130	0.491	20	
Magnesium	18.8	0.030	1.0	mg/L	8.00	10.5	104	70-130	0.513	20	
Manganese	0.441	0.0020	0.020	mg/L	0.200	0.230	105	70-130	0.413	20	
Potassium	11.0	0.20	1.0	mg/L	8.00	2.17	110	70-130	0.108	20	
Sodium	132	0.30	1.0	mg/L	8.00	124	97.9	70-130	0.0332	20	

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EBMUD	Project Manager: K. Schwab	
PO Box 24055	Project: Bayside Ground Water Project WDR	Reported:
Oakland CA, 94607	Project Number: C013031	12/12/22 11:40

Conventional Chemistry Parameters by APHA/EPA Methods - Quality Control

Analyte	Result	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch AK23796 - General Preparation											
Blank (AK23796-BLK1)					Prepared: 11/08/22 Analyzed: 11/29/22						
Total Dissolved Solids	ND	10	10	mg/L							U
Duplicate (AK23796-DUP1)		Source: 22K0509-01			Prepared: 11/08/22 Analyzed: 11/29/22						
Total Dissolved Solids	242	10	10	mg/L		238			1.67	15	
Duplicate (AK23796-DUP2)		Source: 22K0638-02			Prepared: 11/08/22 Analyzed: 11/29/22						
Total Dissolved Solids	236	10	10	mg/L		246			4.15	15	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

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EBMUD	Project Manager: K. Schwab	
PO Box 24055	Project: Bayside Ground Water Project WDR	Reported:
Oakland CA, 94607	Project Number: C013031	12/12/22 11:40

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Analyte	Result	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch AK23652 - VOAs in Water GCMS											
Blank (AK23652-BLK1)					Prepared & Analyzed: 11/07/22						
Bromodichloromethane	ND	0.08	0.50	ug/L							U
Bromoform	ND	0.30	0.50	ug/L							U
Chloroform	ND	0.06	0.50	ug/L							U
Dibromochloromethane	ND	0.10	0.50	ug/L							U
Trihalomethanes (total)	ND	0.40	0.50	ug/L							U
Surrogate: Bromofluorobenzene	*28.4*			*ug/L*	*25.0*		*113*	*70-130*			
Surrogate: Dibromofluoromethane	*22.8*			*ug/L*	*25.0*		*91.0*	*70-130*			
Surrogate: Toluene-d8	*26.5*			*ug/L*	*25.0*		*106*	*70-130*			
LCS (AK23652-BS1)					Prepared: 11/07/22 Analyzed: 11/08/22						
Bromodichloromethane	18.7	0.08	0.50	ug/L	20.0		93.7	86-135			
Bromoform	21.7	0.30	0.50	ug/L	20.0		109	57-156			
Chloroform	19.6	0.06	0.50	ug/L	20.0		97.9	81-122			
Dibromochloromethane	20.5	0.10	0.50	ug/L	20.0		103	69-133			
Surrogate: Bromofluorobenzene	*27.2*			*ug/L*	*25.0*		*109*	*70-130*			
Surrogate: Dibromofluoromethane	*23.9*			*ug/L*	*25.0*		*95.6*	*70-130*			
Surrogate: Toluene-d8	*26.4*			*ug/L*	*25.0*		*106*	*70-130*			
LCS Dup (AK23652-BSD1)					Prepared: 11/07/22 Analyzed: 11/08/22						
Bromodichloromethane	17.9	0.08	0.50	ug/L	20.0		89.4	86-135	4.64	25	
Bromoform	20.4	0.30	0.50	ug/L	20.0		102	57-156	6.07	25	
Chloroform	18.7	0.06	0.50	ug/L	20.0		93.4	81-122	4.70	25	
Dibromochloromethane	19.7	0.10	0.50	ug/L	20.0		98.3	69-133	4.38	25	
Surrogate: Bromofluorobenzene	*27.1*			*ug/L*	*25.0*		*108*	*70-130*			
Surrogate: Dibromofluoromethane	*25.3*			*ug/L*	*25.0*		*101*	*70-130*			
Surrogate: Toluene-d8	*25.6*			*ug/L*	*25.0*		*103*	*70-130*			
Matrix Spike (AK23652-MS1)		**Source: 22K0875-01**			Prepared: 11/07/22 Analyzed: 11/08/22						
Bromodichloromethane	19.9	0.08	0.50	ug/L	20.0	ND	99.6	62-140			
Bromoform	20.0	0.30	0.50	ug/L	20.0	ND	99.8	47-165			
Chloroform	21.7	0.06	0.50	ug/L	20.0	ND	108	68-121			
Dibromochloromethane	20.6	0.10	0.50	ug/L	20.0	ND	103	54-157			
Surrogate: Bromofluorobenzene	*26.0*			*ug/L*	*25.0*		*104*	*70-130*			
Surrogate: Dibromofluoromethane	*24.9*			*ug/L*	*25.0*		*99.5*	*70-130*			
Surrogate: Toluene-d8	*25.7*			*ug/L*	*25.0*		*103*	*70-130*			

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EBMUD	Project Manager: K. Schwab	
PO Box 24055	Project: Bayside Ground Water Project WDR	Reported:
Oakland CA, 94607	Project Number: C013031	12/12/22 11:40

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Analyte	Result	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch AK23652 - VOAs in Water GCMS											
Matrix Spike Dup (AK23652-MSD1)		**Source: 22K0875-01**			Prepared: 11/07/22 Analyzed: 11/08/22						
Bromodichloromethane	18.6	0.08	0.50	ug/L	20.0	ND	93.1	62-140	6.80	25	
Bromoform	22.3	0.30	0.50	ug/L	20.0	ND	111	47-165	10.9	25	
Chloroform	19.6	0.06	0.50	ug/L	20.0	ND	98.2	68-121	10.0	25	
Dibromochloromethane	21.2	0.10	0.50	ug/L	20.0	ND	106	54-157	3.01	25	
Surrogate: Bromofluorobenzene	*25.9*			*ug/L*	*25.0*		*103*	*70-130*			
Surrogate: Dibromofluoromethane	*22.4*			*ug/L*	*25.0*		*89.6*	*70-130*			
Surrogate: Toluene-d8	*25.6*			*ug/L*	*25.0*		*102*	*70-130*			

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EBMUD	Project Manager: K. Schwab	
PO Box 24055	Project: Bayside Ground Water Project WDR	Reported:
Oakland CA, 94607	Project Number: C013031	12/12/22 11:40

Notes and Definitions

J	Detected but below the Reporting Limit; therefore, result is an estimated concentration, detected but not quantified (DNQ)
U	Analyte included in analysis, but not detected at or above MDL.
ND	Analyte NOT DETECTED at or above the reporting limit
dry	Sample results reported on a dry weight basis
MDL	Method detection limit
Rec	Recovery
RPD	Relative Percent Difference

Non-accredited analytes are reported only when ELAP accreditation for a requested analyte method pair is not available. For a list of accredited analytes, view our certificates at the Company link on our website at www.alpha-labs.com or contact your Project Manager directly.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

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ISOTECH
a Stratum Reservoir brand
www.isotechlabs.com

Lab #:	849581	Job #:	52769	IS-69368	Co. Job#:
Sample Name:	22K0850-01				Co Lab#:
Company:	Alpha Analytical Laboratories, Inc.				
API/Well:					
Container:	500ml Plastic Bottle				
Field/Site Name:	22K0850				
Location:					
Formation/Depth:					
Sampling Point:	C013031-01				
Date Sampled:	11/02/2022 15:41	Date Received:	11/14/2022	Date Reported:	11/30/2022

δD of water	-54.6 ‰ relative to VSMOW
$\delta^{18}O$ of water	-7.94 ‰ relative to VSMOW
Tritium content of water	na
$\delta^{13}C$ of DIC	na
^{14}C content of DIC	na
$\delta^{15}N$ of nitrate	na
$\delta^{18}O$ of nitrate	na
$\delta^{34}S$ of sulfate	na
$\delta^{18}O$ of sulfate	na
Vacuum Distilled? *	No

Remarks:

nd = not detected, na = not analyzed.
*Indicates if vacuum distillation was utilized for hydrogen and oxygen isotopic analysis of water

4.6

East Bay Municipal Utility District Laboratory Services Subcontract Chain of Custody

COC #.	Project Title: Bayside Ground Water Project	Lab PM. Kristi Schwab (510) 287-1696 Shipping Method: Alpha Courier	Sampled By: DW/AB/GE
C013031	TAT Standard	PO#. BRD-13921-AX Expiration 12/31/2023	Submitted Date:

Date	Time	Sample ID	Location/PS Code	Matrix	Container ID	Type	Tests Required	Method Reference
11/02/2022	15 41	C013031-01	GW BAYSIDE - BAY1-MW4	Aqueous	-01A	PLSTL	EPA 200 7 NPW (Ca,Fe K Mg,Mn,Na)	EPA 200 7 (1994 Rev 4 4)
					-01B	PLSTL	TDS	SM 2540 C-2011
					-01I	PLSTM	Oxygen 18	D18O
					-01J	VOC4T	EPA 8260B THM	EPA 8260B
					-01K	VOC4T	EPA 8260B	Bottle for QC (2)
					-01L	VOC4T	EPA 8260B	Bottle for QC (2)
Comments Alpha Isotope analysis for Oxygen-18 and Hydrogen-2 (subcontracted). Total Dissolved Solids (TDS) by SM2540C. THMs by EPA 8260. Metals by EPA 200 7 (Ca, Fe, K Mg, Mn, Na)								
			Total containers received	6				

	Signature	Print Name	Time	Date
Relinquished by	Robert Molina	Robert Molina	1430	11/3/22
Received by	James Todd	James Todd	1640	11/3/22
Relinquished by	James Todd	James Todd	2315	11/3/22
Received by				
Relinquished by				
Received by				

Send results and invoice to
Kristi Schwab (kristi.lorenson@ebmud.com)
EBMUD Laboratory
PO Box 24055 MS #59
Oakland, CA 94623
(510) 287-1696

SUBCONTRACT Please notify Lab PM if TAT is delayed and/or Hold Time will be exceeded
Alpha Analytical Laboratory
208 Mason St
Ukiah CA 95482
707-468-0401

Page 1 of 1

East Bay Municipal Utility District
2020 Wake Ave, Oakland, CA 94623 T: 510-287-1432

Laboratory Services Division
ELAP#1060

Analytical Results Report

14 December 2022

David Behnken

MS 704

Re: Bayside Ground Water Project

COC# C013033

Report Generated: 12/13/2022 16:46

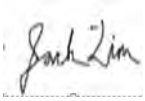
Login Performance Summary

- 0 Lost Analyses
- 0 Hold Time Exceedances
- Analytical analyses did not meet the turnaround time

Report Notes

For questions concerning this report, please contact:

Reported By:



Jack Lim

Senior Chemist

Approved By:

Yuyun Shang

Lab Manager

Samples for C013033

Samples Included in the Report

Sample Number	Sample Type	Sampled Date	Location Name	Sample Name
C013033-01	GRAB	Nov 03 2022 12:57	GW BAYSIDE - BAY1-MW5D	-

Samples Results for C013033

Sample ID: C013033-01
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
Client: Bayside Ground Water Project
Sample Type: GRAB
Date Collected: Nov 03 2022 12:57 **Sample Collector:** AB, DW, KK
Date Received: Nov 03 2022 15:12 **Sample Receiver:** A Ng
Sample Comments: Field Comments: Sunny :)

Analyte	Qualifier	Result	MDL	RL	Units	DF	Batch	Prepared	Analyzed
Field data entry into LIMS									
TARGET ANALYTES									
CL2R		**0.2**	0.02		mg/L				11/03/2022 12:57
Field data entry into LIMS									
TARGET ANALYTES									
Depth		**45**			Feet				11/03/2022 12:57
Field data entry into LIMS									
TARGET ANALYTES									
pH		**7.33**			pH Units				11/03/2022 12:57
Field data entry into LIMS									
TARGET ANALYTES									
Temperature		**22.5**			C				11/03/2022 12:57
Total Dissolved Solids by SM2540C									
Subcontract data from: Alpha Analytical Laboratory ELAP#: Refer to external lab report									
TARGET ANALYTES									
Total Dissolved Solids		**510**	10	10	mg/L	1			11/10/2022 20:00
Comments: SUB: Analysis date reported is date filtered by sub lab, as per EBMUD SOP									
Alkalinity by SM 2320 B-2011									
TARGET ANALYTES									
Alkalinity: Total as CaCO3		**240**	5	30	mg/L	1.0	B221104-002		11/04/2022 09:31
Alkalinity: Carbonate	U	5	5	30	mg/L	1.0	B221104-002		11/04/2022 09:31
Alkalinity: Bicarbonate		**240**	5	30	mg/L	1.0	B221104-002		11/04/2022 09:31
Alkalinity: Hydroxide	U	5	5	30	mg/L	1.0	B221104-002		11/04/2022 09:31
Ammonia as N by SM 4500-NH3 C-2011									
TARGET ANALYTES									
Ammonia as N	U	0.25	0.25	1.5	mg/L	1.0	B221117-007		11/17/2022 08:31
Hardness as CaCO3 by SM 2340 C-2011									
TARGET ANALYTES									
Hardness as CaCO3		**130**	4	7	mg/L	1.0	B221110-012		11/10/2022 07:38
Anions by EPA 300.1									
TARGET ANALYTES									
Chloride		**83**	0.46	2.0	mg/L	10	B221103-003		11/04/2022 00:16
Nitrate as N	U	0.023	0.023	0.30	mg/L	10	B221103-003		11/04/2022 00:16
Sulfate		**50**	0.69	2.0	mg/L	10	B221103-003		11/04/2022 00:16
SURROGATES									
Dichloroacetate (%)		101			%	10	B221103-003		11/04/2022 00:16

Samples Results for C013033

Sample ID: C013033-01
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
Client: Bayside Ground Water Project
Sample Type: GRAB
Date Collected: Nov 03 2022 12:57 — **Sample Collector:** AB, DW, KK
Date Received: Nov 03 2022 15:12 — **Sample Receiver:** A Ng
Sample Comments: Field Comments: Sunny :)

Analyte	Qualifier	Result	MDL	RL	Units	DF	Batch	Prepared	Analyzed
Metals by EPA 200.7									
Subcontract data from: Alpha Analytical Laboratory ELAP#: Refer to external lab report									
TARGET ANALYTES									
Calcium		**42**	0.080	1.0	mg/L	1		11/15/2022 16:55	11/17/2022 14:33
Comments: SUB									
Iron	**J**	**0.067**	0.050	0.10	mg/L	1		11/15/2022 16:55	11/17/2022 14:33
Comments: SUB: Detected but below the reporting limit; therefore, result is an estimated concentration, detected but not quantified (DNQ).									
Potassium		**2.2**	0.20	1.0	mg/L	1		11/15/2022 16:55	11/17/2022 14:33
Comments: SUB									
Magnesium		**10**	0.030	1.0	mg/L	1		11/15/2022 16:55	11/17/2022 14:33
Comments: SUB									
Manganese		**0.23**	0.0020	0.020	mg/L	1		11/15/2022 16:55	11/17/2022 14:33
Comments: SUB									
Sodium		**120**	0.30	1.0	mg/L	1		11/15/2022 16:55	11/17/2022 16:05
Comments: SUB									
Haloacetic Acids, GC/ECD by EPA 552.2									
TARGET ANALYTES									
Bromochloroacetic Acid	U	0.17	0.17	1.0	ug/L	1.0	B221110-016	11/09/2022 10:00	11/14/2022 21:25
Comments: Compound not available for certification by ELAP									
Bromodichloroacetic Acid	U	0.29	0.29	1.0	ug/L	1.0	B221110-016	11/09/2022 10:00	11/14/2022 21:25
Comments: Compound not available for certification by ELAP									
Chlorodibromoacetic Acid	U	0.31	0.31	1.0	ug/L	1.0	B221110-016	11/09/2022 10:00	11/14/2022 21:25
Comments: Compound not available for certification by ELAP									
Dibromoacetic Acid	U	0.15	0.15	1.0	ug/L	1.0	B221110-016	11/09/2022 10:00	11/14/2022 21:25
Dichloroacetic Acid	U	0.20	0.20	1.0	ug/L	1.0	B221110-016	11/09/2022 10:00	11/14/2022 21:25
Monobromoacetic Acid	U	0.16	0.16	1.0	ug/L	1.0	B221110-016	11/09/2022 10:00	11/14/2022 21:25
Monochloroacetic Acid	U	0.45	0.45	1.0	ug/L	1.0	B221110-016	11/09/2022 10:00	11/14/2022 21:25
Tribromoacetic Acid	U	0.49	0.49	1.0	ug/L	1.0	B221110-016	11/09/2022 10:00	11/14/2022 21:25
Comments: Compound not available for certification by ELAP									
Trichloroacetic Acid	U	0.25	0.25	1.0	ug/L	1.0	B221110-016	11/09/2022 10:00	11/14/2022 21:25
HAA(5), calculated		**0.00**		1.0	ug/L	1.0	B221110-016	11/09/2022 10:00	11/14/2022 21:25
Comments: HAA (5) calculation uses a zero for any individual HAA result less than the California DLR for that HAA									
HAA(9), calculated		**0.00**		1.0	ug/L	1.0	B221110-016	11/09/2022 10:00	11/14/2022 21:25
INTERNAL STANDARD									
1,2,3-Trichloropropane (%)		90			%	1.0	B221110-016	11/09/2022 10:00	11/14/2022 21:25
SURROGATES									
2,3-Dibromopropionic Acid (%)		107			%	1.0	B221110-016	11/09/2022 10:00	11/14/2022 21:25

Samples Results for C013033

Sample ID:	C013033-01		
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	
Client:	Bayside Ground Water Project		
Sample Type:	GRAB		
Date Collected:	Nov 03 2022 12:57	**Sample Collector:**	AB, DW, KK
Date Received:	Nov 03 2022 15:12	**Sample Receiver:**	A Ng
Sample Comments:	Field Comments: Sunny :)		

Oxygen 18 Isotope Analysis

Subcontract data from: Alpha Analytical Laboratory ELAP#: Refer to external lab report

Test External Comments: Original sub report attached to end of this report

TARGET ANALYTES

Analyte	Qualifier	Result	MDL	RL	Units	DF	Batch	Prepared	Analyzed
See subcontract report		**Original Report transmitted to client and accessib**							

Trihalomethanes, Total, GC/MS by EPA 8260B

Subcontract data from: Alpha Analytical Laboratory ELAP#: Refer to external lab report

TARGET ANALYTES

Analyte	Qualifier	Result	MDL	RL	Units	DF	Batch	Prepared	Analyzed
Bromodichloromethane	U	0.08	0.08	0.50	ug/L	1		11/14/2022 16:00	11/15/2022 11:10
	Comments: SUB: Analyte included in analysis but not detected at or above MDL								
Bromoform	U	0.30	0.30	0.50	ug/L	1		11/14/2022 16:00	11/15/2022 11:10
	Comments: SUB: Analyte included in analysis but not detected at or above MDL								
Chloroform	U	0.06	0.06	0.50	ug/L	1		11/14/2022 16:00	11/15/2022 11:10
	Comments: SUB: Analyte included in analysis but not detected at or above MDL								
Dibromochloromethane	U	0.10	0.10	0.50	ug/L	1		11/14/2022 16:00	11/15/2022 11:10
	Comments: SUB: Analyte included in analysis but not detected at or above MDL								
Total Trihalomethanes, calculated	U	0.40	0.40	0.50	ug/L	1		11/14/2022 16:00	11/15/2022 11:10
	Comments: SUB: Analyte included in analysis but not detected at or above MDL								

Quality Control for C013033

Analyte	Qualifier	Result	MDL	RL	Units	Spike Level	Source Result	% REC	% REC Limits	RPD	RPD Limits
Alkalinity DUP by SM 2320 B-2011, B221104-002											
B221104-002 analyzed on 11/04/2022 09:07; Source = C011937-01											
Alkalinity: Total as CaCO3		**400**	5	30	mg/L		400			0.3	20
Alkalinity LCS by SM 2320 B-2011, B221104-002											
B221104-002 analyzed on 11/04/2022 08:37											
Alkalinity: Total as CaCO3		400	5	30	mg/L	400		101	85 - 115		
Alkalinity MB by SM 2320 B-2011, B221104-002											
B221104-002 analyzed on 11/04/2022 08:29											
Alkalinity: Total as CaCO3	U	5	5	30	mg/L						
Alkalinity MS by SM 2320 B-2011, B221104-002											
B221104-002 analyzed on 11/04/2022 09:13; Source = C011937-01											
Alkalinity: Total as CaCO3		800	5	30	mg/L	400	400	100	80 - 120		
Alkalinity QCS by SM 2320 B-2011, B221104-002											
B221104-002 analyzed on 11/04/2022 08:45											
Alkalinity: Total as CaCO3		85	5	30	mg/L	81		105	91 - 111		
Hardness as CaCO3 DUP by SM 2340 C-2011, B221110-012											
B221110-012 analyzed on 11/10/2022 07:38; Source = C011888-01											
Hardness as CaCO3		**18**	4	7	mg/L		18			0.00	10
Hardness as CaCO3 DUP by SM 2340 C-2011, B221110-012											
B221110-012 analyzed on 11/10/2022 07:38; Source = C013150-01											
Hardness as CaCO3		**21**	4	7	mg/L		22			3.7	10
Hardness as CaCO3 LCS by SM 2340 C-2011, B221110-012											
B221110-012 analyzed on 11/10/2022 07:38											
Hardness as CaCO3		130	4	7	mg/L	120		104	85 - 115		
Hardness as CaCO3 LOQ by SM 2340 C-2011, B221110-012											
B221110-012 analyzed on 11/10/2022 07:38											
Hardness as CaCO3	E1	6	4	7	mg/L	7.0		86	50 - 150		
Hardness as CaCO3 MB by SM 2340 C-2011, B221110-012											
B221110-012 analyzed on 11/10/2022 07:38											
Hardness as CaCO3	U	4	4	7	mg/L						

Quality Control for C013033

Analyte	Qualifier	Result	MDL	RL	Units	Spike Level	Source Result	% REC	% REC Limits	RPD	RPD Limits
Hardness as CaCO3 MS by SM 2340 C-2011, B221110-012											
B221110-012 analyzed on 11/10/2022 07:38; Source = C011888-01											
Hardness as CaCO3		140	4	7	mg/L	120	18	99	85 - 115		
Hardness as CaCO3 MS by SM 2340 C-2011, B221110-012											
B221110-012 analyzed on 11/10/2022 07:38; Source = C013150-01											
Hardness as CaCO3		140	4	7	mg/L	120	22	98	85 - 115		
Hardness as CaCO3 QCS by SM 2340 C-2011, B221110-012											
B221110-012 analyzed on 11/10/2022 07:38											
Hardness as CaCO3		180	4	7	mg/L	170		105	91 - 107		
Ammonia as N DUP by SM 4500-NH3 C-2011, B221117-007											
B221117-007 analyzed on 11/17/2022 08:31; Source = C012590-09											
Ammonia as N		**46**	1.2	7.5	mg/L		45			1.2	10
Ammonia as N LCS by SM 4500-NH3 C-2011, B221117-007											
B221117-007 analyzed on 11/17/2022 08:31											
Ammonia as N		12	0.25	1.5	mg/L	12		98	85 - 115		
Ammonia as N MB by SM 4500-NH3 C-2011, B221117-007											
B221117-007 analyzed on 11/17/2022 08:31											
Ammonia as N	U	0.25	0.25	1.5	mg/L						
Ammonia as N MS by SM 4500-NH3 C-2011, B221117-007											
B221117-007 analyzed on 11/17/2022 08:31; Source = C012590-09											
Ammonia as N		100	1.2	7.5	mg/L	60	45	98	80 - 120		
Ammonia as N MSD by SM 4500-NH3 C-2011, B221117-007											
B221117-007 analyzed on 11/17/2022 08:31; Source = C012590-09											
Ammonia as N		100	1.2	7.5	mg/L	60	45	97	80 - 120	0.3	15
Anions LCS by EPA 300.1, B221103-003											
B221103-003 analyzed on 11/03/2022 11:02											
Chloride		0.98	0.046	0.2	mg/L	1.0		98	85 - 115		
Nitrate as N		0.046	0.0023	0.03	mg/L	0.05		93	85 - 115		
Sulfate		0.94	0.069	0.2	mg/L	1.0		94	85 - 115		
Dichloroacetate (%)		100			%						
Anions LOQ by EPA 300.1, B221103-003											
B221103-003 analyzed on 11/03/2022 10:24											
Chloride		0.21	0.046	0.2	mg/L	0.20		105	50 - 150		
Nitrate as N		0.030	0.0023	0.03	mg/L	0.03		100	50 - 150		
Sulfate		0.22	0.069	0.2	mg/L	0.20		111	50 - 150		

Quality Control for C013033

Analyte	Qualifier	Result	MDL	RL	Units	Spike Level	Source Result	% REC	% REC Limits	RPD	RPD Limits
Dichloroacetate (%)		108			%						
Anions MB by EPA 300.1, B221103-003											
B221103-003 analyzed on 11/03/2022 09:46											
Chloride	U	0.046	0.046	0.2	mg/L						
Nitrate as N	U	0.0023	0.0023	0.03	mg/L						
Sulfate	U	0.069	0.069	0.2	mg/L						
Dichloroacetate (%)		100			%						
Anions DUP by EPA 300.1, B221103-003											
B221103-003 analyzed on 11/03/2022 16:43; Source = C010386-01											
Nitrate as N	U	0.0023	0.0023	0.030	mg/L		0.0023			NC	10
Dichloroacetate (%)		106			%		98				
Anions MS by EPA 300.1, B221103-003											
B221103-003 analyzed on 11/03/2022 17:20; Source = C010386-01											
Nitrate as N		0.048	0.0023	0.030	mg/L	0.05	0.0023	95	75 - 125		
Dichloroacetate (%)		102			%		98				
Haloacetic Acids, GC/ECD LCS by EPA 552.2, B221110-016											
B221110-016 analyzed on 11/14/2022 10:31; B221109-004 prepared on 11/09/2022 10:00											
Bromochloroacetic Acid		16	0.17	1	ug/L	15		105	70 - 130		
Bromodichloroacetic Acid		16	0.29	1	ug/L	15		104	70 - 130		
Chlorodibromoacetic Acid		17	0.31	1	ug/L	15		112	70 - 130		
Dibromoacetic Acid		16	0.15	1	ug/L	15		106	70 - 130		
Dichloroacetic Acid		14	0.20	1	ug/L	15		94	70 - 130		
Monobromoacetic Acid		15	0.16	1	ug/L	15		99	70 - 130		
Monochloroacetic Acid		15	0.45	1	ug/L	15		102	70 - 130		
Tribromoacetic Acid		17	0.49	1	ug/L	15		113	70 - 130		
Trichloroacetic Acid		16	0.25	1	ug/L	15		104	70 - 130		
1,2,3-Trichloropropane (%)		92			%						
2,3-Dibromopropionic Acid (%)		106			%						
Haloacetic Acids, GC/ECD LOQ by EPA 552.2, B221110-016											
B221110-016 analyzed on 11/14/2022 09:36; B221109-004 prepared on 11/09/2022 10:00											
Bromochloroacetic Acid	E1	0.98	0.17	1	ug/L	1.0		98	50 - 150		
Bromodichloroacetic Acid	E1	0.89	0.29	1	ug/L	1.0		89	50 - 150		
Chlorodibromoacetic Acid	E1	0.84	0.31	1	ug/L	1.0		84	50 - 150		
Dibromoacetic Acid	E1	0.98	0.15	1	ug/L	1.0		98	50 - 150		
Dichloroacetic Acid	E1	0.95	0.20	1	ug/L	1.0		95	50 - 150		
Monobromoacetic Acid		1.1	0.16	1	ug/L	1.0		111	50 - 150		
Monochloroacetic Acid	E1	0.94	0.45	1	ug/L	1.0		94	50 - 150		
Tribromoacetic Acid	E1	0.84	0.49	1	ug/L	1.0		84	50 - 150		
Trichloroacetic Acid	E1	0.91	0.25	1	ug/L	1.0		91	50 - 150		
1,2,3-Trichloropropane (%)		100			%						
2,3-Dibromopropionic Acid (%)		103			%						

Quality Control for C013033

Analyte	Qualifier	Result	MDL	RL	Units	Spike Level	Source Result	% REC	% REC Limits	RPD	RPD Limits
Haloacetic Acids, GC/ECD MB by EPA 552.2, B221110-016											
B221110-016 analyzed on 11/14/2022 09:11; B221109-004 prepared on 11/09/2022 10:00											
Bromochloroacetic Acid	U	0.17	0.17	1	ug/L						
Bromodichloroacetic Acid	U	0.29	0.29	1	ug/L						
Chlorodibromoacetic Acid	U	0.31	0.31	1	ug/L						
Dibromoacetic Acid	U	0.15	0.15	1	ug/L						
Dichloroacetic Acid	U	0.20	0.20	1	ug/L						
Monobromoacetic Acid	U	0.16	0.16	1	ug/L						
Monochloroacetic Acid	U	0.45	0.45	1	ug/L						
Tribromoacetic Acid	U	0.49	0.49	1	ug/L						
Trichloroacetic Acid	U	0.25	0.25	1	ug/L						
1,2,3-Trichloropropane (%)		101			%						
2,3-Dibromopropionic Acid (%)		101			%						
Haloacetic Acids, GC/ECD MS by EPA 552.2, B221110-016											
B221110-016 analyzed on 11/14/2022 16:02; B221109-004 prepared on 11/09/2022 10:00; Source = C012088-03											
Bromochloroacetic Acid		16	0.17	1.0	ug/L	15	0.17	104	70 - 130		
Bromodichloroacetic Acid		16	0.29	1.0	ug/L	15	0.29	107	70 - 130		
Chlorodibromoacetic Acid		17	0.31	1.0	ug/L	15	0.31	116	70 - 130		
Dibromoacetic Acid		16	0.15	1.0	ug/L	15	0.15	106	70 - 130		
Dichloroacetic Acid		16	0.20	1.0	ug/L	15	0.20	105	70 - 130		
Monobromoacetic Acid		15	0.16	1.0	ug/L	15	0.16	100	70 - 130		
Monochloroacetic Acid		16	0.45	1.0	ug/L	15	0.45	104	70 - 130		
Tribromoacetic Acid		18	0.49	1.0	ug/L	15	0.49	118	70 - 130		
Trichloroacetic Acid		16	0.25	1.0	ug/L	15	0.25	104	70 - 130		
1,2,3-Trichloropropane (%)		92			%		93				
2,3-Dibromopropionic Acid (%)		105			%		108				
Haloacetic Acids, GC/ECD MS by EPA 552.2, B221110-016											
B221110-016 analyzed on 11/14/2022 21:50; B221109-004 prepared on 11/09/2022 10:00; Source = C012066-01											
Bromochloroacetic Acid		16	0.17	1.0	ug/L	15	0.30	104	70 - 130		
Bromodichloroacetic Acid		16	0.29	1.0	ug/L	15	0.29	109	70 - 130		
Chlorodibromoacetic Acid		18	0.31	1.0	ug/L	15	0.31	118	70 - 130		
Dibromoacetic Acid		16	0.15	1.0	ug/L	15	0.15	104	70 - 130		
Dichloroacetic Acid		22	0.20	1.0	ug/L	15	8.5	93	70 - 130		
Monobromoacetic Acid		17	0.16	1.0	ug/L	15	0.16	116	70 - 130		
Monochloroacetic Acid		16	0.45	1.0	ug/L	15	0.45	110	70 - 130		
Tribromoacetic Acid		19	0.49	1.0	ug/L	15	0.49	124	70 - 130		
Trichloroacetic Acid		22	0.25	1.0	ug/L	15	6.9	98	70 - 130		
1,2,3-Trichloropropane (%)		89			%		93				
2,3-Dibromopropionic Acid (%)		102			%		104				
Haloacetic Acids, GC/ECD MSD by EPA 552.2, B221110-016											
B221110-016 analyzed on 11/14/2022 16:27; B221109-004 prepared on 11/09/2022 10:00; Source = C012088-03											
Bromochloroacetic Acid		15	0.17	1.0	ug/L	15	0.17	99	70 - 130	4.5	20
Bromodichloroacetic Acid		15	0.29	1.0	ug/L	15	0.29	99	70 - 130	7.8	20
Chlorodibromoacetic Acid		16	0.31	1.0	ug/L	15	0.31	108	70 - 130	6.8	20
Dibromoacetic Acid		15	0.15	1.0	ug/L	15	0.15	102	70 - 130	4.4	20
Dichloroacetic Acid		17	0.20	1.0	ug/L	15	0.20	112	70 - 130	6.1	20
Monobromoacetic Acid		15	0.16	1.0	ug/L	15	0.16	100	70 - 130	0.5	20
Monochloroacetic Acid		16	0.45	1.0	ug/L	15	0.45	106	70 - 130	2.2	20
Tribromoacetic Acid		17	0.49	1.0	ug/L	15	0.49	112	70 - 130	5.1	20

Quality Control for C013033

Analyte	Qualifier	Result	MDL	RL	Units	Spike Level	Source Result	% REC	% REC Limits	RPD	RPD Limits
Trichloroacetic Acid		15	0.25	1.0	ug/L	15	0.25	99	70 - 130	4.9	20
1,2,3-Trichloropropane (%)		96			%		93				
2,3-Dibromopropionic Acid (%)		100			%		108				

Haloacetic Acids, GC/ECD MSD by EPA 552.2, B221110-016

B221110-016 analyzed on 11/14/2022 22:15; B221109-004 prepared on 11/09/2022 10:00; Source = C012066-01

Bromochloroacetic Acid		15	0.17	1.0	ug/L	15	0.30	100	70 - 130	3.8	20
Bromodichloroacetic Acid		16	0.29	1.0	ug/L	15	0.29	103	70 - 130	5.6	20
Chlorodibromoacetic Acid		17	0.31	1.0	ug/L	15	0.31	111	70 - 130	5.7	20
Dibromoacetic Acid		15	0.15	1.0	ug/L	15	0.15	98	70 - 130	5.1	20
Dichloroacetic Acid		23	0.20	1.0	ug/L	15	8.5	96	70 - 130	2.1	20
Monobromoacetic Acid		16	0.16	1.0	ug/L	15	0.16	110	70 - 130	5.0	20
Monochloroacetic Acid		16	0.45	1.0	ug/L	15	0.45	106	70 - 130	3.7	20
Tribromoacetic Acid		17	0.49	1.0	ug/L	15	0.49	115	70 - 130	7.8	20
Trichloroacetic Acid		21	0.25	1.0	ug/L	15	6.9	91	70 - 130	4.9	20
1,2,3-Trichloropropane (%)		92			%		93				
2,3-Dibromopropionic Acid (%)		98			%		104				

Qualifiers and Definitions

E1	Concentration estimated. Analyte detected below reporting limit (RL) but above MDL. For SIP, E1=DNQ, Estimated Concentration.
NC	RPD not calculable. Result less than MDL.
U	Analyte not detected.

Qualifiers for subcontract work – see parameter comment for description
Corrections for dilutions for matrix effects applied to the MDL and RL.

QC Types and Definitions

DUP	Duplicate Sample
LCS	Laboratory Control Sample
LOQ	Limit of Quantitation
MB	Method Blank
MS	Matrix Spike
MSD	Matrix Spike Duplicate
QCS	Quality Control Sample

East Bay Municipal Utility District Laboratory Services Division Chain of Custody Record

COC #: C013033	Project Title: Bayside Ground Water Project TAT: Standard	Client PM: David Behnken Lab PM: Kristi Schwab Job #:	Expect Date: 11/03/2022 Sampled By: AB, DW, HK ☒ Samples transported on ice

Date	Time	Site/Locator	Sample ID	Type	Matrix	ID	Type	Tests Required
11/3/22	1257	GW BAYSIDE - BAY1-MW5D	C013033-01	GRAB	Aqueous			+SAMP KIT
						-01A	PLSTL	EPA 200.7-NPW (Ca,Fe,K,Mg,Mn,Na)
						-01B	PLSTL	TDS
						-01C	PLSTM	Hardness
						-01D	PLSTS	EPA 300.1 (Cl,NO3,SO4)
						-01F	PSQLT	Ammonia: Tllr-AQ
						-01G	A125N	EPA 552.2
						-01H	A125N	EPA 552.2
						-01I	PLSTM	Oxygen 18
						-01J	VOC4T	EPA 8260B THM
						-01K	VOC4T	EPA 8260B
						-01L	VOC4T	EPA 8260B
						-01M	C500Z	Alkalinity: Species

Field Test Parameters:

CL2R =	0.2	mg/L
Depth =	45	Feet
pH =	7.33	pH Units
Temperature =	22.5°C	C

Field Comments: Sunny/ 0

Field Instructions: —/

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East Bay Municipal Utility District Laboratory Services Division Chain of Custody Record

COC #: C013033	Project Title: Bayside Ground Water Project TAT: Standard	Client PM: David Behnken Lab PM: Kristi Schwab Job #:	Expect Date: 11/03/2022 Sampled By: AB, DW, KK ☒ Samples transported on ice

Date	Time	Site/Locator	Sample ID	Type	Matrix	ID	Type	Tests Required

Total Containers for: C013033	12

	Signature	Print Name	Time	Date
Relinquished by:		David Williams	1447	11/3/22
Received by:				
Relinquished by:				
Received by:				
Relinquished by:				
Received by:		ARGW NK	1512	11/3/22

Container Legend:

A125N = Glass, NM, septa top, 12.5 mg NH4Cl, Amber, 125 mL
C500Z = Glass, NM, septa top, Clear, 500 mL
PLSTL = Plastic, WM, 1000 mL
PLSTM = Plastic, WM, 500 mL
PLSTS = Plastic, NM, 125 mL
PSQLT = Plastic, square, large, 50 mg Na2S2O3, 1000 mL
VOC4T = Glass, clear, septa top, 3.5 mg Na2S2O3, Clear, 40 mL

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East Bay Municipal Utility District Laboratory Services Division Chain of Custody Record

COC #: C013033	Project Title: Bayside Ground Water Project TAT: Standard	Client PM: David Behnken Lab PM: Kristi Schwab Job #:	Received Date/Time: 11/03/2022 15:12 Received By: Alvin Ng Sampled By: AB, DW, KK Due Date: 12/06/2022

Date	Time	Site/Locator	Sample ID	Type	Matrix	ID	Type	Tests Required
11/03/2022	12:57	GW BAYSIDE - BAY1-MW5D	C013033-01	GRAB	Aqueous			+SAMP KIT
						-01A	PLSTL	EPA 200.7-NPW (Ca,Fe,K,Mg,Mn,Na)
						-01B	PLSTL	TDS
						-01C	PLSTM	Hardness
						-01D	PLSTS	EPA 300.1 (Cl,NO3,SO4)
						-01F	PSQLT	Ammonia: Tltr-AQ
						-01G	A125N	EPA 552.2
						-01H	A125N	EPA 552.2
						-01I	PLSTM	Oxygen 18
						-01J	VOC4T	EPA 8260B THM
						-01K	VOC4T	EPA 8260B
						-01L	VOC4T	EPA 8260B
						-01M	C500Z	Alkalinity: Species

Field Test Parameters:		
CL2R =	0.2	mg/L
Depth =	45	Feet
pH =	7.33	pH Units
Temperature =	22.5	C

Field Comments: Sunny :)
Field Instructions:
Sample External Comments:

Total Containers for: C013033	12

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C013033 Sample Acceptance Report

Received: 11/03/2022 15:12
Received By: Alvin Ng

Chain-of-Custody		Comments
Chilled During Transport?	Yes	
CoC signatures?	Yes	
Collector identified?	Yes	
Date time of collection recorded and legible?	Yes	
Project identified?	Yes	
Received from Sample Drop-off room?	Yes	
Requested analysis identified?	Yes	
Sample I.D.?	Yes	
Sample location?	Yes	
Shipping Slip?	No	

Containers		Comments
Container and label match CoC?	Yes	
Correct container?	Yes	
Correct field preservation?	Yes	
Damaged?	No	
Labels are legible?	Yes	
Possible contamination?	No	
Received within holding times?	Yes	
Sufficient volume?	Yes	

Sample: C013033-01		Comments
Bubbles in ZHS/VOA containers	No	

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EBMUD

C013033 Sample Acceptance Report

Received: 11/03/2022 15:12
Received By: Alvin Ng

Intent to chill

Cooler: 1		**Comments**
Corrected Temp (° C)	5.3	
IR Thermometer Number	IR #11	
Representative temperature taken from	-01	
Uncorrected Temp (° C)	4.7	
Visible ice formed inside sample container?	No	

Acceptance		**Comments**
PM notified?	N/A	
Received client approval to proceed?	N/A	
Samples meet acceptance requirements?	Yes	

Sample Acceptance Preservation Report

COC: C013033

Report Generated: 11/03/2022 15:15

Inventory Item	Inventory ID	Open Date	Prep Date	Expiration Date
H2SO4 15 mL 1:1 LDPE dropper	ST210716-005	09/25/2020	N/A	09/25/2030
Hydrochloric Acid 1+1 (HCl-03)	ST220526-010	N/A	05/26/2022	05/26/2023
NaOH 15 mL 1:1 LDPE dropper	ST220106-019	N/A	N/A	05/31/2026
NaOH 15 mL 1:1 LDPE dropper	ST210716-007	N/A	N/A	06/10/2030
Nitric Acid TMG	ST210819-002	08/19/2021	N/A	01/08/2023
pH Strip 0-14	ST211026-005	04/20/2022	N/A	08/31/2025
pH Strip 7.9-9.8	ST210901-011	N/A	N/A	06/30/2023
Sulfuric Acid Gr ACS	ST210729-010	04/13/2021	N/A	04/13/2025

Container Number	Container Name	Tests	Preservation Requirement	Result	Initial/ Date
C013033-01A	PLSTL	EPA 200.7-NPW	HNO3 to pH <2. Preservation Time = 1524	PASS	AM 11/3/22
C013033-01C	PLSTM	Hardness	HNO3 to pH <2		
C013033-01F	PSQLT	Ammonia: Titr-AQ	Check Cl2R = 0 [PSQLT], then H2SO4 to pH <2		
C013033-01G	A125N	EPA 552.2	Check Container		
C013033-01H	A125N	EPA 552.2-FR	Check Container		
C013033-01K	VOC4T	EPA 8260B-FR	Check Container		
C013033-01L	VOC4T	EPA 8260B-FR	Check Container		

Page 4 of 4 for C013033

Alpha Analytical Laboratories, Inc. email: clientservices@alpha-labs.com
Corporate: 208 Mason Street | Ukiah, CA 95482 | T: 707-468-0401 | F: 707-468-5267 | ELAP# 1551

12 December 2022

EBMUD
Attn: K. Schwab
PO Box 24055
Oakland, CA 94607
RE: Bayside Ground Water Project WDR
Work Order: 22K0855

Enclosed are the results of analyses for samples received by the laboratory on 11/03/22 23:15. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Robbie C. Phillips
Project Manager

Alpha Analytical Laboratories, Inc. email: clientservices@alpha-labs.com
Corporate: 208 Mason Street | Ukiah, CA 95482 | T: 707-468-0401 | F: 707-468-5267 | ELAP# 1551

EBMUD	Project Manager: K. Schwab	
PO Box 24055	Project: Bayside Ground Water Project WDR	Reported:
Oakland CA, 94607	Project Number: C013033	12/12/22 11:41

Bay Area: 262 Rickenbacker Circle | Livermore, CA 94551 | 925-828-6226 | ELAP# 2728
Central Valley: 9090 Union Park Way Suite 113 | Elk Grove, CA 95624 | 916-686-5190 | ELAP# 2922
North Bay: 737 Southpoint Blvd Unit D| Petaluma, CA 94954 | 707-769-3128 | ELAP# 2303
San Diego: 2722 Loker Avenue West Suite A | Carlsbad, CA 92010 | 760-930-2555 | ELAP# 3055
Los Angeles: 1230 E. 223rd Street Suite 205 | Carson, CA 90745 | 424-267-5032 | Service Center

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
C013033-01	22K0855-01	Water	11/03/22 12:57	11/03/22 23:15

This represents an amended copy of the original report.

Subcontracted results added

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Page 1 of 10

Alpha Analytical Laboratories, Inc. email: clientservices@alpha-labs.com
Corporate: 208 Mason Street | Ukiah, CA 95482 | T: 707-468-0401 | F: 707-468-5267 | ELAP# 1551

EBMUD	Project Manager: K. Schwab	
PO Box 24055	Project: Bayside Ground Water Project WDR	Reported:
Oakland CA, 94607	Project Number: C013033	12/12/22 11:41

Metals by EPA 200 Series Methods

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Analyst	ELAP #	Notes
C013033-01 (22K0855-01) Water	**Sampled: 11/03/22 12:57**	**Received: 11/03/22 23:15**										
Calcium	42	0.080	1.0	mg/L	1	AK24372	11/15/22 16:55	11/17/22 14:33	EPA 200.7	BED	1551	
Iron	0.067	0.050	0.10	mg/L	1	AK24372	11/15/22 16:55	11/17/22 14:33	EPA 200.7	BED	1551	J
Magnesium	10	0.030	1.0	mg/L	1	AK24372	11/15/22 16:55	11/17/22 14:33	EPA 200.7	BED	1551	
Manganese	0.23	0.0020	0.020	mg/L	1	AK24372	11/15/22 16:55	11/17/22 14:33	EPA 200.7	BED	1551	
Potassium	2.2	0.20	1.0	mg/L	1	AK24372	11/15/22 16:55	11/17/22 14:33	EPA 200.7	BED	1551	
Sodium	120	0.30	1.0	mg/L	1	AK24372	11/15/22 16:55	11/17/22 16:05	EPA 200.7	BED	1551	

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EBMUD	Project Manager: K. Schwab	
PO Box 24055	Project: Bayside Ground Water Project WDR	Reported:
Oakland CA, 94607	Project Number: C013033	12/12/22 11:41

Conventional Chemistry Parameters by APHA/EPA Methods

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Analyst	ELAP #	Notes
C013033-01 (22K0855-01) Water	**Sampled: 11/03/22 12:57**		**Received: 11/03/22 23:15**									
Total Dissolved Solids	**510**	**10**	**10**	**mg/L**	1	AK23951	11/30/22 20:00	11/29/22 20:15	SM2540C	PBM	1551	

Alpha Analytical Laboratories, Inc. email: clientservices@alpha-labs.com
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EBMUD	Project Manager: K. Schwab	
PO Box 24055	Project: Bayside Ground Water Project WDR	Reported:
Oakland CA, 94607	Project Number: C013033	12/12/22 11:41

Volatile Organic Compounds by EPA Method 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Analyst	ELAP #	Notes
C013033-01 (22K0855-01) Water Sampled: 11/03/22 12:57 Received: 11/03/22 23:15												
Bromodichloromethane	ND	0.08	0.50	ug/L	1	AK24480	11/14/22 16:00	11/15/22 11:10	EPA 8260B	JV	1551	U
Bromoform	ND	0.30	0.50	ug/L	1	AK24480	11/14/22 16:00	11/15/22 11:10	EPA 8260B	JV	1551	U
Chloroform	ND	0.06	0.50	ug/L	1	AK24480	11/14/22 16:00	11/15/22 11:10	EPA 8260B	JV	1551	U
Dibromochloromethane	ND	0.10	0.50	ug/L	1	AK24480	11/14/22 16:00	11/15/22 11:10	EPA 8260B	JV	1551	U
Trihalomethanes (total)	ND	0.40	0.50	ug/L	1	AK24480	11/14/22 16:00	11/15/22 11:10	EPA 8260B	JV	1551	U
Surrogate: Bromofluorobenzene		*98.8 %*	*70-130*			*AK24480*	*11/14/22 16:00*	*11/15/22 11:10*	*EPA 8260B*	*JV*	1551	
Surrogate: Dibromofluoromethane		*93.8 %*	*70-130*			*AK24480*	*11/14/22 16:00*	*11/15/22 11:10*	*EPA 8260B*	*JV*	1551	
Surrogate: Toluene-d8		*106 %*	*70-130*			*AK24480*	*11/14/22 16:00*	*11/15/22 11:10*	*EPA 8260B*	*JV*	1551	

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EBMUD	Project Manager: K. Schwab	
PO Box 24055	Project: Bayside Ground Water Project WDR	Reported:
Oakland CA, 94607	Project Number: C013033	12/12/22 11:41

Metals by EPA 200 Series Methods - Quality Control

Analyte	Result	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch AK24372 - Metals Digest											
Blank (AK24372-BLK1)					Prepared: 11/15/22 Analyzed: 11/17/22						
Calcium	ND	0.080	1.0	mg/L							U
Iron	ND	0.050	0.10	mg/L							U
Magnesium	ND	0.030	1.0	mg/L							U
Manganese	ND	0.0020	0.020	mg/L							U
Potassium	ND	0.20	1.0	mg/L							U
Sodium	ND	0.30	1.0	mg/L							U
LCS (AK24372-BS1)					Prepared: 11/15/22 Analyzed: 11/17/22						
Calcium	2.55	0.080	1.0	mg/L	2.51		102	85-115			
Iron	2.05	0.050	0.10	mg/L	2.00		103	85-115			
Magnesium	8.15	0.030	1.0	mg/L	8.00		102	85-115			
Manganese	0.212	0.0020	0.020	mg/L	0.200		106	85-115			
Potassium	8.30	0.20	1.0	mg/L	8.00		104	85-115			
Sodium	8.08	0.30	1.0	mg/L	8.00		101	85-115			
Duplicate (AK24372-DUP1)		Source: 22K0855-01			Prepared: 11/15/22 Analyzed: 11/17/22						
Calcium	43.3	0.080	1.0	mg/L		42.4			2.26	20	
Iron	0.0697	0.050	0.10	mg/L		0.0667			4.39	20	J
Magnesium	10.6	0.030	1.0	mg/L		10.5			1.39	20	
Manganese	0.234	0.0020	0.020	mg/L		0.230			1.49	20	
Potassium	2.22	0.20	1.0	mg/L		2.17			2.00	20	
Sodium	128	0.30	1.0	mg/L		124			3.06	20	
MRL Check (AK24372-MRL1)					Prepared: 11/15/22 Analyzed: 11/17/22						
Sodium	ND	0.30	1.0	mg/L	0.100			0-200			U
Matrix Spike (AK24372-MS1)		Source: 22K0855-01			Prepared: 11/15/22 Analyzed: 11/17/22						
Calcium	45.3	0.080	1.0	mg/L	2.51	42.4	118	70-130			
Iron	2.13	0.050	0.10	mg/L	2.00	0.0667	103	70-130			
Magnesium	18.9	0.030	1.0	mg/L	8.00	10.5	105	70-130			
Manganese	0.443	0.0020	0.020	mg/L	0.200	0.230	106	70-130			
Potassium	11.0	0.20	1.0	mg/L	8.00	2.17	110	70-130			
Sodium	132	0.30	1.0	mg/L	8.00	124	97.3	70-130			

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Page 5 of 10

Alpha Analytical Laboratories, Inc. email: clientservices@alpha-labs.com
Corporate: 208 Mason Street | Ukiah, CA 95482 | T: 707-468-0401 | F: 707-468-5267 | ELAP# 1551

EBMUD	Project Manager: K. Schwab	
PO Box 24055	Project: Bayside Ground Water Project WDR	Reported:
Oakland CA, 94607	Project Number: C013033	12/12/22 11:41

Metals by EPA 200 Series Methods - Quality Control

Analyte	Result	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch AK24372 - Metals Digest											
Matrix Spike (AK24372-MS2)		Source: 22K0847-01			Prepared: 11/15/22 Analyzed: 11/17/22						
Calcium	36.9	0.080	1.0	mg/L	2.51	33.9	119	70-130			
Iron	2.04	0.050	0.10	mg/L	2.00	ND	102	70-130			
Magnesium	16.8	0.030	1.0	mg/L	8.00	8.51	104	70-130			
Manganese	0.404	0.0020	0.020	mg/L	0.200	0.198	103	70-130			
Potassium	11.0	0.20	1.0	mg/L	8.00	2.17	110	70-130			
Sodium	124	0.30	1.0	mg/L	8.00	115	115	70-130			
Matrix Spike Dup (AK24372-MSD1)		Source: 22K0855-01			Prepared: 11/15/22 Analyzed: 11/17/22						
Calcium	44.9	0.080	1.0	mg/L	2.51	42.4	101	70-130	0.944	20	
Iron	2.12	0.050	0.10	mg/L	2.00	0.0667	103	70-130	0.491	20	
Magnesium	18.8	0.030	1.0	mg/L	8.00	10.5	104	70-130	0.513	20	
Manganese	0.441	0.0020	0.020	mg/L	0.200	0.230	105	70-130	0.413	20	
Potassium	11.0	0.20	1.0	mg/L	8.00	2.17	110	70-130	0.108	20	
Sodium	132	0.30	1.0	mg/L	8.00	124	97.9	70-130	0.0332	20	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Page 6 of 10

Alpha Analytical Laboratories, Inc. email: clientservices@alpha-labs.com
Corporate: 208 Mason Street | Ukiah, CA 95482 | T: 707-468-0401 | F: 707-468-5267 | ELAP# 1551

EBMUD	Project Manager: K. Schwab	
PO Box 24055	Project: Bayside Ground Water Project WDR	Reported:
Oakland CA, 94607	Project Number: C013033	12/12/22 11:41

Conventional Chemistry Parameters by APHA/EPA Methods - Quality Control

Analyte	Result	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch AK23951 - General Preparation											
Blank (AK23951-BLK1)					Prepared: 11/10/22 Analyzed: 11/29/22						
Total Dissolved Solids	ND	10	10	mg/L							U
Duplicate (AK23951-DUP1)		Source: 22K0825-01			Prepared: 11/10/22 Analyzed: 11/29/22						
Total Dissolved Solids	156	10	10	mg/L		138			12.2	15	
Duplicate (AK23951-DUP2)		Source: 22K0825-10			Prepared: 11/10/22 Analyzed: 11/29/22						
Total Dissolved Solids	85.0	10	10	mg/L		82.0			3.59	15	

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Corporate: 208 Mason Street | Ukiah, CA 95482 | T: 707-468-0401 | F: 707-468-5267 | ELAP# 1551

EBMUD	Project Manager: K. Schwab	
PO Box 24055	Project: Bayside Ground Water Project WDR	Reported:
Oakland CA, 94607	Project Number: C013033	12/12/22 11:41

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Analyte	Result	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch AK24480 - VOAs in Water GCMS											
Blank (AK24480-BLK1)					Prepared & Analyzed: 11/14/22						
Bromodichloromethane	ND	0.08	0.50	ug/L							U
Bromoform	ND	0.30	0.50	ug/L							U
Chloroform	ND	0.06	0.50	ug/L							U
Dibromochloromethane	ND	0.10	0.50	ug/L							U
Trihalomethanes (total)	ND	0.40	0.50	ug/L							U
Surrogate: Bromofluorobenzene	*27.0*			*ug/L*	*25.0*		*108*	*70-130*			
Surrogate: Dibromofluoromethane	*23.7*			*ug/L*	*25.0*		*94.7*	*70-130*			
Surrogate: Toluene-d8	*25.3*			*ug/L*	*25.0*		*101*	*70-130*			
LCS (AK24480-BS1)					Prepared & Analyzed: 11/14/22						
Bromodichloromethane	18.4	0.08	0.50	ug/L	20.0		91.8	86-135			
Bromoform	18.9	0.30	0.50	ug/L	20.0		94.6	57-156			
Chloroform	19.9	0.06	0.50	ug/L	20.0		99.7	81-122			
Dibromochloromethane	20.0	0.10	0.50	ug/L	20.0		100	69-133			
Surrogate: Bromofluorobenzene	*25.4*			*ug/L*	*25.0*		*102*	*70-130*			
Surrogate: Dibromofluoromethane	*25.3*			*ug/L*	*25.0*		*101*	*70-130*			
Surrogate: Toluene-d8	*25.4*			*ug/L*	*25.0*		*102*	*70-130*			
LCS Dup (AK24480-BSD1)					Prepared & Analyzed: 11/14/22						
Bromodichloromethane	19.0	0.08	0.50	ug/L	20.0		95.0	86-135	3.37	25	
Bromoform	18.7	0.30	0.50	ug/L	20.0		93.3	57-156	1.33	25	
Chloroform	19.8	0.06	0.50	ug/L	20.0		98.8	81-122	0.907	25	
Dibromochloromethane	20.6	0.10	0.50	ug/L	20.0		103	69-133	2.90	25	
Surrogate: Bromofluorobenzene	*24.4*			*ug/L*	*25.0*		*97.4*	*70-130*			
Surrogate: Dibromofluoromethane	*25.4*			*ug/L*	*25.0*		*102*	*70-130*			
Surrogate: Toluene-d8	*25.6*			*ug/L*	*25.0*		*102*	*70-130*			
Matrix Spike (AK24480-MS1)		**Source: 22K1503-03**			Prepared: 11/14/22 Analyzed: 11/15/22						
Bromodichloromethane	19.4	0.08	0.50	ug/L	20.0	ND	97.0	62-140			
Bromoform	15.8	0.30	0.50	ug/L	20.0	ND	78.8	47-165			
Chloroform	22.1	0.06	0.50	ug/L	20.0	ND	110	68-121			
Dibromochloromethane	18.5	0.10	0.50	ug/L	20.0	ND	92.4	54-157			
Surrogate: Bromofluorobenzene	*26.6*			*ug/L*	*25.0*		*107*	*70-130*			
Surrogate: Dibromofluoromethane	*25.8*			*ug/L*	*25.0*		*103*	*70-130*			
Surrogate: Toluene-d8	*24.6*			*ug/L*	*25.0*		*98.6*	*70-130*			

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EBMUD	Project Manager: K. Schwab	
PO Box 24055	Project: Bayside Ground Water Project WDR	Reported:
Oakland CA, 94607	Project Number: C013033	12/12/22 11:41

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Analyte	Result	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch AK24480 - VOAs in Water GCMS											
Matrix Spike Dup (AK24480-MSD1)		**Source: 22K1503-03**			Prepared: 11/14/22 Analyzed: 11/15/22						
Bromodichloromethane	21.3	0.08	0.50	ug/L	20.0	ND	106	62-140	9.10	25	
Bromoform	17.0	0.30	0.50	ug/L	20.0	ND	85.2	47-165	7.75	25	
Chloroform	22.4	0.06	0.50	ug/L	20.0	ND	112	68-121	1.53	25	
Dibromochloromethane	20.2	0.10	0.50	ug/L	20.0	ND	101	54-157	8.75	25	
Surrogate: Bromofluorobenzene	*25.8*			*ug/L*	*25.0*		*103*	*70-130*			
Surrogate: Dibromofluoromethane	*25.6*			*ug/L*	*25.0*		*102*	*70-130*			
Surrogate: Toluene-d8	*24.1*			*ug/L*	*25.0*		*96.4*	*70-130*			

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EBMUD	Project Manager: K. Schwab	
PO Box 24055	Project: Bayside Ground Water Project WDR	Reported:
Oakland CA, 94607	Project Number: C013033	12/12/22 11:41

Notes and Definitions

J	Detected but below the Reporting Limit; therefore, result is an estimated concentration, detected but not quantified (DNQ)
U	Analyte included in analysis, but not detected at or above MDL.
ND	Analyte NOT DETECTED at or above the reporting limit
dry	Sample results reported on a dry weight basis
MDL	Method detection limit
Rec	Recovery
RPD	Relative Percent Difference

Non-accredited analytes are reported only when ELAP accreditation for a requested analyte method pair is not available. For a list of accredited analytes, view our certificates at the Company link on our website at www.alpha-labs.com or contact your Project Manager directly.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Page 10 of 10

ISOTECH
a Stratum Reservoir brand
www.isotechlabs.com

Lab #:	849582	Job #:	52769	IS-69368	Co. Job#:
Sample Name:	22K0855-01				Co Lab#:
Company:	Alpha Analytical Laboratories, Inc.				
API/Well:					
Container:	500ml Plastic Bottle				
Field/Site Name:	22K0855				
Location:					
Formation/Depth:					
Sampling Point:	C013033-01				
Date Sampled:	11/03/2022 12:57	Date Received:	11/14/2022	Date Reported:	11/30/2022

δD of water	-47.4 ‰ relative to VSMOW
$\delta^{18}O$ of water	-7.03 ‰ relative to VSMOW
Tritium content of water	na
$\delta^{13}C$ of DIC	na
^{14}C content of DIC	na
$\delta^{15}N$ of nitrate	na
$\delta^{18}O$ of nitrate	na
$\delta^{34}S$ of sulfate	na
$\delta^{18}O$ of sulfate	na
Vacuum Distilled? *	No

Remarks:

nd = not detected, na = not analyzed.
*Indicates if vacuum distillation was utilized for hydrogen and oxygen isotopic analysis of water

4.6 22K0855

East Bay Municipal Utility District Laboratory Services Subcontract Chain of Custody

COC #: C013033	Project Title: Bayside Ground Water Project	Lab PM: Kristi Schwab (510) 287-1696 Shipping Method: Alpha Courier	Sampled By: AB, DW, KK
	TAT: Standard	PO#: BRD-13921-AX Expiration: 12/31/2023	Submitted Date:

Date	Time	Sample ID	Location/PS Code	Matrix	Container ID	Type	Tests Required	Method Reference
11/03/2022	12:57	C013033-01	GW BAYSIDE - BAY1-MW5D	Aqueous	-01A	PLSTL	EPA 200.7-NPW (Ca,Fe,K,Mg,Mn,Na)	EPA 200.7 (1994 Rev 4.4)
					-01B	PLSTL	TDS	SM 2540 C-2011
					-01I	PLSTM	Oxygen 18	D18O
					-01J	VOC4T	EPA 8260B THM	EPA 8260B
					-01K	VOC4T	EPA 8260B	Bottle for QC (2)
					-01L	VOC4T	EPA 8260B	Bottle for QC (2)
Comments: Alpha: Isotope analysis for Oxygen-18 and Hydrogen-2 (subcontracted). Total Dissolved Solids (TDS) by SM2540C, THMs by EPA 8260, Metals by EPA 200.7 (Ca, Fe, K, Mg, Mn, Na)								
			Total containers received:	6				

	Signature	Print Name	Time	Date
Relinquished by:	Robert Molha	Robert Molha	1530	11/3/22
Received by:	James Todd	James Todd	1640	11/3/22
Relinquished by:	James Todd	James Todd	2315	11/3/22
Received by:				
Relinquished by:				
Received by:				

Send results and invoice to:
Kristi Schwab (kristi.lorenson@ebmud.com)
EBMUD Laboratory
PO Box 24055 MS #59
Oakland, CA 94623
(510) 287-1696

SUBCONTRACT: Please notify Lab PM if TAT is delayed and/or Hold Time will be exceeded.
Alpha Analytical Laboratory
208 Mason St
Ukiah, CA 95482
707-468-0401

Page 1 of 1

East Bay Municipal Utility District
2020 Wake Ave, Oakland, CA 94623 T: 510-287-1432

Laboratory Services Division
ELAP#1060

Analytical Results Report

14 December 2022

David Behnken

MS 704

Re: Bayside Ground Water Project

COC# C013032

Report Generated: 12/13/2022 16:51

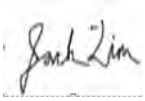
Login Performance Summary

- 0 Lost Analyses
- 0 Hold Time Exceedances
- Analytical analyses did not meet the turnaround time

Report Notes

For questions concerning this report, please contact:

Reported By:



Jack Lim

Senior Chemist

Approved By:

Yuyun Shang

Lab Manager

Samples for C013032

Samples Included in the Report

Sample Number	Sample Type	Sampled Date	Location Name	Sample Name
C013032-01	GRAB	Nov 02 2022 13:35	GW BAYSIDE - BAY1-MW6	-

Samples Results for C013032

Sample ID: C013032-01
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
Client: Bayside Ground Water Project
Sample Type: GRAB
Date Collected: Nov 02 2022 13:35 — **Sample Collector:** DW/AB/GE
Date Received: Nov 03 2022 07:55 — **Sample Receiver:** R Molina
Sample Comments:

Analyte	Qualifier	Result	MDL	RL	Units	DF	Batch	Prepared	Analyzed
Field data entry into LIMS									
TARGET ANALYTES									
CL2R		**0.1**	0.02		mg/L				11/02/2022 13:35
Field data entry into LIMS									
TARGET ANALYTES									
Depth		**5.4**			Feet				11/02/2022 13:35
Field data entry into LIMS									
TARGET ANALYTES									
pH		**7.43**			pH Units				11/02/2022 13:35
Field data entry into LIMS									
TARGET ANALYTES									
Temperature		**19.7**			C				11/02/2022 13:35
Total Dissolved Solids by SM2540C									
Subcontract data from: Alpha Analytical Laboratory ELAP#: Refer to external lab report									
TARGET ANALYTES									
Total Dissolved Solids		**410**	10	10	mg/L	1			11/08/2022 20:23
Comments: SUB: Analysis date reported is date filtered by sub lab, as per EBMUD SOP									
Alkalinity by SM 2320 B-2011									
TARGET ANALYTES									
Alkalinity: Total as CaCO3		**230**	5	30	mg/L	1.0	B221104-002		11/04/2022 09:26
Alkalinity: Carbonate	U	5	5	30	mg/L	1.0	B221104-002		11/04/2022 09:26
Alkalinity: Bicarbonate		**230**	5	30	mg/L	1.0	B221104-002		11/04/2022 09:26
Alkalinity: Hydroxide	U	5	5	30	mg/L	1.0	B221104-002		11/04/2022 09:26
Ammonia as N by SM 4500-NH3 C-2011									
TARGET ANALYTES									
Ammonia as N	U	0.25	0.25	1.5	mg/L	1.0	B221117-007		11/17/2022 08:31
Hardness as CaCO3 by SM 2340 C-2011									
TARGET ANALYTES									
Hardness as CaCO3		**120**	4	7	mg/L	1.0	B221110-012		11/10/2022 07:38
Anions by EPA 300.1									
TARGET ANALYTES									
Chloride		**55**	0.46	2.0	mg/L	10	B221103-003		11/03/2022 12:17
Nitrate as N	U	0.023	0.023	0.30	mg/L	10	B221103-003		11/03/2022 12:17
Sulfate		**48**	0.69	2.0	mg/L	10	B221103-003		11/03/2022 12:17

Samples Results for C013032

Sample ID: C013032-01
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
Client: Bayside Ground Water Project
Sample Type: GRAB
Date Collected: Nov 02 2022 13:35 **Sample Collector:** DW/AB/GE
Date Received: Nov 03 2022 07:55 **Sample Receiver:** R Molina
Sample Comments:

Analyte	Qualifier	Result	MDL	RL	Units	DF	Batch	Prepared	Analyzed
Anions by EPA 300.1									
SURROGATES									
Dichloroacetate (%)		102			%	10	B221103-003		11/03/2022 12:17
Metals by EPA 200.7									
Subcontract data from:	Alpha Analytical Laboratory ELAP#: Refer to external lab report								
TARGET ANALYTES									
Calcium		**34**	0.080	1.0	mg/L	1		11/15/2022 16:55	11/17/2022 14:38
Comments: SUB									
Iron	U	0.050	0.050	0.10	mg/L	1		11/15/2022 16:55	11/17/2022 14:38
Comments: SUB: Analyte included in analysis but not detected at or above MDL									
Potassium		**2.2**	0.20	1.0	mg/L	1		11/15/2022 16:55	11/17/2022 14:38
Comments: SUB									
Magnesium		**8.5**	0.030	1.0	mg/L	1		11/15/2022 16:55	11/17/2022 14:38
Comments: SUB									
Manganese		**0.20**	0.0020	0.020	mg/L	1		11/15/2022 16:55	11/17/2022 14:38
Comments: SUB									
Sodium		**110**	0.30	1.0	mg/L	1		11/15/2022 16:55	11/17/2022 16:10
Comments: SUB									
Haloacetic Acids, GC/ECD by EPA 552.2									
TARGET ANALYTES									
Bromochloroacetic Acid	U	0.17	0.17	1.0	ug/L	1.0	B221110-016	11/09/2022 10:00	11/14/2022 21:00
Comments: Compound not available for certification by ELAP									
Bromodichloroacetic Acid	U	0.29	0.29	1.0	ug/L	1.0	B221110-016	11/09/2022 10:00	11/14/2022 21:00
Comments: Compound not available for certification by ELAP									
Chlorodibromoacetic Acid	U	0.31	0.31	1.0	ug/L	1.0	B221110-016	11/09/2022 10:00	11/14/2022 21:00
Comments: Compound not available for certification by ELAP									
Dibromoacetic Acid	U	0.15	0.15	1.0	ug/L	1.0	B221110-016	11/09/2022 10:00	11/14/2022 21:00
Dichloroacetic Acid	U	0.20	0.20	1.0	ug/L	1.0	B221110-016	11/09/2022 10:00	11/14/2022 21:00
Monobromoacetic Acid	U	0.16	0.16	1.0	ug/L	1.0	B221110-016	11/09/2022 10:00	11/14/2022 21:00
Monochloroacetic Acid	U	0.45	0.45	1.0	ug/L	1.0	B221110-016	11/09/2022 10:00	11/14/2022 21:00
Tribromoacetic Acid	U	0.49	0.49	1.0	ug/L	1.0	B221110-016	11/09/2022 10:00	11/14/2022 21:00
Comments: Compound not available for certification by ELAP									
Trichloroacetic Acid	U	0.25	0.25	1.0	ug/L	1.0	B221110-016	11/09/2022 10:00	11/14/2022 21:00
HAA(5), calculated		**0.00**		1.0	ug/L	1.0	B221110-016	11/09/2022 10:00	11/14/2022 21:00
Comments: HAA (5) calculation uses a zero for any individual HAA result less than the California DLR for that HAA									
HAA(9), calculated		**0.00**		1.0	ug/L	1.0	B221110-016	11/09/2022 10:00	11/14/2022 21:00
INTERNAL STANDARD									
1,2,3-Trichloropropane (%)		93			%	1.0	B221110-016	11/09/2022 10:00	11/14/2022 21:00
SURROGATES									
2,3-Dibromopropionic Acid (%)		103			%	1.0	B221110-016	11/09/2022 10:00	11/14/2022 21:00

Samples Results for C013032

Sample ID: C013032-01
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
Client: Bayside Ground Water Project
Sample Type: GRAB
Date Collected: Nov 02 2022 13:35 — **Sample Collector:** DW/AB/GE
Date Received: Nov 03 2022 07:55 — **Sample Receiver:** R Molina
Sample Comments:

Analyte	Qualifier	Result	MDL	RL	Units	DF	Batch	Prepared	Analyzed

Oxygen 18 Isotope Analysis

Subcontract data from: Alpha Analytical Laboratory ELAP#: Refer to external lab report
Test External Comments: Original sub report attached to end of this report

TARGET ANALYTES

See subcontract report	Original Report transmitted to client and accessib

Trihalomethanes, Total, GC/MS by EPA 8260B

Subcontract data from: Alpha Analytical Laboratory ELAP#: Refer to external lab report

TARGET ANALYTES

Analyte	Qualifier	Result	MDL	RL	Units	DF	Batch	Prepared	Analyzed
Bromodichloromethane	U	0.08	0.08	0.50	ug/L	1		11/08/2022 11:00	11/09/2022 00:32
	Comments: SUB: Analyte included in analysis but not detected at or above MDL								
Bromoform	U	0.30	0.30	0.50	ug/L	1		11/08/2022 11:00	11/09/2022 00:32
	Comments: SUB: Analyte included in analysis but not detected at or above MDL								
Chloroform	U	0.06	0.06	0.50	ug/L	1		11/08/2022 11:00	11/09/2022 00:32
	Comments: SUB: Analyte included in analysis but not detected at or above MDL								
Dibromochloromethane	U	0.10	0.10	0.50	ug/L	1		11/08/2022 11:00	11/09/2022 00:32
	Comments: SUB: Analyte included in analysis but not detected at or above MDL								
Total Trihalomethanes, calculated	U	0.40	0.40	0.50	ug/L	1		11/08/2022 11:00	11/09/2022 00:32
	Comments: SUB: Analyte included in analysis but not detected at or above MDL								

Quality Control for C013032

Analyte	Qualifier	Result	MDL	RL	Units	Spike Level	Source Result	% REC	% REC Limits	RPD	RPD Limits
Alkalinity DUP by SM 2320 B-2011, B221104-002											
B221104-002 analyzed on 11/04/2022 09:07; Source = C011937-01											
Alkalinity: Total as CaCO3		**400**	5	30	mg/L		400			0.3	20
Alkalinity LCS by SM 2320 B-2011, B221104-002											
B221104-002 analyzed on 11/04/2022 08:37											
Alkalinity: Total as CaCO3		400	5	30	mg/L	400		101	85 - 115		
Alkalinity MB by SM 2320 B-2011, B221104-002											
B221104-002 analyzed on 11/04/2022 08:29											
Alkalinity: Total as CaCO3	U	5	5	30	mg/L						
Alkalinity MS by SM 2320 B-2011, B221104-002											
B221104-002 analyzed on 11/04/2022 09:13; Source = C011937-01											
Alkalinity: Total as CaCO3		800	5	30	mg/L	400	400	100	80 - 120		
Alkalinity QCS by SM 2320 B-2011, B221104-002											
B221104-002 analyzed on 11/04/2022 08:45											
Alkalinity: Total as CaCO3		85	5	30	mg/L	81		105	91 - 111		
Hardness as CaCO3 DUP by SM 2340 C-2011, B221110-012											
B221110-012 analyzed on 11/10/2022 07:38; Source = C011888-01											
Hardness as CaCO3		**18**	4	7	mg/L		18			0.00	10
Hardness as CaCO3 DUP by SM 2340 C-2011, B221110-012											
B221110-012 analyzed on 11/10/2022 07:38; Source = C013150-01											
Hardness as CaCO3		**21**	4	7	mg/L		22			3.7	10
Hardness as CaCO3 LCS by SM 2340 C-2011, B221110-012											
B221110-012 analyzed on 11/10/2022 07:38											
Hardness as CaCO3		130	4	7	mg/L	120		104	85 - 115		
Hardness as CaCO3 LOQ by SM 2340 C-2011, B221110-012											
B221110-012 analyzed on 11/10/2022 07:38											
Hardness as CaCO3	E1	6	4	7	mg/L	7.0		86	50 - 150		
Hardness as CaCO3 MB by SM 2340 C-2011, B221110-012											
B221110-012 analyzed on 11/10/2022 07:38											
Hardness as CaCO3	U	4	4	7	mg/L						

Quality Control for C013032

Analyte	Qualifier	Result	MDL	RL	Units	Spike Level	Source Result	% REC	% REC Limits	RPD	RPD Limits
Hardness as CaCO3 MS by SM 2340 C-2011, B221110-012											
B221110-012 analyzed on 11/10/2022 07:38; Source = C011888-01											
Hardness as CaCO3		140	4	7	mg/L	120	18	99	85 - 115		
Hardness as CaCO3 MS by SM 2340 C-2011, B221110-012											
B221110-012 analyzed on 11/10/2022 07:38; Source = C013150-01											
Hardness as CaCO3		140	4	7	mg/L	120	22	98	85 - 115		
Hardness as CaCO3 QCS by SM 2340 C-2011, B221110-012											
B221110-012 analyzed on 11/10/2022 07:38											
Hardness as CaCO3		180	4	7	mg/L	170		105	91 - 107		
Ammonia as N DUP by SM 4500-NH3 C-2011, B221117-007											
B221117-007 analyzed on 11/17/2022 08:31; Source = C012590-09											
Ammonia as N		**46**	1.2	7.5	mg/L		45			1.2	10
Ammonia as N LCS by SM 4500-NH3 C-2011, B221117-007											
B221117-007 analyzed on 11/17/2022 08:31											
Ammonia as N		12	0.25	1.5	mg/L	12		98	85 - 115		
Ammonia as N MB by SM 4500-NH3 C-2011, B221117-007											
B221117-007 analyzed on 11/17/2022 08:31											
Ammonia as N	U	0.25	0.25	1.5	mg/L						
Ammonia as N MS by SM 4500-NH3 C-2011, B221117-007											
B221117-007 analyzed on 11/17/2022 08:31; Source = C012590-09											
Ammonia as N		100	1.2	7.5	mg/L	60	45	98	80 - 120		
Ammonia as N MSD by SM 4500-NH3 C-2011, B221117-007											
B221117-007 analyzed on 11/17/2022 08:31; Source = C012590-09											
Ammonia as N		100	1.2	7.5	mg/L	60	45	97	80 - 120	0.3	15
Anions LCS by EPA 300.1, B221103-003											
B221103-003 analyzed on 11/03/2022 11:02											
Chloride		0.98	0.046	0.2	mg/L	1.0		98	85 - 115		
Nitrate as N		0.046	0.0023	0.03	mg/L	0.05		93	85 - 115		
Sulfate		0.94	0.069	0.2	mg/L	1.0		94	85 - 115		
Dichloroacetate (%)		100			%						
Anions LOQ by EPA 300.1, B221103-003											
B221103-003 analyzed on 11/03/2022 10:24											
Chloride		0.21	0.046	0.2	mg/L	0.20		105	50 - 150		
Nitrate as N		0.030	0.0023	0.03	mg/L	0.03		100	50 - 150		
Sulfate		0.22	0.069	0.2	mg/L	0.20		111	50 - 150		

Quality Control for C013032

Analyte	Qualifier	Result	MDL	RL	Units	Spike Level	Source Result	% REC	% REC Limits	RPD	RPD Limits
Dichloroacetate (%)		108			%						
Anions MB by EPA 300.1, B221103-003											
B221103-003 analyzed on 11/03/2022 09:46											
Chloride	U	0.046	0.046	0.2	mg/L						
Nitrate as N	U	0.0023	0.0023	0.03	mg/L						
Sulfate	U	0.069	0.069	0.2	mg/L						
Dichloroacetate (%)		100			%						
Anions DUP by EPA 300.1, B221103-003											
B221103-003 analyzed on 11/03/2022 16:43; Source = C010386-01											
Nitrate as N	U	0.0023	0.0023	0.030	mg/L		0.0023			NC	10
Dichloroacetate (%)		106			%		98				
Anions MS by EPA 300.1, B221103-003											
B221103-003 analyzed on 11/03/2022 17:20; Source = C010386-01											
Nitrate as N		0.048	0.0023	0.030	mg/L	0.05	0.0023	95	75 - 125		
Dichloroacetate (%)		102			%		98				
Haloacetic Acids, GC/ECD LCS by EPA 552.2, B221110-016											
B221110-016 analyzed on 11/14/2022 10:31; B221109-004 prepared on 11/09/2022 10:00											
Bromochloroacetic Acid		16	0.17	1	ug/L	15		105	70 - 130		
Bromodichloroacetic Acid		16	0.29	1	ug/L	15		104	70 - 130		
Chlorodibromoacetic Acid		17	0.31	1	ug/L	15		112	70 - 130		
Dibromoacetic Acid		16	0.15	1	ug/L	15		106	70 - 130		
Dichloroacetic Acid		14	0.20	1	ug/L	15		94	70 - 130		
Monobromoacetic Acid		15	0.16	1	ug/L	15		99	70 - 130		
Monochloroacetic Acid		15	0.45	1	ug/L	15		102	70 - 130		
Tribromoacetic Acid		17	0.49	1	ug/L	15		113	70 - 130		
Trichloroacetic Acid		16	0.25	1	ug/L	15		104	70 - 130		
1,2,3-Trichloropropane (%)		92			%						
2,3-Dibromopropionic Acid (%)		106			%						
Haloacetic Acids, GC/ECD LOQ by EPA 552.2, B221110-016											
B221110-016 analyzed on 11/14/2022 09:36; B221109-004 prepared on 11/09/2022 10:00											
Bromochloroacetic Acid	E1	0.98	0.17	1	ug/L	1.0		98	50 - 150		
Bromodichloroacetic Acid	E1	0.89	0.29	1	ug/L	1.0		89	50 - 150		
Chlorodibromoacetic Acid	E1	0.84	0.31	1	ug/L	1.0		84	50 - 150		
Dibromoacetic Acid	E1	0.98	0.15	1	ug/L	1.0		98	50 - 150		
Dichloroacetic Acid	E1	0.95	0.20	1	ug/L	1.0		95	50 - 150		
Monobromoacetic Acid		1.1	0.16	1	ug/L	1.0		111	50 - 150		
Monochloroacetic Acid	E1	0.94	0.45	1	ug/L	1.0		94	50 - 150		
Tribromoacetic Acid	E1	0.84	0.49	1	ug/L	1.0		84	50 - 150		
Trichloroacetic Acid	E1	0.91	0.25	1	ug/L	1.0		91	50 - 150		
1,2,3-Trichloropropane (%)		100			%						
2,3-Dibromopropionic Acid (%)		103			%						

Quality Control for C013032

Analyte	Qualifier	Result	MDL	RL	Units	Spike Level	Source Result	% REC	% REC Limits	RPD	RPD Limits
Haloacetic Acids, GC/ECD MB by EPA 552.2, B221110-016											
B221110-016 analyzed on 11/14/2022 09:11; B221109-004 prepared on 11/09/2022 10:00											
Bromochloroacetic Acid	U	0.17	0.17	1	ug/L						
Bromodichloroacetic Acid	U	0.29	0.29	1	ug/L						
Chlorodibromoacetic Acid	U	0.31	0.31	1	ug/L						
Dibromoacetic Acid	U	0.15	0.15	1	ug/L						
Dichloroacetic Acid	U	0.20	0.20	1	ug/L						
Monobromoacetic Acid	U	0.16	0.16	1	ug/L						
Monochloroacetic Acid	U	0.45	0.45	1	ug/L						
Tribromoacetic Acid	U	0.49	0.49	1	ug/L						
Trichloroacetic Acid	U	0.25	0.25	1	ug/L						
1,2,3-Trichloropropane (%)		101			%						
2,3-Dibromopropionic Acid (%)		101			%						
Haloacetic Acids, GC/ECD MS by EPA 552.2, B221110-016											
B221110-016 analyzed on 11/14/2022 16:02; B221109-004 prepared on 11/09/2022 10:00; Source = C012088-03											
Bromochloroacetic Acid		16	0.17	1.0	ug/L	15	0.17	104	70 - 130		
Bromodichloroacetic Acid		16	0.29	1.0	ug/L	15	0.29	107	70 - 130		
Chlorodibromoacetic Acid		17	0.31	1.0	ug/L	15	0.31	116	70 - 130		
Dibromoacetic Acid		16	0.15	1.0	ug/L	15	0.15	106	70 - 130		
Dichloroacetic Acid		16	0.20	1.0	ug/L	15	0.20	105	70 - 130		
Monobromoacetic Acid		15	0.16	1.0	ug/L	15	0.16	100	70 - 130		
Monochloroacetic Acid		16	0.45	1.0	ug/L	15	0.45	104	70 - 130		
Tribromoacetic Acid		18	0.49	1.0	ug/L	15	0.49	118	70 - 130		
Trichloroacetic Acid		16	0.25	1.0	ug/L	15	0.25	104	70 - 130		
1,2,3-Trichloropropane (%)		92			%		93				
2,3-Dibromopropionic Acid (%)		105			%		108				
Haloacetic Acids, GC/ECD MS by EPA 552.2, B221110-016											
B221110-016 analyzed on 11/14/2022 21:50; B221109-004 prepared on 11/09/2022 10:00; Source = C012066-01											
Bromochloroacetic Acid		16	0.17	1.0	ug/L	15	0.30	104	70 - 130		
Bromodichloroacetic Acid		16	0.29	1.0	ug/L	15	0.29	109	70 - 130		
Chlorodibromoacetic Acid		18	0.31	1.0	ug/L	15	0.31	118	70 - 130		
Dibromoacetic Acid		16	0.15	1.0	ug/L	15	0.15	104	70 - 130		
Dichloroacetic Acid		22	0.20	1.0	ug/L	15	8.5	93	70 - 130		
Monobromoacetic Acid		17	0.16	1.0	ug/L	15	0.16	116	70 - 130		
Monochloroacetic Acid		16	0.45	1.0	ug/L	15	0.45	110	70 - 130		
Tribromoacetic Acid		19	0.49	1.0	ug/L	15	0.49	124	70 - 130		
Trichloroacetic Acid		22	0.25	1.0	ug/L	15	6.9	98	70 - 130		
1,2,3-Trichloropropane (%)		89			%		93				
2,3-Dibromopropionic Acid (%)		102			%		104				
Haloacetic Acids, GC/ECD MSD by EPA 552.2, B221110-016											
B221110-016 analyzed on 11/14/2022 16:27; B221109-004 prepared on 11/09/2022 10:00; Source = C012088-03											
Bromochloroacetic Acid		15	0.17	1.0	ug/L	15	0.17	99	70 - 130	4.5	20
Bromodichloroacetic Acid		15	0.29	1.0	ug/L	15	0.29	99	70 - 130	7.8	20
Chlorodibromoacetic Acid		16	0.31	1.0	ug/L	15	0.31	108	70 - 130	6.8	20
Dibromoacetic Acid		15	0.15	1.0	ug/L	15	0.15	102	70 - 130	4.4	20
Dichloroacetic Acid		17	0.20	1.0	ug/L	15	0.20	112	70 - 130	6.1	20
Monobromoacetic Acid		15	0.16	1.0	ug/L	15	0.16	100	70 - 130	0.5	20
Monochloroacetic Acid		16	0.45	1.0	ug/L	15	0.45	106	70 - 130	2.2	20
Tribromoacetic Acid		17	0.49	1.0	ug/L	15	0.49	112	70 - 130	5.1	20

Quality Control for C013032

Analyte	Qualifier	Result	MDL	RL	Units	Spike Level	Source Result	% REC	% REC Limits	RPD	RPD Limits
Trichloroacetic Acid		15	0.25	1.0	ug/L	15	0.25	99	70 - 130	4.9	20
1,2,3-Trichloropropane (%)		96			%		93				
2,3-Dibromopropionic Acid (%)		100			%		108				

Haloacetic Acids, GC/ECD MSD by EPA 552.2, B221110-016

B221110-016 analyzed on 11/14/2022 22:15; B221109-004 prepared on 11/09/2022 10:00; Source = C012066-01

Bromochloroacetic Acid		15	0.17	1.0	ug/L	15	0.30	100	70 - 130	3.8	20
Bromodichloroacetic Acid		16	0.29	1.0	ug/L	15	0.29	103	70 - 130	5.6	20
Chlorodibromoacetic Acid		17	0.31	1.0	ug/L	15	0.31	111	70 - 130	5.7	20
Dibromoacetic Acid		15	0.15	1.0	ug/L	15	0.15	98	70 - 130	5.1	20
Dichloroacetic Acid		23	0.20	1.0	ug/L	15	8.5	96	70 - 130	2.1	20
Monobromoacetic Acid		16	0.16	1.0	ug/L	15	0.16	110	70 - 130	5.0	20
Monochloroacetic Acid		16	0.45	1.0	ug/L	15	0.45	106	70 - 130	3.7	20
Tribromoacetic Acid		17	0.49	1.0	ug/L	15	0.49	115	70 - 130	7.8	20
Trichloroacetic Acid		21	0.25	1.0	ug/L	15	6.9	91	70 - 130	4.9	20
1,2,3-Trichloropropane (%)		92			%		93				
2,3-Dibromopropionic Acid (%)		98			%		104				

Qualifiers and Definitions

E1	Concentration estimated. Analyte detected below reporting limit (RL) but above MDL. For SIP, E1=DNQ, Estimated Concentration.
NC	RPD not calculable. Result less than MDL.
U	Analyte not detected.

Qualifiers for subcontract work – see parameter comment for description
Corrections for dilutions for matrix effects applied to the MDL and RL.

QC Types and Definitions

DUP	Duplicate Sample
LCS	Laboratory Control Sample
LOQ	Limit of Quantitation
MB	Method Blank
MS	Matrix Spike
MSD	Matrix Spike Duplicate
QCS	Quality Control Sample

East Bay Municipal Utility District Laboratory Services Division Chain of Custody Record

COC #: C013032	Project Title: Bayside Ground Water Project TAT: Standard	Client PM: David Behnken Lab PM: Kristi Schwab Job #:	Expect Date: 11/02/2022 Sampled By: DW/ABI/GE ☒ Samples transported on ice

Date	Time	Site/Locator	Sample ID	Type	Matrix	ID	Type	Tests Required
11/2/22	1335	GW BAYSIDE - BAY1-MW6	C013032-01	GRAB	Aqueous			+SAMP KIT
						-01A	PLSTL	EPA 200.7-NPW (Ca,Fe,K,Mg,Mn,Na)
						-01B	PLSTL	TDS
						-01C	PLSTM	Hardness
						-01D	PLSTS	EPA 300.1 (Cl,NO3,SO4)
						-01F	PSQLT	Ammonia: Titr-AQ
						-01G	A125N	EPA 552.2
						-01H	A125N	EPA 552.2
						-01I	PLSTM	Oxygen 18 S.C.c #11 RMW 11/3/22
						-01J	VOC4T	EPA 8260B THM
						-01K	VOC4T	EPA 8260B
						-01L	VOC4T	EPA 8260B
						-01M	C500Z	Alkalinity: Species

Field Test Parameters:

CL2R = 0.1		mg/L
Depth = 5.4 JE 11/2/22		Feet
pH = 19.7 7.93		pH Units
Temperature = 19.7		C

Field Comments:

Field Instructions:

Page 1 of 2 for C013032

East Bay Municipal Utility District Laboratory Services Division Chain of Custody Record

COC #: C013032	Project Title: Bayside Ground Water Project TAT: Standard	Client PM: David Behnken Lab PM: Kristi Schwab Job #:	Expect Date: 11/02/2022 Sampled By: DW/HB/GE ☒ Samples transported on ice

Date	Time	Site/Locator	Sample ID	Type	Matrix	ID	Type	Tests Required

Total Containers for: C013032	12

	Signature	Print Name	Time	Date
Relinquished by:	Anne Beaudoin	Anne Beaudoin	4:40pm	11/2/22
Received by:				
Relinquished by:				
Received by:				
Relinquished by:				
Received by:	Robert Molina	Robert Molina	0755	11/3/22

Container Legend:

A125N = Glass, NM, septa top, 12.5 mg NH4Cl, Amber, 125 mL
CS00Z = Glass, NM, septa top, Clear, 500 mL
PLSTL = Plastic, WM, 1000 mL
PLSTM = Plastic, WM, 500 mL
PLSTS = Plastic, NM, 125 mL
PSQLT = Plastic, square, large, 50 mg Na2S2O3, 1000 mL
VOC4T = Glass, clear, septa top, 3.5 mg Na2S2O3, Clear, 40 mL

Page 2 of 2 for C013032

East Bay Municipal Utility District Laboratory Services Division Chain of Custody Record

COC #: C013032	Project Title: Bayside Ground Water Project TAT: Standard	Client PM: David Behnken Lab PM: Kristi Schwab Job #:	Received Date/Time: 11/03/2022 07:55 Received By: Robert Molina Sampled By: DW/AB/GE Due Date: 12/06/2022

Date	Time	Site/Locator	Sample ID	Type	Matrix	ID	Type	Tests Required
11/02/2022	13:35	GW BAYSIDE - BAY1-MW6	C013032-01	GRAB	Aqueous			+SAMP KIT
						-01A	PLSTL	EPA 200.7-NPW (Ca,Fe,K,Mg,Mn,Na)
						-01B	PLSTL	TDS
						-01C	PLSTM	Hardness
						-01D	PLSTS	EPA 300.1 (Cl,NO3,SO4)
						-01F	PSQLT	Ammonia: Titr-AQ
						-01G	A125N	EPA 552.2
						-01H	A125N	EPA 552.2
						-01I	PLSTM	Oxygen 18
						-01J	VOC4T	EPA 8260B THM
						-01K	VOC4T	EPA 8260B
						-01L	VOC4T	EPA 8260B
						-01M	C500Z	Alkalinity: Species

Field Test Parameters:		
CL2R =	0.1	mg/L
Depth =	5.4	Feet
pH =	7.43	pH Units
Temperature =	19.7	C

Field Comments:
Field Instructions:
Sample External Comments:

Total Containers for: C013032	12

Page 1 of 4 for C013032

C013032 Sample Acceptance Report

Received: 11/03/2022 07:55
Received By: Robert Molina

Chain-of-Custody		Comments
Chilled During Transport?	Yes	
CoC signatures?	Yes	
Collector identified?	Yes	
Date time of collection recorded and legible?	Yes	
Project identified?	Yes	
Received from Sample Drop-off room?	Yes	
Requested analysis identified?	Yes	
Sample I.D.?	Yes	
Sample location?	Yes	
Shipping Slip?	No	

Containers		Comments
Container and label match CoC?	Yes	
Correct container?	Yes	
Correct field preservation?	Yes	
Damaged?	No	
Labels are legible?	Yes	
Possible contamination?	No	
Received within holding times?	Yes	
Sufficient volume?	Yes	

Sample: C013032-01		Comments
Bubbles in ZHS/VOA containers	No	

Page 2 of 4 for C013032

C013032 Sample Acceptance Report

Received: 11/03/2022 07:55
Received By: Robert Molina

Intent to chill

Cooler: 1		Comments
Corrected Temp (° C)	6.2	
IR Thermometer Number	IR #11	
Representative temperature taken from	-01	
Uncorrected Temp (° C)	5.6	
Visible ice formed inside sample container?	No	

Acceptance		Comments
PM notified?	N/A	
Received client approval to proceed?	N/A	
Samples meet acceptance requirements?	Yes	

Sample Acceptance Preservation Report

COC: C013032

Report Generated: 11/03/2022 08:00

Inventory Item	Inventory ID	Open Date	Prep Date	Expiration Date
H2SO4 15 mL 1:1 LDPE dropper	ST210716-005	09/25/2020	N/A	09/25/2030
Hydrochloric Acid 1+1 (HCl-03)	ST220526-010	N/A	05/26/2022	05/26/2023
NaOH 15 mL 1:1 LDPE dropper	ST220106-019	N/A	N/A	05/31/2026
NaOH 15 mL 1:1 LDPE dropper	ST210716-007	N/A	N/A	06/10/2030
Nitric Acid TMG	ST210819-002	08/19/2021	N/A	01/08/2023
pH Strip 0-14	ST211026-005	04/20/2022	N/A	08/31/2025
pH Strip 7.9-9.8	ST210901-011	N/A	N/A	06/30/2023
Sulfuric Acid Gr ACS	ST210729-010	04/13/2021	N/A	04/13/2025

Container Number	Container Name	Tests	Preservation Requirement	Result	Initial/ Date
C013032-01A	PLSTL	EPA 200.7-NPW	HNO3 to pH <2. Preservation Time = 0815	Pass	BMW 11/7/22
C013032-01C	PLSTM	Hardness	HNO3 to pH <2		
C013032-01F	PSQLT	Ammonia; Titr-AQ	Check Cl2R = 0 [PSQLT], then H2SO4 to pH <2		
C013032-01G	A125N	EPA 552.2	Check Container		
C013032-01H	A125N	EPA 552.2-FR	Check Container		
C013032-01K	VOC4T	EPA 8260B-FR	Check Container		
C013032-01L	VOC4T	EPA 8260B-FR	Check Container		

Page 4 of 4 for C013032

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12 December 2022

EBMUD
Attn: K. Schwab
PO Box 24055
Oakland, CA 94607
RE: Bayside Ground Water Project WDR
Work Order: 22K0847

Enclosed are the results of analyses for samples received by the laboratory on 11/03/22 23:15. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Robbie C. Phillips
Project Manager

Alpha Analytical Laboratories, Inc. email: clientservices@alpha-labs.com
Corporate: 208 Mason Street | Ukiah, CA 95482 | T: 707-468-0401 | F: 707-468-5267 | ELAP# 1551

EBMUD	Project Manager: K. Schwab	
PO Box 24055	Project: Bayside Ground Water Project WDR	Reported:
Oakland CA, 94607	Project Number: C013032	12/12/22 11:39

Bay Area: 262 Rickenbacker Circle | Livermore, CA 94551 | 925-828-6226 | ELAP# 2728
Central Valley: 9090 Union Park Way Suite 113 | Elk Grove, CA 95624 | 916-686-5190 | ELAP# 2922
North Bay: 737 Southpoint Blvd Unit D| Petaluma, CA 94954 | 707-769-3128 | ELAP# 2303
San Diego: 2722 Loker Avenue West Suite A | Carlsbad, CA 92010 | 760-930-2555 | ELAP# 3055
Los Angeles: 1230 E. 223rd Street Suite 205 | Carson, CA 90745 | 424-267-5032 | Service Center

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
C013032-01	22K0847-01	Water	11/02/22 13:35	11/03/22 23:15

This represents an amended copy of the original report.

Subcontracted results added

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

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EBMUD	Project Manager: K. Schwab	
PO Box 24055	Project: Bayside Ground Water Project WDR	Reported:
Oakland CA, 94607	Project Number: C013032	12/12/22 11:39

Metals by EPA 200 Series Methods

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Analyst	ELAP #	Notes
C013032-01 (22K0847-01) Water Sampled: 11/02/22 13:35 Received: 11/03/22 23:15												
Calcium	34	0.080	1.0	mg/L	1	AK24372	11/15/22 16:55	11/17/22 14:38	EPA 200.7	BED	1551	
Iron	ND	0.050	0.10	mg/L	1	AK24372	11/15/22 16:55	11/17/22 14:38	EPA 200.7	BED	1551	U
Magnesium	8.5	0.030	1.0	mg/L	1	AK24372	11/15/22 16:55	11/17/22 14:38	EPA 200.7	BED	1551	
Manganese	0.30	0.0020	0.020	mg/L	1	AK24372	11/15/22 16:55	11/17/22 14:38	EPA 200.7	BED	1551	
Potassium	2.2	0.20	1.0	mg/L	1	AK24372	11/15/22 16:55	11/17/22 14:38	EPA 200.7	BED	1551	
Sodium	110	0.30	1.0	mg/L	1	AK24372	11/15/22 16:55	11/17/22 16:10	EPA 200.7	BED	1551	

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EBMUD	Project Manager: K. Schwab	
PO Box 24055	Project: Bayside Ground Water Project WDR	Reported:
Oakland CA, 94607	Project Number: C013032	12/12/22 11:39

Conventional Chemistry Parameters by APHA/EPA Methods

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Analyst	ELAP #	Notes
C013032-01 (22K0847-01) Water Sampled: 11/02/22 13:35 Received: 11/03/22 23:15												
Total Dissolved Solids	410	10	10	mg/L	1	AK23796	11/08/22 20:23	11/29/22 20:00	SM2540C	PBM	1551	

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EBMUD	Project Manager: K. Schwab	
PO Box 24055	Project: Bayside Ground Water Project WDR	Reported:
Oakland CA, 94607	Project Number: C013032	12/12/22 11:39

Volatile Organic Compounds by EPA Method 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Analyst	ELAP #	Notes
C013032-01 (22K0847-01) Water Sampled: 11/02/22 13:35 Received: 11/03/22 23:15												
Bromodichloromethane	ND	0.08	0.50	ug/L	1	AK23652	11/08/22 11:00	11/09/22 00:32	EPA 8260B	JV	1551	U
Bromoform	ND	0.30	0.50	ug/L	1	AK23652	11/08/22 11:00	11/09/22 00:32	EPA 8260B	JV	1551	U
Chloroform	ND	0.06	0.50	ug/L	1	AK23652	11/08/22 11:00	11/09/22 00:32	EPA 8260B	JV	1551	U
Dibromochloromethane	ND	0.10	0.50	ug/L	1	AK23652	11/08/22 11:00	11/09/22 00:32	EPA 8260B	JV	1551	U
Trihalomethanes (total)	ND	0.40	0.50	ug/L	1	AK23652	11/08/22 11:00	11/09/22 00:32	EPA 8260B	JV	1551	U
Surrogate: Bromofluorobenzene		*103 %*	*70-130*			*AK23652*	*11/08/22 11:00*	*11/09/22 00:32*	*EPA 8260B*	*JV*	1551	
Surrogate: Dibromofluoromethane		*92.5 %*	*70-130*			*AK23652*	*11/08/22 11:00*	*11/09/22 00:32*	*EPA 8260B*	*JV*	1551	
Surrogate: Toluene-d8		*105 %*	*70-130*			*AK23652*	*11/08/22 11:00*	*11/09/22 00:32*	*EPA 8260B*	*JV*	1551	

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EBMUD	Project Manager: K. Schwab	
PO Box 24055	Project: Bayside Ground Water Project WDR	Reported:
Oakland CA, 94607	Project Number: C013032	12/12/22 11:39

Metals by EPA 200 Series Methods - Quality Control

Analyte	Result	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch AK24372 - Metals Digest											
Blank (AK24372-BLK1)					Prepared: 11/15/22 Analyzed: 11/17/22						
Calcium	ND	0.080	1.0	mg/L							U
Iron	ND	0.050	0.10	mg/L							U
Magnesium	ND	0.030	1.0	mg/L							U
Manganese	ND	0.0020	0.020	mg/L							U
Potassium	ND	0.20	1.0	mg/L							U
Sodium	ND	0.30	1.0	mg/L							U
LCS (AK24372-BS1)					Prepared: 11/15/22 Analyzed: 11/17/22						
Calcium	2.55	0.080	1.0	mg/L	2.51		102	85-115			
Iron	2.05	0.050	0.10	mg/L	2.00		103	85-115			
Magnesium	8.15	0.030	1.0	mg/L	8.00		102	85-115			
Manganese	0.212	0.0020	0.020	mg/L	0.200		106	85-115			
Potassium	8.30	0.20	1.0	mg/L	8.00		104	85-115			
Sodium	8.08	0.30	1.0	mg/L	8.00		101	85-115			
Duplicate (AK24372-DUP1)		**Source: 22K0855-01**			Prepared: 11/15/22 Analyzed: 11/17/22						
Calcium	43.3	0.080	1.0	mg/L		42.4			2.26	20	
Iron	0.0697	0.050	0.10	mg/L		0.0667			4.39	20	J
Magnesium	10.6	0.030	1.0	mg/L		10.5			1.39	20	
Manganese	0.234	0.0020	0.020	mg/L		0.230			1.49	20	
Potassium	2.22	0.20	1.0	mg/L		2.17			2.00	20	
Sodium	128	0.30	1.0	mg/L		124			3.06	20	
MRL Check (AK24372-MRL1)					Prepared: 11/15/22 Analyzed: 11/17/22						
Sodium	ND	0.30	1.0	mg/L	0.100			0-200			U
Matrix Spike (AK24372-MS1)		**Source: 22K0855-01**			Prepared: 11/15/22 Analyzed: 11/17/22						
Calcium	45.3	0.080	1.0	mg/L	2.51	42.4	118	70-130			
Iron	2.13	0.050	0.10	mg/L	2.00	0.0667	103	70-130			
Magnesium	18.9	0.030	1.0	mg/L	8.00	10.5	105	70-130			
Manganese	0.443	0.0020	0.020	mg/L	0.200	0.230	106	70-130			
Potassium	11.0	0.20	1.0	mg/L	8.00	2.17	110	70-130			
Sodium	132	0.30	1.0	mg/L	8.00	124	97.3	70-130			

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EBMUD	Project Manager: K. Schwab	
PO Box 24055	Project: Bayside Ground Water Project WDR	Reported:
Oakland CA, 94607	Project Number: C013032	12/12/22 11:39

Metals by EPA 200 Series Methods - Quality Control

Analyte	Result	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch AK24372 - Metals Digest											
Matrix Spike (AK24372-MS2)		Source: 22K0847-01			Prepared: 11/15/22 Analyzed: 11/17/22						
Calcium	36.9	0.080	1.0	mg/L	2.51	33.9	119	70-130			
Iron	2.04	0.050	0.10	mg/L	2.00	ND	102	70-130			
Magnesium	16.8	0.030	1.0	mg/L	8.00	8.51	104	70-130			
Manganese	0.404	0.0020	0.020	mg/L	0.200	0.198	103	70-130			
Potassium	11.0	0.20	1.0	mg/L	8.00	2.17	110	70-130			
Sodium	124	0.30	1.0	mg/L	8.00	115	115	70-130			
Matrix Spike Dup (AK24372-MSD1)		Source: 22K0855-01			Prepared: 11/15/22 Analyzed: 11/17/22						
Calcium	44.9	0.080	1.0	mg/L	2.51	42.4	101	70-130	0.944	20	
Iron	2.12	0.050	0.10	mg/L	2.00	0.0667	103	70-130	0.491	20	
Magnesium	18.8	0.030	1.0	mg/L	8.00	10.5	104	70-130	0.513	20	
Manganese	0.441	0.0020	0.020	mg/L	0.200	0.230	105	70-130	0.413	20	
Potassium	11.0	0.20	1.0	mg/L	8.00	2.17	110	70-130	0.108	20	
Sodium	132	0.30	1.0	mg/L	8.00	124	97.9	70-130	0.0332	20	

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EBMUD	Project Manager: K. Schwab	
PO Box 24055	Project: Bayside Ground Water Project WDR	Reported:
Oakland CA, 94607	Project Number: C013032	12/12/22 11:39

Conventional Chemistry Parameters by APHA/EPA Methods - Quality Control

Analyte	Result	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch AK23796 - General Preparation											
Blank (AK23796-BLK1)					Prepared: 11/08/22 Analyzed: 11/29/22						
Total Dissolved Solids	ND	10	10	mg/L							U
Duplicate (AK23796-DUP1)		Source: 22K0509-01			Prepared: 11/08/22 Analyzed: 11/29/22						
Total Dissolved Solids	242	10	10	mg/L		238			1.67	15	
Duplicate (AK23796-DUP2)		Source: 22K0638-02			Prepared: 11/08/22 Analyzed: 11/29/22						
Total Dissolved Solids	236	10	10	mg/L		246			4.15	15	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Page 7 of 10

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EBMUD	Project Manager: K. Schwab	
PO Box 24055	Project: Bayside Ground Water Project WDR	Reported:
Oakland CA, 94607	Project Number: C013032	12/12/22 11:39

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Analyte	Result	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch AK23652 - VOAs in Water GCMS											
Blank (AK23652-BLK1)					Prepared & Analyzed: 11/07/22						
Bromodichloromethane	ND	0.08	0.50	ug/L							U
Bromoform	ND	0.30	0.50	ug/L							U
Chloroform	ND	0.06	0.50	ug/L							U
Dibromochloromethane	ND	0.10	0.50	ug/L							U
Trihalomethanes (total)	ND	0.40	0.50	ug/L							U
Surrogate: Bromofluorobenzene	*28.4*			*ug/L*	*25.0*		*113*	*70-130*			
Surrogate: Dibromofluoromethane	*22.8*			*ug/L*	*25.0*		*91.0*	*70-130*			
Surrogate: Toluene-d8	*26.5*			*ug/L*	*25.0*		*106*	*70-130*			
LCS (AK23652-BS1)					Prepared: 11/07/22 Analyzed: 11/08/22						
Bromodichloromethane	18.7	0.08	0.50	ug/L	20.0		93.7	86-135			
Bromoform	21.7	0.30	0.50	ug/L	20.0		109	57-156			
Chloroform	19.6	0.06	0.50	ug/L	20.0		97.9	81-122			
Dibromochloromethane	20.5	0.10	0.50	ug/L	20.0		103	69-133			
Surrogate: Bromofluorobenzene	*27.2*			*ug/L*	*25.0*		*109*	*70-130*			
Surrogate: Dibromofluoromethane	*23.9*			*ug/L*	*25.0*		*95.6*	*70-130*			
Surrogate: Toluene-d8	*26.4*			*ug/L*	*25.0*		*106*	*70-130*			
LCS Dup (AK23652-BSD1)					Prepared: 11/07/22 Analyzed: 11/08/22						
Bromodichloromethane	17.9	0.08	0.50	ug/L	20.0		89.4	86-135	4.64	25	
Bromoform	20.4	0.30	0.50	ug/L	20.0		102	57-156	6.07	25	
Chloroform	18.7	0.06	0.50	ug/L	20.0		93.4	81-122	4.70	25	
Dibromochloromethane	19.7	0.10	0.50	ug/L	20.0		98.3	69-133	4.38	25	
Surrogate: Bromofluorobenzene	*27.1*			*ug/L*	*25.0*		*108*	*70-130*			
Surrogate: Dibromofluoromethane	*25.3*			*ug/L*	*25.0*		*101*	*70-130*			
Surrogate: Toluene-d8	*25.6*			*ug/L*	*25.0*		*103*	*70-130*			
Matrix Spike (AK23652-MS1)		**Source: 22K0875-01**			Prepared: 11/07/22 Analyzed: 11/08/22						
Bromodichloromethane	19.9	0.08	0.50	ug/L	20.0	ND	99.6	62-140			
Bromoform	20.0	0.30	0.50	ug/L	20.0	ND	99.8	47-165			
Chloroform	21.7	0.06	0.50	ug/L	20.0	ND	108	68-121			
Dibromochloromethane	20.6	0.10	0.50	ug/L	20.0	ND	103	54-157			
Surrogate: Bromofluorobenzene	*26.0*			*ug/L*	*25.0*		*104*	*70-130*			
Surrogate: Dibromofluoromethane	*24.9*			*ug/L*	*25.0*		*99.5*	*70-130*			
Surrogate: Toluene-d8	*25.7*			*ug/L*	*25.0*		*103*	*70-130*			

Alpha Analytical Laboratories, Inc. email: clientservices@alpha-labs.com
Corporate: 208 Mason Street | Ukiah, CA 95482 | T: 707-468-0401 | F: 707-468-5267 | ELAP# 1551

EBMUD	Project Manager: K. Schwab	
PO Box 24055	Project: Bayside Ground Water Project WDR	Reported:
Oakland CA, 94607	Project Number: C013032	12/12/22 11:39

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Analyte	Result	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch AK23652 - VOAs in Water GCMS											
Matrix Spike Dup (AK23652-MSD1)		Source: 22K0875-01			Prepared: 11/07/22 Analyzed: 11/08/22						
Bromodichloromethane	18.6	0.08	0.50	ug/L	20.0	ND	93.1	62-140	6.80	25	
Bromoform	22.3	0.30	0.50	ug/L	20.0	ND	111	47-165	10.9	25	
Chloroform	19.6	0.06	0.50	ug/L	20.0	ND	98.2	68-121	10.0	25	
Dibromochloromethane	21.2	0.10	0.50	ug/L	20.0	ND	106	54-157	3.01	25	
Surrogate: Bromofluorobenzene	*25.9*			*ug/L*	*25.0*		*103*	*70-130*			
Surrogate: Dibromofluoromethane	*22.4*			*ug/L*	*25.0*		*89.6*	*70-130*			
Surrogate: Toluene-d8	*25.6*			*ug/L*	*25.0*		*102*	*70-130*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

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Corporate: 208 Mason Street | Ukiah, CA 95482 | T: 707-468-0401 | F: 707-468-5267 | ELAP# 1551

EBMUD	Project Manager: K. Schwab	
PO Box 24055	Project: Bayside Ground Water Project WDR	Reported:
Oakland CA, 94607	Project Number: C013032	12/12/22 11:39

Notes and Definitions

J	Detected but below the Reporting Limit; therefore, result is an estimated concentration, detected but not quantified (DNQ)
U	Analyte included in analysis, but not detected at or above MDL.
ND	Analyte NOT DETECTED at or above the reporting limit
dry	Sample results reported on a dry weight basis
MDL	Method detection limit
Rec	Recovery
RPD	Relative Percent Difference

Non-accredited analytes are reported only when ELAP accreditation for a requested analyte method pair is not available. For a list of accredited analytes, view our certificates at the Company link on our website at www.alpha-labs.com or contact your Project Manager directly.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

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ISOTECH
a Stratum Reservoir brand
www.isotechlabs.com

Lab #:	849580	Job #:	52769	IS-69368	Co. Job#:
Sample Name:	22K0847-01				Co Lab#:
Company:	Alpha Analytical Laboratories, Inc.				
API/Well:					
Container:	500ml Plastic Bottle				
Field/Site Name:	22K0847				
Location:					
Formation/Depth:					
Sampling Point:	C013032-01				
Date Sampled:	11/02/2022 13:35	Date Received:	11/14/2022	Date Reported:	11/30/2022

δD of water	-48.3 ‰ relative to VSMOW
$\delta^{18}O$ of water	-7.10 ‰ relative to VSMOW
Tritium content of water	na
$\delta^{13}C$ of DIC	na
^{14}C content of DIC	na
$\delta^{15}N$ of nitrate	na
$\delta^{18}O$ of nitrate	na
$\delta^{34}S$ of sulfate	na
$\delta^{18}O$ of sulfate	na
Vacuum Distilled? *	No

Remarks:

nd = not detected, na = not analyzed.
*Indicates if vacuum distillation was utilized for hydrogen and oxygen isotopic analysis of water

4.6 22K0847

EBMUD

East Bay Municipal Utility District Laboratory Services Subcontract Chain of Custody

COC #: C013032	Project Title: Bayside Ground Water Project	Lab PM: Kristi Schwab (510) 287-1696 Shipping Method: Alpha Courier	Sampled By: DW/AB/GE
	TAT: Standard	PO#: BRD-13921-AX Expiration: 12/31/2023	Submitted Date:

Date	Time	Sample ID	Location/PS Code	Matrix	Container ID	Type	Tests Required	Method Reference
11/02/2022	13:35	C013032-01	GW BAYSIDE - BAY1-MW6	Aqueous	-01A	PLSTL	EPA 200.7-NPW (Ca,Fe,K,Mg,Mn,Na)	EPA 200.7 (1994 Rev 4.4)
					-01B	PLSTL	TDS	SM 2540 C-2011
					-01I	PLSTM	Oxygen 18	D18O
					-01J	VOC4T	EPA 8260B THM	EPA 8260B
					-01K	VOC4T	EPA 8260B	Bottle for QC (2)
					-01L	VOC4T	EPA 8260B	Bottle for QC (2)
Comments: Alpha: Isotope analysis for Oxygen-18 and Hydrogen-2 (subcontracted). Total Dissolved Solids (TDS) by SM2540C, THMs by EPA 8260, Metals by EPA 200.7 (Ca, Fe, K, Mg, Mn, Na)								
			Total containers received:	6				

	Signature	Print Name	Time	Date
Relinquished by:	Robert Mokhiber	Robert Mokhiber	1430	11/3/22
Received by:	James Todd	James Todd	1640	11/3/22
Relinquished by:	James Todd	James Todd	2315	11/3/22
Received by:	James Todd	James Todd	2315	11/3/22
Relinquished by:				
Received by:				

Send results and invoice to:
Kristi Schwab (kristi.lorenson@ebmud.com)
EBMUD Laboratory
PO Box 24055 MS #59
Oakland, CA 94623
(510) 287-1696

SUBCONTRACT: Please notify Lab PM if TAT is delayed and/or Hold Time will be exceeded.
Alpha Analytical Laboratory
208 Mason St
Ukiah, CA 95482
707-468-0401

Page 1 of 1

East Bay Municipal Utility District
2020 Wake Ave, Oakland, CA 94623 T: 510-287-1432

Laboratory Services Division
ELAP#1060

Analytical Results Report

21 January 2023

David Behnken

MS 704

Re: Bayside Ground Water Project

COC# C013034

Report Generated: 01/20/2023 17:28

Login Performance Summary

- 0 Lost Analyses
- 0 Hold Time Exceedances
- Analytical analyses did not meet the turnaround time

Report Notes

For questions concerning this report, please contact:

Reported By:

Kristi Schwab

Senior Chemist

Approved By:

Yuyun Shang

Lab Manager

Samples for C013034

Samples Included in the Report

Sample Number	Sample Type	Sampled Date	Location Name	Sample Name
C013034-01	GRAB	Nov 09 2022 15:12	GW BAYSIDE - BAY1-MW7	-

Samples Results for C013034

Sample ID: C013034-01
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
Client: Bayside Ground Water Project
Sample Type: GRAB
Date Collected: Nov 09 2022 15:12 — **Sample Collector:** DOW/CR/AB
Date Received: Nov 10 2022 10:13 — **Sample Receiver:** E Ng
Sample Comments: Field Comments: None

Analyte	Qualifier	Result	MDL	RL	Units	DF	Batch	Prepared	Analyzed
Field data entry into LIMS									
TARGET ANALYTES									
CL2R		**0.1**	0.02		mg/L				11/09/2022 15:12
Field data entry into LIMS									
TARGET ANALYTES									
Depth		**30**			Feet				11/09/2022 15:12
Field data entry into LIMS									
TARGET ANALYTES									
pH		**7.36**			pH Units				11/09/2022 15:12
Field data entry into LIMS									
TARGET ANALYTES									
Temperature		**21.9**			C				11/09/2022 15:12
Total Dissolved Solids by SM2540C									
Subcontract data from: Alpha Analytical Laboratory ELAP#: Refer to external lab report									
TARGET ANALYTES									
Total Dissolved Solids		**430**	10	10	mg/L	1			11/15/2022 19:00
Comments: SUB: Analysis date reported is date filtered by sub lab, as per EBMUD SOP									
Alkalinity by SM 2320 B-2011									
TARGET ANALYTES									
Alkalinity: Total as CaCO3		**230**	5	30	mg/L	1.0	B221114-002		11/14/2022 09:16
Alkalinity: Carbonate	U	5	5	30	mg/L	1.0	B221114-002		11/14/2022 09:16
Alkalinity: Bicarbonate		**230**	5	30	mg/L	1.0	B221114-002		11/14/2022 09:16
Alkalinity: Hydroxide	U	5	5	30	mg/L	1.0	B221114-002		11/14/2022 09:16
Ammonia as N by SM 4500-NH3 C-2011									
TARGET ANALYTES									
Ammonia as N		**3.4**	0.25	1.5	mg/L	1.0	B221117-007		11/17/2022 08:31
Hardness as CaCO3 by SM 2340 C-2011									
TARGET ANALYTES									
Hardness as CaCO3		**150**	4	7	mg/L	1.0	B221115-013		11/15/2022 09:57
Anions by EPA 300.1									
TARGET ANALYTES									
Chloride		**93**	1.2	5.0	mg/L	25	B221110-014		11/10/2022 15:39
Nitrate as N	U	0.058	0.058	0.75	mg/L	25	B221110-014		11/10/2022 15:39
Sulfate		**53**	1.7	5.0	mg/L	25	B221110-014		11/10/2022 15:39
SURROGATES									
Dichloroacetate (%)		100			%	25	B221110-014		11/10/2022 15:39

Samples Results for C013034

Sample ID: C013034-01
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
Client: Bayside Ground Water Project
Sample Type: GRAB
Date Collected: Nov 09 2022 15:12 — **Sample Collector:** DOW/CR/AB
Date Received: Nov 10 2022 10:13 — **Sample Receiver:** E Ng
Sample Comments: Field Comments: None

Analyte	Qualifier	Result	MDL	RL	Units	DF	Batch	Prepared	Analyzed
Metals by EPA 200.7									
Subcontract data from: Alpha Analytical Laboratory ELAP#: Refer to external lab report									
TARGET ANALYTES									
Calcium		**40**	0.080	1.0	mg/L	1		11/29/2022 09:59	12/06/2022 16:06
Comments: SUB									
Iron	U	0.050	0.050	0.10	mg/L	1		11/29/2022 09:59	12/06/2022 16:06
Comments: SUB: Analyte included in analysis but not detected at or above MDL									
Potassium		**2.2**	0.20	1.0	mg/L	1		11/29/2022 09:59	12/06/2022 16:06
Comments: SUB									
Magnesium		**10**	0.030	1.0	mg/L	1		11/29/2022 09:59	12/06/2022 16:06
Comments: SUB									
Manganese		**0.24**	0.0020	0.020	mg/L	1		11/29/2022 09:59	12/06/2022 16:06
Comments: SUB									
Sodium		**120**	0.30	1.0	mg/L	1		11/29/2022 09:59	12/06/2022 16:06
Comments: SUB									
Haloacetic Acids, GC/ECD by EPA 552.2									
TARGET ANALYTES									
Bromochloroacetic Acid	U	0.17	0.17	1.0	ug/L	1.0	B221121-011	11/18/2022 09:10	11/22/2022 14:48
Comments: Compound not available for certification by ELAP									
Bromodichloroacetic Acid	U	0.29	0.29	1.0	ug/L	1.0	B221121-011	11/18/2022 09:10	11/22/2022 14:48
Comments: Compound not available for certification by ELAP									
Chlorodibromoacetic Acid	U	0.31	0.31	1.0	ug/L	1.0	B221121-011	11/18/2022 09:10	11/22/2022 14:48
Comments: Compound not available for certification by ELAP									
Dibromoacetic Acid	U	0.15	0.15	1.0	ug/L	1.0	B221121-011	11/18/2022 09:10	11/22/2022 14:48
Dichloroacetic Acid	U	0.20	0.20	1.0	ug/L	1.0	B221121-011	11/18/2022 09:10	11/22/2022 14:48
Monobromoacetic Acid	U	0.16	0.16	1.0	ug/L	1.0	B221121-011	11/18/2022 09:10	11/22/2022 14:48
Monochloroacetic Acid	U	0.45	0.45	1.0	ug/L	1.0	B221121-011	11/18/2022 09:10	11/22/2022 14:48
Tribromoacetic Acid	U	0.49	0.49	1.0	ug/L	1.0	B221121-011	11/18/2022 09:10	11/22/2022 14:48
Comments: Compound not available for certification by ELAP									
Trichloroacetic Acid	U	0.25	0.25	1.0	ug/L	1.0	B221121-011	11/18/2022 09:10	11/22/2022 14:48
HAA(5), calculated		**0.00**		1.0	ug/L	1.0	B221121-011	11/18/2022 09:10	11/22/2022 14:48
Comments: HAA (5) calculation uses a zero for any individual HAA result less than the California DLR for that HAA									
HAA(9), calculated		**0.00**		1.0	ug/L	1.0	B221121-011	11/18/2022 09:10	11/22/2022 14:48
INTERNAL STANDARD									
1,2,3-Trichloropropane (%)		100			%	1.0	B221121-011	11/18/2022 09:10	11/22/2022 14:48
SURROGATES									
2,3-Dibromopropionic Acid (%)		100			%	1.0	B221121-011	11/18/2022 09:10	11/22/2022 14:48
Oxygen 18 Isotope Analysis									
Subcontract data from: Alpha Analytical Laboratory ELAP#: Refer to external lab report									
Test External Comments: 1									
TARGET ANALYTES									
See subcontract report									

Samples Results for C013034

Sample ID: C013034-01
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
Client: Bayside Ground Water Project
Sample Type: GRAB
Date Collected: Nov 09 2022 15:12 — **Sample Collector:** DOW/CR/AB
Date Received: Nov 10 2022 10:13 — **Sample Receiver:** E Ng
Sample Comments: Field Comments: None

Analyte	Qualifier	Result	MDL	RL	Units	DF	Batch	Prepared	Analyzed
Trihalomethanes, Total, GC/MS by EPA 8260B									
Subcontract data from: Alpha Analytical Laboratory ELAP#: Refer to external lab report									
TARGET ANALYTES									
Bromodichloromethane	U	0.08	0.08	0.50	ug/L	1		11/16/2022 11:00	11/17/2022 00:43
Comments: SUB: Analyte included in analysis but not detected at or above MDL									
Bromoform	U	0.30	0.30	0.50	ug/L	1		11/16/2022 11:00	11/17/2022 00:43
Comments: SUB: Analyte included in analysis but not detected at or above MDL									
Chloroform	U	0.06	0.06	0.50	ug/L	1		11/16/2022 11:00	11/17/2022 00:43
Comments: SUB: Analyte included in analysis but not detected at or above MDL									
Dibromochloromethane	U	0.10	0.10	0.50	ug/L	1		11/16/2022 11:00	11/17/2022 00:43
Comments: SUB: Analyte included in analysis but not detected at or above MDL									
Total Trihalomethanes, calculated	U	0.40	0.40	0.50	ug/L	1		11/16/2022 11:00	11/17/2022 00:43
Comments: SUB: Analyte included in analysis but not detected at or above MDL									

Quality Control for C013034

Analyte	Qualifier	Result	MDL	RL	Units	Spike Level	Source Result	% REC	% REC Limits	RPD	RPD Limits
Alkalinity DUP by SM 2320 B-2011, B221114-002											
B221114-002 analyzed on 11/14/2022 09:22; Source = C013034-01											
Alkalinity: Total as CaCO3		**230**	5	30	mg/L		230			0.3	20
Alkalinity DUP by SM 2320 B-2011, B221114-002											
B221114-002 analyzed on 11/14/2022 10:03; Source = C012187-07											
Alkalinity: Total as CaCO3		**8600**	62	380	mg/L		8600			0.0	20
Alkalinity LCS by SM 2320 B-2011, B221114-002											
B221114-002 analyzed on 11/14/2022 08:53											
Alkalinity: Total as CaCO3		200	5	30	mg/L	200		98	85 - 115		
Alkalinity MB by SM 2320 B-2011, B221114-002											
B221114-002 analyzed on 11/14/2022 09:10											
Alkalinity: Total as CaCO3	U	5	5	30	mg/L						
Alkalinity MS by SM 2320 B-2011, B221114-002											
B221114-002 analyzed on 11/14/2022 09:27; Source = C013034-01											
Alkalinity: Total as CaCO3		430	5	30	mg/L	200	230	100	80 - 120		
Alkalinity MS by SM 2320 B-2011, B221114-002											
B221114-002 analyzed on 11/14/2022 10:08; Source = C012187-07											
Alkalinity: Total as CaCO3		13000	62	380	mg/L	5000	8600	92	80 - 120		
Alkalinity QCS by SM 2320 B-2011, B221114-002											
B221114-002 analyzed on 11/14/2022 08:59											
Alkalinity: Total as CaCO3		87	5	30	mg/L	81		108	91 - 111		
Hardness as CaCO3 DUP by SM 2340 C-2011, B221115-013											
B221115-013 analyzed on 11/15/2022 09:57; Source = C012107-02											
Hardness as CaCO3		**13**	4	7	mg/L		14			5.9	10
Hardness as CaCO3 DUP by SM 2340 C-2011, B221115-013											
B221115-013 analyzed on 11/15/2022 09:57; Source = C012594-04											
Hardness as CaCO3		**100**	4	7	mg/L		100			1.2	10
Hardness as CaCO3 LCS by SM 2340 C-2011, B221115-013											
B221115-013 analyzed on 11/15/2022 09:57											
Hardness as CaCO3		78	4	7	mg/L	75		104	85 - 115		

Quality Control for C013034

Analyte	Qualifier	Result	MDL	RL	Units	Spike Level	Source Result	% REC	% REC Limits	RPD	RPD Limits
Hardness as CaCO3 MB by SM 2340 C-2011, B221115-013											
B221115-013 analyzed on 11/15/2022 09:57											
Hardness as CaCO3	U	4	4	7	mg/L						
Hardness as CaCO3 MS by SM 2340 C-2011, B221115-013											
B221115-013 analyzed on 11/15/2022 09:57; Source = C012107-02											
Hardness as CaCO3		92	4	7	mg/L	75	14	104	85 - 115		
Hardness as CaCO3 MS by SM 2340 C-2011, B221115-013											
B221115-013 analyzed on 11/15/2022 09:57; Source = C012594-04											
Hardness as CaCO3		180	4	7	mg/L	75	100	101	85 - 115		
Hardness as CaCO3 QCS by SM 2340 C-2011, B221115-013											
B221115-013 analyzed on 11/15/2022 09:57											
Hardness as CaCO3		180	4	7	mg/L	170		104	91 - 107		
Ammonia as N DUP by SM 4500-NH3 C-2011, B221117-007											
B221117-007 analyzed on 11/17/2022 08:31; Source = C012590-09											
Ammonia as N		**46**	1.2	7.5	mg/L		45			1.2	10
Ammonia as N LCS by SM 4500-NH3 C-2011, B221117-007											
B221117-007 analyzed on 11/17/2022 08:31											
Ammonia as N		12	0.25	1.5	mg/L	12		98	85 - 115		
Ammonia as N MB by SM 4500-NH3 C-2011, B221117-007											
B221117-007 analyzed on 11/17/2022 08:31											
Ammonia as N	U	0.25	0.25	1.5	mg/L						
Ammonia as N MS by SM 4500-NH3 C-2011, B221117-007											
B221117-007 analyzed on 11/17/2022 08:31; Source = C012590-09											
Ammonia as N		100	1.2	7.5	mg/L	60	45	98	80 - 120		
Ammonia as N MSD by SM 4500-NH3 C-2011, B221117-007											
B221117-007 analyzed on 11/17/2022 08:31; Source = C012590-09											
Ammonia as N		100	1.2	7.5	mg/L	60	45	97	80 - 120	0.3	15
Anions LCS by EPA 300.1, B221110-014											
B221110-014 analyzed on 11/10/2022 14:23											
Chloride		0.97	0.046	0.2	mg/L	1.0		97	85 - 115		
Nitrate as N		0.045	0.0023	0.03	mg/L	0.05		90	85 - 115		
Sulfate		0.93	0.069	0.2	mg/L	1.0		93	85 - 115		
Dichloroacetate (%)		99			%						

Quality Control for C013034

Analyte	Qualifier	Result	MDL	RL	Units	Spike Level	Source Result	% REC	% REC Limits	RPD	RPD Limits
Anions LOQ by EPA 300.1, B221110-014											
B221110-014 analyzed on 11/10/2022 13:45											
Chloride		0.21	0.046	0.2	mg/L	0.20		105	50 - 150		
Nitrate as N	E1	0.030	0.0023	0.03	mg/L	0.03		99	50 - 150		
Sulfate		0.22	0.069	0.2	mg/L	0.20		112	50 - 150		
Dichloroacetate (%)		101			%						
Anions MB by EPA 300.1, B221110-014											
B221110-014 analyzed on 11/10/2022 13:07											
Chloride	U	0.046	0.046	0.2	mg/L						
Nitrate as N	U	0.0023	0.0023	0.03	mg/L						
Sulfate	U	0.069	0.069	0.2	mg/L						
Dichloroacetate (%)		102			%						
Anions DUP by EPA 300.1, B221110-014											
B221110-014 analyzed on 11/10/2022 16:54; Source = C012134-13											
Nitrate as N		**0.068**	0.0023	0.030	mg/L		0.068			0.3	10
Dichloroacetate (%)		100			%		100				
Anions MS by EPA 300.1, B221110-014											
B221110-014 analyzed on 11/10/2022 17:32; Source = C012134-13											
Nitrate as N		0.12	0.0023	0.030	mg/L	0.05	0.068	96	75 - 125		
Dichloroacetate (%)		99			%		100				
Haloacetic Acids, GC/ECD LCS by EPA 552.2, B221121-011											
B221121-011 analyzed on 11/22/2022 12:18; B221118-002 prepared on 11/18/2022 09:10											
Bromochloroacetic Acid		16	0.17	1	ug/L	15		106	70 - 130		
Bromodichloroacetic Acid		16	0.29	1	ug/L	15		104	70 - 130		
Chlorodibromoacetic Acid		16	0.31	1	ug/L	15		104	70 - 130		
Dibromoacetic Acid		16	0.15	1	ug/L	15		105	70 - 130		
Dichloroacetic Acid		16	0.20	1	ug/L	15		105	70 - 130		
Monobromoacetic Acid		16	0.16	1	ug/L	15		103	70 - 130		
Monochloroacetic Acid		15	0.45	1	ug/L	15		102	70 - 130		
Tribromoacetic Acid		16	0.49	1	ug/L	15		104	70 - 130		
Trichloroacetic Acid		16	0.25	1	ug/L	15		105	70 - 130		
1,2,3-Trichloropropane (%)		93			%						
2,3-Dibromopropionic Acid (%)		106			%						
Haloacetic Acids, GC/ECD LOQ by EPA 552.2, B221121-011											
B221121-011 analyzed on 11/22/2022 11:53; B221118-002 prepared on 11/18/2022 09:10											
Bromochloroacetic Acid		1.0	0.17	1	ug/L	1.0		106	50 - 150		
Bromodichloroacetic Acid		1.0	0.29	1	ug/L	1.0		105	50 - 150		
Chlorodibromoacetic Acid		1.0	0.31	1	ug/L	1.0		104	50 - 150		
Dibromoacetic Acid		1.1	0.15	1	ug/L	1.0		108	50 - 150		
Dichloroacetic Acid		1.0	0.20	1	ug/L	1.0		106	50 - 150		
Monobromoacetic Acid		1.1	0.16	1	ug/L	1.0		108	50 - 150		
Monochloroacetic Acid		1.0	0.45	1	ug/L	1.0		104	50 - 150		
Tribromoacetic Acid	E1	0.83	0.49	1	ug/L	1.0		83	50 - 150		
Trichloroacetic Acid	E1	0.98	0.25	1	ug/L	1.0		98	50 - 150		
1,2,3-Trichloropropane (%)		93			%						

Quality Control for C013034

Analyte	Qualifier	Result	MDL	RL	Units	Spike Level	Source Result	% REC	% REC Limits	RPD	RPD Limits
2,3-Dibromopropionic Acid (%)		103			%						

Haloacetic Acids, GC/ECD MB by EPA 552.2, B221121-011

B221121-011 analyzed on 11/22/2022 11:28; B221118-002 prepared on 11/18/2022 09:10

Bromochloroacetic Acid	U	0.17	0.17	1	ug/L						
Bromodichloroacetic Acid	U	0.29	0.29	1	ug/L						
Chlorodibromoacetic Acid	U	0.31	0.31	1	ug/L						
Dibromoacetic Acid	U	0.15	0.15	1	ug/L						
Dichloroacetic Acid	U	0.20	0.20	1	ug/L						
Monobromoacetic Acid	U	0.16	0.16	1	ug/L						
Monochloroacetic Acid	U	0.45	0.45	1	ug/L						
Tribromoacetic Acid	U	0.49	0.49	1	ug/L						
Trichloroacetic Acid	U	0.25	0.25	1	ug/L						
1,2,3-Trichloropropane (%)		109			%						
2,3-Dibromopropionic Acid (%)		95			%						

Haloacetic Acids, GC/ECD MS by EPA 552.2, B221121-011

B221121-011 analyzed on 11/22/2022 13:08; B221118-002 prepared on 11/18/2022 09:10; Source = C012089-04

Bromochloroacetic Acid	16	0.17	1.0	ug/L	15	0.17	108	70 - 130		
Bromodichloroacetic Acid	16	0.29	1.0	ug/L	15	0.29	104	70 - 130		
Chlorodibromoacetic Acid	16	0.31	1.0	ug/L	15	0.31	104	70 - 130		
Dibromoacetic Acid	16	0.15	1.0	ug/L	15	0.15	106	70 - 130		
Dichloroacetic Acid	16	0.20	1.0	ug/L	15	0.20	109	70 - 130		
Monobromoacetic Acid	16	0.16	1.0	ug/L	15	0.16	105	70 - 130		
Monochloroacetic Acid	15	0.45	1.0	ug/L	15	0.45	102	70 - 130		
Tribromoacetic Acid	16	0.49	1.0	ug/L	15	0.49	105	70 - 130		
Trichloroacetic Acid	16	0.25	1.0	ug/L	15	0.25	106	70 - 130		
1,2,3-Trichloropropane (%)	90			%		104				
2,3-Dibromopropionic Acid (%)	106			%		95				

Haloacetic Acids, GC/ECD MSD by EPA 552.2, B221121-011

B221121-011 analyzed on 11/22/2022 13:33; B221118-002 prepared on 11/18/2022 09:10; Source = C012089-04

Bromochloroacetic Acid	16	0.17	1.0	ug/L	15	0.17	110	70 - 130	1.2	20
Bromodichloroacetic Acid	16	0.29	1.0	ug/L	15	0.29	105	70 - 130	0.3	20
Chlorodibromoacetic Acid	16	0.31	1.0	ug/L	15	0.31	104	70 - 130	0.0	20
Dibromoacetic Acid	16	0.15	1.0	ug/L	15	0.15	107	70 - 130	1.3	20
Dichloroacetic Acid	17	0.20	1.0	ug/L	15	0.20	113	70 - 130	4.0	20
Monobromoacetic Acid	16	0.16	1.0	ug/L	15	0.16	105	70 - 130	0.4	20
Monochloroacetic Acid	14	0.45	1.0	ug/L	15	0.45	95	70 - 130	7.1	20
Tribromoacetic Acid	16	0.49	1.0	ug/L	15	0.49	106	70 - 130	1.3	20
Trichloroacetic Acid	16	0.25	1.0	ug/L	15	0.25	106	70 - 130	0.6	20
1,2,3-Trichloropropane (%)	92			%		104				
2,3-Dibromopropionic Acid (%)	107			%		95				

Qualifiers and Definitions

E1	Concentration estimated. Analyte detected below reporting limit (RL) but above MDL. For SIP, E1=DNQ, Estimated Concentration.
U	Analyte not detected.

Qualifiers for subcontract work – see parameter comment for description
Corrections for dilutions for matrix effects applied to the MDL and RL.

QC Types and Definitions

DUP	Duplicate Sample
LCS	Laboratory Control Sample
LOQ	Limit of Quantitation
MB	Method Blank
MS	Matrix Spike
MSD	Matrix Spike Duplicate
QCS	Quality Control Sample

East Bay Municipal Utility District Laboratory Services Division Chain of Custody Record

EBMUD

COC #: C013034	Project Title: Bayside Ground Water Project TAT: Standard	Client PM: David Behnken Lab PM: Kristi Schwab Job #:	Expect Date: 11/07/2022 Sampled By: DBW/CR/AB ☒ Samples transported on Ice

Date	Time	Site/Locator	Sample ID	Type	Matrix	ID	Type	Tests Required
11/9/22	3:12pm	GW BAYSIDE - BAY1-MW7	C013034-01	GRAB	Aqueous			+SAMP KIT
						-01A	PLSTL	EPA 200.7-NPW (Ca,Fe,K,Mg,Mn,Na) 5.6°C #2 11/10/22 ESN
						-01B	PLSTL	TDS
						-01C	PLSTM	Hardness
						-01D	PLSTS	EPA 300.1 (Cl,NO3,SO4)
						-01F	PSQLT	Ammonia: Titr-AQ
						-01G	A125N	EPA 552.2
						-01H	A125N	EPA 552.2
						-01I	PLSTM	Oxygen 18
						-01J	VOC4T	EPA 8260B THM
						-01K	VOC4T	EPA 8260B
						-01L	VOC4T	EPA 8260B
						-01M	CS00Z	Alkalinity Species

Field Test Parameters:

CL2R = 0.1		mg/L
Depth = 30		Feet
pH = 7.36		pH Units
Temperature = 21.9		C

Field Comments: None

Field Instructions:

Page 1 of 2 for C013034

East Bay Municipal Utility District Laboratory Services Division Chain of Custody Record

COC #: C013034	Project Title: Bayside Ground Water Project TAT: Standard	Client PM: David Behnken Lab PM: Kristi Schwab Job #:	Expect Date: 11/07/2022 Sampled By: DBW/CR/AB ☒ Samples transported on ice

Date	Time	Site/Locator	Sample ID	Type	Matrix	ID	Type	Tests Required

Total Containers for: C013034 | 12 ✓

	Signature	Print Name	Time	Date
Relinquished by:		David Williams	1632	11/9/22
Received by:				
Relinquished by:				
Received by:				
Relinquished by:				
Received by:		Eva Ng	1013	11/10/22

Container Legend:

A125N = Glass, NM, septa top, 12.5 mg NH4Cl, Amber, 125 mL
C500Z = Glass, NM, septa top, Clear, 500 mL
PLSTL = Plastic, WM, 1000 mL
PLSTM = Plastic, WM, 500 mL
PLSTS = Plastic, NM, 125 mL
PSQLT = Plastic, square, large, 50 mg Na2S2O3, 1000 mL
VOC4T = Glass, clear, septa top, 3.5 mg Na2S2O3, Clear, 40 mL

Page 2 of 2 for C013034

East Bay Municipal Utility District Laboratory Services Division Chain of Custody Record

COC #: C013034	Project Title: Bayside Ground Water Project TAT: Standard	Client PM: David Behnken Lab PM: Kristi Schwab Job #:	Received Date/Time: 11/10/2022 10:13 Received By: Eva Ng Sampled By: DOW/CR/AB Due Date: 12/13/2022

Date	Time	Site/Locator	Sample ID	Type	Matrix	ID	Type	Tests Required
11/09/2022	15:12	GW BAYSIDE - BAY1-MW7	C013034-01	GRAB	Aqueous			+SAMP KIT
						-01A	PLSTL	EPA 200.7-NPW (Ca,Fe,K,Mg,Mn,Na)
						-01B	PLSTL	TDS
						-01C	PLSTM	Hardness
						-01D	PLSTS	EPA 300.1 (Cl,NO3,SO4)
						-01F	PSQLT	Ammonia: Tltr-AQ
						-01G	A125N	EPA 552.2
						-01H	A125N	EPA 552.2
						-01I	PLSTM	Oxygen 18
						-01J	VOC4T	EPA 8260B THM
						-01K	VOC4T	EPA 8260B
						-01L	VOC4T	EPA 8260B
						-01M	C500Z	Alkalinity: Species

Field Test Parameters:		
CL2R =	0.1	mg/L
Depth =	30	Feet
pH =	7.36	pH Units
Temperature =	21.9	C

Field Comments: None

Field Instructions:

Sample External Comments:

Total Containers for: C013034	12

Page 1 of 4 for C013034

EBMUD

C013034 Sample Acceptance Report

Received: 11/10/2022 10:13
Received By: Eva Ng

Chain-of-Custody		Comments
Chilled During Transport?	Yes	
CoC signatures?	Yes	
Collector identified?	Yes	
Date time of collection recorded and legible?	Yes	
Project identified?	Yes	
Received from Sample Drop-off room?	Yes	
Requested analysis identified?	Yes	
Sample I.D.?	Yes	
Sample location?	Yes	
Shipping Slip?	No	

Containers		Comments
Container and label match CoC?	Yes	
Correct container?	Yes	
Correct field preservation?	Yes	
Damaged?	No	
Labels are legible?	Yes	
Possible contamination?	No	
Received within holding times?	Yes	
Sufficient volume?	Yes	

Sample: C013034-01		Comments
Bubbles in ZHS/VOA containers	No	

Page 2 of 4 for C013034

EBMUD

C013034 Sample Acceptance Report

Received: 11/10/2022 10:13
Received By: Eva Ng

Intent to chill

Cooler: 1		Comments
Corrected Temp (° C)	6.3	
IR Thermometer Number	IR #2	
Representative temperature taken from	-01	
Uncorrected Temp (° C)	5.6	
Visible ice formed inside sample container?	No	

Acceptance		Comments
PM notified?	N/A	
Received client approval to proceed?	N/A	
Samples meet acceptance requirements?	Yes	

Sample Acceptance Preservation Report

COC: C013034

Report Generated: 11/10/2022 10:18

Inventory Item	Inventory ID	Open Date	Prep Date	Expiration Date
H2SO4 15 mL 1:1 LDPE dropper	ST210716-005	09/25/2020	N/A	09/25/2030
Hydrochloric Acid 1+1 (HCl-03)	ST220526-010	N/A	05/26/2022	05/26/2023
NaOH 15 mL 1:1 LDPE dropper	ST220106-019	N/A	N/A	05/31/2026
NaOH 15 mL 1:1 LDPE dropper	ST210716-007	N/A	N/A	06/10/2030
Nitric Acid TMG	ST210819-002	08/19/2021	N/A	01/08/2023
pH Strip 0-14	ST211026-005	04/20/2022	N/A	08/31/2025
pH Strip 7.9-9.8	ST210901-011	N/A	N/A	06/30/2023
Sulfuric Acid Gr ACS	ST210729-010	04/13/2021	N/A	04/13/2025

Container Number	Container Name	Tests	Preservation Requirement	Result	Initial/ Date
C013034-01A	PLSTL	EPA 200.7-NPW	HNO3 to pH <2. Preservation Time = 10.25	Pass	ESN 11/10/2022
C013034-01C	PLSTM	Hardness	HNO3 to pH <2	Pass	
C013034-01F	PSQLT	Ammonia: Titr-AQ	Check Cl2R = 0 [PSQLT], then H2SO4 to pH <2	Pass	
C013034-01G	A125N	EPA 552.2	Check Container	Pass	
C013034-01H	A125N	EPA 552.2-FR	Check Container	Pass	
C013034-01K	VOC4T	EPA 8260B-FR	Check Container	Pass	
C013034-01L	VOC4T	EPA 8260B-FR	Check Container	Pass	↓

Page 4 of 4 for C013034

Alpha Analytical Laboratories, Inc. email: clientservices@alpha-labs.com
Corporate: 208 Mason Street | Ukiah, CA 95482 | T: 707-468-0401 | F: 707-468-5267 | ELAP# 1551

13 January 2023

EBMUD
Attn: K. Schwab
PO Box 24055
Oakland, CA 94607
RE: Bayside Ground Water Project WDR
Work Order: 22K2266

Enclosed are the results of analyses for samples received by the laboratory on 11/10/22 23:50. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Robbie C. Phillips
Project Manager

Alpha Analytical Laboratories, Inc. email: clientservices@alpha-labs.com
Corporate: 208 Mason Street | Ukiah, CA 95482 | T: 707-468-0401 | F: 707-468-5267 | ELAP# 1551

EBMUD	Project Manager: K. Schwab	
PO Box 24055	Project: Bayside Ground Water Project WDR	Reported:
Oakland CA, 94607	Project Number: C013034	01/13/23 09:07

Bay Area: 262 Rickenbacker Circle | Livermore, CA 94551 | 925-828-6226 | ELAP# 2728
Central Valley: 9090 Union Park Way Suite 113 | Elk Grove, CA 95624 | 916-686-5190 | ELAP# 2922
North Bay: 737 Southpoint Blvd Unit D| Petaluma, CA 94954 | 707-769-3128 | ELAP# 2303
San Diego: 2722 Loker Avenue West Suite A | Carlsbad, CA 92010 | 760-930-2555 | ELAP# 3055
Los Angeles: 1230 E. 223rd Street Suite 205 | Carson, CA 90745 | 424-267-5032 | Service Center

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
C013034-01	22K2266-01	Water	11/09/22 15:12	11/10/22 23:50

This represents an amended copy of the original report.
Subcontracted results added. Complete report.

Alpha Analytical Laboratories, Inc. email: clientservices@alpha-labs.com
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EBMUD	Project Manager: K. Schwab	
PO Box 24055	Project: Bayside Ground Water Project WDR	Reported:
Oakland CA, 94607	Project Number: C013034	01/13/23 09:07

Metals by EPA 200 Series Methods

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Analyst	ELAP #	Notes
C013034-01 (22K2266-01) Water Sampled: 11/09/22 15:12 Received: 11/10/22 23:50												
Calcium	40	0.080	1.0	mg/L	1	AK25343	11/29/22 09:59	12/06/22 16:06	EPA 200.7	BED	1551	
Iron	ND	0.050	0.10	mg/L	1	AK25343	11/29/22 09:59	12/06/22 16:06	EPA 200.7	BED	1551	U
Magnesium	10	0.030	1.0	mg/L	1	AK25343	11/29/22 09:59	12/06/22 16:06	EPA 200.7	BED	1551	
Manganese	0.24	0.0020	0.020	mg/L	1	AK25343	11/29/22 09:59	12/06/22 16:06	EPA 200.7	BED	1551	
Potassium	2.2	0.20	1.0	mg/L	1	AK25343	11/29/22 09:59	12/06/22 16:06	EPA 200.7	BED	1551	
Sodium	120	0.30	1.0	mg/L	1	AK25343	11/29/22 09:59	12/06/22 16:06	EPA 200.7	BED	1551	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Page 2 of 10

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EBMUD	Project Manager: K. Schwab	
PO Box 24055	Project: Bayside Ground Water Project WDR	Reported:
Oakland CA, 94607	Project Number: C013034	01/13/23 09:07

Conventional Chemistry Parameters by APHA/EPA Methods

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Analyst	ELAP #	Notes
C013034-01 (22K2266-01) Water	**Sampled: 11/09/22 15:12 Received: 11/10/22 23:50**											
Total Dissolved Solids	430	10	10	mg/L	1	AK24823	11/15/22 19:00	11/29/22 22:48	SM2540C	PBM	1551	

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EBMUD	Project Manager: K. Schwab	
PO Box 24055	Project: Bayside Ground Water Project WDR	Reported:
Oakland CA, 94607	Project Number: C013034	01/13/23 09:07

Volatile Organic Compounds by EPA Method 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Analyst	ELAP #	Notes
C013034-01 (22K2266-01) Water Sampled: 11/09/22 15:12 Received: 11/10/22 23:50												
Bromodichloromethane	ND	0.08	0.50	ug/L	1	AK24587	11/16/22 11:00	11/17/22 00:43	EPA 8260B	JV	1551	U
Bromoform	ND	0.30	0.50	ug/L	1	AK24587	11/16/22 11:00	11/17/22 00:43	EPA 8260B	JV	1551	U
Chloroform	ND	0.06	0.50	ug/L	1	AK24587	11/16/22 11:00	11/17/22 00:43	EPA 8260B	JV	1551	U
Dibromochloromethane	ND	0.10	0.50	ug/L	1	AK24587	11/16/22 11:00	11/17/22 00:43	EPA 8260B	JV	1551	U
Trihalomethanes (total)	ND	0.40	0.50	ug/L	1	AK24587	11/16/22 11:00	11/17/22 00:43	EPA 8260B	JV	1551	U
Surrogate: Bromofluorobenzene		*104 %*	*70-130*			*AK24587*	*11/16/22 11:00*	*11/17/22 00:43*	*EPA 8260B*	*JV*	1551	
Surrogate: Dibromofluoromethane		*101 %*	*70-130*			*AK24587*	*11/16/22 11:00*	*11/17/22 00:43*	*EPA 8260B*	*JV*	1551	
Surrogate: Toluene-d8		*109 %*	*70-130*			*AK24587*	*11/16/22 11:00*	*11/17/22 00:43*	*EPA 8260B*	*JV*	1551	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

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EBMUD	Project Manager: K. Schwab	
PO Box 24055	Project: Bayside Ground Water Project WDR	Reported:
Oakland CA, 94607	Project Number: C013034	01/13/23 09:07

Metals by EPA 200 Series Methods - Quality Control

Analyte	Result	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch AK25343 - Metals Digest											
Blank (AK25343-BLK1)					Prepared: 11/29/22 Analyzed: 12/06/22						
Calcium	ND	0.080	1.0	mg/L							U
Iron	ND	0.050	0.10	mg/L							U
Magnesium	ND	0.030	1.0	mg/L							U
Manganese	ND	0.0020	0.020	mg/L							U
Potassium	ND	0.20	1.0	mg/L							U
Sodium	ND	0.30	1.0	mg/L							U
LCS (AK25343-BS1)					Prepared: 11/29/22 Analyzed: 12/06/22						
Calcium	2.45	0.080	1.0	mg/L	2.51		97.7	85-115			
Iron	1.96	0.050	0.10	mg/L	2.00		98.1	85-115			
Magnesium	7.67	0.030	1.0	mg/L	8.00		95.9	85-115			
Manganese	0.206	0.0020	0.020	mg/L	0.200		103	85-115			
Potassium	8.34	0.20	1.0	mg/L	8.00		104	85-115			
Sodium	7.84	0.30	1.0	mg/L	8.00		98.0	85-115			
Duplicate (AK25343-DUP1)		Source: 22K2266-01			Prepared: 11/29/22 Analyzed: 12/06/22						
Calcium	40.1	0.080	1.0	mg/L		40.2			0.242	20	
Iron	ND	0.050	0.10	mg/L		ND				20	U
Magnesium	9.70	0.030	1.0	mg/L		10.3			5.76	20	
Manganese	0.238	0.0020	0.020	mg/L		0.244			2.49	20	
Potassium	2.28	0.20	1.0	mg/L		2.22			2.40	20	
Sodium	130	0.30	1.0	mg/L		125			3.81	20	
Matrix Spike (AK25343-MS1)		Source: 22K2266-01			Prepared: 11/29/22 Analyzed: 12/06/22						
Calcium	45.0	0.080	1.0	mg/L	2.51	40.2	189	70-130			QM-4X
Iron	2.07	0.050	0.10	mg/L	2.00	ND	104	70-130			
Magnesium	17.9	0.030	1.0	mg/L	8.00	10.3	95.6	70-130			
Manganese	0.449	0.0020	0.020	mg/L	0.200	0.244	103	70-130			
Potassium	10.9	0.20	1.0	mg/L	8.00	2.22	108	70-130			
Sodium	141	0.30	1.0	mg/L	8.00	125	205	70-130			QM-4X

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EBMUD	Project Manager: K. Schwab	
PO Box 24055	Project: Bayside Ground Water Project WDR	Reported:
Oakland CA, 94607	Project Number: C013034	01/13/23 09:07

Metals by EPA 200 Series Methods - Quality Control

Analyte	Result	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch AK25343 - Metals Digest											
Matrix Spike (AK25343-MS2)		Source: 22K2268-01			Prepared: 11/29/22 Analyzed: 12/06/22						
Calcium	24.1	0.080	1.0	mg/L	2.51	22.3	74.8	70-130			
Iron	1.96	0.050	0.10	mg/L	2.00	ND	97.8	70-130			
Magnesium	31.9	0.030	1.0	mg/L	8.00	24.7	90.3	70-130			
Manganese	0.207	0.0020	0.020	mg/L	0.200	ND	103	70-130			
Potassium	10.0	0.20	1.0	mg/L	8.00	1.76	103	70-130			
Sodium	23.2	0.30	1.0	mg/L	8.00	14.6	108	70-130			
Matrix Spike Dup (AK25343-MSD1)		Source: 22K2266-01			Prepared: 11/29/22 Analyzed: 12/06/22						
Calcium	43.9	0.080	1.0	mg/L	2.51	40.2	148	70-130	2.32	20	QM-4X
Iron	2.01	0.050	0.10	mg/L	2.00	ND	100	70-130	3.04	20	
Magnesium	18.4	0.030	1.0	mg/L	8.00	10.3	101	70-130	2.41	20	
Manganese	0.457	0.0020	0.020	mg/L	0.200	0.244	107	70-130	1.77	20	
Potassium	10.9	0.20	1.0	mg/L	8.00	2.22	108	70-130	0.190	20	
Sodium	143	0.30	1.0	mg/L	8.00	125	228	70-130	1.34	20	QM-4X

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

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Alpha Analytical Laboratories, Inc. email: clientservices@alpha-labs.com
Corporate: 208 Mason Street | Ukiah, CA 95482 | T: 707-468-0401 | F: 707-468-5267 | ELAP# 1551

EBMUD	Project Manager: K. Schwab	
PO Box 24055	Project: Bayside Ground Water Project WDR	Reported:
Oakland CA, 94607	Project Number: C013034	01/13/23 09:07

Conventional Chemistry Parameters by APHA/EPA Methods - Quality Control

Analyte	Result	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch AK24823 - General Preparation											
Blank (AK24823-BLK1)					Prepared: 11/15/22 Analyzed: 11/29/22						
Total Dissolved Solids	ND	10	10	mg/L							U
Duplicate (AK24823-DUP1)		Source: 22K1868-01			Prepared: 11/15/22 Analyzed: 11/29/22						
Total Dissolved Solids	226	10	10	mg/L		240			6.01	15	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

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EBMUD	Project Manager: K. Schwab	
PO Box 24055	Project: Bayside Ground Water Project WDR	Reported:
Oakland CA, 94607	Project Number: C013034	01/13/23 09:07

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Analyte	Result	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch AK24587 - VOAs in Water GCMS											
Blank (AK24587-BLK1)					Prepared: 11/15/22 Analyzed: 11/16/22						
Bromodichloromethane	ND	0.08	0.50	ug/L							U
Bromoform	ND	0.30	0.50	ug/L							U
Chloroform	ND	0.06	0.50	ug/L							U
Dibromochloromethane	ND	0.10	0.50	ug/L							U
Trihalomethanes (total)	ND	0.40	0.50	ug/L							U
Surrogate: Bromofluorobenzene	*27.1*			*ug/L*	*25.0*		*108*	*70-130*			
Surrogate: Dibromofluoromethane	*22.9*			*ug/L*	*25.0*		*91.6*	*70-130*			
Surrogate: Toluene-d8	*27.8*			*ug/L*	*25.0*		*111*	*70-130*			
LCS (AK24587-BS1)					Prepared: 11/15/22 Analyzed: 11/16/22						
Bromodichloromethane	18.0	0.08	0.50	ug/L	20.0		89.8	86-135			
Bromoform	19.3	0.30	0.50	ug/L	20.0		96.4	57-156			
Chloroform	18.4	0.06	0.50	ug/L	20.0		91.8	81-122			
Dibromochloromethane	21.0	0.10	0.50	ug/L	20.0		105	69-133			
Surrogate: Bromofluorobenzene	*27.2*			*ug/L*	*25.0*		*109*	*70-130*			
Surrogate: Dibromofluoromethane	*25.1*			*ug/L*	*25.0*		*100*	*70-130*			
Surrogate: Toluene-d8	*27.3*			*ug/L*	*25.0*		*109*	*70-130*			
LCS Dup (AK24587-BSD1)					Prepared: 11/15/22 Analyzed: 11/16/22						
Bromodichloromethane	18.0	0.08	0.50	ug/L	20.0		90.2	86-135	0.333	25	
Bromoform	19.0	0.30	0.50	ug/L	20.0		95.1	57-156	1.36	25	
Chloroform	18.4	0.06	0.50	ug/L	20.0		92.2	81-122	0.435	25	
Dibromochloromethane	21.1	0.10	0.50	ug/L	20.0		105	69-133	0.142	25	
Surrogate: Bromofluorobenzene	*26.8*			*ug/L*	*25.0*		*107*	*70-130*			
Surrogate: Dibromofluoromethane	*25.4*			*ug/L*	*25.0*		*102*	*70-130*			
Surrogate: Toluene-d8	*27.0*			*ug/L*	*25.0*		*108*	*70-130*			
Matrix Spike (AK24587-MS1)		**Source: 22K2211-01**			Prepared: 11/15/22 Analyzed: 11/16/22						
Bromodichloromethane	21.5	0.08	0.50	ug/L	20.0	ND	108	62-140			
Bromoform	21.6	0.30	0.50	ug/L	20.0	ND	108	47-165			
Chloroform	22.2	0.06	0.50	ug/L	20.0	0.400	109	68-121			
Dibromochloromethane	23.4	0.10	0.50	ug/L	20.0	ND	117	54-157			
Surrogate: Bromofluorobenzene	*25.5*			*ug/L*	*25.0*		*102*	*70-130*			
Surrogate: Dibromofluoromethane	*25.9*			*ug/L*	*25.0*		*103*	*70-130*			
Surrogate: Toluene-d8	*26.4*			*ug/L*	*25.0*		*106*	*70-130*			

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EBMUD	Project Manager: K. Schwab	
PO Box 24055	Project: Bayside Ground Water Project WDR	Reported:
Oakland CA, 94607	Project Number: C013034	01/13/23 09:07

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Analyte	Result	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch AK24587 - VOAs in Water GCMS											
Matrix Spike Dup (AK24587-MSD1)		**Source: 22K2211-01**			Prepared: 11/15/22 Analyzed: 11/16/22						
Bromodichloromethane	21.3	0.08	0.50	ug/L	20.0	ND	106	62-140	0.981	25	
Bromoform	21.8	0.30	0.50	ug/L	20.0	ND	109	47-165	0.599	25	
Chloroform	22.4	0.06	0.50	ug/L	20.0	0.400	110	68-121	0.987	25	
Dibromochloromethane	23.0	0.10	0.50	ug/L	20.0	ND	115	54-157	1.98	25	
Surrogate: Bromofluorobenzene	*26.6*			*ug/L*	*25.0*		*107*	*70-130*			
Surrogate: Dibromofluoromethane	*25.6*			*ug/L*	*25.0*		*103*	*70-130*			
Surrogate: Toluene-d8	*27.0*			*ug/L*	*25.0*		*108*	*70-130*			

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EBMUD	Project Manager: K. Schwab	
PO Box 24055	Project: Bayside Ground Water Project WDR	Reported:
Oakland CA, 94607	Project Number: C013034	01/13/23 09:07

Notes and Definitions

QM-4X	The spike recovery was outside of QC acceptance limits for the MS and/or MSD due to analyte concentration at 4 times or greater the spike concentration. The QC batch was accepted based on LCS and/or LCSD recoveries within the acceptance limits.
U	Analyte included in analysis, but not detected at or above MDL.
ND	Analyte NOT DETECTED at or above the reporting limit
dry	Sample results reported on a dry weight basis
MDL	Method detection limit
Rec	Recovery
RPD	Relative Percent Difference

Non-accredited analytes are reported only when ELAP accreditation for a requested analyte method pair is not available. For a list of accredited analytes, view our certificates at the Company link on our website at www.alpha-labs.com or contact your Project Manager directly.

Lab #: 850218 Job #: 52841 IS-69368 Co. Job#:
Sample Name: 22K2266-01 Co Lab#:
Company: Alpha Analytical Laboratories, Inc.
API/Well:
Container 500ml Plastic Bottle
Field/Site Name: 22K2266
Location:
Formation/Depth:
Sampling Point: C013034-01
Date Sampled: 11/09/2022 15:12 Date Received: 11/21/2022 Date Reported: 12/07/2022

δD of water	-50.1 ‰ relative to VSMOW
$\delta^{18}O$ of water	-7.33 ‰ relative to VSMOW
Tritium content of water	na
$\delta^{13}C$ of DIC	na
^{14}C content of DIC	na
$\delta^{15}N$ of nitrate	na
$\delta^{18}O$ of nitrate	na
$\delta^{34}S$ of sulfate	na
$\delta^{18}O$ of sulfate	na
Vacuum Distilled? *	No

Remarks:

nd = not detected, na = not analyzed.
*Indicates if vacuum distillation was utilized for hydrogen and oxygen isotopic analysis of water

EBMUD

22K2266

East Bay Municipal Utility District Laboratory Services Subcontract Chain of Custody

COC #:	Project Title: Bayside Ground Water Project	Lab PM: Kristi Schwab (510) 287-1696 Shipping Method: Alpha Courier	Sampled By: DOW/CR/AB
C013034	TAT: Standard	PO# BRD-13921-AX Expiration: 12/31/2023	Submitted Date: 11/10/22

Date	Time	Sample ID	Location/PS Code	Matrix	Container ID	Type	Tests Required	Method Reference
11/09/2022	15:12	C013034-01	GW BAYSIDE - BAY1-MW7	Aqueous	-01A	PLSTL	EPA 200.7-NPW (Ca,Fe,K,Mg,Mn,Na)	EPA 200.7 (1994 Rev 4.4)
					-01B	PLSTL	TDS	SM 2540 C-2011
					-01I	PLSTM	Oxygen 18	D18O
					-01J	VOC4T	EPA 8260B THM	EPA 8260B
					-01K	VOC4T	EPA 8260B	Bottle for QC (2)
					-01L	VOC4T	EPA 8260B	Bottle for QC (2)
Comments: Alpha: Isotope analysis for Oxygen-18 and Hydrogen-2 (subcontracted). Total Dissolved Solids (TDS) by SM2540C, THMs by EPA 8260, Metals by EPA 200.7 (Ca, Fe, K, Mg, Mn, Na)								
			Total containers received	6				

	Signature	Print Name	Time	Date
Relinquished by	Robert Molina	Robert Molina	1300	11/10/22
Received by	JF		1810	11-10
Relinquished by			2350	11-10
Received by	JR			11-10
Relinquished by				
Received by				

Send results and invoice to:
Kristi Schwab (kristi.lorenson@ebmud.com)
EBMUD Laboratory
PO Box 24055 MS #59
Oakland, CA 94623
(510) 287-1696

SUBCONTRACT. Please notify Lab PM if TAT is delayed and/or Hold Time will be exceeded.
Alpha Analytical Laboratory
208 Mason St
Ukiah, CA 95482
707-468-0401

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