EAST BAY MUNICIPAL UTILITY DISTRICT

February 27, 2024

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, 2023 Annual Report, Order No. R2-2007-0038

Dear Ms. Karpowicz:

In accordance with the Waste Discharge Requirements of Order No. R2-2007-0038 (Order), the East Bay Municipal Utility District (EBMUD) is submitting the enclosed 2023 annual self-monitoring report (SMR) for the Bayside Groundwater Project. There were no exceedances of the permit's water quality limits.

Construction details for the project's groundwater monitoring wells are shown in Table 1. Historical injected and recovered water volumes are summarized in Table 2. No injection of treated drinking water in the Bayside Well occurred in 2023, and no extraction events took place in 2023.

The Self-Monitoring and Reporting Program (SMRP) of the Order requires EBMUD to implement a phased approach for groundwater quality monitoring. Groundwater quality monitoring well groups for phased monitoring are tabulated in Table 3 of the SMRP. 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.

Groundwater level elevations and depths are summarized in Table 3; the vertical hydraulic gradients at MW-5S, MW-5I, and MW-5D are presented in Table 4; and current and historical groundwater quality results are shown in Tables 5 and 6. A well location map is shown in Figure 1; the groundwater elevation contours on November 1, 2023 and March 1, 2023 are presented in Figures 2 and 3, respectively; and TDS concentration contours are shown in Figure 4. Figures showing the monitoring wells' groundwater elevation trends in 2023 are included in Attachment B. There were no exceedances of the Order's limits for TTHMs and HAAs.

In accordance with Order Section C Provisions, Item 18 Order Termination, this letter will serve as notice to the San Francisco Regional Water Quality Control Board (Regional Board) that EBMUD

[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.

intends to decommission the current Bayside Groundwater Project. EBMUD staff will provide a more detailed plan and schedule for the project decommissioning to the Regional Board during the first half of 2024.

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

1480 Drew Avenue, Suite 100
Davis, CA 95618

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February 27, 2024 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, 2023 Annual Report, Waste Discharge Requirements Order No. R2-2007-0038**

Dear Mr. Behnken:

Larry Walker Associates (LWA) has prepared this 2023 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 2023. Groundwater samples were collected on October 23, 24, 25, and 26, 2023 for analytical testing. The Bayside Well was not sampled in 2023 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 2023. No extraction of water occurred during 2023.

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 2023 and no extractions from the Bayside Well occurred in 2023. 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 2023.

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 2023 groundwater samples from the monitoring wells. The required annual water quality sampling was performed on October 23, October 24, October 25, and October 26. The Bayside Well head was not sampled due to equipment failure. The Variable Frequency Drive for the bayside well head failed, and the well is currently being evaluated for decommissioning.

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.

Well purge logs, including the static water level, purge volumes, and field parameter measurements are provided in **Attachment A**.

GROUNDWATER ELEVATIONS AND FLOW DIRECTIONS

Static depth to groundwater levels measured prior to well purging and sampling in 2023 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 2023 (**Attachment B**). These elevations were calculated by EBMUD staff.

Groundwater elevation contour maps were generated using groundwater elevation data collected at specific times using the pressure transducers. Groundwater elevation contours for November 1, 2023, corresponding to a low tide in San Francisco Bay, are shown on **Figure 2**. Groundwater elevation contours for March 1, 2023, 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 northwest at low tide (**Figure 2**) and northwest at high tide (**Figure 3**). The horizontal hydraulic gradients were variable with lower gradients generally further from the bay to the east and higher gradients closer to the bay to the west.

Groundwater elevations during low tide ranged from -4.73 feet above mean sea level (amsl) to -3.56 feet amsl for the five wells shown on **Figure 2**. Groundwater elevations during high tide ranged from -4.04 feet amsl to -1.92 feet amsl for the same five 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 21:00 on November 1, 2023, and for a high tide using groundwater elevation data from around 7:00 on March 1, 2023. 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 0.041 feet per foot. These results are consistent with the vertical gradients reported in previous Annual Reports.

GROUNDWATER QUALITY RESULTS

The 2023 analytical results are included in the following tables, along with historical water quality results for the previous nine years (2014 through 2022):

- **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 2023 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 2023 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 2023 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, and MW-6. Historical isoconcentration contours indicate the lowest concentration occurs at the Bayside Well with increasing TDS concentrations in a northerly direction (i.e. further inland). The highest TDS concentration of 460 mg/L was detected at well MW-5D. Therefore, TDS concentrations decrease in a southerly 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) or estimated

[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.

in each well. In 2023, EBMUD was bringing a new HAA instrument online and was not able to provide analytical results for Bromochloroacetic Acid, Bromodichloroacetic Acid, Chlorodibromoacetic Acid, and Tribromoacetic Acid. Therefore, a result for HAA(9)[4] could not be calculated. The combined DBPs as HAA(5)[5] and TTHMs are within the range of historical results in the monitoring wells. The data indicates there are no exceedances of the Permit's water quality limits for HAA(5) and TTHMs at 60 µg/L and 80 µg/L, respectively.

CONCLUSIONS

EBMUD conducted the 2023 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.

During this reporting period, EBMUD confirmed that property access to the Bayside Well will be terminated. While EBMUD continues to evaluate the Bayside Groundwater Project's long-term plan, the current location will no longer be available for this ASR project. EBMUD will keep the Regional Board apprised of the Project plan for decommissioning and termination of the existing Order as details become available later this year.

[4] HAA(9) includes the sum of all nine haloacetic acids.

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

East Bay Municipal Utility District
Bayside Groundwater Project
Annual Report 2023

Prepared for

East Bay Municipal Utility District

February 2024

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.

Katrina Arredondo, Ph.D., P.G.

P.G. No. 10108

LARRY WALKER ASSOCIATES
science | policy | solutions

LIST OF TABLES

LIST OF FIGURES

LIST OF ATTACHMENTS

LIST OF REFERENCES

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

Table 1. Groundwater Monitoring Well Construction Details

Well ID	Latitude	Longitude	Address	City	Completion Date	Drilled Depth, feet bgs[(a)]	Casing Depth, feet bgs	Depth to Top of Perforation, feet bgs	Depth to Bottom of Perforation, feet bgs	Casing Diameter, inches	Reference Elevation, feet amsl[(b)(e)]	Reference Location on Well
MW-1	37° 40' 4.8"	122° 9' 25.2"	2600 Grant Avenue	San Lorenzo		665	650	520	640	2	8.72	Top of steel casing
MW-2S						210	60	40	60	2	9.91	Top of steel casing
MW-2I[(c)]						210	200	160	190	2		
MW-3	37° 40' 4.8"	122° 9' 28.8"				665	660	520	650	2	8.00	Top of lid rim
MW-4	37° 40' 11.6"	122° 9' 28.8"	2575 Grant Avenue			705	650	520	650	2	8.93	Top of steel rim
MW-5S	37° 40' 34.4"	122° 9' 06.6"	2006 Via Barrett		Sep. 2008	460	210	200	210	2	13.93	Top of box rim at easterly edge
MW-5I	37° 40' 34.4"	122° 9' 06.6"	2005 Via Barrett		Sep. 2008	460	325	315	325	2		
MW-5D	37° 40' 34.4"	122° 9' 06.6"	2007 Via Barrett		Feb. 2001	1,025	640	500	630	4	13.73	Top of casing at northerly edge
MW-6	37° 40' 07"	122° 9' 04.5"	15600 Worthley		Nov. 2000	1,000	655	480	650	4	9.47	Top of casing at easterly edge
MW-7	37° 39' 56.5"	122° 8' 44.2"	Western tip of San Lorenzo Park		Dec. 2018	972	680	510	630	4	8.42	Top of steel rim
MW-8D	37° 43' 04"	122° 11' 50.3"	1970 Davis Street			910	490	420	480	2	14.70	Top of steel rim
MW-9S	37° 41' 11"	122° 6' 46"	589 E. Lewelling Avenue		Jan. 2008	460	120	110	120	2	54.43	Seal of vault lid at westerly edge
MW-9I					Jan. 2008	460	210	200	210	2		
MW-9D[(d)]					Jan. 2008	460	335	325	335	2		
MW-10S	37° 41' 19"	122° 9' 43"	15526 Wick Boulevard	San Leandro	Sep. 2008	680	120	100	120	2	11.77	Seal of vault lid at easterly edge
MW-10I					Sep. 2008	680	360	340	360	2		
MW-10D					Sep. 2008	680	610	590	610	2		

(a) bgs = below ground surface
(b) amsl = above Mean Sea Level
(c) Well MW-2I is referred to in the Permit as "MW-2D."
(d) Well MW-9D is referred to in the Permit as "MW-9."
(e) Reference Point Elevations were resurveyed and updated in October 2022

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
2023	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
10/23-10/26/23		-3.19	1.51	-3.59	-3.07	-3.03	-2.57	-1.78		11.91	8.40	13.50	12.00	12.50	16.30	10.20

[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	11/1/2023 @ 21:00	200 - 210	205	10.28	0.032	--	0.038	downward
MW-5I	11/1/2023 @ 21:00	315 - 325	320	6.58		0.040		
MW-5D	11/1/2023 @ 21:00	500 - 630	575	-3.63	--			
High Tide								
MW-5S	3/1/2023 @ 7:00	200 - 210	205	12.70	0.055	--	0.041	downward
MW-5I	3/1/2023 @ 7:00	315 - 325	320	6.40		0.034		
MW-5D	3/1/2023 @ 7:00	500 - 630	575	-2.39	--			

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)
2023	(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
10/23/2023	6.60	0.0	77,000	E 1.1	<12	42,000	37,300	<261	1,280	3,030	461	21,100	4,900	35,000	400	<5.0	<5.0	400
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	20.0	17.0	7.60	190	18	120	350	<5.0	<5.0	350
10/23/2023	7.62	0.10	630	E 0.42	<0.023	140	130	223	19.0	17.1	6.77	199	E 15	120	360	<5.0	<5.0	360

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	27.0	9.50	2.40	100	38	110	220	<5.0	<5.0	220
10/25/2023	7.63	0.0	330	<0.29	<0.023	45	170	E 14.8	22.4	8.42	3.00	92.2	35	100	200	<5.0	<5.0	200
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	42.0	10.00	2.20	120	50	130	240	<5.0	<5.0	240
10/26/2023	7.41	0.0	460	<0.29	E 0.033	84	188	E 28.1	39.0	10.1	3.12	118	50	150	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	34.0	8.50	2.20	110.0	48	120	230	<5.0	<5.0	230
10/24/2023	6.0	0.0	410	<0.29	E 0.079	61	184	E 33.4	32.6	8.11	3.30	109.0	46	120	220	<5.0	<5.0	220

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
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	40.0	10.00	2.20	120	53	150	230	<5.0	<5.0	230
10/25/2023	7.70	0.0	460	<0.29	E 0.11	89	226	E 16.2	38	9.99	3.22	126	55	140	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 or 2023 due to equipment failure.

[g] 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.

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)
2023	(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
10/23/2023	ND	(k)	(k)	(k)	(k)	<0.27	<0.23	<0.16	<0.45	(k)	E 0.88	<0.80	<0.10	<0.30	<0.20	<0.20
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
10/23/2023	ND	(k)	(k)	(k)	(k)	<0.27	<0.23	<0.16	<0.45	(k)	<0.30	<0.80	<0.10	<0.30	<0.20	<0.20

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
10/25/2023	ND	[k]	[k]	[k]	[k]	<0.27	<0.23	<0.16	<0.45	[k]	<0.30	<0.80	<0.10	<0.30	<0.20	<0.20
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
10/26/2023	ND	[k]	[k]	[k]	[k]	<0.27	<0.23	<0.16	<0.45	[k]	<0.30	<0.80	<0.10	<0.30	<0.20	<0.20
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
10/24/2023	ND	[k]	[k]	[k]	[k]	<0.27	<0.23	<0.16	<0.45	[k]	<0.30	<0.80	<0.10	<0.30	<0.20	<0.20

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
10/25/2023	ND	(k)	(k)	(k)	(k)	<0.27	<0.23	<0.16	<0.45	(k)	<0.30	<0.80	<0.10	<0.30	<0.20	<0.20

[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.

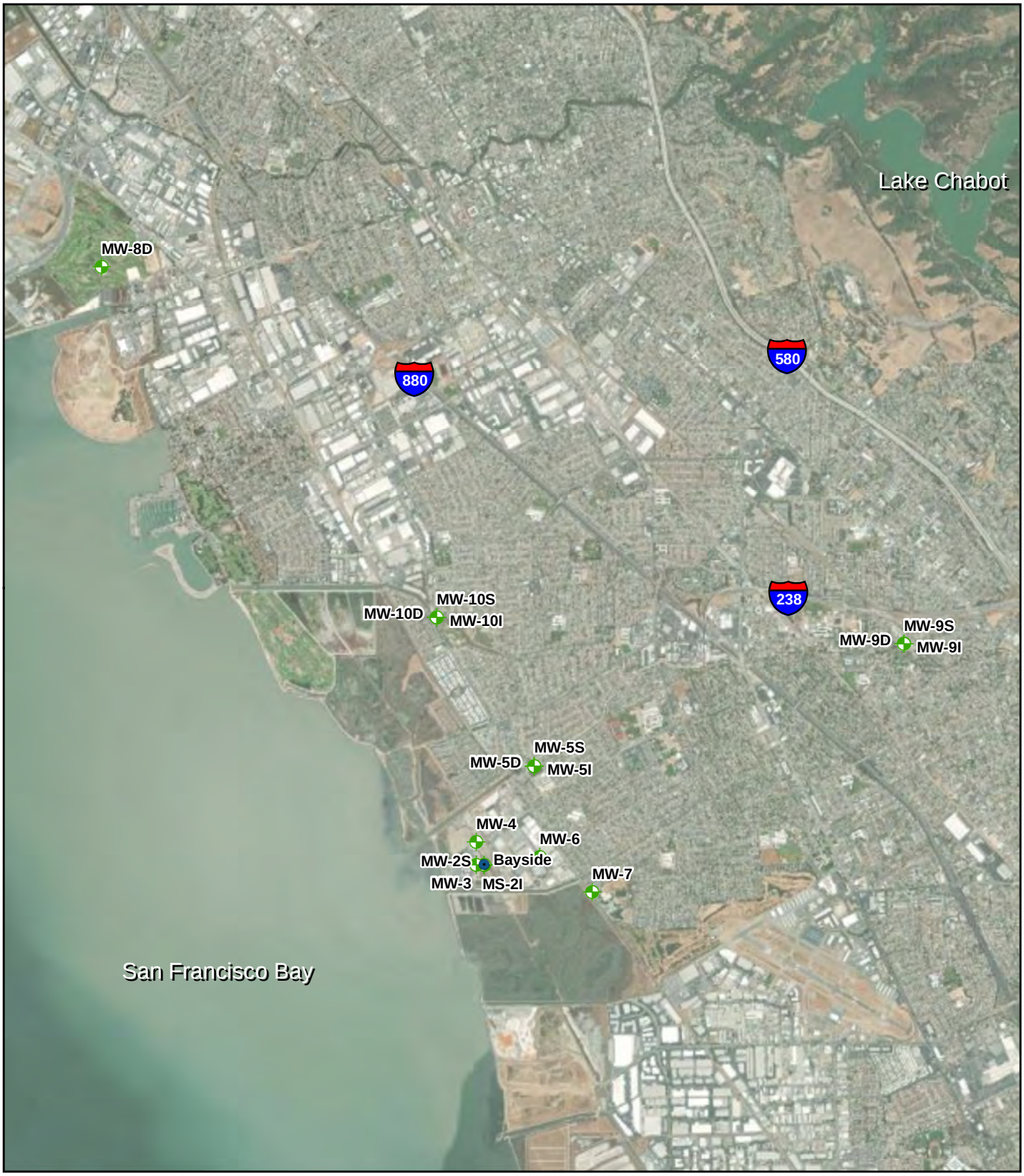
[f] Well MW-6 was not monitored in 2015 due to pump equipment failure.

[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 or 2023 due to equipment failure.

[k] EBMUD was bringing a new HAA instrument online and was not able to provide analytical results for these parameters



LEGEND

- Groundwater Monitoring Well
- Bayside Aquifer Storage and Recovery Well

N

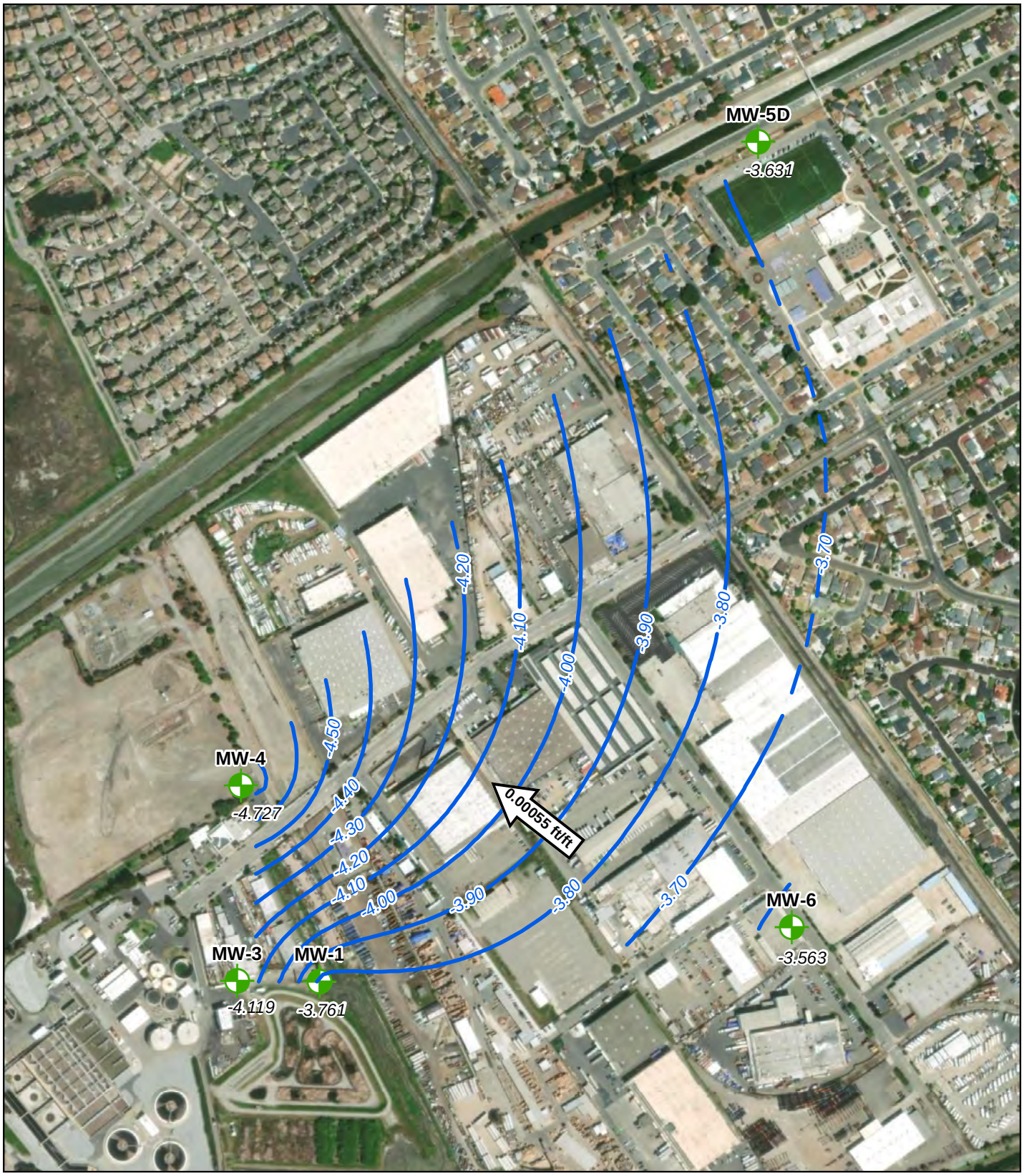
0 0.5 1

Miles

FIGURE 1

East Bay Municipal Utility District
2023 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

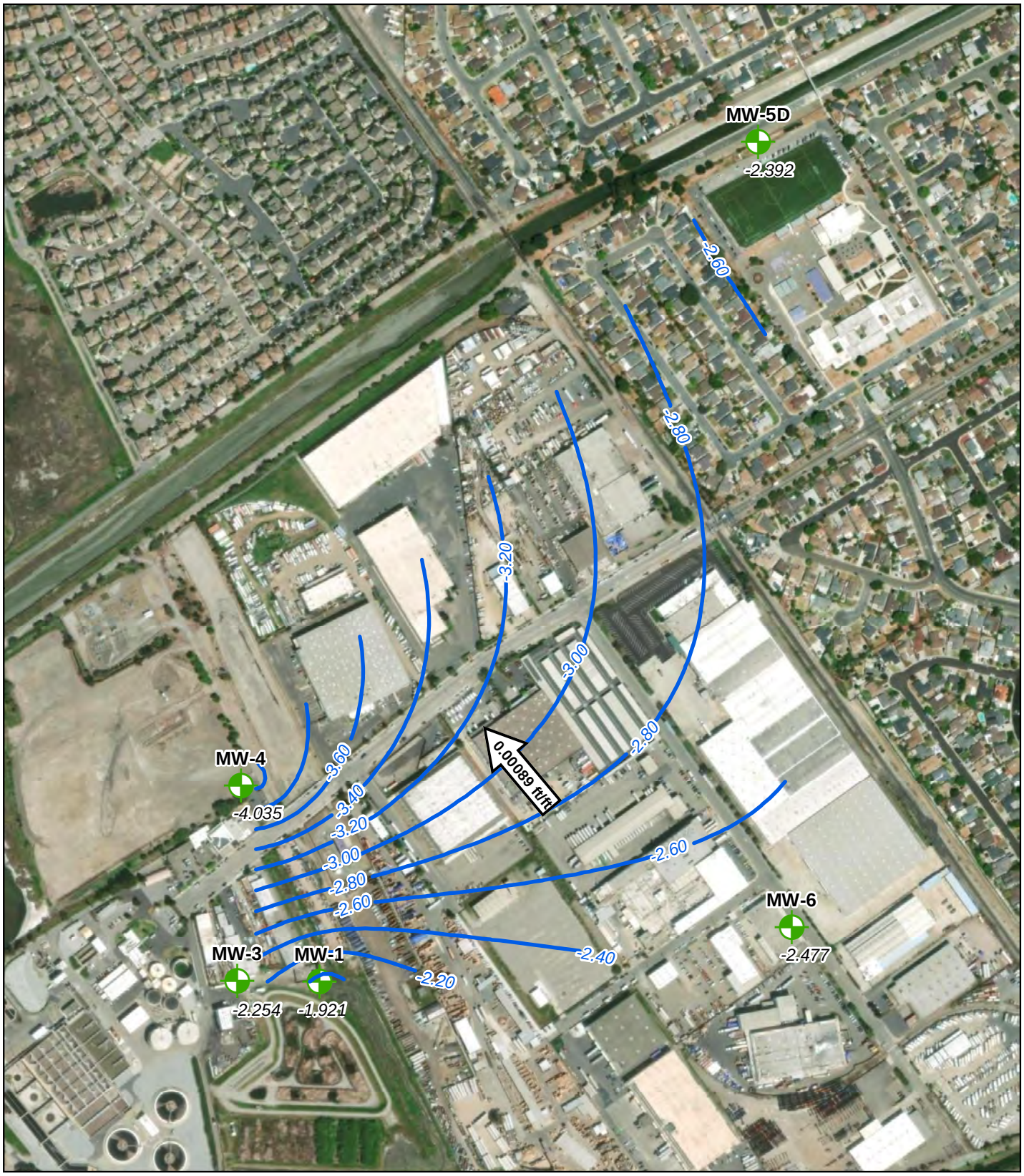
0 250 500

Scale in Feet

FIGURE 2

East Bay Municipal Utility District
2023 Bayside Annual Report

Groundwater Elevation Contours
Low Tide (November 1, 2023)



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
2023 Bayside Annual Report

Groundwater Elevation Contours (High Tide March 1, 2023)

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
2023 Bayside Annual Report

Groundwater TDS Contours
October 2023

Attachment A – Groundwater Purging Logs

GROUNDWATER PURGING LOG

SITE NAME: **Bayside Wells**		
WELL NO: **2S**	INSPECTOR: Dan KK	DATE: 10/23/23

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): 8.4	PURGE PUMP TYPE: **ESP**

WELL VOLUME PURGE: (**60** ft – 8.4 ft) X **0.16** gal/ft = 8.26 gallons X 3 = 24.77 total purge gallons (25)

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 29	PURGING INITIATED AT: 1400	PURGING ENDED AT: 1425	TOTAL VOLUME PURGED (gallons): 25	FINAL STATIC DEPTH TO WATER (feet): 8.7

TIME	VOLUME PURGED (gallons)	TOTAL VOLUME PURGED (gallons)	pH (standard units)	TEMP. (°C)	COND. (circle units) mS/cm or µS/cm
1410	10	10	6.58	18.9	770 µS
1418	10	20	6.62	19.5	774 µS
1425	5	25	6.60	19.1	769

GROUNDWATER PURGING LOG

SITE NAME: **Bayside Wells**		
WELL NO: **2I**	INSPECTOR: DOW, KK	DATE: 10/23/23

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): 13.5	PURGE PUMP TYPE: **ESP**

WELL VOLUME PURGE: (**200** ft – 13.5 ft) X **0.16** gal/ft = ~~29.84~~ gallons X 3 = 89.5 total purge gallons (90)

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 20	PURGING INITIATED AT: 1145	PURGING ENDED AT: 1315	TOTAL VOLUME PURGED (gallons): 90	FINAL STATIC DEPTH TO WATER (feet): 15.4

TIME	VOLUME PURGED (gallons)	TOTAL VOLUME PURGED (gallons)			pH (standard units)	TEMP. (°C)	COND. (circle units) mS/cm or (µS/cm)				
1215	30	30			7.43	19.8	1015 uS				
1245	30	60			7.65	20.7	990 uS				
1315	30	90			7.62	19.1	923 uS				

@ 5 gal. 5 min 1 gal/1 min.

GROUNDWATER PURGING LOG

SITE NAME: **Bayside Wells**		
WELL NO: **4**	INSPECTOR: MT/DW	DATE: 10/25/23

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): 12	PURGE PUMP TYPE: **ESP**

WELL VOLUME PURGE: (**650** ft – 12 ft) X **0.16** gal/ft = ~~640.00~~ 102.08 gallons X 3 = 306.24 total purge gallons
MT 10/25/23

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 30	PURGING INITIATED AT: 1500	PURGING ENDED AT: 1607	TOTAL VOLUME PURGED (gallons): 300	FINAL STATIC DEPTH TO WATER (feet): 12.5

TIME	VOLUME PURGED (gallons)	TOTAL VOLUME PURGED (gallons)	pH (standard units)	TEMP. (°C)	COND. (circle units) mS/cm or µS/cm
~~1520 1528 15~~	~~100~~	~~100~~ MT			
~~15:56~~	~~100~~	~~200~~ MT			
~~16:24~~	~~100~~	~~300~~ MT			
15:20	100	100	7.53	19.1	535
15:40	100	200	7.50	19.7	489
16:00	100	300	7.63	19.6	489
			pH slope 95.7%		

85 seconds / 5 gal
17 sec / gal

1 min / gal

GROUNDWATER PURGING LOG

SITE NAME: **Bayside Wells**		
WELL NO: **5D**	INSPECTOR: MT/DW/KK	DATE: 10/26/23

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): 16.3	PURGE PUMP TYPE: **ESP**

WELL VOLUME PURGE: (**640** ft – 16.3 ft) X **0.65** gal/ft = 405.45 gallons X 3 = 1216 total purge gallons

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 30	PURGING INITIATED AT: 1240	PURGING ENDED AT: 1509	TOTAL VOLUME PURGED (gallons): 1215	FINAL STATIC DEPTH TO WATER (feet): 16.6

	TIME	VOLUME PURGED (gallons)	TOTAL VOLUME PURGED (gallons)	pH (standard units)	TEMP. (°C)	COND. (circle units) mS/cm or (µS/cm)
13:28	~~13:48~~ MT	405	405	6.91	22.5	702
14:16	~~14:56~~ MT	405	810	7.31	22.2	698
15:04	~~15:04~~ MT	405	1215	7.41	22.9	705
				pH slope: 96.8%		

50 sec / 5 gal
10 sec / gal

~~1 gal / 1 sec~~ 35 sec / 5 gal
7 sec / gal

148 min

GROUNDWATER PURGING LOG

SITE NAME: **Bayside Wells**		
WELL NO: **6**	INSPECTOR: MT / GE	DATE: 10/24/23

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): 12.5	PURGE PUMP TYPE: **ESP**

WELL VOLUME PURGE: (**655** ft – 12.5 ft) X **0.65** gal/ft = 418 gallons X 3 = 1253 total purge gallons

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 30	PURGING INITIATED AT: 1020	PURGING ENDED AT: 2:01 PM	TOTAL VOLUME PURGED (gallons): 1250	FINAL STATIC DEPTH TO WATER (feet): 12.2

TIME	VOLUME PURGED (gallons)	TOTAL VOLUME PURGED (gallons)	pH (standard units)	TEMP. (°C)	COND. (circle units) mS/cm or (µS/cm)
1125	320	320	6.0	19.7	802
1228	320	640	6.0	20.7	595
131	320	960	6.0	20.6	591
201	290	1250	6.0	20.6	590

GROUNDWATER PURGING LOG

SITE NAME: Bayside Wells		
WELL NO: 7	INSPECTOR: DOW / MT	DATE: 10/25/23

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): 10.2	PURGE PUMP TYPE: ESP

WELL VOLUME PURGE: (680 ft – 10.2 ft) X 0.65 gal/ft = 435 gallons X 3 = 1306 total purge gallons

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 620	PURGING INITIATED AT: 1130	PURGING ENDED AT: 1430	TOTAL VOLUME PURGED (gallons): 1306	FINAL STATIC DEPTH TO WATER (feet): 9.7

TIME	VOLUME PURGED (gallons)	TOTAL VOLUME PURGED (gallons)	pH (standard units)	TEMP. (°C)	COND. (circle units) mS/cm or uS/cm
12:15	326	326	7.38	21.6	739
13:00	326	652	7.54	22.1	725
13:45	326	978	7.65	21.8	728
14:30	326	1306	7.70	21.9	717
			pH slope: 95.7%		

~~#1~~ 174 min. 1300 2.9 hrs.

Attachment B – Groundwater Elevation Trends for Monitoring Wells

Figure B-1. 2023 MW-1 Groundwater Elevation Trend

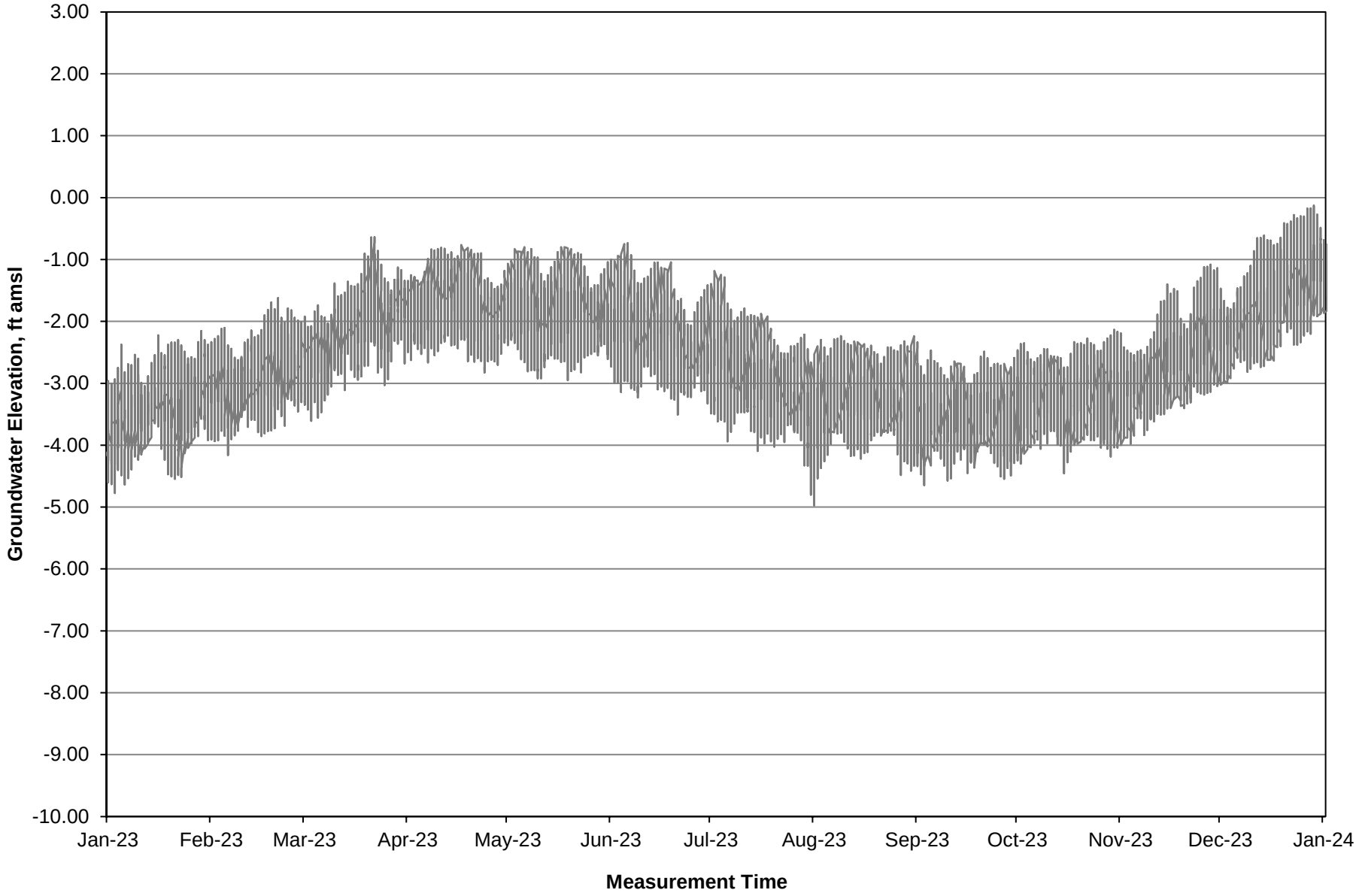


Figure B-2. 2023 MW-2S Groundwater Elevation Trend

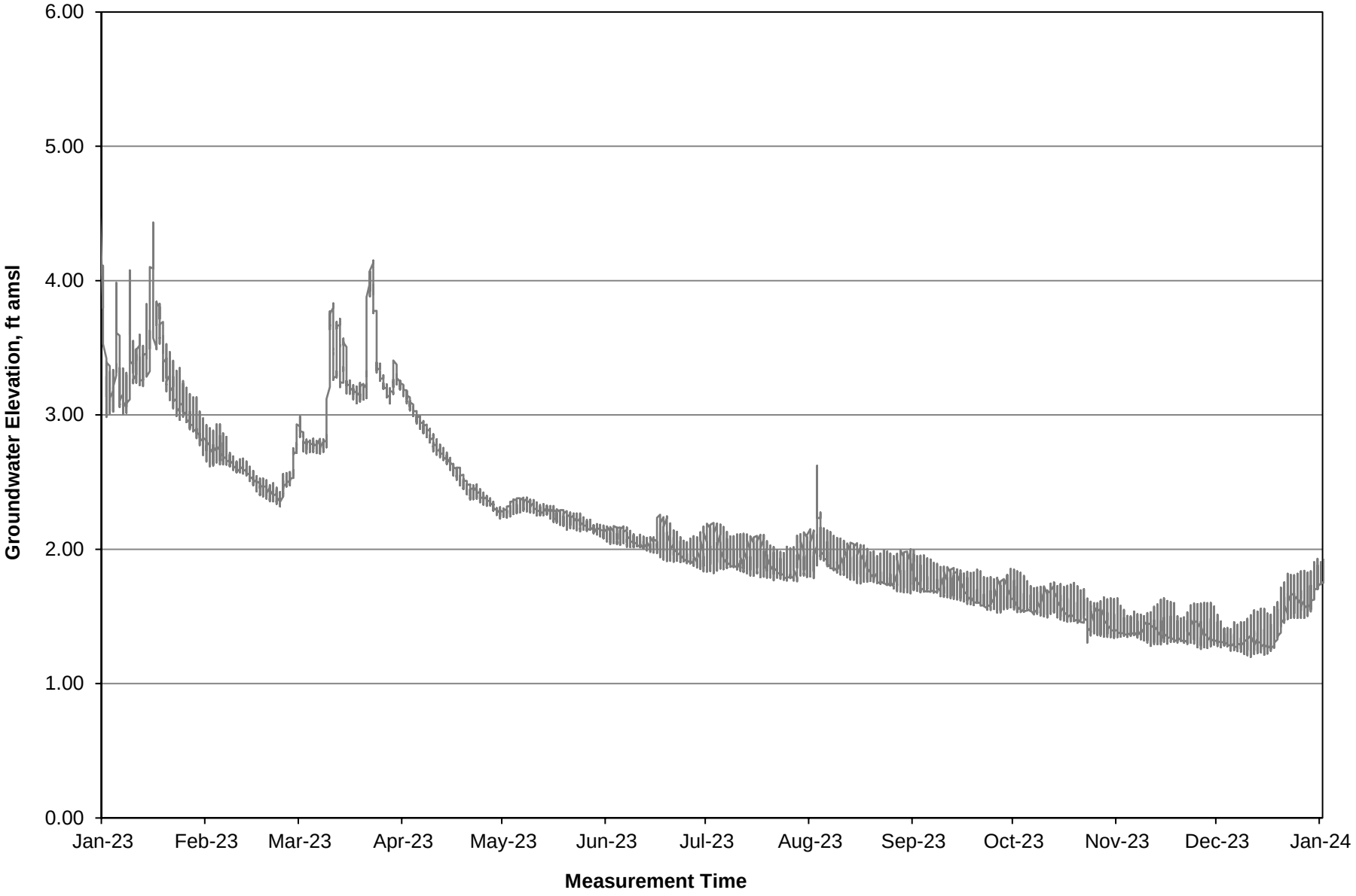


Figure B-3. 2023 MW-2I Groundwater Elevation Trend

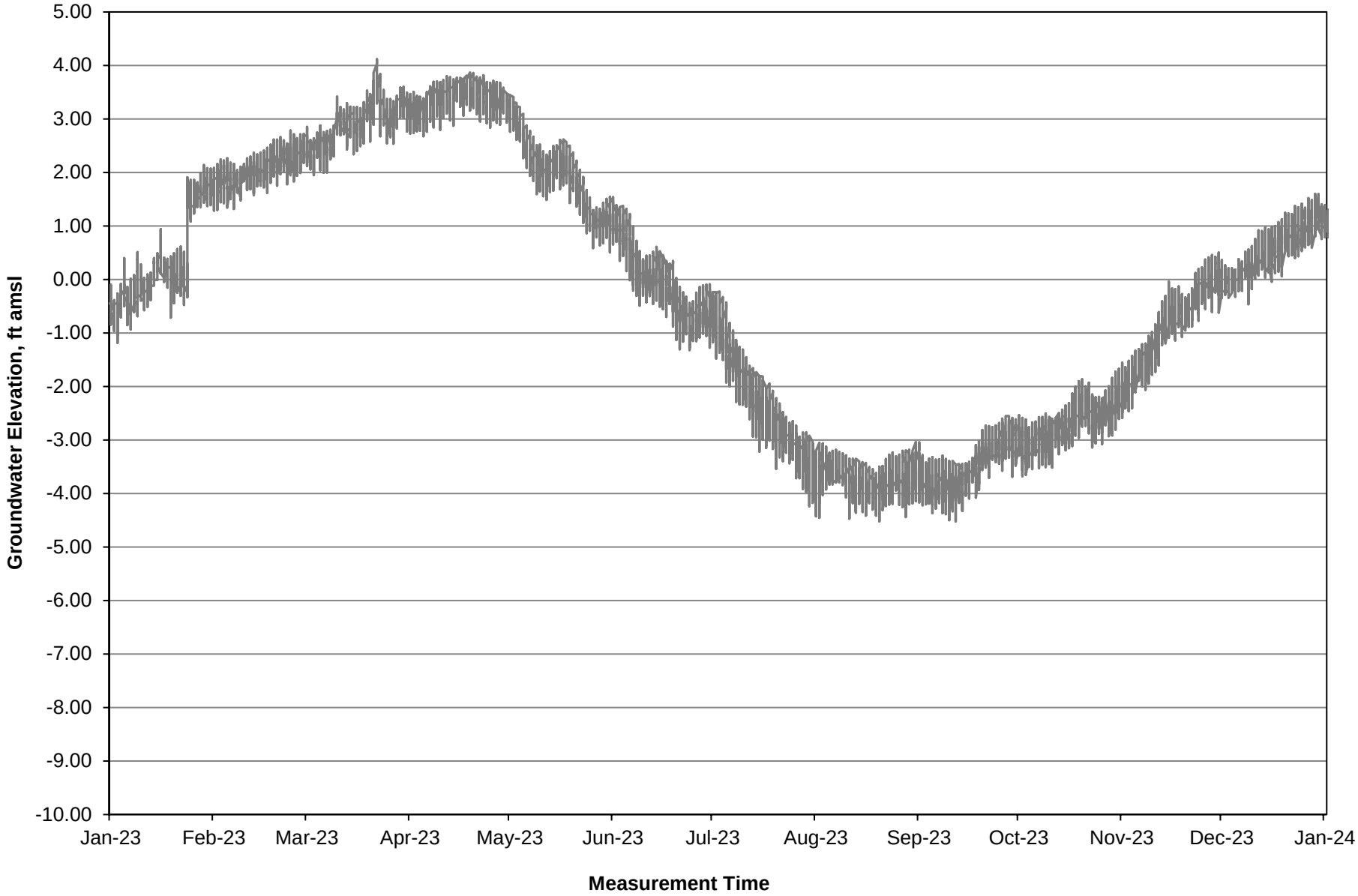


Figure B-4. 2023 MW-3 Groundwater Elevation Trend

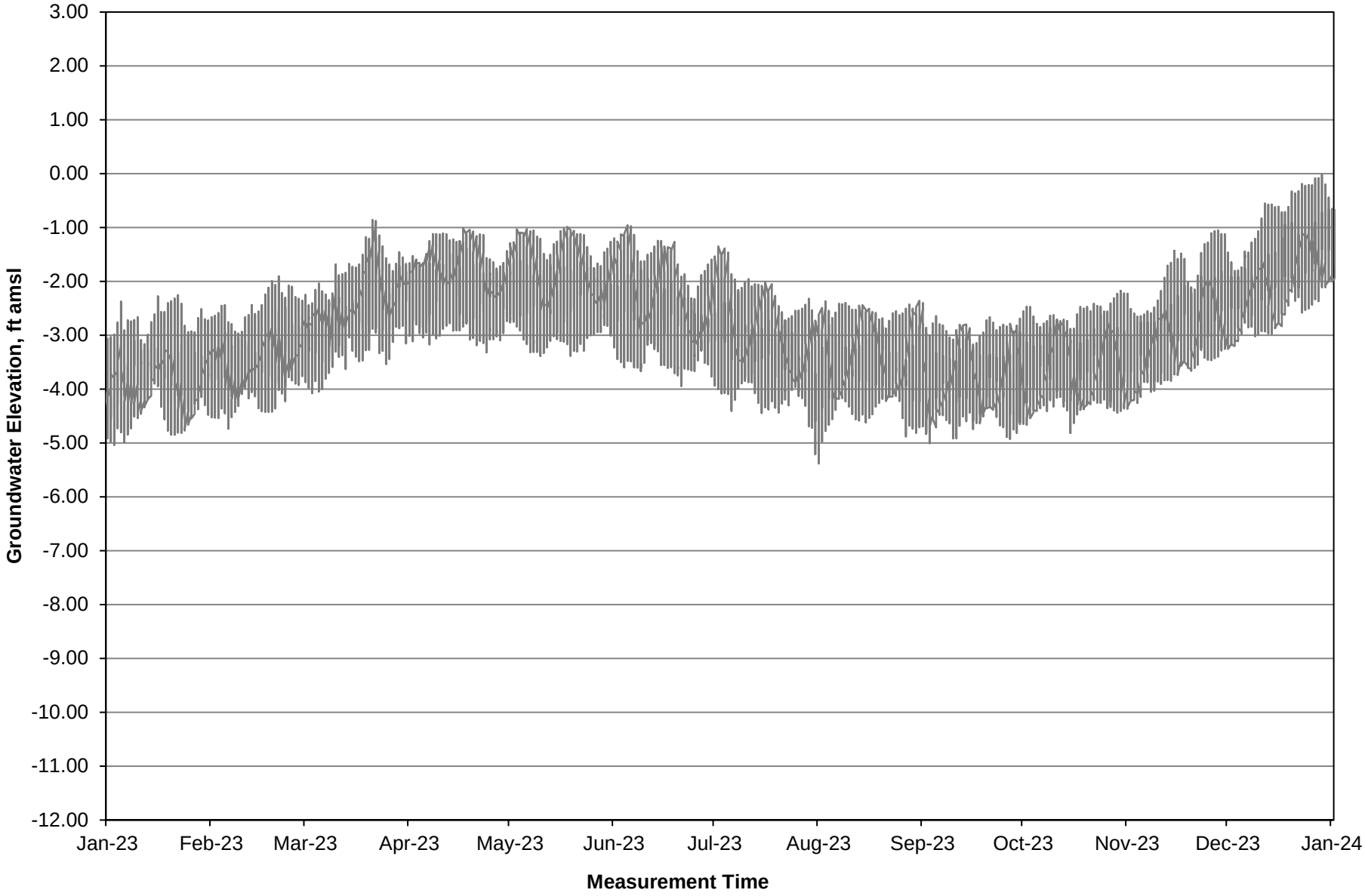


Figure B-5. 2023 MW-4 Groundwater Elevation Trend

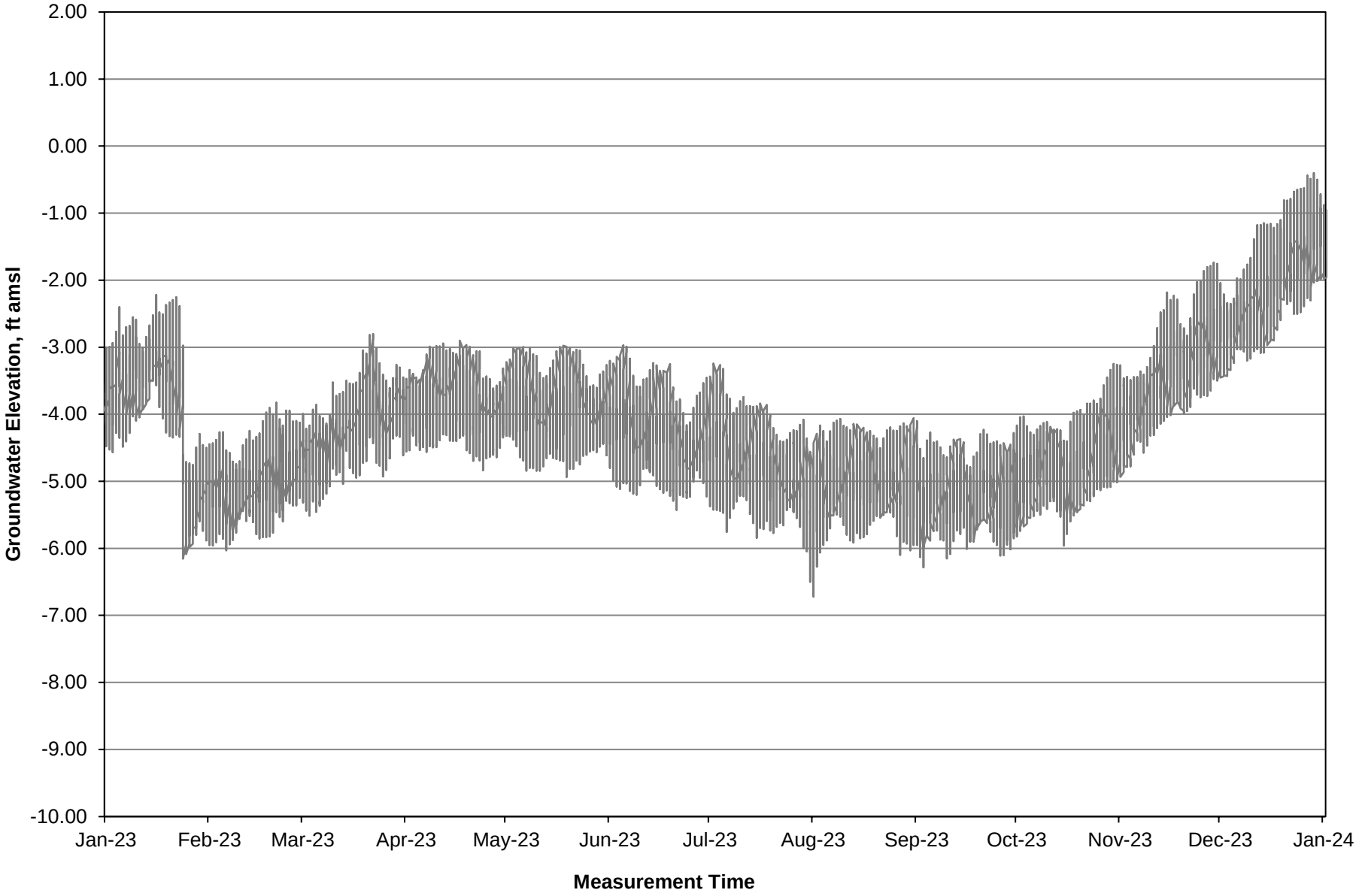


Figure B-6. 2023 MW-5S Groundwater Elevation Trend

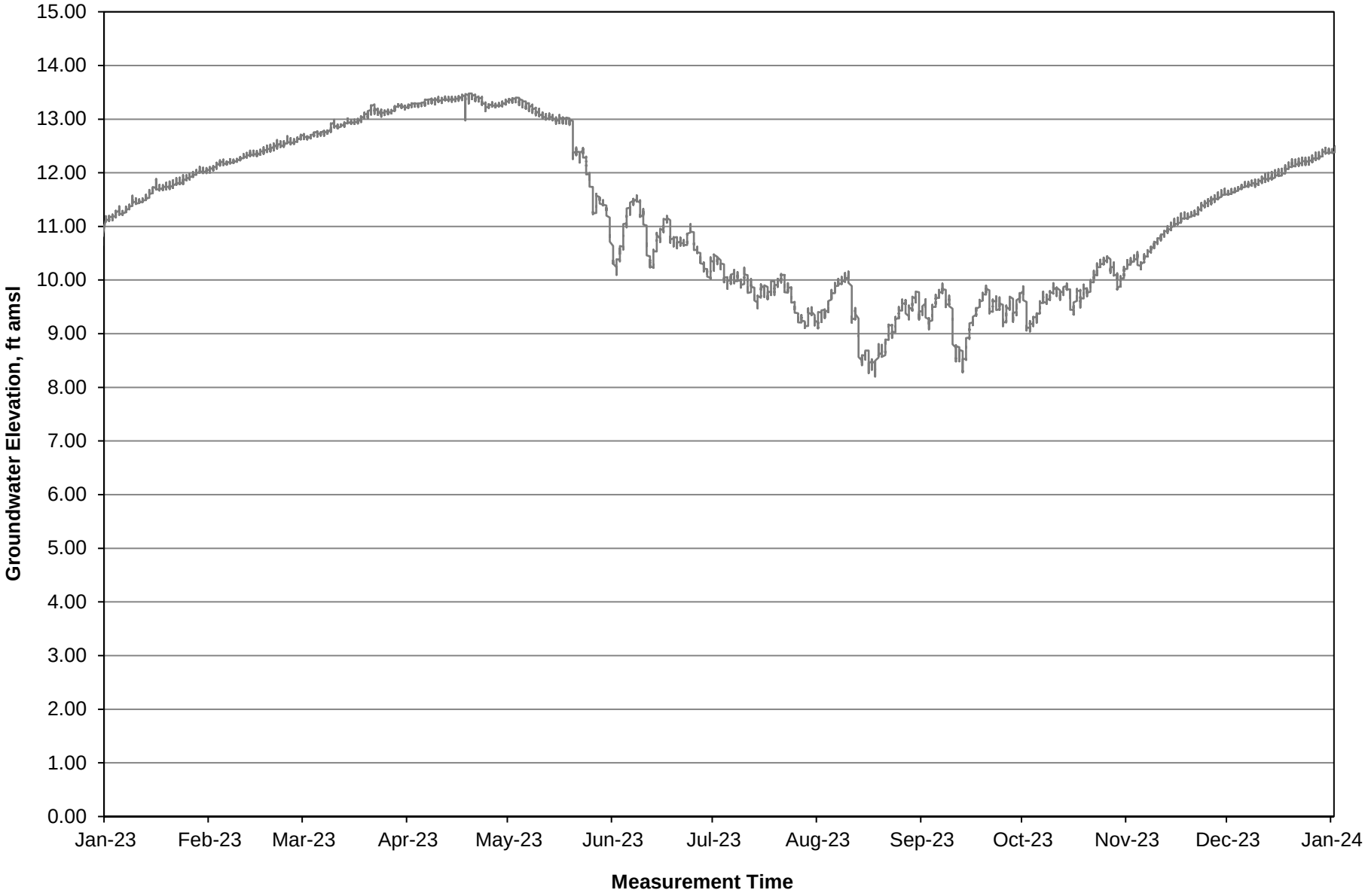


Figure B-7. 2023 MW-5I Groundwater Elevation Trend

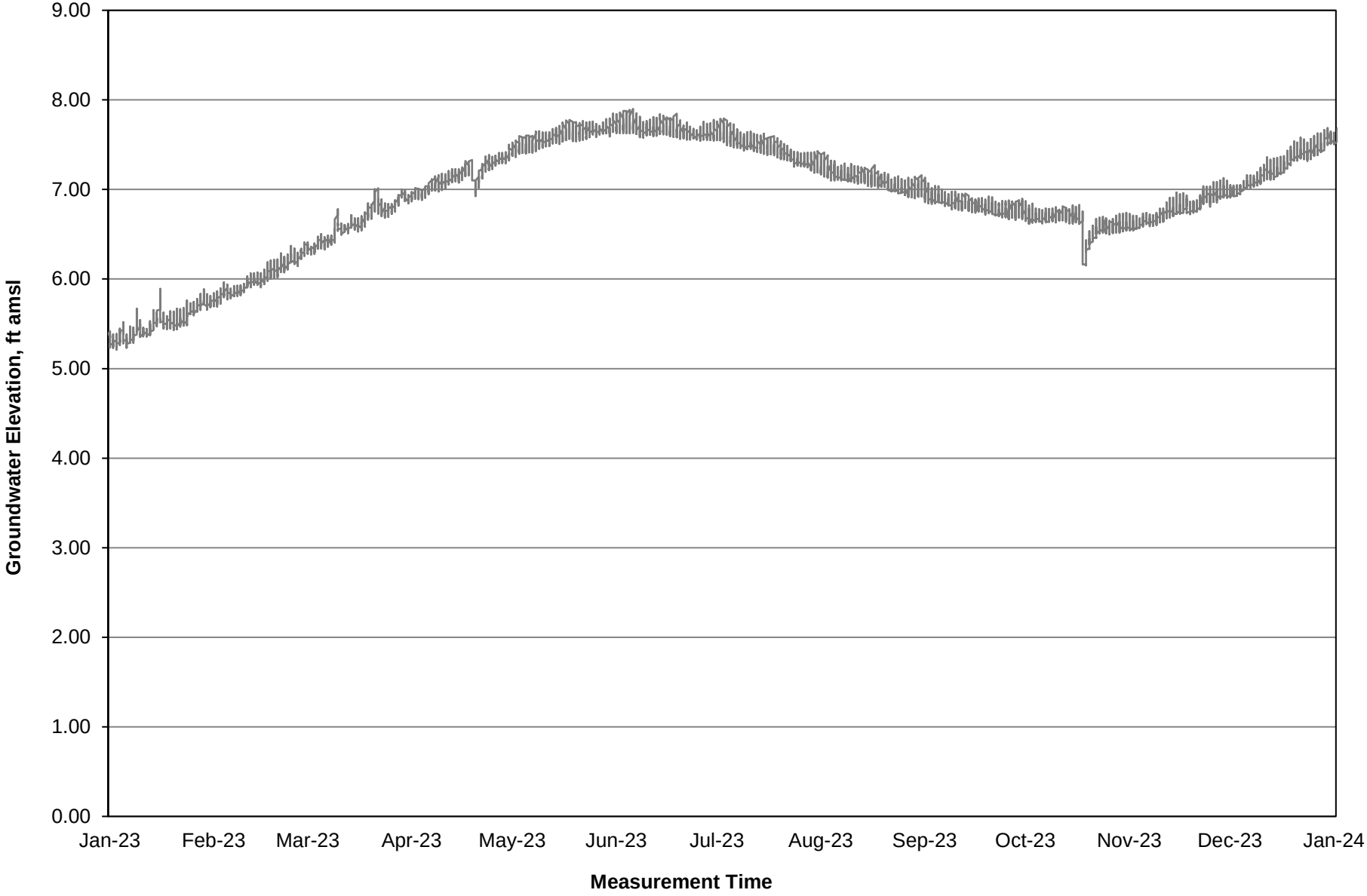


Figure B-8. 2023 MW-5D Groundwater Elevation Trend

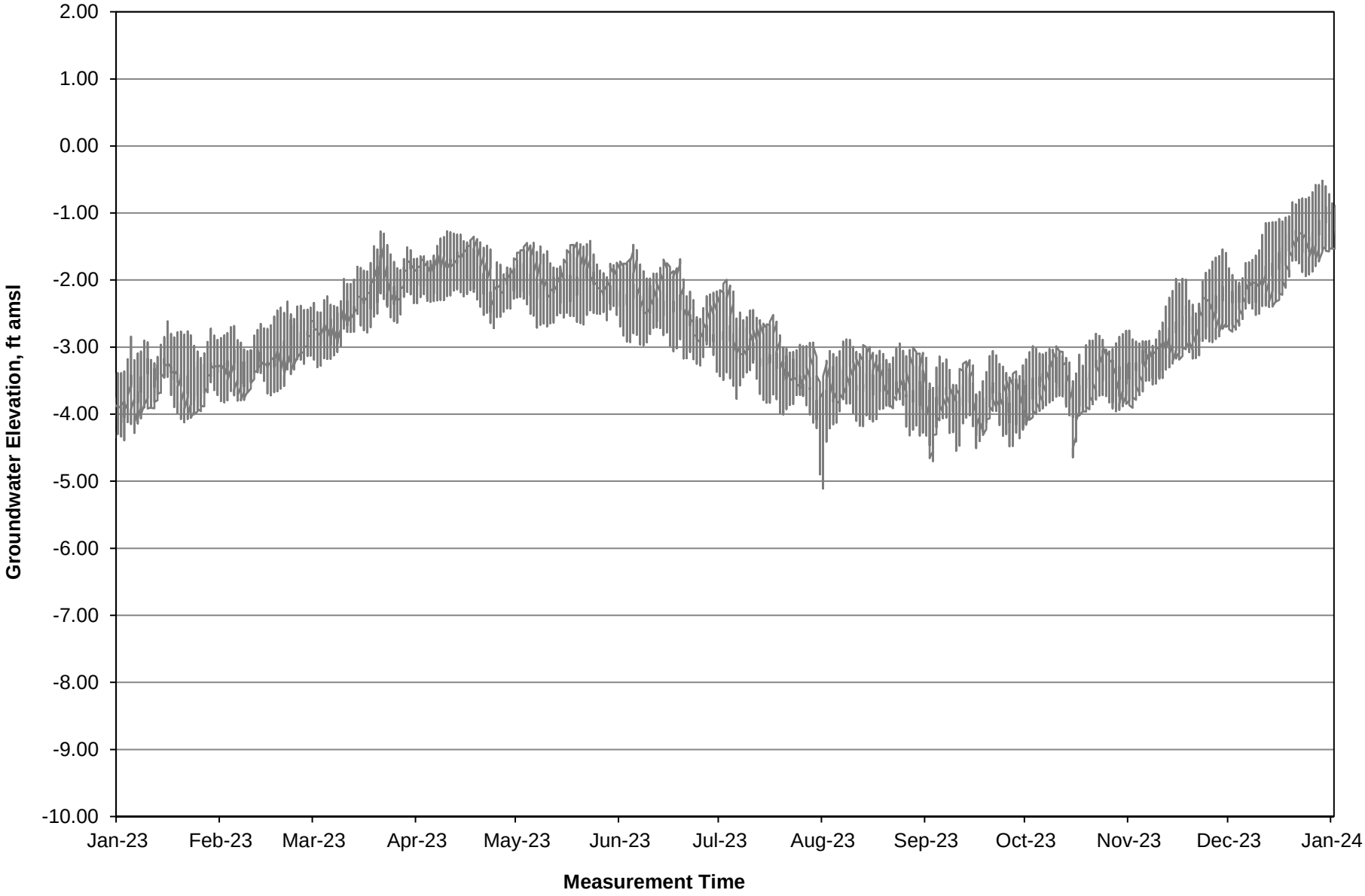


Figure B-9. 2023 MW-6 Groundwater Elevation Trend

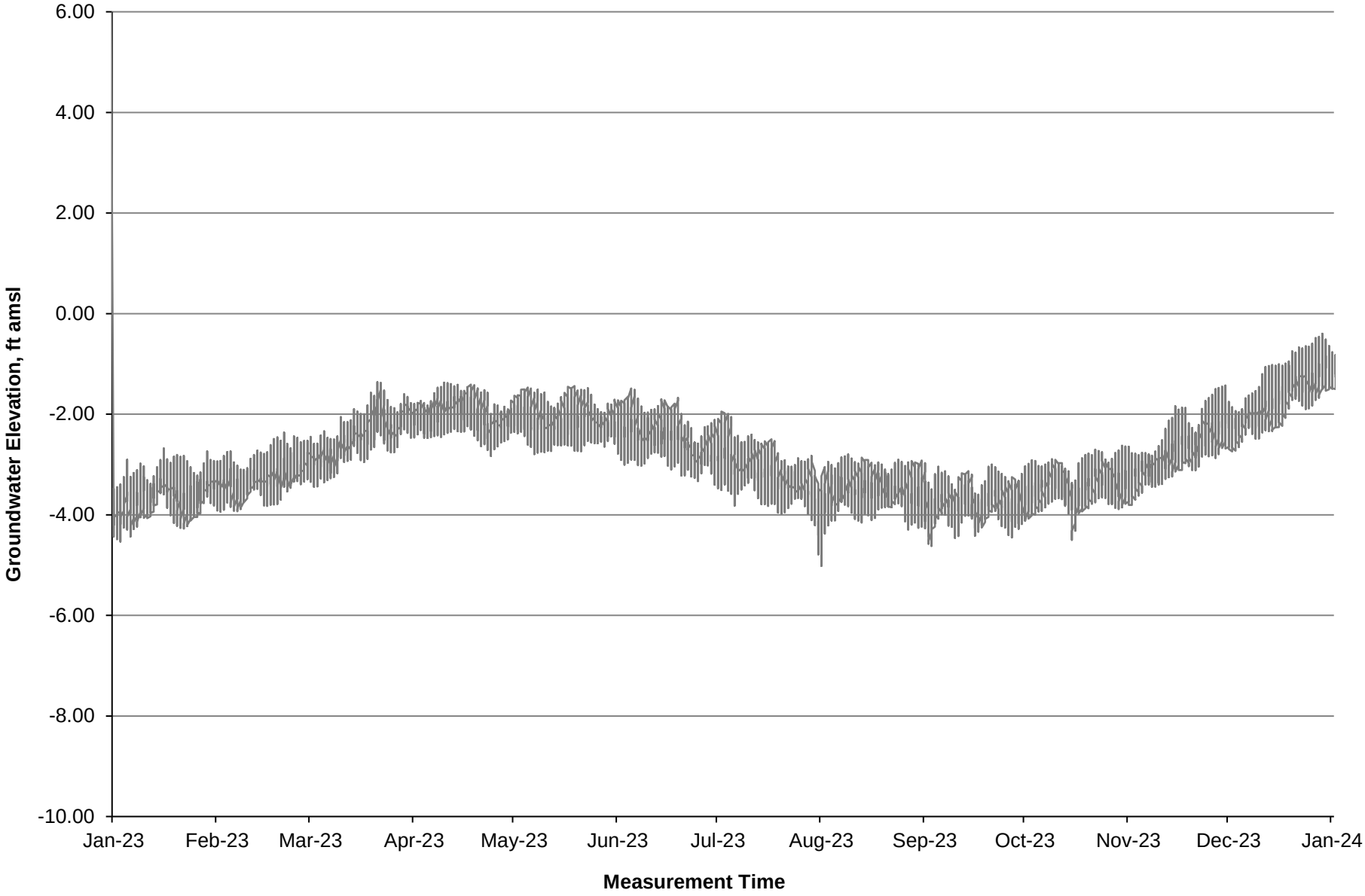


Figure B-10. 2023 MW-7 Groundwater Elevation Trend

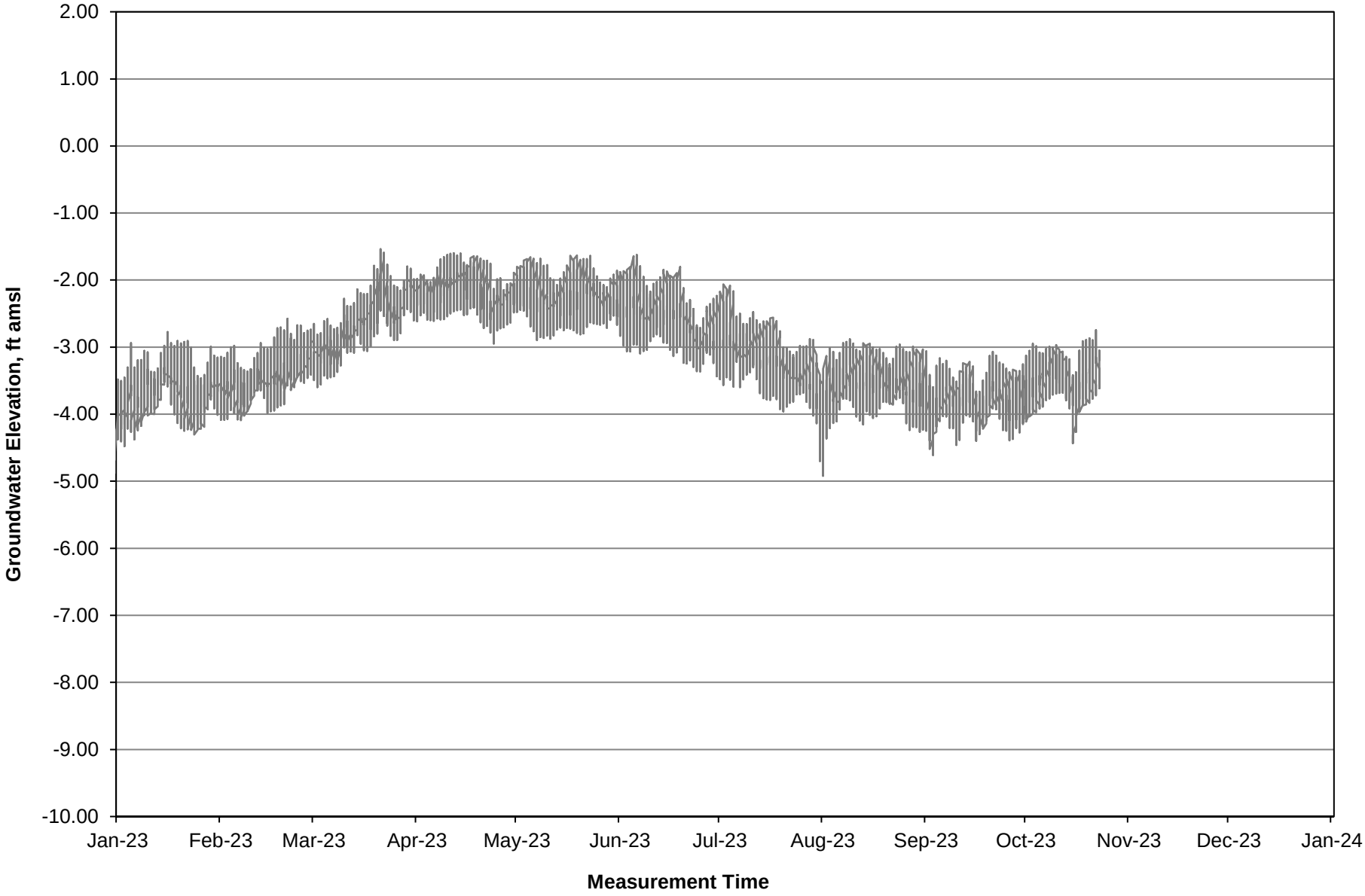


Figure B-11. 2023 MW-9D Groundwater Elevation Trend

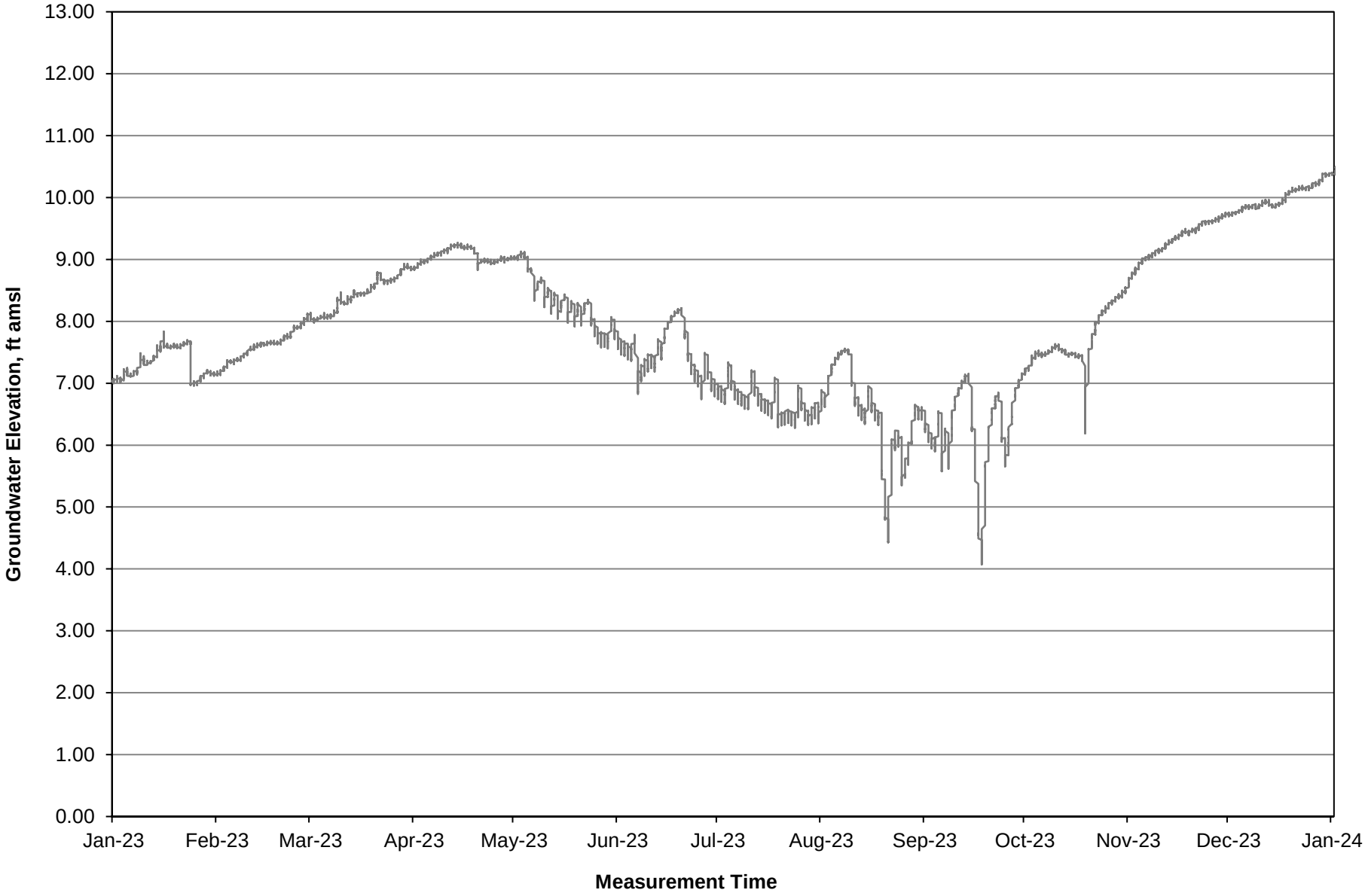


Figure B-12. 2023 MW-10I Groundwater Elevation Trend

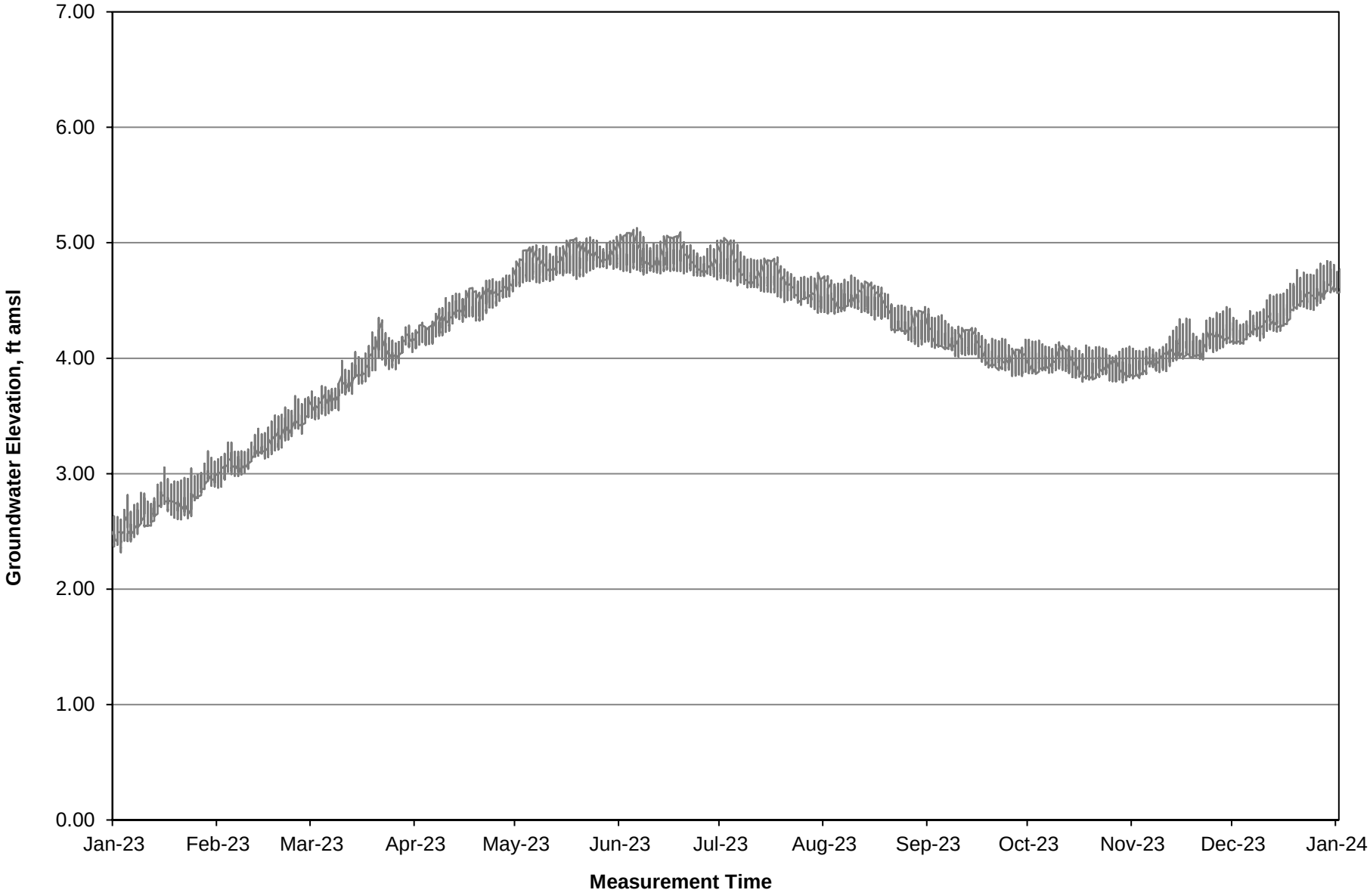
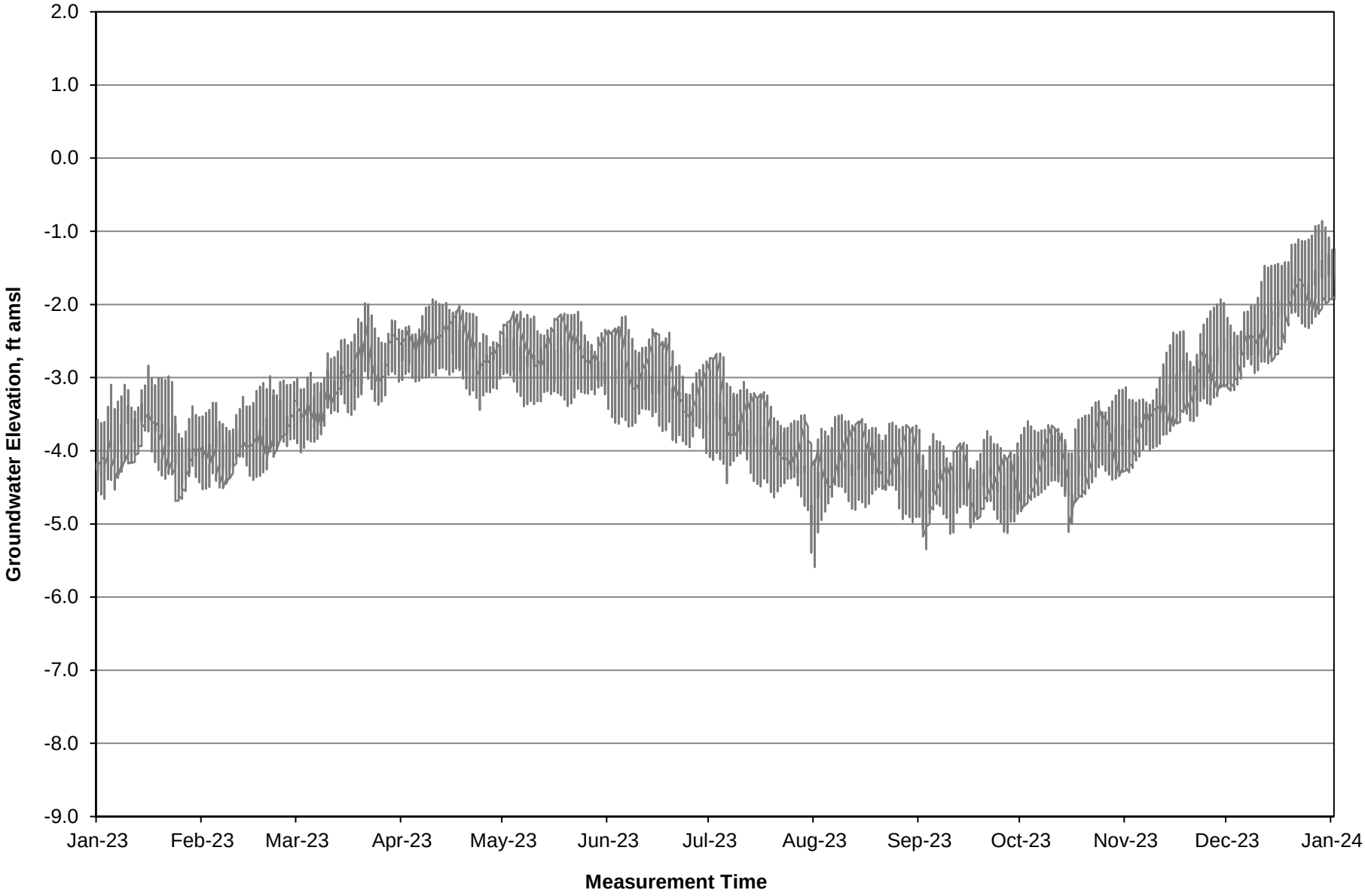


Figure B-13. 2023 MW-10D Groundwater Elevation Trend



Attachment C – Analytical Lab Reports for 2023 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

19 January 2024

David Behnken

MS 704

Re: Bayside Ground Water Project

COC# C022071

Report Generated: 01/18/2024 17:30

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 C022071

Samples Included in the Report

Sample Number	Sample Type	Sampled Date	Location Name	Sample Name
C022071-01	GRAB	Oct 23 2023 14:24	GW BAYSIDE - BAY1-MW2S	-

Samples Results for C022071

Sample ID:	C022071-01		
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:	Oct 23 2023 14:24	**Sample Collector:**	KKinnon
Date Received:	Oct 23 2023 07:25	**Sample Receiver:**	C Soohoo
Sample Comments:			

Analyte	Qualifier	Result	MDL	RL	Units	DF	Batch	Prepared	Analyzed
Field data entry into LIMS									
TARGET ANALYTES									
CL2R		**0.0**	0.02		mg/L				10/23/2023 14:24
Field data entry into LIMS									
TARGET ANALYTES									
Depth		**8.7**			Feet				10/23/2023 14:24
Field data entry into LIMS									
TARGET ANALYTES									
pH		**6.60**			pH Units				10/23/2023 14:24
Field data entry into LIMS									
TARGET ANALYTES									
Temperature		**19.1**			C				10/23/2023 14:24
Total Dissolved Solids by SM 2540 C-2011									
TARGET ANALYTES									
Total Dissolved Solids		**77000**	330	1800	mg/L	33	B231024-007		10/24/2023 09:40
Alkalinity by SM 2320 B-2011									
TARGET ANALYTES									
Alkalinity: Total as CaCO3		**400**	5	30	mg/L	1.0	B231025-009		10/25/2023 09:57
Alkalinity: Carbonate	U	5	5	30	mg/L	1.0	B231025-009		10/25/2023 09:57
Alkalinity: Bicarbonate		**400**	5	30	mg/L	1.0	B231025-009		10/25/2023 09:57
Alkalinity: Hydroxide	U	5	5	30	mg/L	1.0	B231025-009		10/25/2023 09:57
Ammonia as N by SM 4500-NH3 C-2011									
TARGET ANALYTES									
Ammonia as N	**E1**	**1.1**	0.29	1.5	mg/L	1.0	B231026-007		10/26/2023 12:14
Hardness as CaCO3 by SM 2340 C-2011									
TARGET ANALYTES									
Hardness as CaCO3		**35000**	400	700	mg/L	100	B231106-008		11/06/2023 09:00
Anions by EPA 300.1									
TARGET ANALYTES									
Chloride		**42000**	190	1000	mg/L	5000	B231024-008		10/24/2023 16:16
Nitrate as N	U	12	12	150	mg/L	5000	B231024-008		10/24/2023 16:16
Sulfate		**4900**	340	1000	mg/L	5000	B231024-008		10/24/2023 16:16
SURROGATES									
Dichloroacetate (%)		100			%	5000	B231024-008		10/24/2023 16:16

Samples Results for C022071

Sample ID: C022071-01
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: Oct 23 2023 14:24 **Sample Collector:** KKinnon
Date Received: Oct 23 2023 07:25 **Sample Receiver:** C Soohoo
Sample Comments:

Analyte	Qualifier	Result	MDL	RL	Units	DF	Batch	Prepared	Analyzed
Metals by EPA 200.7									
TARGET ANALYTES									
Calcium	**M1**	**1280000**	188	1660	ug/L	42	B231114-002	11/01/2023 10:29	11/15/2023 13:20
Iron	U	261	261	1660	ug/L	42	B231114-002	11/01/2023 10:29	11/15/2023 13:20
Potassium	**M1**	**461000**	2940	8320	ug/L	42	B231114-002	11/01/2023 10:29	11/15/2023 13:20
Magnesium	**M1**	**3030000**	40.6	1660	ug/L	42	B231114-002	11/01/2023 10:29	11/15/2023 13:20
Manganese	**M1**	**37300**	4.78	666	ug/L	42	B231114-002	11/01/2023 10:29	11/15/2023 13:20
Sodium	**M1**	**21100000**	64.5	1660	ug/L	42	B231114-002	11/01/2023 10:29	11/15/2023 13:20
INTERNAL STANDARD									
Yttrium (%)		94			%	42	B231114-002	11/01/2023 10:29	11/15/2023 13:20
Yttrium Radial (%)		106			%	42	B231114-002	11/01/2023 10:29	11/15/2023 13:20
Haloacetic Acids, GC/ECD by EPA 552.2									
TARGET ANALYTES									
Dibromoacetic Acid	U	0.27	0.27	1.0	ug/L	1.0	B231101-021	11/01/2023 09:39	11/02/2023 02:05
Dichloroacetic Acid	U	0.23	0.23	1.0	ug/L	1.0	B231101-021	11/01/2023 09:39	11/02/2023 02:05
Monobromoacetic Acid	U	0.16	0.16	1.0	ug/L	1.0	B231101-021	11/01/2023 09:39	11/02/2023 02:05
Monochloroacetic Acid	U	0.45	0.45	1.0	ug/L	1.0	B231101-021	11/01/2023 09:39	11/02/2023 02:05
Trichloroacetic Acid	**E1**	**0.88**	0.30	1.0	ug/L	1.0	B231101-021	11/01/2023 09:39	11/02/2023 02:05
HAA(5), calculated		**0.00**		1.0	ug/L	1.0	B231101-021	11/01/2023 09:39	11/02/2023 02:05
	Comments: HAA (5) calculation uses a zero for any individual HAA result less than the California DLR for that HAA								
INTERNAL STANDARD									
1,2,3-Trichloropropane (%)		112			%	1.0	B231101-021	11/01/2023 09:39	11/02/2023 02:05
SURROGATES									
2,3-Dibromopropionic Acid (%)		103			%	1.0	B231101-021	11/01/2023 09:39	11/02/2023 02:05
Oxygen 18 Isotope Analysis									
Subcontract data from: Alpha Analytical Laboratory ELAP#: Refer to external lab report									
TARGET ANALYTES									
See subcontract report									
Trihalomethanes, Total, GC/MS by EPA 8260B									
Subcontract data from: Alpha Analytical Laboratory ELAP#: Refer to external lab report									
TARGET ANALYTES									
Bromodichloromethane	U	0.30	0.30	1.0	ug/L	1		10/31/2023 07:00	10/31/2023 15:08
	Comments: SUB: Analyte included in analysis but not detected at or above MDL								
Bromoform	U	0.20	0.20	1.0	ug/L	1		10/31/2023 07:00	10/31/2023 15:08
	Comments: SUB: Analyte included in analysis but not detected at or above MDL								
Chloroform	U	0.10	0.10	1.0	ug/L	1		10/31/2023 07:00	10/31/2023 15:08
	Comments: SUB: Analyte included in analysis but not detected at or above MDL								
Dibromochloromethane	U	0.20	0.20	1.0	ug/L	1		10/31/2023 07:00	10/31/2023 15:08
	Comments: SUB: Analyte included in analysis but not detected at or above MDL								
Total Trihalomethanes, calculated	U	0.30	0.30	1.0	ug/L	1		10/31/2023 07:00	10/31/2023 15:08
	Comments: SUB: Analyte included in analysis but not detected at or above MDL								

Quality Control for C022071

Analyte	Qualifier	Result	MDL	RL	Units	Spike Level	Source Result	% REC	% REC Limits	RPD	RPD Limits
Total Dissolved Solids DUP by SM 2540 C-2011, B231024-007											
B231024-007 analyzed on 10/24/2023 09:40; Source = C022070-01											
Total Dissolved Solids		**640**	20	110	mg/L		630			1.6	10
Total Dissolved Solids LCS by SM 2540 C-2011, B231024-007											
B231024-007 analyzed on 10/24/2023 09:40											
Total Dissolved Solids		320	20	110	mg/L	340		96	85 - 115		
Total Dissolved Solids MB by SM 2540 C-2011, B231024-007											
B231024-007 analyzed on 10/24/2023 09:40											
Total Dissolved Solids	U	10	10	55	mg/L						
Alkalinity DUP by SM 2320 B-2011, B231025-009											
B231025-009 analyzed on 10/25/2023 10:08; Source = C022073-01											
Alkalinity: Total as CaCO3		**220**	5	30	mg/L		220			0.7	20
Alkalinity DUP by SM 2320 B-2011, B231025-009											
B231025-009 analyzed on 10/25/2023 10:59; Source = C021078-10											
Alkalinity: Total as CaCO3		**6600**	62	380	mg/L		6600			0.1	20
Alkalinity LCS by SM 2320 B-2011, B231025-009											
B231025-009 analyzed on 10/25/2023 09:30											
Alkalinity: Total as CaCO3		300	5	30	mg/L	300		99	85 - 115		
Alkalinity MB by SM 2320 B-2011, B231025-009											
B231025-009 analyzed on 10/25/2023 09:18											
Alkalinity: Total as CaCO3	U	5	5	30	mg/L						
Alkalinity MS by SM 2320 B-2011, B231025-009											
B231025-009 analyzed on 10/25/2023 10:13; Source = C022073-01											
Alkalinity: Total as CaCO3		520	5	30	mg/L	300	220	99	80 - 120		
Alkalinity MS by SM 2320 B-2011, B231025-009											
B231025-009 analyzed on 10/25/2023 11:04; Source = C021078-10											
Alkalinity: Total as CaCO3		11000	62	380	mg/L	5000	6600	98	80 - 120		
Alkalinity QCS by SM 2320 B-2011, B231025-009											
B231025-009 analyzed on 10/25/2023 09:37											
Alkalinity: Total as CaCO3		68	5	30	mg/L	66		103	91 - 111		

Quality Control for C022071

Analyte	Qualifier	Result	MDL	RL	Units	Spike Level	Source Result	% REC	% REC Limits	RPD	RPD Limits
Ammonia as N DUP by SM 4500-NH3 C-2011, B231026-007											
B231026-007 analyzed on 10/26/2023 12:14; Source = C021337-09											
Ammonia as N		**39**	1.4	7.5	mg/L		38			1.2	10
Ammonia as N LCS by SM 4500-NH3 C-2011, B231026-007											
B231026-007 analyzed on 10/26/2023 12:14											
Ammonia as N		12	0.29	1.5	mg/L	12		97	85 - 115		
Ammonia as N LOQ by SM 4500-NH3 C-2011, B231026-007											
B231026-007 analyzed on 10/26/2023 12:14											
Ammonia as N	E1	1.5	0.29	1.5	mg/L	1.5		99	50 - 150		
Ammonia as N MB by SM 4500-NH3 C-2011, B231026-007											
B231026-007 analyzed on 10/26/2023 12:14											
Ammonia as N	U	0.29	0.29	1.5	mg/L						
Ammonia as N MS by SM 4500-NH3 C-2011, B231026-007											
B231026-007 analyzed on 10/26/2023 12:14; Source = C021337-08											
Ammonia as N		110	1.4	7.5	mg/L	60	50	99	80 - 120		
Ammonia as N MSD by SM 4500-NH3 C-2011, B231026-007											
B231026-007 analyzed on 10/26/2023 12:14; Source = C021337-08											
Ammonia as N		110	1.4	7.5	mg/L	60	50	98	80 - 120	0.0	15
Hardness as CaCO3 DUP by SM 2340 C-2011, B231106-008											
B231106-008 analyzed on 11/06/2023 09:00; Source = C020700-01											
Hardness as CaCO3		**15**	4	7	mg/L		16			5.1	10
Hardness as CaCO3 DUP by SM 2340 C-2011, B231106-008											
B231106-008 analyzed on 11/06/2023 09:00; Source = C020854-03											
Hardness as CaCO3		**11**	4	7	mg/L		12			7.1	10
Hardness as CaCO3 LCS by SM 2340 C-2011, B231106-008											
B231106-008 analyzed on 11/06/2023 09:00											
Hardness as CaCO3		110	4	7	mg/L	100		106	85 - 115		
Hardness as CaCO3 LOQ by SM 2340 C-2011, B231106-008											
B231106-008 analyzed on 11/06/2023 09:00											
Hardness as CaCO3		7	4	7	mg/L	7.0		103	50 - 150		

Quality Control for C022071

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, B231106-008											
B231106-008 analyzed on 11/06/2023 09:00											
Hardness as CaCO3	U	4	4	7	mg/L						
Hardness as CaCO3 MS by SM 2340 C-2011, B231106-008											
B231106-008 analyzed on 11/06/2023 09:00; Source = C020700-01											
Hardness as CaCO3		120	4	7	mg/L	100	16	102	85 - 115		
Hardness as CaCO3 MS by SM 2340 C-2011, B231106-008											
B231106-008 analyzed on 11/06/2023 09:00; Source = C020854-03											
Hardness as CaCO3		120	4	7	mg/L	100	12	104	85 - 115		
Hardness as CaCO3 QCS by SM 2340 C-2011, B231106-008											
B231106-008 analyzed on 11/06/2023 09:00											
Hardness as CaCO3		160	4	7	mg/L	150		104	91 - 107		
Anions LCS by EPA 300.1, B231024-008											
B231024-008 analyzed on 10/24/2023 13:07											
Chloride		0.99	0.061	0.2	mg/L	1.0		99	85 - 115		
Nitrate as N		0.046	0.0035	0.03	mg/L	0.05		92	85 - 115		
Sulfate		0.89	0.079	0.2	mg/L	1.0		89	85 - 115		
Dichloroacetate (%)		101			%						
Anions LOQ by EPA 300.1, B231024-008											
B231024-008 analyzed on 10/24/2023 12:29											
Chloride		0.21	0.061	0.2	mg/L	0.20		107	50 - 150		
Nitrate as N	E1	0.029	0.0035	0.03	mg/L	0.03		96	50 - 150		
Sulfate	E1	0.20	0.079	0.2	mg/L	0.20		99	50 - 150		
Dichloroacetate (%)		103			%						
Anions MB by EPA 300.1, B231024-008											
B231024-008 analyzed on 10/24/2023 11:51											
Chloride	U	0.061	0.061	0.2	mg/L						
Nitrate as N	U	0.0035	0.0035	0.03	mg/L						
Sulfate	U	0.079	0.079	0.2	mg/L						
Dichloroacetate (%)		104			%						
Anions DUP by EPA 300.1, B231024-008											
B231024-008 analyzed on 10/24/2023 14:23; Source = C021030-05											
Nitrate as N	**E1**	**0.017**	0.0035	0.030	mg/L		0.017			0.9	10
Dichloroacetate (%)		103			%		102				
Anions DUP by EPA 300.1, B231024-008											
B231024-008 analyzed on 10/24/2023 21:19; Source = C021055-03											
Nitrate as N		**0.14**	0.0035	0.030	mg/L		0.14			0.0	10

Quality Control for C022071

Analyte	Qualifier	Result	MDL	RL	Units	Spike Level	Source Result	% REC	% REC Limits	RPD	RPD Limits
Dichloroacetate (%)		104			%		103				
Anions MS by EPA 300.1, B231024-008											
B231024-008 analyzed on 10/24/2023 15:01; Source = C021030-05											
Nitrate as N		0.062	0.0035	0.030	mg/L	0.05	0.017	90	75 - 125		
Dichloroacetate (%)		103			%		102				
Anions MS by EPA 300.1, B231024-008											
B231024-008 analyzed on 10/24/2023 21:57; Source = C021055-03											
Nitrate as N		0.19	0.0035	0.030	mg/L	0.05	0.14	114	75 - 125		
Dichloroacetate (%)		105			%		103				
Metals LCS by EPA 200.7, B231114-002											
B231114-002 analyzed on 11/15/2023 12:18; B231101-014 prepared on 11/01/2023 10:29											
Calcium		8120	4.90	43.4	ug/L	8300		97	85 - 115		
Iron		1110	6.80	43.4	ug/L	1100		100	85 - 115		
Potassium		9290	76.6	217	ug/L	8300		112	85 - 115		
Magnesium		8200	1.06	43.4	ug/L	8300		98	85 - 115		
Manganese		220	0.12	17.4	ug/L	220		99	85 - 115		
Sodium		8760	1.68	43.4	ug/L	8300		105	85 - 115		
Yttrium (%)		100			%						
Yttrium Radial (%)		100			%						
Metals LCSD by EPA 200.7, B231114-002											
B231114-002 analyzed on 11/15/2023 12:22; B231101-014 prepared on 11/01/2023 10:29											
Calcium		8040	4.90	43.4	ug/L	8300		96	85 - 115	1.0	10
Iron		1100	6.80	43.4	ug/L	1100		99	85 - 115	0.9	10
Potassium		9200	76.6	217	ug/L	8300		110	85 - 115	1.0	10
Magnesium		8120	1.06	43.4	ug/L	8300		97	85 - 115	1.0	10
Manganese		218	0.12	17.4	ug/L	220		98	85 - 115	1.0	10
Sodium		8660	1.68	43.4	ug/L	8300		104	85 - 115	1.1	10
Yttrium (%)		101			%						
Yttrium Radial (%)		100			%						
Metals LOQ by EPA 200.7, B231114-002											
B231114-002 analyzed on 11/15/2023 12:05; B231101-014 prepared on 11/01/2023 10:29											
Calcium	E1	38.9	4.75	42.0	ug/L	40		97	50 - 150		
Iron	E1	39.5	6.58	42.0	ug/L	40		99	50 - 150		
Potassium		230	74.2	210	ug/L	200		115	50 - 150		
Magnesium	E1	38.8	1.02	42.0	ug/L	40		97	50 - 150		
Manganese	E1	16.0	0.12	16.8	ug/L	16		100	50 - 150		
Sodium	E1	35.6	1.63	42.0	ug/L	40		89	50 - 150		
Yttrium (%)		102			%						
Yttrium Radial (%)		103			%						
Metals MB by EPA 200.7, B231114-002											
B231114-002 analyzed on 11/15/2023 11:59; B231101-014 prepared on 11/01/2023 10:29											
Calcium	U	4.70	4.70	41.6	ug/L						
Iron	U	6.52	6.52	41.6	ug/L						

Quality Control for C022071

Analyte	Qualifier	Result	MDL	RL	Units	Spike Level	Source Result	% REC	% REC Limits	RPD	RPD Limits
Potassium	U	73.5	73.5	208	ug/L						
Magnesium	U	1.01	1.01	41.6	ug/L						
Manganese	U	0.12	0.12	16.6	ug/L						
Sodium	U	1.61	1.61	41.6	ug/L						
Yttrium (%)		102			%						
Yttrium Radial (%)		103			%						
Metals MS by EPA 200.7, B231114-002											
B231114-002 analyzed on 11/15/2023 13:23; B231101-014 prepared on 11/01/2023 10:29; Source = C022071-01											
Calcium		1290000	196	1740	ug/L	8300	1280000	102	70 - 130		
Iron	E1	1150	272	1740	ug/L	1100	261	103	70 - 130		
Potassium	M1	473000	3060	8680	ug/L	8300	461000	140	70 - 130		
Magnesium	M1	3060000	42.3	1740	ug/L	8300	3030000	258	70 - 130		
Manganese		37600	4.99	694	ug/L	220	37300	123	70 - 130		
Sodium	M1	21100000	67.2	1740	ug/L	8300	21100000	254	70 - 130		
Yttrium (%)		94			%		94				
Yttrium Radial (%)		106			%		106				
Metals MSD by EPA 200.7, B231114-002											
B231114-002 analyzed on 11/15/2023 13:26; B231101-014 prepared on 11/01/2023 10:29; Source = C022071-01											
Calcium	M1	1280000	196	1740	ug/L	8300	1280000	23	70 - 130	0.5	20
Iron	E1	1140	272	1740	ug/L	1100	261	103	70 - 130	0.3	20
Potassium	M1	473000	3060	8680	ug/L	8300	461000	142	70 - 130	0.0	20
Magnesium		3040000	42.3	1740	ug/L	8300	3030000	81	70 - 130	0.5	20
Manganese	M1	37400	4.99	694	ug/L	220	37300	20	70 - 130	0.6	20
Sodium	M1	21100000	67.2	1740	ug/L	8300	21100000	169	70 - 130	0.0	20
Yttrium (%)		94			%		94				
Yttrium Radial (%)		106			%		106				
Haloacetic Acids, GC/ECD LCS by EPA 552.2, B231101-021											
B231101-021 analyzed on 11/01/2023 21:05; B231101-011 prepared on 11/01/2023 09:39											
Dibromoacetic Acid		16	0.27	1	ug/L	15		106	70 - 130		
Dichloroacetic Acid		16	0.23	1	ug/L	15		104	70 - 130		
Monobromoacetic Acid		16	0.16	1	ug/L	15		104	70 - 130		
Monochloroacetic Acid		15	0.45	1	ug/L	15		102	70 - 130		
Trichloroacetic Acid		16	0.3	1	ug/L	15		107	70 - 130		
1,2,3-Trichloropropane (%)		97			%						
2,3-Dibromopropionic Acid (%)		109			%						
Haloacetic Acids, GC/ECD LOQ by EPA 552.2, B231101-021											
B231101-021 analyzed on 11/01/2023 20:40; B231101-011 prepared on 11/01/2023 09:39											
Dibromoacetic Acid		1.1	0.27	1	ug/L	1.0		107	50 - 150		
Dichloroacetic Acid	E1	0.99	0.23	1	ug/L	1.0		99	50 - 150		
Monobromoacetic Acid		1.0	0.16	1	ug/L	1.0		105	50 - 150		
Monochloroacetic Acid		1.1	0.45	1	ug/L	1.0		108	50 - 150		
Trichloroacetic Acid	E1	0.98	0.3	1	ug/L	1.0		98	50 - 150		
1,2,3-Trichloropropane (%)		104			%						
2,3-Dibromopropionic Acid (%)		107			%						

Quality Control for C022071

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, B231101-021											
B231101-021 analyzed on 11/01/2023 20:15; B231101-011 prepared on 11/01/2023 09:39											
Dibromoacetic Acid	U	0.27	0.27	1	ug/L						
Dichloroacetic Acid	U	0.23	0.23	1	ug/L						
Monobromoacetic Acid	U	0.16	0.16	1	ug/L						
Monochloroacetic Acid	U	0.45	0.45	1	ug/L						
Trichloroacetic Acid	U	0.3	0.3	1	ug/L						
1,2,3-Trichloropropane (%)		100			%						
2,3-Dibromopropionic Acid (%)		107			%						
Haloacetic Acids, GC/ECD MS by EPA 552.2, B231101-021											
B231101-021 analyzed on 11/01/2023 21:55; B231101-011 prepared on 11/01/2023 09:39; Source = C020680-01											
Dibromoacetic Acid		16	0.27	1.0	ug/L	15	0.27	104	70 - 130		
Dichloroacetic Acid		15	0.23	1.0	ug/L	15	0.23	103	70 - 130		
Monobromoacetic Acid		16	0.16	1.0	ug/L	15	0.16	104	70 - 130		
Monochloroacetic Acid		15	0.45	1.0	ug/L	15	0.45	103	70 - 130		
Trichloroacetic Acid		16	0.30	1.0	ug/L	15	0.30	105	70 - 130		
1,2,3-Trichloropropane (%)		96			%		99				
2,3-Dibromopropionic Acid (%)		107			%		108				
Haloacetic Acids, GC/ECD MS by EPA 552.2, B231101-021											
B231101-021 analyzed on 11/02/2023 02:55; B231101-011 prepared on 11/01/2023 09:39; Source = C022072-01											
Dibromoacetic Acid		16	0.27	1.0	ug/L	15	0.27	107	70 - 130		
Dichloroacetic Acid		16	0.23	1.0	ug/L	15	0.23	104	70 - 130		
Monobromoacetic Acid		16	0.16	1.0	ug/L	15	0.16	104	70 - 130		
Monochloroacetic Acid		16	0.45	1.0	ug/L	15	0.45	110	70 - 130		
Trichloroacetic Acid		16	0.30	1.0	ug/L	15	0.30	110	70 - 130		
1,2,3-Trichloropropane (%)		100			%		100				
2,3-Dibromopropionic Acid (%)		112			%		108				
Haloacetic Acids, GC/ECD MSD by EPA 552.2, B231101-021											
B231101-021 analyzed on 11/01/2023 22:20; B231101-011 prepared on 11/01/2023 09:39; Source = C020680-01											
Dibromoacetic Acid		16	0.27	1.0	ug/L	15	0.27	106	70 - 130	1.1	20
Dichloroacetic Acid		16	0.23	1.0	ug/L	15	0.23	105	70 - 130	1.5	20
Monobromoacetic Acid		16	0.16	1.0	ug/L	15	0.16	105	70 - 130	1.0	20
Monochloroacetic Acid		14	0.45	1.0	ug/L	15	0.45	92	70 - 130	10.7	20
Trichloroacetic Acid		16	0.30	1.0	ug/L	15	0.30	106	70 - 130	0.8	20
1,2,3-Trichloropropane (%)		92			%		99				
2,3-Dibromopropionic Acid (%)		110			%		108				
Haloacetic Acids, GC/ECD MSD by EPA 552.2, B231101-021											
B231101-021 analyzed on 11/02/2023 03:20; B231101-011 prepared on 11/01/2023 09:39; Source = C022072-01											
Dibromoacetic Acid		16	0.27	1.0	ug/L	15	0.27	104	70 - 130	3.1	20
Dichloroacetic Acid		15	0.23	1.0	ug/L	15	0.23	102	70 - 130	1.7	20
Monobromoacetic Acid		16	0.16	1.0	ug/L	15	0.16	106	70 - 130	2.1	20
Monochloroacetic Acid		17	0.45	1.0	ug/L	15	0.45	111	70 - 130	0.9	20
Trichloroacetic Acid		16	0.30	1.0	ug/L	15	0.30	104	70 - 130	5.3	20
1,2,3-Trichloropropane (%)		99			%		100				
2,3-Dibromopropionic Acid (%)		109			%		108				

Qualifiers and Definitions

E1	Concentration estimated. Analyte detected below reporting limit (RL) but above MDL. For SIP, E1=DNQ, Estimated Concentration.
M1	The MS recovery was outside acceptance limits due to possible matrix interference. The analytical batch meets accuracy criteria for reporting.
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
LCSD	Laboratory Control Sample Duplicate
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 #: C022071	Project Title: Bayside Ground Water Project TAT: Standard	Client PM: David Behnken Lab PM: Kristi Schwab Job #:	Expect Date: 10/23/2023 Sampled By: K. KINNON ☒ Samples transported on ice 4.4°C #13 C 10/24/23

Date	Time	Site/Locator	Sample ID	Type	Matrix	ID	Type	Tests Required
10/23/23	1424	GW BAYSIDE - BAY1-MW2S	C022071-01	GRAB	Aqueous			+SAMP KIT
						-01A	PLSTL	EPA 200.7-W (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 =	0.0	mg/L
Depth =	8.7	Feet
pH =	6.60	pH Units
Temperature =	19.1	C

Field Comments:

Field Instructions:

Page 1 of 2 for C022071

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

COC #: C022071	Project Title: Bayside Ground Water Project TAT: Standard	Client PM: David Behnken Lab PM: Kristi Schwab Job #:	Expect Date: 10/23/2023 Sampled By: K Kinnard ☒ Samples transported on ice

Date	Time	Site/Locator	Sample ID	Type	Matrix	ID	Type	Tests Required
10/23/23	1424							

Total Containers for: C022071 | 12

	Signature	Print Name	Time	Date
Relinquished by:		Kristy Kinnard	1540	10/23/23
Received by:				
Relinquished by:				
Received by:				
Relinquished by:				
Received by:			0705	10/24/2023

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 C022071

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

COC #: C022071	Project Title: Bayside Ground Water Project TAT: Standard	Client PM: David Behnken Lab PM: Kristi Schwab Job #:	Received Date/Time: 10/23/2023 07:25 Received By: Cynthia Soohoo Sampled By: KKinnon Due Date: 11/21/2023

Date	Time	Site/Locator	Sample ID	Type	Matrix	ID	Type	Tests Required
10/23/2023	14:24	GW BAYSIDE - BAY1-MW2S	C022071-01	GRAB	Aqueous			+SAMP KIT
						-01A	PLSTL	EPA 200.7-W (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 =	0.0	mg/L
Depth =	8.7	Feet
pH =	6.60	pH Units
Temperature =	19.1	C

Field Comments:
Field Instructions:
Sample External Comments:

Total Containers for: C022071	12

Page 1 of 4 for C022071

EBMUD

C022071 Sample Acceptance Report

Received: 10/23/2023 07:25
Received By: Cynthia Soohoo

Chain-of-Custody		Comments
Chilled During Transport?	Yes	
Missing or incorrect information	No	
Mode of receipt	Drop-off Room	
Shipping Slip?	No	

Containers		Comments
BACT (120 mL) lot number	Add lot no	
BACTL (290 mL) lot number	Add lot no	
Container and label are legible and match COC?	Yes	
Correct container used with field preservation?	Yes	
Received within holding times?	Yes	
Sufficient volume, undamaged, or uncontaminated?	Yes	

Sample: C022071-01		Comments
Bubbles in ZHS/VOA containers	No	

Intent to chill

Cooler: 1		Comments
Corrected Temp (° C)	4.8	
IR Thermometer Number	IR #13	
Representative temperature taken from	-01	
Uncorrected Temp (° C)	4.4	
Visible ice formed inside sample container?	No	

Acceptance		Comments
PM notified?	N/A	

Page 2 of 4 for C022071

C022071 Sample Acceptance Report

Received: 10/23/2023 07:25
Received By: Cynthia Soohoo

Samples meet acceptance requirements?	Yes	

Sample Acceptance Preservation Report

COC: C022071

Report Generated: 10/24/2023 07:43

Inventory Item	Inventory ID	Open Date	Prep Date	Expiration Date
Ammonium Hydroxide	ST221116-012	11/16/2022	N/A	11/16/2023
Ammonium Sulfate Buffer (ASB-07)	ST230515-003	N/A	05/15/2023	11/15/2023
Ethylenediamine 12.5 mg/mL (EDA-42)	ST230927-005	N/A	09/27/2023	10/27/2023
Hydrochloric Acid 1+1 (HCl-04)	ST230104-013	N/A	01/04/2023	01/04/2024
NaOH 15 mL 1:1 LDPE dropper	ST230127-020	N/A	N/A	07/31/2024
Nitric Acid Trace Metals Grade	ST221118-013	01/03/2023	N/A	06/30/2024
pH Strip 0-14	ST221220-011	05/23/2023	N/A	07/31/2027
pH Strip 0-6	ST230131-001	01/31/2023	N/A	05/31/2026
pH Strip 6-10	ST230131-026	02/03/2023	N/A	06/30/2026
pH Strip 7-14	ST230126-011	06/27/2023	N/A	10/31/2026
Sulfuric Acid ACS Grade	ST230515-015	06/20/2023	N/A	05/15/2028

Container Number	Container Name	Tests	Preservation Requirement	Result	Initial/ Date
C022071-01A	PLSTL	EPA 200.7-W	HNO3 to pH <2. Preservation Time = 0745	pass	CA/W/10/2
C022071-01C	PLSTM	Hardness	HNO3 to pH <2		
C022071-01F	PSQLT	Ammonia: Titr-AQ	Check Cl2R = 0 [PSQLT], then H2SO4 to pH <2		
C022071-01G	A125N	EPA 552.2	Check Container		
C022071-01H	A125N	EPA 552.2-FR	Check Container		
C022071-01K	VOC4T	EPA 8260B-FR	Check Container		
C022071-01L	VOC4T	EPA 8260B-FR	Check Container	V	↓

Page 4 of 4 for C022071

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

27 November 2023

EBMUD
Attn: Jack Lim
PO Box 24055
Oakland, CA 94607
RE: Bayside Ground Water Project WDR
Work Order: 23J4196

Enclosed are the results of analyses for samples received by the laboratory on 10/26/23 22:15. 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: Jack Lim	
PO Box 24055	Project: Bayside Ground Water Project WDR	Reported:
Oakland CA, 94607	Project Number: C022071	11/27/23 16:26

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 | ELAP# 3091

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
C022071-01	23J4196-01	Water	10/23/23 14:24	10/26/23 22:15

This represents an amended copy of the original report.
MDL values reported.

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

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: Jack Lim	
PO Box 24055	Project: Bayside Ground Water Project WDR	Reported:
Oakland CA, 94607	Project Number: C022071	11/27/23 16:26

Volatile Organic Compounds by EPA Method 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Analyst	ELAP #	Notes
C022071-01 (23J4196-01) Water	**Sampled: 10/23/23 14:24**	**Received: 10/26/23 22:15**										
Chloroform	ND	0.10	1.0	ug/L	1	AJ35161	10/31/23 07:00	10/31/23 15:08	EPA 8260B	MVA	2303	U
Bromodichloromethane	ND	0.30	1.0	ug/L	1	AJ35161	10/31/23 07:00	10/31/23 15:08	EPA 8260B	MVA	2303	U
Dibromochloromethane	ND	0.20	1.0	ug/L	1	AJ35161	10/31/23 07:00	10/31/23 15:08	EPA 8260B	MVA	2303	U
Bromoform	ND	0.20	1.0	ug/L	1	AJ35161	10/31/23 07:00	10/31/23 15:08	EPA 8260B	MVA	2303	U
Trihalomethanes (total)	ND	0.30	1.0	ug/L	1	AJ35161	10/31/23 07:00	10/31/23 15:08	EPA 8260B	MVA	2303	U
Surrogate: Dibromofluoromethane		*89.4 %*	*70-130*			*AJ35161*	*10/31/23 07:00*	*10/31/23 15:08*	*EPA 8260B*	*MVA*	2303	
Surrogate: Toluene-d8		*94.7 %*	*70-130*			*AJ35161*	*10/31/23 07:00*	*10/31/23 15:08*	*EPA 8260B*	*MVA*	2303	
Surrogate: Bromofluorobenzene		*92.9 %*	*70-130*			*AJ35161*	*10/31/23 07:00*	*10/31/23 15:08*	*EPA 8260B*	*MVA*	2303	

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EBMUD	Project Manager: Jack Lim	
PO Box 24055	Project: Bayside Ground Water Project WDR	Reported:
Oakland CA, 94607	Project Number: C022071	11/27/23 16:26

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 AJ35161 - NB EPA 5030 Water GCMS											
Blank (AJ35161-BLK1)					Prepared & Analyzed: 10/30/23						
1,1-Dichloroethene	ND	0.50	1.0	ug/L							U
Benzene	ND	0.50	1.0	ug/L							U
Trichloroethene	ND	0.50	1.0	ug/L							U
Toluene	ND	0.50	1.0	ug/L							U
Chlorobenzene	ND	0.50	1.0	ug/L							U
Surrogate: Dibromofluoromethane	*21.4*			*ug/L*	*20.0*		*107*	*70-130*			
Surrogate: Toluene-d8	*20.3*			*ug/L*	*20.0*		*102*	*70-130*			
Surrogate: Bromofluorobenzene	*18.9*			*ug/L*	*20.0*		*94.5*	*70-130*			
Matrix Spike (AJ35161-MS1)		**Source: 23J4044-03**			Prepared & Analyzed: 10/30/23						
1,1-Dichloroethene	23.4	0.50	1.0	ug/L	25.0	ND	93.7	70-130			
Benzene	23.9	0.50	1.0	ug/L	25.0	ND	95.7	70-130			
Trichloroethene	22.3	0.50	1.0	ug/L	25.0	ND	89.1	70-130			
Toluene	24.7	0.50	1.0	ug/L	25.0	ND	98.8	70-130			
Chlorobenzene	24.8	0.50	1.0	ug/L	25.0	ND	99.0	70-130			
Surrogate: Dibromofluoromethane	*19.8*			*ug/L*	*20.0*		*99.1*	*70-130*			
Surrogate: Toluene-d8	*20.8*			*ug/L*	*20.0*		*104*	*70-130*			
Surrogate: Bromofluorobenzene	*18.7*			*ug/L*	*20.0*		*93.3*	*70-130*			
Matrix Spike Dup (AJ35161-MSD1)		**Source: 23J4044-03**			Prepared & Analyzed: 10/30/23						
1,1-Dichloroethene	20.6	0.50	1.0	ug/L	25.0	ND	82.2	70-130	13.0	25	
Benzene	21.3	0.50	1.0	ug/L	25.0	ND	85.2	70-130	11.5	25	
Trichloroethene	20.6	0.50	1.0	ug/L	25.0	ND	82.4	70-130	7.84	25	
Toluene	21.5	0.50	1.0	ug/L	25.0	ND	85.8	70-130	14.0	25	
Chlorobenzene	22.3	0.50	1.0	ug/L	25.0	ND	89.0	70-130	10.6	25	
Surrogate: Dibromofluoromethane	*22.4*			*ug/L*	*20.0*		*112*	*70-130*			
Surrogate: Toluene-d8	*20.4*			*ug/L*	*20.0*		*102*	*70-130*			
Surrogate: Bromofluorobenzene	*19.6*			*ug/L*	*20.0*		*97.8*	*70-130*			

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EBMUD	Project Manager: Jack Lim	
PO Box 24055	Project: Bayside Ground Water Project WDR	Reported:
Oakland CA, 94607	Project Number: C022071	11/27/23 16:26

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

* ELAP does not offer accreditation in this matrix for the requested analyte/method combination

ISOTECH
a Stratum Reservoir brand
www.isotechlabs.com

Lab #:	896188	Job #:	56573	IS-69368	Co. Job#:
Sample Name:	23J4196-01				Co. Lab#:
Company:	Alpha Analytical Laboratories, Inc.				
API/Well:					
Container:	500ml Plastic Bottle				
Field/Site Name:	23J4196				
Location:					
Formation/Depth:					
Sampling Point:	C022071-01				
Date Sampled:	10/23/2023 14:24	Date Received:	11/06/2023	Date Reported:	11/20/2023

δD of water	----------	-24.3 ‰ relative to VSMOW
δ^{18}O of water	----------	-2.72 ‰ relative to VSMOW
Tritium content of water	----------	na
δ^{13}C of DIC	----------	na
^{14}C content of DIC	----------	na
δ^{15}N of nitrate	----------	na
δ^{18}O of nitrate	----------	na
δ^{34}S of sulfate	----------	na
δ^{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

2334196

1.1 °C

EBMUD

East Bay Municipal Utility District Laboratory Services Subcontract Chain of Custody

COC #: C022071	Project Title: Bayside Ground Water Project	Lab PM: Kristi Schwab (510) 287-1696 Shipping Method: Alpha Courier	Sampled By: KKinnon
	TAT: Standard	PO#: BRD-13921-AX Expiration: 12/31/2023	Submitted Date: 10/26/2023

Date	Time	Sample ID	Location/PS Code	Matrix	Container ID	Type	Tests Required	Method Reference
10/23/2023	14:24	C022071-01	GW BAYSIDE - BAY1-MW2S	Aqueous	-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). THMs by EPA 8260 (report individual THM results and total sum).								
			Total containers received:	4				

	Signature	Print Name	Time	Date
Relinquished by:			1155	10/26/2023
Received by:		Michael Lopez	11:55	10/26/23
Relinquished by:				
Received by:	JW	John Willis	1900	10.26.23
Relinquished by:	JW		2215	10.26.23
Received by:	JW	John Willis	2215	10.26.23

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

wko_UKtoNB_COC.rpt

WORK ORDER

23J4196

Printed: 10/30/2023 10:57:35AM

Alpha Analytical Laboratories Ukiah to North Bay Chain of Custody

Client: EBMUD	**Client Code:** RP_EBMUD	**Bid:** 1_Master Price Sheet
Project: Bayside Ground Water Project WDR	**Project Number:** C022071	**PO #:**

Date Due: 11/14/23 15:00 (10 day TAT)
Received By: John Willis — Date Received: 10/30/23 22:15
Logged In By: Aaron J. Kooyers — Date Logged 10/30/23 10:31

Samples Received at: _____ deg C — All containers received and intact: YES NO

Analysis	Department	Expires	Comments
23J4196-01 C022071-01 [Water] Sampled 10/23/23 14:24			
NB 8260 THMs	NB GCMS	11/06/23 23:59	

Containers Supplied:
VOA Vial - Na2S2O3 (B)
VOA Vial - Na2S2O3 (C)
VOA Vial - Na2S2O3 (D)

Relinquished By	10/30/23	Time	Received By	10/3/23	Time
Relinquished By	10/3/23	Time	Received By	10/3/23	Time

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

19 January 2024

David Behnken

MS 704

Re: Bayside Ground Water Project

COC# C022070

Report Generated: 01/18/2024 17:13

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 C022070

Samples Included in the Report

Sample Number	Sample Type	Sampled Date	Location Name	Sample Name
C022070-01	GRAB	Oct 23 2023 13:18	GW BAYSIDE - BAY1-MW2I	-

Samples Results for C022070

Sample ID: C022070-01
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: Oct 23 2023 13:18 **Sample Collector:** KKinnon
Date Received: Oct 24 2023 07:25 **Sample Receiver:** C Soohoo
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				10/23/2023 13:18
Field data entry into LIMS									
TARGET ANALYTES									
Depth		**15.4**			Feet				10/23/2023 13:18
Field data entry into LIMS									
TARGET ANALYTES									
pH		**7.62**			pH Units				10/23/2023 13:18
Field data entry into LIMS									
TARGET ANALYTES									
Temperature		**19.1**			C				10/23/2023 13:18
Total Dissolved Solids by SM 2540 C-2011									
TARGET ANALYTES									
Total Dissolved Solids		**630**	20	110	mg/L	2.0	B231024-007		10/24/2023 09:40
Alkalinity by SM 2320 B-2011									
TARGET ANALYTES									
Alkalinity: Total as CaCO3		**360**	5	30	mg/L	1.0	B231025-009		10/25/2023 09:50
Alkalinity: Carbonate	U	5	5	30	mg/L	1.0	B231025-009		10/25/2023 09:50
Alkalinity: Bicarbonate		**360**	5	30	mg/L	1.0	B231025-009		10/25/2023 09:50
Alkalinity: Hydroxide	U	5	5	30	mg/L	1.0	B231025-009		10/25/2023 09:50
Ammonia as N by SM 4500-NH3 C-2011									
TARGET ANALYTES									
Ammonia as N	**E1**	**0.42**	0.29	1.5	mg/L	1.0	B231026-007		10/26/2023 12:14
Hardness as CaCO3 by SM 2340 C-2011									
TARGET ANALYTES									
Hardness as CaCO3		**120**	4	7	mg/L	1.0	B231106-008		11/06/2023 09:00
Anions by EPA 300.1									
TARGET ANALYTES									
Chloride		**140**	3.8	20	mg/L	100	B231024-008		10/24/2023 15:38
Nitrate as N	U	0.23	0.23	3.0	mg/L	100	B231024-008		10/24/2023 15:38
Sulfate	**E1**	**15**	6.9	20	mg/L	100	B231024-008		10/24/2023 15:38
SURROGATES									
Dichloroacetate (%)		100			%	100	B231024-008		10/24/2023 15:38

Samples Results for C022070

Sample ID: C022070-01
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: Oct 23 2023 13:18 **Sample Collector:** KKinnon
Date Received: Oct 24 2023 07:25 **Sample Receiver:** C Soohoo
Sample Comments:

Analyte	Qualifier	Result	MDL	RL	Units	DF	Batch	Prepared	Analyzed
Metals by EPA 200.7									
TARGET ANALYTES									
Calcium		**19000**	4.52	40.0	ug/L	1.0	B231110-001	10/31/2023 15:33	11/10/2023 10:20
Iron		**223**	6.27	40.0	ug/L	1.0	B231110-001	10/31/2023 15:33	11/10/2023 10:20
Potassium		**6770**	70.6	200	ug/L	1.0	B231110-001	10/31/2023 15:33	11/10/2023 10:20
Magnesium		**17100**	0.98	40.0	ug/L	1.0	B231110-001	10/31/2023 15:33	11/10/2023 10:20
Manganese		**130**	0.12	16.0	ug/L	1.0	B231110-001	10/31/2023 15:33	11/10/2023 10:20
Sodium		**199000**	1.55	40.0	ug/L	1.0	B231110-001	10/31/2023 15:33	11/10/2023 10:20
INTERNAL STANDARD									
Yttrium (%)		98			%	1.0	B231110-001	10/31/2023 15:33	11/10/2023 10:20
Yttrium Radial (%)		93			%	1.0	B231110-001	10/31/2023 15:33	11/10/2023 10:20
Haloacetic Acids, GC/ECD by EPA 552.2									
TARGET ANALYTES									
Dibromoacetic Acid	U	0.27	0.27	1.0	ug/L	1.0	B231101-021	11/01/2023 09:39	11/02/2023 01:40
Dichloroacetic Acid	U	0.23	0.23	1.0	ug/L	1.0	B231101-021	11/01/2023 09:39	11/02/2023 01:40
Monobromoacetic Acid	U	0.16	0.16	1.0	ug/L	1.0	B231101-021	11/01/2023 09:39	11/02/2023 01:40
Monochloroacetic Acid	U	0.45	0.45	1.0	ug/L	1.0	B231101-021	11/01/2023 09:39	11/02/2023 01:40
Trichloroacetic Acid	U	0.30	0.30	1.0	ug/L	1.0	B231101-021	11/01/2023 09:39	11/02/2023 01:40
HAA(5), calculated		**0.00**		1.0	ug/L	1.0	B231101-021	11/01/2023 09:39	11/02/2023 01:40
	Comments: HAA (5) calculation uses a zero for any individual HAA result less than the California DLR for that HAA								
INTERNAL STANDARD									
1,2,3-Trichloropropane (%)		101			%	1.0	B231101-021	11/01/2023 09:39	11/02/2023 01:40
SURROGATES									
2,3-Dibromopropionic Acid (%)		106			%	1.0	B231101-021	11/01/2023 09:39	11/02/2023 01:40
Oxygen 18 Isotope Analysis									
Subcontract data from: Alpha Analytical Laboratory ELAP#: Refer to external lab report									
TARGET ANALYTES									
See subcontract report									
Trihalomethanes, Total, GC/MS by EPA 8260B									
Subcontract data from: Alpha Analytical Laboratory ELAP#: Refer to external lab report									
TARGET ANALYTES									
Bromodichloromethane	U	0.30	0.30	1.0	ug/L	1		10/31/2023 07:00	10/31/2023 14:19
	Comments: SUB: Analyte included in analysis but not detected at or above MDL								
Bromoform	U	0.20	0.20	1.0	ug/L	1		10/31/2023 07:00	10/31/2023 14:19
	Comments: SUB: Analyte included in analysis but not detected at or above MDL								
Chloroform	U	0.10	0.10	1.0	ug/L	1		10/31/2023 07:00	10/31/2023 14:19
	Comments: SUB: Analyte included in analysis but not detected at or above MDL								
Dibromochloromethane	U	0.20	0.20	1.0	ug/L	1		10/31/2023 07:00	10/31/2023 14:19
	Comments: SUB: Analyte included in analysis but not detected at or above MDL								
Total Trihalomethanes, calculated	U	0.30	0.30	1.0	ug/L	1		10/31/2023 07:00	10/31/2023 14:19
	Comments: SUB: Analyte included in analysis but not detected at or above MDL								

Quality Control for C022070

Analyte	Qualifier	Result	MDL	RL	Units	Spike Level	Source Result	% REC	% REC Limits	RPD	RPD Limits
Total Dissolved Solids DUP by SM 2540 C-2011, B231024-007											
B231024-007 analyzed on 10/24/2023 09:40; Source = C022070-01											
Total Dissolved Solids		**640**	20	110	mg/L		630			1.6	10
Total Dissolved Solids LCS by SM 2540 C-2011, B231024-007											
B231024-007 analyzed on 10/24/2023 09:40											
Total Dissolved Solids		320	20	110	mg/L	340		96	85 - 115		
Total Dissolved Solids MB by SM 2540 C-2011, B231024-007											
B231024-007 analyzed on 10/24/2023 09:40											
Total Dissolved Solids	U	10	10	55	mg/L						
Alkalinity DUP by SM 2320 B-2011, B231025-009											
B231025-009 analyzed on 10/25/2023 10:08; Source = C022073-01											
Alkalinity: Total as CaCO3		**220**	5	30	mg/L		220			0.7	20
Alkalinity DUP by SM 2320 B-2011, B231025-009											
B231025-009 analyzed on 10/25/2023 10:59; Source = C021078-10											
Alkalinity: Total as CaCO3		**6600**	62	380	mg/L		6600			0.1	20
Alkalinity LCS by SM 2320 B-2011, B231025-009											
B231025-009 analyzed on 10/25/2023 09:30											
Alkalinity: Total as CaCO3		300	5	30	mg/L	300		99	85 - 115		
Alkalinity MB by SM 2320 B-2011, B231025-009											
B231025-009 analyzed on 10/25/2023 09:18											
Alkalinity: Total as CaCO3	U	5	5	30	mg/L						
Alkalinity MS by SM 2320 B-2011, B231025-009											
B231025-009 analyzed on 10/25/2023 10:13; Source = C022073-01											
Alkalinity: Total as CaCO3		520	5	30	mg/L	300	220	99	80 - 120		
Alkalinity MS by SM 2320 B-2011, B231025-009											
B231025-009 analyzed on 10/25/2023 11:04; Source = C021078-10											
Alkalinity: Total as CaCO3		11000	62	380	mg/L	5000	6600	98	80 - 120		
Alkalinity QCS by SM 2320 B-2011, B231025-009											
B231025-009 analyzed on 10/25/2023 09:37											
Alkalinity: Total as CaCO3		68	5	30	mg/L	66		103	91 - 111		

Quality Control for C022070

Analyte	Qualifier	Result	MDL	RL	Units	Spike Level	Source Result	% REC	% REC Limits	RPD	RPD Limits
Ammonia as N DUP by SM 4500-NH3 C-2011, B231026-007											
B231026-007 analyzed on 10/26/2023 12:14; Source = C021337-09											
Ammonia as N		**39**	1.4	7.5	mg/L		38			1.2	10
Ammonia as N LCS by SM 4500-NH3 C-2011, B231026-007											
B231026-007 analyzed on 10/26/2023 12:14											
Ammonia as N		12	0.29	1.5	mg/L	12		97	85 - 115		
Ammonia as N LOQ by SM 4500-NH3 C-2011, B231026-007											
B231026-007 analyzed on 10/26/2023 12:14											
Ammonia as N	E1	1.5	0.29	1.5	mg/L	1.5		99	50 - 150		
Ammonia as N MB by SM 4500-NH3 C-2011, B231026-007											
B231026-007 analyzed on 10/26/2023 12:14											
Ammonia as N	U	0.29	0.29	1.5	mg/L						
Ammonia as N MS by SM 4500-NH3 C-2011, B231026-007											
B231026-007 analyzed on 10/26/2023 12:14; Source = C021337-08											
Ammonia as N		110	1.4	7.5	mg/L	60	50	99	80 - 120		
Ammonia as N MSD by SM 4500-NH3 C-2011, B231026-007											
B231026-007 analyzed on 10/26/2023 12:14; Source = C021337-08											
Ammonia as N		110	1.4	7.5	mg/L	60	50	98	80 - 120	0.0	15
Hardness as CaCO3 DUP by SM 2340 C-2011, B231106-008											
B231106-008 analyzed on 11/06/2023 09:00; Source = C020700-01											
Hardness as CaCO3		**15**	4	7	mg/L		16			5.1	10
Hardness as CaCO3 DUP by SM 2340 C-2011, B231106-008											
B231106-008 analyzed on 11/06/2023 09:00; Source = C020854-03											
Hardness as CaCO3		**11**	4	7	mg/L		12			7.1	10
Hardness as CaCO3 LCS by SM 2340 C-2011, B231106-008											
B231106-008 analyzed on 11/06/2023 09:00											
Hardness as CaCO3		110	4	7	mg/L	100		106	85 - 115		
Hardness as CaCO3 LOQ by SM 2340 C-2011, B231106-008											
B231106-008 analyzed on 11/06/2023 09:00											
Hardness as CaCO3		7	4	7	mg/L	7.0		103	50 - 150		

Quality Control for C022070

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, B231106-008											
B231106-008 analyzed on 11/06/2023 09:00											
Hardness as CaCO3	U	4	4	7	mg/L						
Hardness as CaCO3 MS by SM 2340 C-2011, B231106-008											
B231106-008 analyzed on 11/06/2023 09:00; Source = C020700-01											
Hardness as CaCO3		120	4	7	mg/L	100	16	102	85 - 115		
Hardness as CaCO3 MS by SM 2340 C-2011, B231106-008											
B231106-008 analyzed on 11/06/2023 09:00; Source = C020854-03											
Hardness as CaCO3		120	4	7	mg/L	100	12	104	85 - 115		
Hardness as CaCO3 QCS by SM 2340 C-2011, B231106-008											
B231106-008 analyzed on 11/06/2023 09:00											
Hardness as CaCO3		160	4	7	mg/L	150		104	91 - 107		
Anions LCS by EPA 300.1, B231024-008											
B231024-008 analyzed on 10/24/2023 13:07											
Chloride		0.99	0.061	0.2	mg/L	1.0		99	85 - 115		
Nitrate as N		0.046	0.0035	0.03	mg/L	0.05		92	85 - 115		
Sulfate		0.89	0.079	0.2	mg/L	1.0		89	85 - 115		
Dichloroacetate (%)		101			%						
Anions LOQ by EPA 300.1, B231024-008											
B231024-008 analyzed on 10/24/2023 12:29											
Chloride		0.21	0.061	0.2	mg/L	0.20		107	50 - 150		
Nitrate as N	E1	0.029	0.0035	0.03	mg/L	0.03		96	50 - 150		
Sulfate	E1	0.20	0.079	0.2	mg/L	0.20		99	50 - 150		
Dichloroacetate (%)		103			%						
Anions MB by EPA 300.1, B231024-008											
B231024-008 analyzed on 10/24/2023 11:51											
Chloride	U	0.061	0.061	0.2	mg/L						
Nitrate as N	U	0.0035	0.0035	0.03	mg/L						
Sulfate	U	0.079	0.079	0.2	mg/L						
Dichloroacetate (%)		104			%						
Anions DUP by EPA 300.1, B231024-008											
B231024-008 analyzed on 10/24/2023 14:23; Source = C021030-05											
Nitrate as N	**E1**	**0.017**	0.0035	0.030	mg/L		0.017			0.9	10
Dichloroacetate (%)		103			%		102				
Anions DUP by EPA 300.1, B231024-008											
B231024-008 analyzed on 10/24/2023 21:19; Source = C021055-03											
Nitrate as N		**0.14**	0.0035	0.030	mg/L		0.14			0.0	10

Quality Control for C022070

Analyte	Qualifier	Result	MDL	RL	Units	Spike Level	Source Result	% REC	% REC Limits	RPD	RPD Limits
Dichloroacetate (%)		104			%		103				
Anions MS by EPA 300.1, B231024-008											
B231024-008 analyzed on 10/24/2023 15:01; Source = C021030-05											
Nitrate as N		0.062	0.0035	0.030	mg/L	0.05	0.017	90	75 - 125		
Dichloroacetate (%)		103			%		102				
Anions MS by EPA 300.1, B231024-008											
B231024-008 analyzed on 10/24/2023 21:57; Source = C021055-03											
Nitrate as N		0.19	0.0035	0.030	mg/L	0.05	0.14	114	75 - 125		
Dichloroacetate (%)		105			%		103				
Metals LCS by EPA 200.7, B231110-001											
B231110-001 analyzed on 11/10/2023 09:41; B231031-031 prepared on 10/31/2023 15:33											
Calcium		7400	4.52	40.0	ug/L	7500		99	85 - 115		
Iron		1010	6.27	40.0	ug/L	1000		101	85 - 115		
Potassium		8340	70.6	200	ug/L	7500		111	85 - 115		
Magnesium		7430	0.98	40.0	ug/L	7500		99	85 - 115		
Manganese		199	0.12	16.0	ug/L	200		99	85 - 115		
Sodium		7900	1.55	40.0	ug/L	7500		105	85 - 115		
Yttrium (%)		102			%						
Yttrium Radial (%)		96			%						
Metals LCSD by EPA 200.7, B231110-001											
B231110-001 analyzed on 11/10/2023 09:44; B231031-031 prepared on 10/31/2023 15:33											
Calcium		7380	4.52	40.0	ug/L	7500		98	85 - 115	0.2	10
Iron		1000	6.27	40.0	ug/L	1000		100	85 - 115	0.3	10
Potassium		8340	70.6	200	ug/L	7500		111	85 - 115	0.1	10
Magnesium		7420	0.98	40.0	ug/L	7500		99	85 - 115	0.2	10
Manganese		198	0.12	16.0	ug/L	200		99	85 - 115	0.2	10
Sodium		7880	1.55	40.0	ug/L	7500		105	85 - 115	0.2	10
Yttrium (%)		101			%						
Yttrium Radial (%)		93			%						
Metals LOQ by EPA 200.7, B231110-001											
B231110-001 analyzed on 11/10/2023 09:31; B231031-031 prepared on 10/31/2023 15:33											
Calcium	E1	37.8	4.52	40.0	ug/L	40		94	50 - 150		
Iron		40.6	6.27	40.0	ug/L	40		102	50 - 150		
Potassium		215	70.6	200	ug/L	200		107	50 - 150		
Magnesium	E1	39.2	0.98	40.0	ug/L	40		98	50 - 150		
Manganese	E1	16.0	0.12	16.0	ug/L	16		100	50 - 150		
Sodium	E1	36.8	1.55	40.0	ug/L	40		92	50 - 150		
Yttrium (%)		103			%						
Yttrium Radial (%)		95			%						
Metals MB by EPA 200.7, B231110-001											
B231110-001 analyzed on 11/10/2023 09:25; B231031-031 prepared on 10/31/2023 15:33											
Calcium	U	4.52	4.52	40.0	ug/L						
Iron	U	6.27	6.27	40.0	ug/L						

Quality Control for C022070

Analyte	Qualifier	Result	MDL	RL	Units	Spike Level	Source Result	% REC	% REC Limits	RPD	RPD Limits
Potassium	U	70.6	70.6	200	ug/L						
Magnesium	U	0.98	0.98	40.0	ug/L						
Manganese	U	0.12	0.12	16.0	ug/L						
Sodium	U	1.55	1.55	40.0	ug/L						
Yttrium (%)		103			%						
Yttrium Radial (%)		101			%						
Metals MS by EPA 200.7, B231110-001											
B231110-001 analyzed on 11/10/2023 09:51; B231031-031 prepared on 10/31/2023 15:33; Source = C020443-01											
Manganese		245	0.12	16.0	ug/L	200	47.3	99	70 - 130		
Yttrium (%)		101			%		101				
Yttrium Radial (%)		94			%		93				
Metals MSD by EPA 200.7, B231110-001											
B231110-001 analyzed on 11/10/2023 09:54; B231031-031 prepared on 10/31/2023 15:33; Source = C020443-01											
Manganese		246	0.12	16.0	ug/L	200	47.3	100	70 - 130	0.4	20
Yttrium (%)		100			%		101				
Yttrium Radial (%)		92			%		93				
Haloacetic Acids, GC/ECD LCS by EPA 552.2, B231101-021											
B231101-021 analyzed on 11/01/2023 21:05; B231101-011 prepared on 11/01/2023 09:39											
Dibromoacetic Acid		16	0.27	1	ug/L	15		106	70 - 130		
Dichloroacetic Acid		16	0.23	1	ug/L	15		104	70 - 130		
Monobromoacetic Acid		16	0.16	1	ug/L	15		104	70 - 130		
Monochloroacetic Acid		15	0.45	1	ug/L	15		102	70 - 130		
Trichloroacetic Acid		16	0.3	1	ug/L	15		107	70 - 130		
1,2,3-Trichloropropane (%)		97			%						
2,3-Dibromopropionic Acid (%)		109			%						
Haloacetic Acids, GC/ECD LOQ by EPA 552.2, B231101-021											
B231101-021 analyzed on 11/01/2023 20:40; B231101-011 prepared on 11/01/2023 09:39											
Dibromoacetic Acid		1.1	0.27	1	ug/L	1.0		107	50 - 150		
Dichloroacetic Acid	E1	0.99	0.23	1	ug/L	1.0		99	50 - 150		
Monobromoacetic Acid		1.0	0.16	1	ug/L	1.0		105	50 - 150		
Monochloroacetic Acid		1.1	0.45	1	ug/L	1.0		108	50 - 150		
Trichloroacetic Acid	E1	0.98	0.3	1	ug/L	1.0		98	50 - 150		
1,2,3-Trichloropropane (%)		104			%						
2,3-Dibromopropionic Acid (%)		107			%						
Haloacetic Acids, GC/ECD MB by EPA 552.2, B231101-021											
B231101-021 analyzed on 11/01/2023 20:15; B231101-011 prepared on 11/01/2023 09:39											
Dibromoacetic Acid	U	0.27	0.27	1	ug/L						
Dichloroacetic Acid	U	0.23	0.23	1	ug/L						
Monobromoacetic Acid	U	0.16	0.16	1	ug/L						
Monochloroacetic Acid	U	0.45	0.45	1	ug/L						
Trichloroacetic Acid	U	0.3	0.3	1	ug/L						
1,2,3-Trichloropropane (%)		100			%						
2,3-Dibromopropionic Acid (%)		107			%						

Quality Control for C022070

Analyte	Qualifier	Result	MDL	RL	Units	Spike Level	Source Result	% REC	% REC Limits	RPD	RPD Limits
Haloacetic Acids, GC/ECD MS by EPA 552.2, B231101-021											
B231101-021 analyzed on 11/01/2023 21:55; B231101-011 prepared on 11/01/2023 09:39; Source = C020680-01											
Dibromoacetic Acid		16	0.27	1.0	ug/L	15	0.27	104	70 - 130		
Dichloroacetic Acid		15	0.23	1.0	ug/L	15	0.23	103	70 - 130		
Monobromoacetic Acid		16	0.16	1.0	ug/L	15	0.16	104	70 - 130		
Monochloroacetic Acid		15	0.45	1.0	ug/L	15	0.45	103	70 - 130		
Trichloroacetic Acid		16	0.30	1.0	ug/L	15	0.30	105	70 - 130		
1,2,3-Trichloropropane (%)		96			%		99				
2,3-Dibromopropionic Acid (%)		107			%		108				
Haloacetic Acids, GC/ECD MS by EPA 552.2, B231101-021											
B231101-021 analyzed on 11/02/2023 02:55; B231101-011 prepared on 11/01/2023 09:39; Source = C022072-01											
Dibromoacetic Acid		16	0.27	1.0	ug/L	15	0.27	107	70 - 130		
Dichloroacetic Acid		16	0.23	1.0	ug/L	15	0.23	104	70 - 130		
Monobromoacetic Acid		16	0.16	1.0	ug/L	15	0.16	104	70 - 130		
Monochloroacetic Acid		16	0.45	1.0	ug/L	15	0.45	110	70 - 130		
Trichloroacetic Acid		16	0.30	1.0	ug/L	15	0.30	110	70 - 130		
1,2,3-Trichloropropane (%)		100			%		100				
2,3-Dibromopropionic Acid (%)		112			%		108				
Haloacetic Acids, GC/ECD MSD by EPA 552.2, B231101-021											
B231101-021 analyzed on 11/01/2023 22:20; B231101-011 prepared on 11/01/2023 09:39; Source = C020680-01											
Dibromoacetic Acid		16	0.27	1.0	ug/L	15	0.27	106	70 - 130	1.1	20
Dichloroacetic Acid		16	0.23	1.0	ug/L	15	0.23	105	70 - 130	1.5	20
Monobromoacetic Acid		16	0.16	1.0	ug/L	15	0.16	105	70 - 130	1.0	20
Monochloroacetic Acid		14	0.45	1.0	ug/L	15	0.45	92	70 - 130	10.7	20
Trichloroacetic Acid		16	0.30	1.0	ug/L	15	0.30	106	70 - 130	0.8	20
1,2,3-Trichloropropane (%)		92			%		99				
2,3-Dibromopropionic Acid (%)		110			%		108				
Haloacetic Acids, GC/ECD MSD by EPA 552.2, B231101-021											
B231101-021 analyzed on 11/02/2023 03:20; B231101-011 prepared on 11/01/2023 09:39; Source = C022072-01											
Dibromoacetic Acid		16	0.27	1.0	ug/L	15	0.27	104	70 - 130	3.1	20
Dichloroacetic Acid		15	0.23	1.0	ug/L	15	0.23	102	70 - 130	1.7	20
Monobromoacetic Acid		16	0.16	1.0	ug/L	15	0.16	106	70 - 130	2.1	20
Monochloroacetic Acid		17	0.45	1.0	ug/L	15	0.45	111	70 - 130	0.9	20
Trichloroacetic Acid		16	0.30	1.0	ug/L	15	0.30	104	70 - 130	5.3	20
1,2,3-Trichloropropane (%)		99			%		100				
2,3-Dibromopropionic Acid (%)		109			%		108				

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
LCSD	Laboratory Control Sample Duplicate
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 #: C022070	Project Title: Bayside Ground Water Project TAT: Standard	Client PM: David Behnken Lab PM: Kristi Schwab Job #:	Expect Date: 10/23/2023 Sampled By: K. KINNON ☒ Samples transported on ice 4.9° #13 c 10/24/23

Date	Time	Site/Locator	Sample ID	Type	Matrix	ID	Type	Tests Required
10/23/23	1318	GW BAYSIDE - BAY1-MW2I	C022070-01	GRAB	Aqueous			+SAMP KIT
						-01A	PLSTL	EPA 200.7-W (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 =	15.4	Feet
pH =	7.62	pH Units
Temperature =	19.1	C

Field Comments:

Field Instructions:

Page 1 of 2 for C022070

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

COC #: C022070	Project Title: Bayside Ground Water Project TAT: Standard	Client PM: David Behnken Lab PM: Kristi Schwab Job #:	Expect Date: 10/23/2023 Sampled By: K. RINNON ☒ Samples transported on ice

Date	Time	Site/Locator	Sample ID	Type	Matrix	ID	Type	Tests Required
10/23/23	1318							

Total Containers for: C022070 12

	Signature	Print Name	Time	Date
Relinquished by:		Kristy Rinnon	1540	10/23/23
Received by:				
Relinquished by:				
Received by:				
Relinquished by:				
Received by:			0725	10/24/23

10/24/2023 C 10/24/2023

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 C022070

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

COC #: C022070	Project Title: Bayside Ground Water Project TAT: Standard	Client PM: David Behnken Lab PM: Kristi Schwab Job #:	Received Date/Time: 10/24/2023 07:25 Received By: Cynthia Soohoo Sampled By: KKinnon Due Date: 11/22/2023

Date	Time	Site/Locator	Sample ID	Type	Matrix	ID	Type	Tests Required
10/23/2023	13:18	GW BAYSIDE - BAY1-MW2I	C022070-01	GRAB	Aqueous			+SAMP KIT
						-01A	PLSTL	EPA 200.7-W (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 =	15.4	Feet
pH =	7.62	pH Units
Temperature =	19.1	C

Field Comments:

Field Instructions:

Sample External Comments:

Total Containers for: C022070	12

Page 1 of 4 for C022070

EBMUD

C022070 Sample Acceptance Report

Received: 10/24/2023 07:25
Received By: Cynthia Soohoo

Chain-of-Custody		Comments
Chilled During Transport?	Yes	
Missing or Incorrect information	No	
Mode of receipt	Drop-off Room	
Shipping Slip?	No	

Containers		Comments
BACT (120 mL) lot number	Add lot no	
BACTL (290 mL) lot number	Add lot no	
Container and label are legible and match COC?	Yes	
Correct container used with field preservation?	Yes	
Received within holding times?	Yes	
Sufficient volume, undamaged, or uncontaminated?	Yes	

Sample: C022070-01		Comments
Bubbles in ZHS/VOA containers	No	

Intent to chill

Cooler: 1		Comments
Corrected Temp (° C)	5.3	
IR Thermometer Number	IR #13	
Representative temperature taken from	-01	
Uncorrected Temp (° C)	4.9	
Visible ice formed inside sample container?	No	

Acceptance		Comments
PM notified?	N/A	

Page 2 of 4 for C022070

C022070 Sample Acceptance Report

Received: 10/24/2023 07:25
Received By: Cynthia Soohoo

Samples meet acceptance requirements?	Yes	

Sample Acceptance Preservation Report

COC: C022070

Report Generated: 10/24/2023 07:41

Inventory Item	Inventory ID	Open Date	Prep Date	Expiration Date
Ammonium Hydroxide	ST221116-012	11/16/2022	N/A	11/16/2023
Ammonium Sulfate Buffer (ASB-07)	ST230515-003	N/A	05/15/2023	11/15/2023
Ethylenediamine 12.5 mg/mL (EDA-42)	ST230927-005	N/A	09/27/2023	10/27/2023
Hydrochloric Acid 1+1 (HCl-04)	ST230104-013	N/A	01/04/2023	01/04/2024
NaOH 15 mL 1:1 LDPE dropper	ST230127-020	N/A	N/A	07/31/2024
Nitric Acid Trace Metals Grade	ST221118-013	01/03/2023	N/A	06/30/2024
pH Strip 0-14	ST221220-011	05/23/2023	N/A	07/31/2027
pH Strip 0-6	ST230131-001	01/31/2023	N/A	05/31/2026
pH Strip 6-10	ST230131-026	02/03/2023	N/A	06/30/2026
pH Strip 7-14	ST230126-011	06/27/2023	N/A	10/31/2026
Sulfuric Acid ACS Grade	ST230515-015	06/20/2023	N/A	05/15/2028

Container Number	Container Name	Tests	Preservation Requirement	Result	Initial/ Date
C022070-01A	PLSTL	EPA 200.7-W	HNO3 to pH <2. Preservation Time = 0745	pass	Copy for
C022070-01C	PLSTM	Hardness	HNO3 to pH <2		
C022070-01F	PSQLT	Ammonia: Titr-AQ	Check Cl2R = 0 [PSQLT], then H2SO4 to pH <2		
C022070-01G	A125N	EPA 552.2	Check Container		
C022070-01H	A125N	EPA 552.2-FR	Check Container		
C022070-01K	VOC4T	EPA 8260B-FR	Check Container		
C022070-01L	VOC4T	EPA 8260B-FR	Check Container	↓	↓

Page 4 of 4 for C022070

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

27 November 2023

EBMUD
Attn: Jack Lim
PO Box 24055
Oakland, CA 94607
RE: Bayside Ground Water Project WDR
Work Order: 23J4152

Enclosed are the results of analyses for samples received by the laboratory on 10/26/23 22:15. 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: Jack Lim	
PO Box 24055	Project: Bayside Ground Water Project WDR	Reported:
Oakland CA, 94607	Project Number: C022070	11/27/23 16:23

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 | ELAP# 3091

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
C022070-01	23J4152-01	Water	10/23/23 13:18	10/26/23 22:15

This represents an amended copy of the original report.
MDL values reported.

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

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: Jack Lim	
PO Box 24055	Project: Bayside Ground Water Project WDR	Reported:
Oakland CA, 94607	Project Number: C022070	11/27/23 16:23

Volatile Organic Compounds by EPA Method 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Analyst	ELAP #	Notes
C022070-01 (23J4152-01) Water	**Sampled: 10/23/23 13:18**		**Received: 10/26/23 22:15**									
Chloroform	ND	0.10	1.0	ug/L	1	AJ35161	10/31/23 07:00	10/31/23 14:19	EPA 8260B	MVA	2303	U
Bromodichloromethane	ND	0.30	1.0	ug/L	1	AJ35161	10/31/23 07:00	10/31/23 14:19	EPA 8260B	MVA	2303	U
Dibromochloromethane	ND	0.20	1.0	ug/L	1	AJ35161	10/31/23 07:00	10/31/23 14:19	EPA 8260B	MVA	2303	U
Bromoform	ND	0.20	1.0	ug/L	1	AJ35161	10/31/23 07:00	10/31/23 14:19	EPA 8260B	MVA	2303	U
Trihalomethanes (total)	ND	0.30	1.0	ug/L	1	AJ35161	10/31/23 07:00	10/31/23 14:19	EPA 8260B	MVA	2303	U
Surrogate: Dibromofluoromethane		*104 %*	*70-130*			*AJ35161*	*10/31/23 07:00*	*10/31/23 14:19*	*EPA 8260B*	*MVA*	2303	
Surrogate: Toluene-d8		*102 %*	*70-130*			*AJ35161*	*10/31/23 07:00*	*10/31/23 14:19*	*EPA 8260B*	*MVA*	2303	
Surrogate: Bromofluorobenzene		*92.6 %*	*70-130*			*AJ35161*	*10/31/23 07:00*	*10/31/23 14:19*	*EPA 8260B*	*MVA*	2303	

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: Jack Lim	
PO Box 24055	Project: Bayside Ground Water Project WDR	Reported:
Oakland CA, 94607	Project Number: C022070	11/27/23 16:23

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 AJ35161 - NB EPA 5030 Water GCMS											
Blank (AJ35161-BLK1)					Prepared & Analyzed: 10/30/23						
1,1-Dichloroethene	ND	0.50	1.0	ug/L							U
Benzene	ND	0.50	1.0	ug/L							U
Trichloroethene	ND	0.50	1.0	ug/L							U
Toluene	ND	0.50	1.0	ug/L							U
Chlorobenzene	ND	0.50	1.0	ug/L							U
Surrogate: Dibromofluoromethane	*21.4*			*ug/L*	*20.0*		*107*	*70-130*			
Surrogate: Toluene-d8	*20.3*			*ug/L*	*20.0*		*102*	*70-130*			
Surrogate: Bromofluorobenzene	*18.9*			*ug/L*	*20.0*		*94.5*	*70-130*			
Matrix Spike (AJ35161-MS1)		**Source: 23J4044-03**			Prepared & Analyzed: 10/30/23						
1,1-Dichloroethene	23.4	0.50	1.0	ug/L	25.0	ND	93.7	70-130			
Benzene	23.9	0.50	1.0	ug/L	25.0	ND	95.7	70-130			
Trichloroethene	22.3	0.50	1.0	ug/L	25.0	ND	89.1	70-130			
Toluene	24.7	0.50	1.0	ug/L	25.0	ND	98.8	70-130			
Chlorobenzene	24.8	0.50	1.0	ug/L	25.0	ND	99.0	70-130			
Surrogate: Dibromofluoromethane	*19.8*			*ug/L*	*20.0*		*99.1*	*70-130*			
Surrogate: Toluene-d8	*20.8*			*ug/L*	*20.0*		*104*	*70-130*			
Surrogate: Bromofluorobenzene	*18.7*			*ug/L*	*20.0*		*93.3*	*70-130*			
Matrix Spike Dup (AJ35161-MSD1)		**Source: 23J4044-03**			Prepared & Analyzed: 10/30/23						
1,1-Dichloroethene	20.6	0.50	1.0	ug/L	25.0	ND	82.2	70-130	13.0	25	
Benzene	21.3	0.50	1.0	ug/L	25.0	ND	85.2	70-130	11.5	25	
Trichloroethene	20.6	0.50	1.0	ug/L	25.0	ND	82.4	70-130	7.84	25	
Toluene	21.5	0.50	1.0	ug/L	25.0	ND	85.8	70-130	14.0	25	
Chlorobenzene	22.3	0.50	1.0	ug/L	25.0	ND	89.0	70-130	10.6	25	
Surrogate: Dibromofluoromethane	*22.4*			*ug/L*	*20.0*		*112*	*70-130*			
Surrogate: Toluene-d8	*20.4*			*ug/L*	*20.0*		*102*	*70-130*			
Surrogate: Bromofluorobenzene	*19.6*			*ug/L*	*20.0*		*97.8*	*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: Jack Lim	
PO Box 24055	Project: Bayside Ground Water Project WDR	Reported:
Oakland CA, 94607	Project Number: C022070	11/27/23 16:23

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

* ELAP does not offer accreditation in this matrix for the requested analyte/method combination

ISOTECH
a Stratum Reservoir brand
www.isotechlabs.com

Lab #:	896187	Job #:	56573	IS-69368	Co. Job#:
Sample Name:	23J4152-01				Co. Lab#:
Company:	Alpha Analytical Laboratories, Inc.				
API/Well:					
Container:	500ml Plastic Bottle				
Field/Site Name:	23J4152				
Location:					
Formation/Depth:					
Sampling Point:	C022070-01				
Date Sampled:	10/23/2023 13:18	Date Received:	11/06/2023	Date Reported:	11/20/2023

δD of water	----------	-42.7 ‰ relative to VSMOW
δ^{18}O of water	----------	-6.39 ‰ relative to VSMOW
Tritium content of water	----------	na
δ^{13}C of DIC	----------	na
^{14}C content of DIC	----------	na
δ^{15}N of nitrate	----------	na
δ^{18}O of nitrate	----------	na
δ^{34}S of sulfate	----------	na
δ^{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

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

Laboratory Services Division
ELAP#1060

23J4152

1.1°C

EBMUD

East Bay Municipal Utility District Laboratory Services Subcontract Chain of Custody

COC #: C022070	Project Title: Bayside Ground Water Project	Lab PM: Kristi Schwab (510) 287-1696 Shipping Method: Alpha Courier	Sampled By: KKinnon
	TAT: Standard	PO#: BRD-13921-AX Expiration: 12/31/2023	Submitted Date: 10/26/2023

Date	Time	Sample ID	Location/PS Code	Matrix	Container ID	Type	Tests Required	Method Reference
10/23/2023	13:18	C022070-01	GW BAYSIDE - BAY1-MW2I	Aqueous	-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). THMs by EPA 8260 (report individual THM results and total sum).								
			Total containers received:	4				

	Signature	Print Name	Time	Date
Relinquished by:		Shaffer	1153	10/26/2023
Received by:		Michael Lopez	11:55	10/26/23
Relinquished by:				
Received by:	JW	John Willis	1900	10.26.23
Relinquished by:	JW		2215	10.26.23
Received by:	JW	John Willis	2215	10.26.23

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

wko_UKtoNB_COC.rpt

WORK ORDER

23J4152

Printed: 10/30/2023 9:39:49AM

Alpha Analytical Laboratories Ukiah to North Bay Chain of Custody

Client: EBMUD **Client Code:** RP_EBMUD **Bid:** 1_Master Price Sheet
Project: Bayside Ground Water Project WDR **Project Number:** C022070 **PO #:**

Date Due: 11/10/23 15:00 (10 day TAT)
Received By: John Willis Date Received: 10/26/23 22:15
Logged In By: Aaron J. Kooyers Date Logged 10/27/23 16:34

Samples Received at: _____ deg C All containers received and intact: YES NO

Analysis	Department	Expires	Comments
23J4152-01 C022070-01 [Water] Sampled 10/23/23 13:18			
NB 8260 THMs	NB GCMS	11/06/23 23:59	

Containers Supplied:
VOA Vial - ~~HCl (B)~~ JHio
VOA Vial - ~~HCl (C)~~
VOA Vial - ~~HCL (D)~~ @

	10/30/23			10/3/23	
Relinquished By	Date	Time	Received By	Date	Time
	10/3/23			10/3/23	
Relinquished By	Date	Time	Received By	Date	Time

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

19 January 2024

David Behnken

MS 704

Re: Bayside Ground Water Project

COC# C022072

Report Generated: 01/18/2024 17:04

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 C022072

Samples Included in the Report

Sample Number	Sample Type	Sampled Date	Location Name	Sample Name
C022072-01	GRAB	Oct 25 2023 16:00	GW BAYSIDE - BAY1-MW4	-

Samples Results for C022072

Sample ID:	C022072-01		
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:	Oct 25 2023 16:00	**Sample Collector:**	DWilliams
Date Received:	Oct 26 2023 09:00	**Sample Receiver:**	C Soohoo
Sample Comments:			

Analyte	Qualifier	Result	MDL	RL	Units	DF	Batch	Prepared	Analyzed
Field data entry into LIMS									
TARGET ANALYTES									
CL2R		**0.0**	0.02		mg/L				10/25/2023 16:00
Field data entry into LIMS									
TARGET ANALYTES									
Depth		**30**			Feet				10/25/2023 16:00
Field data entry into LIMS									
TARGET ANALYTES									
pH		**7.63**			pH Units				10/25/2023 16:00
Field data entry into LIMS									
TARGET ANALYTES									
Temperature		**19.6**			C				10/25/2023 16:00
Total Dissolved Solids by SM 2540 C-2011									
TARGET ANALYTES									
Total Dissolved Solids		**330**	10	55	mg/L	1.0	B231025-012		10/26/2023 09:25
Alkalinity by SM 2320 B-2011									
TARGET ANALYTES									
Alkalinity: Total as CaCO3		**200**	5	30	mg/L	1.0	B231027-007		10/27/2023 10:24
Alkalinity: Carbonate	U	5	5	30	mg/L	1.0	B231027-007		10/27/2023 10:24
Alkalinity: Bicarbonate		**200**	5	30	mg/L	1.0	B231027-007		10/27/2023 10:24
Alkalinity: Hydroxide	U	5	5	30	mg/L	1.0	B231027-007		10/27/2023 10:24
Ammonia as N by SM 4500-NH3 C-2011									
TARGET ANALYTES									
Ammonia as N	U	0.29	0.29	1.5	mg/L	1.0	B231026-007		10/26/2023 12:14
Hardness as CaCO3 by SM 2340 C-2011									
TARGET ANALYTES									
Hardness as CaCO3		**100**	4	7	mg/L	1.0	B231106-008		11/06/2023 09:00
Anions by EPA 300.1									
TARGET ANALYTES									
Chloride		**45**	0.38	2.0	mg/L	10	B231026-013		10/26/2023 17:09
Nitrate as N	U	0.023	0.023	0.30	mg/L	10	B231026-013		10/26/2023 17:09
Sulfate		**35**	0.69	2.0	mg/L	10	B231026-013		10/26/2023 17:09
SURROGATES									
Dichloroacetate (%)		101			%	10	B231026-013		10/26/2023 17:09

Samples Results for C022072

Sample ID: C022072-01
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: Oct 25 2023 16:00 **Sample Collector:** DWilliams
Date Received: Oct 26 2023 09:00 **Sample Receiver:** C Soohoo
Sample Comments:

Analyte	Qualifier	Result	MDL	RL	Units	DF	Batch	Prepared	Analyzed
Metals by EPA 200.7									
TARGET ANALYTES									
Calcium		**22400**	4.70	41.6	ug/L	1.0	B231114-002	11/01/2023 10:29	11/15/2023 12:38
Iron	**E1**	**14.8**	6.52	41.6	ug/L	1.0	B231114-002	11/01/2023 10:29	11/15/2023 12:38
Potassium		**3000**	73.5	208	ug/L	1.0	B231114-002	11/01/2023 10:29	11/15/2023 12:38
Magnesium		**8420**	1.01	41.6	ug/L	1.0	B231114-002	11/01/2023 10:29	11/15/2023 12:38
Manganese		**170**	0.12	16.6	ug/L	1.0	B231114-002	11/01/2023 10:29	11/15/2023 12:38
Sodium		**92200**	1.61	41.6	ug/L	1.0	B231114-002	11/01/2023 10:29	11/15/2023 12:38
INTERNAL STANDARD									
Yttrium (%)		99			%	1.0	B231114-002	11/01/2023 10:29	11/15/2023 12:38
Yttrium Radial (%)		106			%	1.0	B231114-002	11/01/2023 10:29	11/15/2023 12:38
Haloacetic Acids, GC/ECD by EPA 552.2									
TARGET ANALYTES									
Dibromoacetic Acid	U	0.27	0.27	1.0	ug/L	1.0	B231101-021	11/01/2023 09:39	11/02/2023 02:30
Dichloroacetic Acid	U	0.23	0.23	1.0	ug/L	1.0	B231101-021	11/01/2023 09:39	11/02/2023 02:30
Monobromoacetic Acid	U	0.16	0.16	1.0	ug/L	1.0	B231101-021	11/01/2023 09:39	11/02/2023 02:30
Monochloroacetic Acid	U	0.45	0.45	1.0	ug/L	1.0	B231101-021	11/01/2023 09:39	11/02/2023 02:30
Trichloroacetic Acid	U	0.30	0.30	1.0	ug/L	1.0	B231101-021	11/01/2023 09:39	11/02/2023 02:30
HAA(5), calculated		**0.00**		1.0	ug/L	1.0	B231101-021	11/01/2023 09:39	11/02/2023 02:30
	Comments: HAA (5) calculation uses a zero for any individual HAA result less than the California DLR for that HAA								
INTERNAL STANDARD									
1,2,3-Trichloropropane (%)		100			%	1.0	B231101-021	11/01/2023 09:39	11/02/2023 02:30
SURROGATES									
2,3-Dibromopropionic Acid (%)		108			%	1.0	B231101-021	11/01/2023 09:39	11/02/2023 02:30
Oxygen 18 Isotope Analysis									
Subcontract data from: Alpha Analytical Laboratory ELAP#: Refer to external lab report									
TARGET ANALYTES									
See subcontract report									
Trihalomethanes, Total, GC/MS by EPA 8260B									
Subcontract data from: Alpha Analytical Laboratory ELAP#: Refer to external lab report									
TARGET ANALYTES									
Bromodichloromethane	U	0.30	0.30	1.0	ug/L	1		10/31/2023 07:00	10/31/2023 14:44
	Comments: SUB: Analyte included in analysis but not detected at or above MDL								
Bromoform	U	0.20	0.20	1.0	ug/L	1		10/31/2023 07:00	10/31/2023 14:44
	Comments: SUB: Analyte included in analysis but not detected at or above MDL								
Chloroform	U	0.10	0.10	1.0	ug/L	1		10/31/2023 07:00	10/31/2023 14:44
	Comments: SUB: Analyte included in analysis but not detected at or above MDL								
Dibromochloromethane	U	0.20	0.20	1.0	ug/L	1		10/31/2023 07:00	10/31/2023 14:44
	Comments: SUB: Analyte included in analysis but not detected at or above MDL								
Total Trihalomethanes, calculated	U	0.30	0.30	1.0	ug/L	1		10/31/2023 07:00	10/31/2023 14:44
	Comments: SUB: Analyte included in analysis but not detected at or above MDL								

Quality Control for C022072

Analyte	Qualifier	Result	MDL	RL	Units	Spike Level	Source Result	% REC	% REC Limits	RPD	RPD Limits
Total Dissolved Solids DUP by SM 2540 C-2011, B231025-012											
B231025-012 analyzed on 10/26/2023 09:25; Source = C022073-01											
Total Dissolved Solids		**400**	10	55	mg/L		410			0.7	10
Total Dissolved Solids LCS by SM 2540 C-2011, B231025-012											
B231025-012 analyzed on 10/26/2023 09:25											
Total Dissolved Solids		370	20	110	mg/L	370		99	85 - 115		
Total Dissolved Solids MB by SM 2540 C-2011, B231025-012											
B231025-012 analyzed on 10/26/2023 09:25											
Total Dissolved Solids	U	10	10	55	mg/L						
Ammonia as N DUP by SM 4500-NH3 C-2011, B231026-007											
B231026-007 analyzed on 10/26/2023 12:14; Source = C021337-09											
Ammonia as N		**39**	1.4	7.5	mg/L		38			1.2	10
Ammonia as N LCS by SM 4500-NH3 C-2011, B231026-007											
B231026-007 analyzed on 10/26/2023 12:14											
Ammonia as N		12	0.29	1.5	mg/L	12		97	85 - 115		
Ammonia as N LOQ by SM 4500-NH3 C-2011, B231026-007											
B231026-007 analyzed on 10/26/2023 12:14											
Ammonia as N	E1	1.5	0.29	1.5	mg/L	1.5		99	50 - 150		
Ammonia as N MB by SM 4500-NH3 C-2011, B231026-007											
B231026-007 analyzed on 10/26/2023 12:14											
Ammonia as N	U	0.29	0.29	1.5	mg/L						
Ammonia as N MS by SM 4500-NH3 C-2011, B231026-007											
B231026-007 analyzed on 10/26/2023 12:14; Source = C021337-08											
Ammonia as N		110	1.4	7.5	mg/L	60	50	99	80 - 120		
Ammonia as N MSD by SM 4500-NH3 C-2011, B231026-007											
B231026-007 analyzed on 10/26/2023 12:14; Source = C021337-08											
Ammonia as N		110	1.4	7.5	mg/L	60	50	98	80 - 120	0.0	15
Alkalinity DUP by SM 2320 B-2011, B231027-007											
B231027-007 analyzed on 10/27/2023 10:31; Source = C022072-01											
Alkalinity: Total as CaCO3		**200**	5	30	mg/L		200			0.3	20

Quality Control for C022072

Analyte	Qualifier	Result	MDL	RL	Units	Spike Level	Source Result	% REC	% REC Limits	RPD	RPD Limits
Alkalinity DUP by SM 2320 B-2011, B231027-007											
B231027-007 analyzed on 10/27/2023 11:28; Source = C021104-06											
Alkalinity: Total as CaCO3		**6700**	62	380	mg/L		6700			0.3	20
Alkalinity LCS by SM 2320 B-2011, B231027-007											
B231027-007 analyzed on 10/27/2023 09:25											
Alkalinity: Total as CaCO3		400	5	30	mg/L	400		99	85 - 115		
Alkalinity MB by SM 2320 B-2011, B231027-007											
B231027-007 analyzed on 10/27/2023 09:14											
Alkalinity: Total as CaCO3	U	5	5	30	mg/L						
Alkalinity MS by SM 2320 B-2011, B231027-007											
B231027-007 analyzed on 10/27/2023 10:36; Source = C022072-01											
Alkalinity: Total as CaCO3		600	5	30	mg/L	400	200	99	80 - 120		
Alkalinity MS by SM 2320 B-2011, B231027-007											
B231027-007 analyzed on 10/27/2023 11:33; Source = C021104-06											
Alkalinity: Total as CaCO3		12000	62	380	mg/L	5000	6700	96	80 - 120		
Alkalinity QCS by SM 2320 B-2011, B231027-007											
B231027-007 analyzed on 10/27/2023 10:12											
Alkalinity: Total as CaCO3		68	5	30	mg/L	66		104	91 - 111		
Hardness as CaCO3 DUP by SM 2340 C-2011, B231106-008											
B231106-008 analyzed on 11/06/2023 09:00; Source = C020700-01											
Hardness as CaCO3		**15**	4	7	mg/L		16			5.1	10
Hardness as CaCO3 DUP by SM 2340 C-2011, B231106-008											
B231106-008 analyzed on 11/06/2023 09:00; Source = C020854-03											
Hardness as CaCO3		**11**	4	7	mg/L		12			7.1	10
Hardness as CaCO3 LCS by SM 2340 C-2011, B231106-008											
B231106-008 analyzed on 11/06/2023 09:00											
Hardness as CaCO3		110	4	7	mg/L	100		106	85 - 115		
Hardness as CaCO3 LOQ by SM 2340 C-2011, B231106-008											
B231106-008 analyzed on 11/06/2023 09:00											
Hardness as CaCO3		7	4	7	mg/L	7.0		103	50 - 150		

Quality Control for C022072

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, B231106-008											
B231106-008 analyzed on 11/06/2023 09:00											
Hardness as CaCO3	U	4	4	7	mg/L						
Hardness as CaCO3 MS by SM 2340 C-2011, B231106-008											
B231106-008 analyzed on 11/06/2023 09:00; Source = C020700-01											
Hardness as CaCO3		120	4	7	mg/L	100	16	102	85 - 115		
Hardness as CaCO3 MS by SM 2340 C-2011, B231106-008											
B231106-008 analyzed on 11/06/2023 09:00; Source = C020854-03											
Hardness as CaCO3		120	4	7	mg/L	100	12	104	85 - 115		
Hardness as CaCO3 QCS by SM 2340 C-2011, B231106-008											
B231106-008 analyzed on 11/06/2023 09:00											
Hardness as CaCO3		160	4	7	mg/L	150		104	91 - 107		
Anions LCS by EPA 300.1, B231026-013											
B231026-013 analyzed on 10/26/2023 16:31											
Chloride		0.97	0.061	0.2	mg/L	1.0		97	85 - 115		
Nitrate as N		0.044	0.0035	0.03	mg/L	0.05		89	85 - 115		
Sulfate		0.87	0.079	0.2	mg/L	1.0		87	85 - 115		
Dichloroacetate (%)		99			%						
Anions LOQ by EPA 300.1, B231026-013											
B231026-013 analyzed on 10/26/2023 15:53											
Chloride		0.22	0.061	0.2	mg/L	0.20		109	50 - 150		
Nitrate as N	E1	0.028	0.0035	0.03	mg/L	0.03		95	50 - 150		
Sulfate	E1	0.20	0.079	0.2	mg/L	0.20		99	50 - 150		
Dichloroacetate (%)		103			%						
Anions MB by EPA 300.1, B231026-013											
B231026-013 analyzed on 10/26/2023 14:38											
Chloride	U	0.061	0.061	0.2	mg/L						
Nitrate as N	U	0.0035	0.0035	0.03	mg/L						
Sulfate	U	0.079	0.079	0.2	mg/L						
Dichloroacetate (%)		99			%						
Anions DUP by EPA 300.1, B231026-013											
B231026-013 analyzed on 10/26/2023 19:40; Source = C021096-13											
Nitrate as N	**E1**	**0.018**	0.0035	0.030	mg/L		0.018			1.0	10
Dichloroacetate (%)		103			%		103				
Anions MS by EPA 300.1, B231026-013											
B231026-013 analyzed on 10/26/2023 20:18; Source = C021096-13											
Nitrate as N		0.061	0.0035	0.030	mg/L	0.05	0.018	86	75 - 125		

Quality Control for C022072

Analyte	Qualifier	Result	MDL	RL	Units	Spike Level	Source Result	% REC	% REC Limits	RPD	RPD Limits
Dichloroacetate (%)		102			%		103				
Metals LCS by EPA 200.7, B231114-002											
B231114-002 analyzed on 11/15/2023 12:18; B231101-014 prepared on 11/01/2023 10:29											
Calcium		8120	4.90	43.4	ug/L	8300		97	85 - 115		
Iron		1110	6.80	43.4	ug/L	1100		100	85 - 115		
Potassium		9290	76.6	217	ug/L	8300		112	85 - 115		
Magnesium		8200	1.06	43.4	ug/L	8300		98	85 - 115		
Manganese		220	0.12	17.4	ug/L	220		99	85 - 115		
Sodium		8760	1.68	43.4	ug/L	8300		105	85 - 115		
Yttrium (%)		100			%						
Yttrium Radial (%)		100			%						
Metals LCSD by EPA 200.7, B231114-002											
B231114-002 analyzed on 11/15/2023 12:22; B231101-014 prepared on 11/01/2023 10:29											
Calcium		8040	4.90	43.4	ug/L	8300		96	85 - 115	1.0	10
Iron		1100	6.80	43.4	ug/L	1100		99	85 - 115	0.9	10
Potassium		9200	76.6	217	ug/L	8300		110	85 - 115	1.0	10
Magnesium		8120	1.06	43.4	ug/L	8300		97	85 - 115	1.0	10
Manganese		218	0.12	17.4	ug/L	220		98	85 - 115	1.0	10
Sodium		8660	1.68	43.4	ug/L	8300		104	85 - 115	1.1	10
Yttrium (%)		101			%						
Yttrium Radial (%)		100			%						
Metals LOQ by EPA 200.7, B231114-002											
B231114-002 analyzed on 11/15/2023 12:05; B231101-014 prepared on 11/01/2023 10:29											
Calcium	E1	38.9	4.75	42.0	ug/L	40		97	50 - 150		
Iron	E1	39.5	6.58	42.0	ug/L	40		99	50 - 150		
Potassium		230	74.2	210	ug/L	200		115	50 - 150		
Magnesium	E1	38.8	1.02	42.0	ug/L	40		97	50 - 150		
Manganese	E1	16.0	0.12	16.8	ug/L	16		100	50 - 150		
Sodium	E1	35.6	1.63	42.0	ug/L	40		89	50 - 150		
Yttrium (%)		102			%						
Yttrium Radial (%)		103			%						
Metals MB by EPA 200.7, B231114-002											
B231114-002 analyzed on 11/15/2023 11:59; B231101-014 prepared on 11/01/2023 10:29											
Calcium	U	4.70	4.70	41.6	ug/L						
Iron	U	6.52	6.52	41.6	ug/L						
Potassium	U	73.5	73.5	208	ug/L						
Magnesium	U	1.01	1.01	41.6	ug/L						
Manganese	U	0.12	0.12	16.6	ug/L						
Sodium	U	1.61	1.61	41.6	ug/L						
Yttrium (%)		102			%						
Yttrium Radial (%)		103			%						
Metals MS by EPA 200.7, B231114-002											
B231114-002 analyzed on 11/15/2023 13:23; B231101-014 prepared on 11/01/2023 10:29; Source = C022071-01											
Calcium		1290000	196	1740	ug/L	8300	1280000	102	70 - 130		
Iron	E1	1150	272	1740	ug/L	1100	261	103	70 - 130		

Quality Control for C022072

Analyte	Qualifier	Result	MDL	RL	Units	Spike Level	Source Result	% REC	% REC Limits	RPD	RPD Limits
Potassium	M1	473000	3060	8680	ug/L	8300	461000	140	70 - 130		
Magnesium	M1	3060000	42.3	1740	ug/L	8300	3030000	258	70 - 130		
Manganese		37600	4.99	694	ug/L	220	37300	123	70 - 130		
Sodium	M1	21100000	67.2	1740	ug/L	8300	21100000	254	70 - 130		
Yttrium (%)		94			%		94				
Yttrium Radial (%)		106			%		106				
Metals MSD by EPA 200.7, B231114-002											
B231114-002 analyzed on 11/15/2023 13:26; B231101-014 prepared on 11/01/2023 10:29; Source = C022071-01											
Calcium	M1	1280000	196	1740	ug/L	8300	1280000	23	70 - 130	0.5	20
Iron	E1	1140	272	1740	ug/L	1100	261	103	70 - 130	0.3	20
Potassium	M1	473000	3060	8680	ug/L	8300	461000	142	70 - 130	0.0	20
Magnesium		3040000	42.3	1740	ug/L	8300	3030000	81	70 - 130	0.5	20
Manganese	M1	37400	4.99	694	ug/L	220	37300	20	70 - 130	0.6	20
Sodium	M1	21100000	67.2	1740	ug/L	8300	21100000	169	70 - 130	0.0	20
Yttrium (%)		94			%		94				
Yttrium Radial (%)		106			%		106				
Haloacetic Acids, GC/ECD LCS by EPA 552.2, B231101-021											
B231101-021 analyzed on 11/01/2023 21:05; B231101-011 prepared on 11/01/2023 09:39											
Dibromoacetic Acid		16	0.27	1	ug/L	15		106	70 - 130		
Dichloroacetic Acid		16	0.23	1	ug/L	15		104	70 - 130		
Monobromoacetic Acid		16	0.16	1	ug/L	15		104	70 - 130		
Monochloroacetic Acid		15	0.45	1	ug/L	15		102	70 - 130		
Trichloroacetic Acid		16	0.3	1	ug/L	15		107	70 - 130		
1,2,3-Trichloropropane (%)		97			%						
2,3-Dibromopropionic Acid (%)		109			%						
Haloacetic Acids, GC/ECD LOQ by EPA 552.2, B231101-021											
B231101-021 analyzed on 11/01/2023 20:40; B231101-011 prepared on 11/01/2023 09:39											
Dibromoacetic Acid		1.1	0.27	1	ug/L	1.0		107	50 - 150		
Dichloroacetic Acid	E1	0.99	0.23	1	ug/L	1.0		99	50 - 150		
Monobromoacetic Acid		1.0	0.16	1	ug/L	1.0		105	50 - 150		
Monochloroacetic Acid		1.1	0.45	1	ug/L	1.0		108	50 - 150		
Trichloroacetic Acid	E1	0.98	0.3	1	ug/L	1.0		98	50 - 150		
1,2,3-Trichloropropane (%)		104			%						
2,3-Dibromopropionic Acid (%)		107			%						
Haloacetic Acids, GC/ECD MB by EPA 552.2, B231101-021											
B231101-021 analyzed on 11/01/2023 20:15; B231101-011 prepared on 11/01/2023 09:39											
Dibromoacetic Acid	U	0.27	0.27	1	ug/L						
Dichloroacetic Acid	U	0.23	0.23	1	ug/L						
Monobromoacetic Acid	U	0.16	0.16	1	ug/L						
Monochloroacetic Acid	U	0.45	0.45	1	ug/L						
Trichloroacetic Acid	U	0.3	0.3	1	ug/L						
1,2,3-Trichloropropane (%)		100			%						
2,3-Dibromopropionic Acid (%)		107			%						
Haloacetic Acids, GC/ECD MS by EPA 552.2, B231101-021											
B231101-021 analyzed on 11/01/2023 21:55; B231101-011 prepared on 11/01/2023 09:39; Source = C020680-01											
Dibromoacetic Acid		16	0.27	1.0	ug/L	15	0.27	104	70 - 130		

Quality Control for C022072

Analyte	Qualifier	Result	MDL	RL	Units	Spike Level	Source Result	% REC	% REC Limits	RPD	RPD Limits
Dichloroacetic Acid		15	0.23	1.0	ug/L	15	0.23	103	70 - 130		
Monobromoacetic Acid		16	0.16	1.0	ug/L	15	0.16	104	70 - 130		
Monochloroacetic Acid		15	0.45	1.0	ug/L	15	0.45	103	70 - 130		
Trichloroacetic Acid		16	0.30	1.0	ug/L	15	0.30	105	70 - 130		
1,2,3-Trichloropropane (%)		96			%		99				
2,3-Dibromopropionic Acid (%)		107			%		108				
Haloacetic Acids, GC/ECD MS by EPA 552.2, B231101-021											
B231101-021 analyzed on 11/02/2023 02:55; B231101-011 prepared on 11/01/2023 09:39; Source = C022072-01											
Dibromoacetic Acid		16	0.27	1.0	ug/L	15	0.27	107	70 - 130		
Dichloroacetic Acid		16	0.23	1.0	ug/L	15	0.23	104	70 - 130		
Monobromoacetic Acid		16	0.16	1.0	ug/L	15	0.16	104	70 - 130		
Monochloroacetic Acid		16	0.45	1.0	ug/L	15	0.45	110	70 - 130		
Trichloroacetic Acid		16	0.30	1.0	ug/L	15	0.30	110	70 - 130		
1,2,3-Trichloropropane (%)		100			%		100				
2,3-Dibromopropionic Acid (%)		112			%		108				
Haloacetic Acids, GC/ECD MSD by EPA 552.2, B231101-021											
B231101-021 analyzed on 11/01/2023 22:20; B231101-011 prepared on 11/01/2023 09:39; Source = C020680-01											
Dibromoacetic Acid		16	0.27	1.0	ug/L	15	0.27	106	70 - 130	1.1	20
Dichloroacetic Acid		16	0.23	1.0	ug/L	15	0.23	105	70 - 130	1.5	20
Monobromoacetic Acid		16	0.16	1.0	ug/L	15	0.16	105	70 - 130	1.0	20
Monochloroacetic Acid		14	0.45	1.0	ug/L	15	0.45	92	70 - 130	10.7	20
Trichloroacetic Acid		16	0.30	1.0	ug/L	15	0.30	106	70 - 130	0.8	20
1,2,3-Trichloropropane (%)		92			%		99				
2,3-Dibromopropionic Acid (%)		110			%		108				
Haloacetic Acids, GC/ECD MSD by EPA 552.2, B231101-021											
B231101-021 analyzed on 11/02/2023 03:20; B231101-011 prepared on 11/01/2023 09:39; Source = C022072-01											
Dibromoacetic Acid		16	0.27	1.0	ug/L	15	0.27	104	70 - 130	3.1	20
Dichloroacetic Acid		15	0.23	1.0	ug/L	15	0.23	102	70 - 130	1.7	20
Monobromoacetic Acid		16	0.16	1.0	ug/L	15	0.16	106	70 - 130	2.1	20
Monochloroacetic Acid		17	0.45	1.0	ug/L	15	0.45	111	70 - 130	0.9	20
Trichloroacetic Acid		16	0.30	1.0	ug/L	15	0.30	104	70 - 130	5.3	20
1,2,3-Trichloropropane (%)		99			%		100				
2,3-Dibromopropionic Acid (%)		109			%		108				

Qualifiers and Definitions

E1	Concentration estimated. Analyte detected below reporting limit (RL) but above MDL. For SIP, E1=DNQ, Estimated Concentration.
M1	The MS recovery was outside acceptance limits due to possible matrix interference. The analytical batch meets accuracy criteria for reporting.
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
LCSD	Laboratory Control Sample Duplicate
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 #: C022072	Project Title: Bayside Ground Water Project TAT: Standard	Client PM: David Behnken Lab PM: Kristi Schwab Job #:	Expect Date: 10/24/2023 Sampled By: D. Williams ☑ Samples transported on ice 4.1°C #13 c 10/26/2023

Date	Time	Site/Locator	Sample ID	Type	Matrix	ID	Type	Tests Required
10/25/23	1600	GW BAYSIDE - BAY1-MW4	C022072-01	GRAB	Aqueous			+SAMP KIT
						-01A	PLSTL	EPA 200.7-W (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	mg/L
Depth =	30	Feet
pH =	7.63	pH Units
Temperature =	19.6	C

Field Comments: —

Field Instructions: —

Page 1 of 2 for C022072

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

COC #: C022072	Project Title: Bayside Ground Water Project TAT: Standard	Client PM: David Behnken Lab PM: Kristi Schwab Job #:	Expect Date: 10/24/2023 Sampled By: D. Williams ☒ Samples transported on ice

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

Total Containers for: C022072	12

	Signature	Print Name	Time	Date
Relinquished by:		David Williams	455 pm.	10/25/2023
Received by:				
Relinquished by:				
Received by:				
Relinquished by:				
Received by:		SRHW	0900	10/26/2023

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 C022072

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

COC #: C022072	Project Title: Bayside Ground Water Project TAT: Standard	Client PM: David Behnken Lab PM: Kristi Schwab Job #:	Received Date/Time: 10/26/2023 09:00 Received By: Cynthia Soohoo Sampled By: DWilliams Due Date: 11/28/2023

Date	Time	Site/Locator	Sample ID	Type	Matrix	ID	Type	Tests Required
10/25/2023	16:00	GW BAYSIDE - BAY1-MW4	C022072-01	GRAB	Aqueous			+SAMP KIT
						-01A	PLSTL	EPA 200.7-W (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 =	0.0	mg/L
Depth =	30	Feet
pH =	7.63	pH Units
Temperature =	19.6	C

Field Comments:

Field Instructions:

Sample External Comments:

Total Containers for: C022072	12

Page 1 of 4 for C022072

EBMUD

C022072 Sample Acceptance Report

Received: 10/26/2023 09:00
Received By: Cynthia Soohoo

Chain-of-Custody		Comments
Chilled During Transport?	Yes	
Missing or incorrect information	Yes	Relinquish date needs to be verified
Mode of receipt	Drop-off Room	
Shipping Slip?	No	

Containers		Comments
BACT (120 mL) lot number	Add lot no	
BACTL (290 mL) lot number	Add lot no	
Container and label are legible and match COC?	Yes	
Correct container used with field preservation?	Yes	
Received within holding times?	Yes	
Sufficient volume, undamaged, or uncontaminated?	Yes	

Sample: C022072-01		Comments
Bubbles in ZHS/VOA containers	No	

Intent to chill

Cooler: 1		Comments
Corrected Temp (° C)	4.5	
IR Thermometer Number	IR #13	
Representative temperature taken from	-01	
Uncorrected Temp (° C)	4.1	
Visible ice formed inside sample container?	No	

Acceptance		Comments
PM notified?	N/A	

Page 2 of 4 for C022072

C022072 Sample Acceptance Report

Received: 10/26/2023 09:00
Received By: Cynthia Soohoo

Samples meet acceptance requirements?	Yes	

Sample Acceptance Preservation Report

COC: C022072

Report Generated: 10/26/2023 09:06

Inventory Item	Inventory ID	Open Date	Prep Date	Expiration Date
Ammonium Hydroxide	ST221116-012	11/16/2022	N/A	11/16/2023
Ammonium Sulfate Buffer (ASB-07)	ST230515-003	N/A	05/15/2023	11/15/2023
Ethylenediamine 12.5 mg/mL (EDA-42)	ST230927-005	N/A	09/27/2023	10/27/2023
Hydrochloric Acid 1+1 (HCl-04)	ST230104-013	N/A	01/04/2023	01/04/2024
NaOH 15 mL 1:1 LDPE dropper	ST230127-020	N/A	N/A	07/31/2024
Nitric Acid Trace Metals Grade	ST221118-013	01/03/2023	N/A	06/30/2024
pH Strip 0-14	ST221220-011	05/23/2023	N/A	07/31/2027
pH Strip 0-6	ST230131-001	01/31/2023	N/A	05/31/2026
pH Strip 6-10	ST230131-026	02/03/2023	N/A	06/30/2026
pH Strip 7-14	ST230126-011	06/27/2023	N/A	10/31/2026
Sulfuric Acid ACS Grade	ST230515-015	06/20/2023	N/A	05/15/2028

Container Number	Container Name	Tests	Preservation Requirement	Result	Initial/ Date
C022072-01A	PLSTL	EPA 200.7-W	HNO3 to pH <2, Preservation Time = pH10	pass	a 10/26/2023
C022072-01C	PLSTM	Hardness	HNO3 to pH <2		
C022072-01F	PSQLT	Ammonia: Titr-AQ	Check Cl2R = 0 [PSQLT], then H2SO4 to pH <2		
C022072-01G	A125N	EPA 552.2	Check Container		
C022072-01H	A125N	EPA 552.2-FR	Check Container		
C022072-01K	VOC4T	EPA 8260B-FR	Check Container		
C022072-01L	VOC4T	EPA 8260B-FR	Check Container		

Page 4 of 4 for C022072

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

27 November 2023

EBMUD
Attn: Jack Lim
PO Box 24055
Oakland, CA 94607
RE: Bayside Ground Water Project WDR
Work Order: 23J4193

Enclosed are the results of analyses for samples received by the laboratory on 10/26/23 22:15. 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: Jack Lim	
PO Box 24055	Project: Bayside Ground Water Project WDR	Reported:
Oakland CA, 94607	Project Number: C022072	11/27/23 16:24

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 | ELAP# 3091

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
C022072-01	23J4193-01	Water	10/25/23 16:00	10/26/23 22:15

This represents an amended copy of the original report.
MDL values reported.

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

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: Jack Lim	
PO Box 24055	Project: Bayside Ground Water Project WDR	Reported:
Oakland CA, 94607	Project Number: C022072	11/27/23 16:24

Volatile Organic Compounds by EPA Method 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Analyst	ELAP #	Notes
C022072-01 (23J4193-01) Water	**Sampled: 10/25/23 16:00**		**Received: 10/26/23 22:15**									
Chloroform	ND	0.10	1.0	ug/L	1	AJ35161	10/31/23 07:00	10/31/23 14:44	EPA 8260B	MVA	2303	U
Bromodichloromethane	ND	0.30	1.0	ug/L	1	AJ35161	10/31/23 07:00	10/31/23 14:44	EPA 8260B	MVA	2303	U
Dibromochloromethane	ND	0.20	1.0	ug/L	1	AJ35161	10/31/23 07:00	10/31/23 14:44	EPA 8260B	MVA	2303	U
Bromoform	ND	0.20	1.0	ug/L	1	AJ35161	10/31/23 07:00	10/31/23 14:44	EPA 8260B	MVA	2303	U
Trihalomethanes (total)	ND	0.30	1.0	ug/L	1	AJ35161	10/31/23 07:00	10/31/23 14:44	EPA 8260B	MVA	2303	U
Surrogate: Dibromofluoromethane		*101 %*	*70-130*			*AJ35161*	*10/31/23 07:00*	*10/31/23 14:44*	*EPA 8260B*	*MVA*	2303	
Surrogate: Toluene-d8		*101 %*	*70-130*			*AJ35161*	*10/31/23 07:00*	*10/31/23 14:44*	*EPA 8260B*	*MVA*	2303	
Surrogate: Bromofluorobenzene		*95.4 %*	*70-130*			*AJ35161*	*10/31/23 07:00*	*10/31/23 14:44*	*EPA 8260B*	*MVA*	2303	

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: Jack Lim	
PO Box 24055	Project: Bayside Ground Water Project WDR	Reported:
Oakland CA, 94607	Project Number: C022072	11/27/23 16:24

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 AJ35161 - NB EPA 5030 Water GCMS											
Blank (AJ35161-BLK1)					Prepared & Analyzed: 10/30/23						
1,1-Dichloroethene	ND	0.50	1.0	ug/L							U
Benzene	ND	0.50	1.0	ug/L							U
Trichloroethene	ND	0.50	1.0	ug/L							U
Toluene	ND	0.50	1.0	ug/L							U
Chlorobenzene	ND	0.50	1.0	ug/L							U
Surrogate: Dibromofluoromethane	*21.4*			*ug/L*	*20.0*		*107*	*70-130*			
Surrogate: Toluene-d8	*20.3*			*ug/L*	*20.0*		*102*	*70-130*			
Surrogate: Bromofluorobenzene	*18.9*			*ug/L*	*20.0*		*94.5*	*70-130*			
Matrix Spike (AJ35161-MS1)		**Source: 23J4044-03**			Prepared & Analyzed: 10/30/23						
1,1-Dichloroethene	23.4	0.50	1.0	ug/L	25.0	ND	93.7	70-130			
Benzene	23.9	0.50	1.0	ug/L	25.0	ND	95.7	70-130			
Trichloroethene	22.3	0.50	1.0	ug/L	25.0	ND	89.1	70-130			
Toluene	24.7	0.50	1.0	ug/L	25.0	ND	98.8	70-130			
Chlorobenzene	24.8	0.50	1.0	ug/L	25.0	ND	99.0	70-130			
Surrogate: Dibromofluoromethane	*19.8*			*ug/L*	*20.0*		*99.1*	*70-130*			
Surrogate: Toluene-d8	*20.8*			*ug/L*	*20.0*		*104*	*70-130*			
Surrogate: Bromofluorobenzene	*18.7*			*ug/L*	*20.0*		*93.3*	*70-130*			
Matrix Spike Dup (AJ35161-MSD1)		**Source: 23J4044-03**			Prepared & Analyzed: 10/30/23						
1,1-Dichloroethene	20.6	0.50	1.0	ug/L	25.0	ND	82.2	70-130	13.0	25	
Benzene	21.3	0.50	1.0	ug/L	25.0	ND	85.2	70-130	11.5	25	
Trichloroethene	20.6	0.50	1.0	ug/L	25.0	ND	82.4	70-130	7.84	25	
Toluene	21.5	0.50	1.0	ug/L	25.0	ND	85.8	70-130	14.0	25	
Chlorobenzene	22.3	0.50	1.0	ug/L	25.0	ND	89.0	70-130	10.6	25	
Surrogate: Dibromofluoromethane	*22.4*			*ug/L*	*20.0*		*112*	*70-130*			
Surrogate: Toluene-d8	*20.4*			*ug/L*	*20.0*		*102*	*70-130*			
Surrogate: Bromofluorobenzene	*19.6*			*ug/L*	*20.0*		*97.8*	*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: Jack Lim	
PO Box 24055	Project: Bayside Ground Water Project WDR	Reported:
Oakland CA, 94607	Project Number: C022072	11/27/23 16:24

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

* ELAP does not offer accreditation in this matrix for the requested analyte/method combination

ISOTECH
a Stratum Reservoir brand
www.isotechlabs.com

Lab #:	896192	Job #:	56573	IS-69368	Co. Job#:
Sample Name:	23J4193-01				Co. Lab#:
Company:	Alpha Analytical Laboratories, Inc.				
API/Well:					
Container:	500ml Plastic Bottle				
Field/Site Name:	23J4193				
Location:					
Formation/Depth:					
Sampling Point:	C022072-01				
Date Sampled:	10/25/2023 16:00	Date Received:	11/06/2023	Date Reported:	11/20/2023

δD of water	----------	-58.4 ‰ relative to VSMOW
δ^{18}O of water	----------	-8.54 ‰ relative to VSMOW
Tritium content of water	----------	na
δ^{13}C of DIC	----------	na
^{14}C content of DIC	----------	na
δ^{15}N of nitrate	----------	na
δ^{18}O of nitrate	----------	na
δ^{34}S of sulfate	----------	na
δ^{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

2354193

1.1°C

EBMUD

East Bay Municipal Utility District Laboratory Services Subcontract Chain of Custody

COC #: C022072	Project Title: Bayside Ground Water Project	Lab PM: Kristi Schwab (510) 287-1696 Shipping Method: Alpha Courier	Sampled By: DWilliams
	TAT: Standard	PO#: BRD-13921-AX Expiration: 12/31/2023	Submitted Date: 10/26/2023

Date	Time	Sample ID	Location/PS Code	Matrix	Container ID	Type	Tests Required	Method Reference
10/25/2023	16:00	C022072-01	GW BAYSIDE - BAY1-MW4	Aqueous	-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). THMs by EPA 8260 (report individual THM results and total sum).								
			Total containers received:	4				

	Signature	Print Name	Time	Date
Relinquished by:		Stoffel	1151	10/26/2023
Received by:		Michael Lopez	11:55	10/26/23
Relinquished by:				
Received by:	JW	John Willis	1900	10.26.23
Relinquished by:	JW		2215	10.26.23
Received by:	JW	John Willis	2215	10.26.23

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

EBMUD
East Bay Municipal Utility District
2020 Wake Ave, Oakland, CA 94623 T: 510-287-1432
Laboratory Services Division
ELAP#1060

wko_UKtoNB_COC.rpt

WORK ORDER

23J4193

Printed: 10/30/2023 10:26:55AM

Alpha Analytical Laboratories Ukiah to North Bay Chain of Custody

Client: EBMUD **Client Code:** RP_EBMUD **Bid:** 1_Master Price Sheet
Project: Bayside Ground Water Project WDR **Project Number:** C022072 **PO #:**

Date Due: 11/10/23 15:00 (10 day TAT)
Received By: Aaron J. Kooyers Date Received: 10/26/23 22:15
Logged In By: Aaron J. Kooyers Date Logged 10/30/23 10:10

Samples Received at: _____ deg C All containers received and intact: YES NO

Analysis	Department	Expires	Comments
23J4193-01 C022072-01 [Water] Sampled 10/25/23 16:00			
NB 8260 THMs	NB GCMS	11/08/23 23:59	

Containers Supplied:
VOA Vial - ~~HCl~~(B) TM30
VOA Vial - ~~HCl~~(C)
VOA Vial - ~~HCl~~(D) @

	10/30/23			10/31/23	
Relinquished By	Date	Time	Received By	Date	Time
	10/31/23			10/31/23	
Relinquished By	Date	Time	Received By	Date	Time

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

18 January 2024

David Behnken

MS 704

Re: Bayside Ground Water Project

COC# C022074

Report Generated: 01/18/2024 14:49

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:

Kristi Schwab

Senior Chemist

Approved By:

Yuyun Shang

Lab Manager

Samples for C022074

Samples Included in the Report

Sample Number	Sample Type	Sampled Date	Location Name	Sample Name
C022074-01	GRAB	Oct 26 2023 15:04	GW BAYSIDE - BAY1-MW5D	-

Samples Results for C022074

Sample ID:	C022074-01		
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:	Oct 26 2023 15:04	**Sample Collector:**	DWilliams
Date Received:	Oct 27 2023 07:00	**Sample Receiver:**	C Soohoo
Sample Comments:			

Analyte	Qualifier	Result	MDL	RL	Units	DF	Batch	Prepared	Analyzed
Field data entry into LIMS									
TARGET ANALYTES									
CL2R		**0.0**	0.02		mg/L				10/26/2023 15:04
Field data entry into LIMS									
TARGET ANALYTES									
Depth		**30**			Feet				10/26/2023 15:04
Field data entry into LIMS									
TARGET ANALYTES									
pH		**7.41**			pH Units				10/26/2023 15:04
Field data entry into LIMS									
TARGET ANALYTES									
Temperature		**22.9**			C				10/26/2023 15:04
Total Dissolved Solids by SM 2540 C-2011									
TARGET ANALYTES									
Total Dissolved Solids		**460**	10	55	mg/L	1.0	B231031-011		10/31/2023 08:52
Alkalinity by SM 2320 B-2011									
TARGET ANALYTES									
Alkalinity: Total as CaCO3		**240**	5	30	mg/L	1.0	B231027-007		10/27/2023 10:45
Alkalinity: Carbonate	U	5	5	30	mg/L	1.0	B231027-007		10/27/2023 10:45
Alkalinity: Bicarbonate		**240**	5	30	mg/L	1.0	B231027-007		10/27/2023 10:45
Alkalinity: Hydroxide	U	5	5	30	mg/L	1.0	B231027-007		10/27/2023 10:45
Ammonia as N by SM 4500-NH3 C-2011									
TARGET ANALYTES									
Ammonia as N	U	0.29	0.29	1.5	mg/L	1.0	B231102-017		11/02/2023 12:32
Hardness as CaCO3 by SM 2340 C-2011									
TARGET ANALYTES									
Hardness as CaCO3		**150**	4	7	mg/L	1.0	B231106-008		11/06/2023 09:00
Anions by EPA 300.1									
TARGET ANALYTES									
Chloride		**84**	0.38	2.0	mg/L	10	B231027-004		10/27/2023 12:54
Nitrate as N	**E1**	**0.033**	0.023	0.30	mg/L	10	B231027-004		10/27/2023 12:54
Sulfate		**50**	0.69	2.0	mg/L	10	B231027-004		10/27/2023 12:54
SURROGATES									
Dichloroacetate (%)		101			%	10	B231027-004		10/27/2023 12:54

Samples Results for C022074

Sample ID: C022074-01
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: Oct 26 2023 15:04 **Sample Collector:** DWilliams
Date Received: Oct 27 2023 07:00 **Sample Receiver:** C Soohoo
Sample Comments:

Analyte	Qualifier	Result	MDL	RL	Units	DF	Batch	Prepared	Analyzed
Metals by EPA 200.7									
TARGET ANALYTES									
Calcium		**39000**	4.70	41.6	ug/L	1.0	B231114-002	11/01/2023 10:29	11/15/2023 13:00
Iron	**E1**	**28.1**	6.52	41.6	ug/L	1.0	B231114-002	11/01/2023 10:29	11/15/2023 13:00
Potassium		**3120**	73.5	208	ug/L	1.0	B231114-002	11/01/2023 10:29	11/15/2023 13:00
Magnesium		**10100**	1.01	41.6	ug/L	1.0	B231114-002	11/01/2023 10:29	11/15/2023 13:00
Manganese		**188**	0.12	16.6	ug/L	1.0	B231114-002	11/01/2023 10:29	11/15/2023 13:00
Sodium		**118000**	1.61	41.6	ug/L	1.0	B231114-002	11/01/2023 10:29	11/15/2023 13:00
INTERNAL STANDARD									
Yttrium (%)		98			%	1.0	B231114-002	11/01/2023 10:29	11/15/2023 13:00
Yttrium Radial (%)		101			%	1.0	B231114-002	11/01/2023 10:29	11/15/2023 13:00
Haloacetic Acids, GC/ECD by EPA 552.2									
TARGET ANALYTES									
Dibromoacetic Acid	U	0.27	0.27	1.0	ug/L	1.0	B231101-021	11/01/2023 09:39	11/02/2023 04:10
Dichloroacetic Acid	U	0.23	0.23	1.0	ug/L	1.0	B231101-021	11/01/2023 09:39	11/02/2023 04:10
Monobromoacetic Acid	U	0.16	0.16	1.0	ug/L	1.0	B231101-021	11/01/2023 09:39	11/02/2023 04:10
Monochloroacetic Acid	U	0.45	0.45	1.0	ug/L	1.0	B231101-021	11/01/2023 09:39	11/02/2023 04:10
Trichloroacetic Acid	U	0.30	0.30	1.0	ug/L	1.0	B231101-021	11/01/2023 09:39	11/02/2023 04:10
HAA(5), calculated		**0.00**		1.0	ug/L	1.0	B231101-021	11/01/2023 09:39	11/02/2023 04:10
	Comments: HAA (5) calculation uses a zero for any individual HAA result less than the California DLR for that HAA								
INTERNAL STANDARD									
1,2,3-Trichloropropane (%)		104			%	1.0	B231101-021	11/01/2023 09:39	11/02/2023 04:10
SURROGATES									
2,3-Dibromopropionic Acid (%)		107			%	1.0	B231101-021	11/01/2023 09:39	11/02/2023 04:10
Oxygen 18 Isotope Analysis									
Subcontract data from:	Alpha Analytical Laboratory ELAP#: Refer to external lab report								
TARGET ANALYTES									
See subcontract report									
Trihalomethanes, Total, GC/MS by EPA 8260B									
Subcontract data from:	Alpha Analytical Laboratory ELAP#: Refer to external lab report								
TARGET ANALYTES									
Bromodichloromethane	U	0.30	0.30	1.0	ug/L	1		11/01/2023 08:00	11/01/2023 22:22
	Comments: SUB: Analyte included in analysis but not detected at or above MDL								
Bromoform	U	0.20	0.20	1.0	ug/L	1		11/01/2023 08:00	11/01/2023 22:22
	Comments: SUB: Analyte included in analysis but not detected at or above MDL								
Chloroform	U	0.10	0.10	1.0	ug/L	1		11/01/2023 08:00	11/01/2023 22:22
	Comments: SUB: Analyte included in analysis but not detected at or above MDL								
Dibromochloromethane	U	0.20	0.20	1.0	ug/L	1		11/01/2023 08:00	11/01/2023 22:22
	Comments: SUB: Analyte included in analysis but not detected at or above MDL								
Total Trihalomethanes, calculated	U	0.30	0.30	1.0	ug/L	1		11/01/2023 08:00	11/01/2023 22:22
	Comments: SUB: Analyte included in analysis but not detected at or above MDL								

Quality Control for C022074

Analyte	Qualifier	Result	MDL	RL	Units	Spike Level	Source Result	% REC	% REC Limits	RPD	RPD Limits
Total Dissolved Solids DUP by SM 2540 C-2011, B231031-011											
B231031-011 analyzed on 10/31/2023 08:52; Source = C022074-01											
Total Dissolved Solids		**470**	10	55	mg/L		460			0.6	10
Total Dissolved Solids LCS by SM 2540 C-2011, B231031-011											
B231031-011 analyzed on 10/31/2023 08:52											
Total Dissolved Solids		370	20	110	mg/L	370		100	85 - 115		
Total Dissolved Solids		370	20	110	mg/L	370		100	85 - 115		
Total Dissolved Solids		370	20	110	mg/L	370		99	85 - 115		
Total Dissolved Solids		370	20	110	mg/L	370		101	85 - 115		
Total Dissolved Solids MB by SM 2540 C-2011, B231031-011											
B231031-011 analyzed on 10/31/2023 08:52											
Total Dissolved Solids	U	10	10	55	mg/L						
Alkalinity DUP by SM 2320 B-2011, B231027-007											
B231027-007 analyzed on 10/27/2023 10:31; Source = C022072-01											
Alkalinity: Total as CaCO3		**200**	5	30	mg/L		200			0.3	20
Alkalinity DUP by SM 2320 B-2011, B231027-007											
B231027-007 analyzed on 10/27/2023 11:28; Source = C021104-06											
Alkalinity: Total as CaCO3		**6700**	62	380	mg/L		6700			0.3	20
Alkalinity LCS by SM 2320 B-2011, B231027-007											
B231027-007 analyzed on 10/27/2023 09:25											
Alkalinity: Total as CaCO3		400	5	30	mg/L	400		99	85 - 115		
Alkalinity MB by SM 2320 B-2011, B231027-007											
B231027-007 analyzed on 10/27/2023 09:14											
Alkalinity: Total as CaCO3	U	5	5	30	mg/L						
Alkalinity MS by SM 2320 B-2011, B231027-007											
B231027-007 analyzed on 10/27/2023 10:36; Source = C022072-01											
Alkalinity: Total as CaCO3		600	5	30	mg/L	400	200	99	80 - 120		
Alkalinity MS by SM 2320 B-2011, B231027-007											
B231027-007 analyzed on 10/27/2023 11:33; Source = C021104-06											
Alkalinity: Total as CaCO3		12000	62	380	mg/L	5000	6700	96	80 - 120		
Alkalinity QCS by SM 2320 B-2011, B231027-007											
B231027-007 analyzed on 10/27/2023 10:12											
Alkalinity: Total as CaCO3		68	5	30	mg/L	66		104	91 - 111		

Quality Control for C022074

Analyte	Qualifier	Result	MDL	RL	Units	Spike Level	Source Result	% REC	% REC Limits	RPD	RPD Limits
Ammonia as N DUP by SM 4500-NH3 C-2011, B231102-017											
B231102-017 analyzed on 11/02/2023 12:32; Source = C021859-09											
Ammonia as N		**42**	1.4	7.5	mg/L		43			1.8	10
Ammonia as N LCS by SM 4500-NH3 C-2011, B231102-017											
B231102-017 analyzed on 11/02/2023 12:32											
Ammonia as N		12	0.29	1.5	mg/L	12		99	85 - 115		
Ammonia as N LOQ by SM 4500-NH3 C-2011, B231102-017											
B231102-017 analyzed on 11/02/2023 12:32											
Ammonia as N		1.6	0.29	1.5	mg/L	1.5		108	50 - 150		
Ammonia as N MB by SM 4500-NH3 C-2011, B231102-017											
B231102-017 analyzed on 11/02/2023 12:32											
Ammonia as N	U	0.29	0.29	1.5	mg/L						
Ammonia as N MS by SM 4500-NH3 C-2011, B231102-017											
B231102-017 analyzed on 11/02/2023 12:32; Source = C022238-01											
Ammonia as N		110	1.4	7.5	mg/L	60	48	98	80 - 120		
Ammonia as N MSD by SM 4500-NH3 C-2011, B231102-017											
B231102-017 analyzed on 11/02/2023 12:32; Source = C022238-01											
Ammonia as N		110	1.4	7.5	mg/L	60	48	97	80 - 120	0.6	15
Ammonia as N LCS by SM 4500-NH3 C-2011, B231102-017											
B231102-017 analyzed on 11/02/2023 12:32											
Ammonia as N		2900	62	380	mg/kg	3000		98	85 - 115		
Ammonia as N MB by SM 4500-NH3 C-2011, B231102-017											
B231102-017 analyzed on 11/02/2023 12:32											
Ammonia as N	U	62	62	380	mg/kg						
Hardness as CaCO3 DUP by SM 2340 C-2011, B231106-008											
B231106-008 analyzed on 11/06/2023 09:00; Source = C020700-01											
Hardness as CaCO3		**15**	4	7	mg/L		16			5.1	10
Hardness as CaCO3 DUP by SM 2340 C-2011, B231106-008											
B231106-008 analyzed on 11/06/2023 09:00; Source = C020854-03											
Hardness as CaCO3		**11**	4	7	mg/L		12			7.1	10

Quality Control for C022074

Analyte	Qualifier	Result	MDL	RL	Units	Spike Level	Source Result	% REC	% REC Limits	RPD	RPD Limits
Hardness as CaCO3 LCS by SM 2340 C-2011, B231106-008											
B231106-008 analyzed on 11/06/2023 09:00											
Hardness as CaCO3		110	4	7	mg/L	100		106	85 - 115		
Hardness as CaCO3 LOQ by SM 2340 C-2011, B231106-008											
B231106-008 analyzed on 11/06/2023 09:00											
Hardness as CaCO3		7	4	7	mg/L	7.0		103	50 - 150		
Hardness as CaCO3 MB by SM 2340 C-2011, B231106-008											
B231106-008 analyzed on 11/06/2023 09:00											
Hardness as CaCO3	U	4	4	7	mg/L						
Hardness as CaCO3 MS by SM 2340 C-2011, B231106-008											
B231106-008 analyzed on 11/06/2023 09:00; Source = C020700-01											
Hardness as CaCO3		120	4	7	mg/L	100	16	102	85 - 115		
Hardness as CaCO3 MS by SM 2340 C-2011, B231106-008											
B231106-008 analyzed on 11/06/2023 09:00; Source = C020854-03											
Hardness as CaCO3		120	4	7	mg/L	100	12	104	85 - 115		
Hardness as CaCO3 QCS by SM 2340 C-2011, B231106-008											
B231106-008 analyzed on 11/06/2023 09:00											
Hardness as CaCO3		160	4	7	mg/L	150		104	91 - 107		
Anions LCS by EPA 300.1, B231027-004											
B231027-004 analyzed on 10/27/2023 11:38											
Chloride		0.98	0.061	0.2	mg/L	1.0		98	85 - 115		
Nitrate as N		0.045	0.0035	0.03	mg/L	0.05		90	85 - 115		
Sulfate		0.88	0.079	0.2	mg/L	1.0		88	85 - 115		
Dichloroacetate (%)		100			%						
Anions LOQ by EPA 300.1, B231027-004											
B231027-004 analyzed on 10/27/2023 11:00											
Chloride		0.21	0.061	0.2	mg/L	0.20		106	50 - 150		
Nitrate as N	E1	0.025	0.0035	0.03	mg/L	0.03		83	50 - 150		
Sulfate	E1	0.20	0.079	0.2	mg/L	0.20		98	50 - 150		
Dichloroacetate (%)		101			%						
Anions MB by EPA 300.1, B231027-004											
B231027-004 analyzed on 10/27/2023 10:22											
Chloride	U	0.061	0.061	0.2	mg/L						
Nitrate as N	U	0.0035	0.0035	0.03	mg/L						
Sulfate	U	0.079	0.079	0.2	mg/L						
Dichloroacetate (%)		100			%						

Quality Control for C022074

Analyte	Qualifier	Result	MDL	RL	Units	Spike Level	Source Result	% REC	% REC Limits	RPD	RPD Limits
Anions DUP by EPA 300.1, B231027-004											
B231027-004 analyzed on 10/27/2023 14:09; Source = C021107-03											
Nitrate as N	**E1**	**0.018**	0.0035	0.030	mg/L		0.018			0.5	10
Dichloroacetate (%)		105			%		102				
Anions MS by EPA 300.1, B231027-004											
B231027-004 analyzed on 10/27/2023 14:47; Source = C021107-03											
Nitrate as N		0.063	0.0035	0.030	mg/L	0.05	0.018	90	75 - 125		
Dichloroacetate (%)		105			%		102				
Metals LCS by EPA 200.7, B231114-002											
B231114-002 analyzed on 11/15/2023 12:18; B231101-014 prepared on 11/01/2023 10:29											
Calcium		8120	4.90	43.4	ug/L	8300		97	85 - 115		
Iron		1110	6.80	43.4	ug/L	1100		100	85 - 115		
Potassium		9290	76.6	217	ug/L	8300		112	85 - 115		
Magnesium		8200	1.06	43.4	ug/L	8300		98	85 - 115		
Manganese		220	0.12	17.4	ug/L	220		99	85 - 115		
Sodium		8760	1.68	43.4	ug/L	8300		105	85 - 115		
Yttrium (%)		100			%						
Yttrium Radial (%)		100			%						
Metals LCSD by EPA 200.7, B231114-002											
B231114-002 analyzed on 11/15/2023 12:22; B231101-014 prepared on 11/01/2023 10:29											
Calcium		8040	4.90	43.4	ug/L	8300		96	85 - 115	1.0	10
Iron		1100	6.80	43.4	ug/L	1100		99	85 - 115	0.9	10
Potassium		9200	76.6	217	ug/L	8300		110	85 - 115	1.0	10
Magnesium		8120	1.06	43.4	ug/L	8300		97	85 - 115	1.0	10
Manganese		218	0.12	17.4	ug/L	220		98	85 - 115	1.0	10
Sodium		8660	1.68	43.4	ug/L	8300		104	85 - 115	1.1	10
Yttrium (%)		101			%						
Yttrium Radial (%)		100			%						
Metals LOQ by EPA 200.7, B231114-002											
B231114-002 analyzed on 11/15/2023 12:05; B231101-014 prepared on 11/01/2023 10:29											
Calcium	E1	38.9	4.75	42.0	ug/L	40		97	50 - 150		
Iron	E1	39.5	6.58	42.0	ug/L	40		99	50 - 150		
Potassium		230	74.2	210	ug/L	200		115	50 - 150		
Magnesium	E1	38.8	1.02	42.0	ug/L	40		97	50 - 150		
Manganese	E1	16.0	0.12	16.8	ug/L	16		100	50 - 150		
Sodium	E1	35.6	1.63	42.0	ug/L	40		89	50 - 150		
Yttrium (%)		102			%						
Yttrium Radial (%)		103			%						
Metals MB by EPA 200.7, B231114-002											
B231114-002 analyzed on 11/15/2023 11:59; B231101-014 prepared on 11/01/2023 10:29											
Calcium	U	4.70	4.70	41.6	ug/L						
Iron	U	6.52	6.52	41.6	ug/L						
Potassium	U	73.5	73.5	208	ug/L						
Magnesium	U	1.01	1.01	41.6	ug/L						
Manganese	U	0.12	0.12	16.6	ug/L						

Quality Control for C022074

Analyte	Qualifier	Result	MDL	RL	Units	Spike Level	Source Result	% REC	% REC Limits	RPD	RPD Limits
Sodium	U	1.61	1.61	41.6	ug/L						
Yttrium (%)		102			%						
Yttrium Radial (%)		103			%						

Metals MS by EPA 200.7, B231114-002

B231114-002 analyzed on 11/15/2023 13:23; B231101-014 prepared on 11/01/2023 10:29; Source = C022071-01

Calcium		1290000	196	1740	ug/L	8300	1280000	102	70 - 130		
Iron	E1	1150	272	1740	ug/L	1100	261	103	70 - 130		
Potassium	M1	473000	3060	8680	ug/L	8300	461000	140	70 - 130		
Magnesium	M1	3060000	42.3	1740	ug/L	8300	3030000	258	70 - 130		
Manganese		37600	4.99	694	ug/L	220	37300	123	70 - 130		
Sodium	M1	21100000	67.2	1740	ug/L	8300	21100000	254	70 - 130		
Yttrium (%)		94			%		94				
Yttrium Radial (%)		106			%		106				

Metals MSD by EPA 200.7, B231114-002

B231114-002 analyzed on 11/15/2023 13:26; B231101-014 prepared on 11/01/2023 10:29; Source = C022071-01

Calcium	M1	1280000	196	1740	ug/L	8300	1280000	23	70 - 130	0.5	20
Iron	E1	1140	272	1740	ug/L	1100	261	103	70 - 130	0.3	20
Potassium	M1	473000	3060	8680	ug/L	8300	461000	142	70 - 130	0.0	20
Magnesium		3040000	42.3	1740	ug/L	8300	3030000	81	70 - 130	0.5	20
Manganese	M1	37400	4.99	694	ug/L	220	37300	20	70 - 130	0.6	20
Sodium	M1	21100000	67.2	1740	ug/L	8300	21100000	169	70 - 130	0.0	20
Yttrium (%)		94			%		94				
Yttrium Radial (%)		106			%		106				

Haloacetic Acids, GC/ECD LCS by EPA 552.2, B231101-021

B231101-021 analyzed on 11/01/2023 21:05; B231101-011 prepared on 11/01/2023 09:39

Dibromoacetic Acid		16	0.27	1	ug/L	15		106	70 - 130
Dichloroacetic Acid		16	0.23	1	ug/L	15		104	70 - 130
Monobromoacetic Acid		16	0.16	1	ug/L	15		104	70 - 130
Monochloroacetic Acid		15	0.45	1	ug/L	15		102	70 - 130
Trichloroacetic Acid		16	0.3	1	ug/L	15		107	70 - 130
1,2,3-Trichloropropane (%)		97			%				
2,3-Dibromopropionic Acid (%)		109			%				

Haloacetic Acids, GC/ECD LOQ by EPA 552.2, B231101-021

B231101-021 analyzed on 11/01/2023 20:40; B231101-011 prepared on 11/01/2023 09:39

Dibromoacetic Acid		1.1	0.27	1	ug/L	1.0		107	50 - 150
Dichloroacetic Acid	E1	0.99	0.23	1	ug/L	1.0		99	50 - 150
Monobromoacetic Acid		1.0	0.16	1	ug/L	1.0		105	50 - 150
Monochloroacetic Acid		1.1	0.45	1	ug/L	1.0		108	50 - 150
Trichloroacetic Acid	E1	0.98	0.3	1	ug/L	1.0		98	50 - 150
1,2,3-Trichloropropane (%)		104			%				
2,3-Dibromopropionic Acid (%)		107			%				

Haloacetic Acids, GC/ECD MB by EPA 552.2, B231101-021

B231101-021 analyzed on 11/01/2023 20:15; B231101-011 prepared on 11/01/2023 09:39

Dibromoacetic Acid	U	0.27	0.27	1	ug/L
Dichloroacetic Acid	U	0.23	0.23	1	ug/L
Monobromoacetic Acid	U	0.16	0.16	1	ug/L

Quality Control for C022074

Analyte	Qualifier	Result	MDL	RL	Units	Spike Level	Source Result	% REC	% REC Limits	RPD	RPD Limits
Monochloroacetic Acid	U	0.45	0.45	1	ug/L						
Trichloroacetic Acid	U	0.3	0.3	1	ug/L						
1,2,3-Trichloropropane (%)		100			%						
2,3-Dibromopropionic Acid (%)		107			%						

Haloacetic Acids, GC/ECD MS by EPA 552.2, B231101-021

B231101-021 analyzed on 11/01/2023 21:55; B231101-011 prepared on 11/01/2023 09:39; Source = C020680-01

Dibromoacetic Acid		16	0.27	1.0	ug/L	15	0.27	104	70 - 130		
Dichloroacetic Acid		15	0.23	1.0	ug/L	15	0.23	103	70 - 130		
Monobromoacetic Acid		16	0.16	1.0	ug/L	15	0.16	104	70 - 130		
Monochloroacetic Acid		15	0.45	1.0	ug/L	15	0.45	103	70 - 130		
Trichloroacetic Acid		16	0.30	1.0	ug/L	15	0.30	105	70 - 130		
1,2,3-Trichloropropane (%)		96			%		99				
2,3-Dibromopropionic Acid (%)		107			%		108				

Haloacetic Acids, GC/ECD MS by EPA 552.2, B231101-021

B231101-021 analyzed on 11/02/2023 02:55; B231101-011 prepared on 11/01/2023 09:39; Source = C022072-01

Dibromoacetic Acid		16	0.27	1.0	ug/L	15	0.27	107	70 - 130		
Dichloroacetic Acid		16	0.23	1.0	ug/L	15	0.23	104	70 - 130		
Monobromoacetic Acid		16	0.16	1.0	ug/L	15	0.16	104	70 - 130		
Monochloroacetic Acid		16	0.45	1.0	ug/L	15	0.45	110	70 - 130		
Trichloroacetic Acid		16	0.30	1.0	ug/L	15	0.30	110	70 - 130		
1,2,3-Trichloropropane (%)		100			%		100				
2,3-Dibromopropionic Acid (%)		112			%		108				

Haloacetic Acids, GC/ECD MSD by EPA 552.2, B231101-021

B231101-021 analyzed on 11/01/2023 22:20; B231101-011 prepared on 11/01/2023 09:39; Source = C020680-01

Dibromoacetic Acid		16	0.27	1.0	ug/L	15	0.27	106	70 - 130	1.1	20
Dichloroacetic Acid		16	0.23	1.0	ug/L	15	0.23	105	70 - 130	1.5	20
Monobromoacetic Acid		16	0.16	1.0	ug/L	15	0.16	105	70 - 130	1.0	20
Monochloroacetic Acid		14	0.45	1.0	ug/L	15	0.45	92	70 - 130	10.7	20
Trichloroacetic Acid		16	0.30	1.0	ug/L	15	0.30	106	70 - 130	0.8	20
1,2,3-Trichloropropane (%)		92			%		99				
2,3-Dibromopropionic Acid (%)		110			%		108				

Haloacetic Acids, GC/ECD MSD by EPA 552.2, B231101-021

B231101-021 analyzed on 11/02/2023 03:20; B231101-011 prepared on 11/01/2023 09:39; Source = C022072-01

Dibromoacetic Acid		16	0.27	1.0	ug/L	15	0.27	104	70 - 130	3.1	20
Dichloroacetic Acid		15	0.23	1.0	ug/L	15	0.23	102	70 - 130	1.7	20
Monobromoacetic Acid		16	0.16	1.0	ug/L	15	0.16	106	70 - 130	2.1	20
Monochloroacetic Acid		17	0.45	1.0	ug/L	15	0.45	111	70 - 130	0.9	20
Trichloroacetic Acid		16	0.30	1.0	ug/L	15	0.30	104	70 - 130	5.3	20
1,2,3-Trichloropropane (%)		99			%		100				
2,3-Dibromopropionic Acid (%)		109			%		108				

Qualifiers and Definitions

E1	Concentration estimated. Analyte detected below reporting limit (RL) but above MDL. For SIP, E1=DNQ, Estimated Concentration.
M1	The MS recovery was outside acceptance limits due to possible matrix interference. The analytical batch meets accuracy criteria for reporting.
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
LCSD	Laboratory Control Sample Duplicate
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 #: C022074	Project Title: Bayside Ground Water Project TAT: Standard	Client PM: David Behnken Lab PM: Kristi Schwab Job #:	Expect Date: 10/25/2023 Sampled By: DAVID WILLIAMS ☒ Samples transported on ice 5.3°C # 13 c 10/27/2023

Date	Time	Site/Locator	Sample ID	Type	Matrix	ID	Type	Tests Required
10/26/23	1504	GW BAYSIDE - BAY1-MW5D	C022074-01	GRAB	Aqueous			+SAMP KIT
						-01A	PLSTL	EPA 200.7-W (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	mg/L
Depth =	30	Feet
pH =	7.41	pH Units
Temperature =	22.9	C

Field Comments: —

Field Instructions: —

Page 1 of 2 for C022074

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

COC #: C022074	Project Title: Bayside Ground Water Project TAT: Standard	Client PM: David Behnken Lab PM: Kristi Schwab Job #:	Expect Date: 10/25/2023 Sampled By: DAVID WILLIAMS ☒ Samples transported on ice

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

Total Containers for: C022074	12

	Signature	Print Name	Time	Date
Relinquished by:		D. Williams	1622	10/26/23
Received by:				
Relinquished by:				
Received by:				
Relinquished by:				
Received by:			0700	10/27/2023

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 C022074

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

COC #: C022074	Project Title: Bayside Ground Water Project TAT: Standard	Client PM: David Behnken Lab PM: Kristi Schwab Job #:	Received Date/Time: 10/27/2023 07:00 Received By: Cynthia Soohoo Sampled By: DWilliams Due Date: 11/29/2023

Date	Time	Site/Locator	Sample ID	Type	Matrix	ID	Type	Tests Required
10/26/2023	15:04	GW BAYSIDE - BAY1-MW5D	C022074-01	GRAB	Aqueous			+SAMP KIT
						-01A	PLSTL	EPA 200.7-W (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 =	0.0	mg/L
Depth =	30	Feet
pH =	7.41	pH Units
Temperature =	22.9	C

Field Comments:

Field Instructions:

Sample External Comments:

Total Containers for: C022074 12

Page 1 of 4 for C022074

C022074 Sample Acceptance Report

Received: 10/27/2023 07:00
Received By: Cynthia Soohoo

Chain-of-Custody		Comments
Chilled During Transport?	Yes	
Missing or incorrect information	No	
Mode of receipt	Drop-off Room	
Shipping Slip?	No	

Containers		Comments
BACT (120 mL) lot number	Add lot no	
BACTL (290 mL) lot number	Add lot no	
Container and label are legible and match COC?	Yes	
Correct container used with field preservation?	Yes	
Received within holding times?	Yes	
Sufficient volume, undamaged, or uncontaminated?	Yes	

Sample: C022074-01		Comments
Bubbles in ZHS/VOA containers	No	

Intent to chill

Cooler: 1		Comments
Corrected Temp (° C)	5.7	
IR Thermometer Number	IR #13	
Representative temperature taken from	-01	
Uncorrected Temp (° C)	5.3	
Visible ice formed inside sample container?	No	

Acceptance		Comments
PM notified?	N/A	

Page 2 of 4 for C022074

C022074 Sample Acceptance Report

Received: 10/27/2023 07:00
Received By: Cynthia Soohoo

Samples meet acceptance requirements?	Yes	

Sample Acceptance Preservation Report

COC: C022074

Report Generated: 10/27/2023 07:05

Inventory Item	Inventory ID	Open Date	Prep Date	Expiration Date
Ammonium Hydroxide	ST221116-012	11/16/2022	N/A	11/16/2023
Ammonium Sulfate Buffer (ASB-07)	ST230515-003	N/A	05/15/2023	11/15/2023
Hydrochloric Acid 1+1 (HCl-04)	ST230104-013	N/A	01/04/2023	01/04/2024
NaOH 15 mL 1:1 LDPE dropper	ST230127-020	N/A	N/A	07/31/2024
Nitric Acid Trace Metals Grade	ST221118-013	01/03/2023	N/A	06/30/2024
pH Strip 0-14	ST221220-011	05/23/2023	N/A	07/31/2027
pH Strip 0-6	ST230131-001	01/31/2023	N/A	05/31/2026
pH Strip 6-10	ST230131-026	02/03/2023	N/A	06/30/2026
pH Strip 7-14	ST230126-011	06/27/2023	N/A	10/31/2026
Sulfuric Acid ACS Grade	ST230515-015	06/20/2023	N/A	05/15/2028

Container Number	Container Name	Tests	Preservation Requirement	Result	Initial/ Date
C022074-01A	PLSTL	EPA 200.7-W	HNO3 to pH <2, Preservation Time = 0710	pass	C 10/27/2023
C022074-01C	PLSTM	Hardness	HNO3 to pH <2	↓	↓
C022074-01F	PSQLT	Ammonia: Titr-AQ	Check Cl2R = 0 [PSQLT], then H2SO4 to pH <2	↓	↓
C022074-01G	A125N	EPA 552.2	Check Container	↓	↓
C022074-01H	A125N	EPA 552.2-FR	Check Container	↓	↓
C022074-01K	VOC4T	EPA 8260B-FR	Check Container	↓	↓
C022074-01L	VOC4T	EPA 8260B-FR	Check Container	↓	↓

Page 4 of 4 for C022074

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

27 November 2023

EBMUD
Attn: Jack Lim
PO Box 24055
Oakland, CA 94607
RE: Bayside Ground Water Project WDR
Work Order: 23J4274

Enclosed are the results of analyses for samples received by the laboratory on 10/30/23 22:30. 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: Jack Lim	
PO Box 24055	Project: Bayside Ground Water Project WDR	Reported:
Oakland CA, 94607	Project Number: C022074	11/27/23 16:30

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 | ELAP# 3091

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
C022074-01	23J4274-01	Water	10/26/23 15:04	10/30/23 22:30

This represents an amended copy of the original report.
MDL values reported.

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

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: Jack Lim	
PO Box 24055	Project: Bayside Ground Water Project WDR	Reported:
Oakland CA, 94607	Project Number: C022074	11/27/23 16:30

Volatile Organic Compounds by EPA Method 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Analyst	ELAP #	Notes
C022074-01 (23J4274-01) Water	**Sampled: 10/26/23 15:04**		**Received: 10/30/23 22:30**									
Chloroform	ND	0.10	1.0	ug/L	1	AK32817	11/01/23 08:00	11/01/23 22:22	EPA 8260B	MVA	2303	U
Bromodichloromethane	ND	0.30	1.0	ug/L	1	AK32817	11/01/23 08:00	11/01/23 22:22	EPA 8260B	MVA	2303	U
Dibromochloromethane	ND	0.20	1.0	ug/L	1	AK32817	11/01/23 08:00	11/01/23 22:22	EPA 8260B	MVA	2303	U
Bromoform	ND	0.20	1.0	ug/L	1	AK32817	11/01/23 08:00	11/01/23 22:22	EPA 8260B	MVA	2303	U
Trihalomethanes (total)	ND	0.30	1.0	ug/L	1	AK32817	11/01/23 08:00	11/01/23 22:22	EPA 8260B	MVA	2303	U
Surrogate: Dibromofluoromethane		*111 %*	*70-130*			*AK32817*	*11/01/23 08:00*	*11/01/23 22:22*	*EPA 8260B*	*MVA*	2303	
Surrogate: Toluene-d8		*98.4 %*	*70-130*			*AK32817*	*11/01/23 08:00*	*11/01/23 22:22*	*EPA 8260B*	*MVA*	2303	
Surrogate: Bromofluorobenzene		*88.8 %*	*70-130*			*AK32817*	*11/01/23 08:00*	*11/01/23 22:22*	*EPA 8260B*	*MVA*	2303	

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: Jack Lim	
PO Box 24055	Project: Bayside Ground Water Project WDR	Reported:
Oakland CA, 94607	Project Number: C022074	11/27/23 16:30

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 AK32817 - NB EPA 5030 Water GCMS											
Blank (AK32817-BLK1)					Prepared & Analyzed: 11/01/23						
1,1-Dichloroethene	ND	0.50	1.0	ug/L							U
Benzene	ND	0.50	1.0	ug/L							U
Trichloroethene	ND	0.50	1.0	ug/L							U
Toluene	ND	0.50	1.0	ug/L							U
Chlorobenzene	ND	0.50	1.0	ug/L							U
Surrogate: Dibromofluoromethane	*20.5*			*ug/L*	*20.0*		*103*	*70-130*			
Surrogate: Toluene-d8	*19.4*			*ug/L*	*20.0*		*97.2*	*70-130*			
Surrogate: Bromofluorobenzene	*20.0*			*ug/L*	*20.0*		*100*	*70-130*			
Matrix Spike (AK32817-MS1)		**Source: 23J4307-01**			Prepared & Analyzed: 11/01/23						
1,1-Dichloroethene	24.3	0.50	1.0	ug/L	25.0	ND	97.2	70-130			
Benzene	26.2	0.50	1.0	ug/L	25.0	ND	105	70-130			
Trichloroethene	21.9	0.50	1.0	ug/L	25.0	ND	87.5	70-130			
Toluene	24.8	0.50	1.0	ug/L	25.0	ND	99.2	70-130			
Chlorobenzene	25.7	0.50	1.0	ug/L	25.0	ND	103	70-130			
Surrogate: Dibromofluoromethane	*20.6*			*ug/L*	*20.0*		*103*	*70-130*			
Surrogate: Toluene-d8	*20.2*			*ug/L*	*20.0*		*101*	*70-130*			
Surrogate: Bromofluorobenzene	*19.2*			*ug/L*	*20.0*		*95.8*	*70-130*			
Matrix Spike Dup (AK32817-MSD1)		**Source: 23J4307-01**			Prepared & Analyzed: 11/01/23						
1,1-Dichloroethene	24.2	0.50	1.0	ug/L	25.0	ND	96.8	70-130	0.330	25	
Benzene	24.2	0.50	1.0	ug/L	25.0	ND	96.8	70-130	7.86	25	
Trichloroethene	21.9	0.50	1.0	ug/L	25.0	ND	87.8	70-130	0.320	25	
Toluene	24.4	0.50	1.0	ug/L	25.0	ND	97.5	70-130	1.75	25	
Chlorobenzene	25.8	0.50	1.0	ug/L	25.0	ND	103	70-130	0.543	25	
Surrogate: Dibromofluoromethane	*19.1*			*ug/L*	*20.0*		*95.3*	*70-130*			
Surrogate: Toluene-d8	*19.5*			*ug/L*	*20.0*		*97.4*	*70-130*			
Surrogate: Bromofluorobenzene	*19.6*			*ug/L*	*20.0*		*97.8*	*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: Jack Lim	
PO Box 24055	Project: Bayside Ground Water Project WDR	Reported:
Oakland CA, 94607	Project Number: C022074	11/27/23 16:30

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

* ELAP does not offer accreditation in this matrix for the requested analyte/method combination

ISOTECH
a Stratum Reservoir brand
www.isotechlabs.com

Lab #:	896193	Job #:	56573	IS-69368	Co. Job#:
Sample Name:	23J4274-01				Co. Lab#:
Company:	Alpha Analytical Laboratories, Inc.				
API/Well:					
Container:	500ml Plastic Bottle				
Field/Site Name:	23J4274				
Location:					
Formation/Depth:					
Sampling Point:	C022074-01				
Date Sampled:	10/26/2023 15:04	Date Received:	11/06/2023	Date Reported:	11/20/2023

δD of water	----------	-46.6 ‰ relative to VSMOW
$\delta^{18}O$ of water	----------	-7.04 ‰ 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

23J4274

1.3°C

EBMUD

East Bay Municipal Utility District Laboratory Services Subcontract Chain of Custody

COC #: C022074	Project Title: Bayside Ground Water Project	Lab PM: Kristi Schwab (510) 287-1696 Shipping Method: Alpha Courier	Sampled By: DWilliams
	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
10/26/2023	15:04	C022074-01	GW BAYSIDE - BAY1-MW5D	Aqueous	-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). THMs by EPA 8260 (report individual THM results and total sum).								
			Total containers received:	4				

	Signature	Print Name	Time	Date
Relinquished by:	Robert Molina	Robert Molina	11:10	10/30/2023
Received by:		Michael Lopez	11:10	10/30/23
Relinquished by:				10/30/23
Received by:		John Willis	1900	10-30-23
Relinquished by:			2230	10-30-23
Received by:		John Willis	2230	10-30-23

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

East Bay Municipal Utility District
2020 Wake Ave, Oakland, CA 94623 T: 510-287-1432
Laboratory Services Division
ELAP#1060

vko_UKtoNB_COC.rpt

WORK ORDER

23J4274

Printed: 10/31/2023 10:20:17AM

Alpha Analytical Laboratories Ukiah to North Bay Chain of Custody

Client: EBMUD **Client Code:** RP_EBMUD **Bid:** 1_Master Price Sheet
Project: Bayside Ground Water Project WDR **Project Number:** C022074 **PO #:**

Date Due: 11/14/23 15:00 (10 day TAT)
Received By: John Willis Date Received: 10/30/23 22:30
Logged In By: Aaron J. Kooyers Date Logged 10/31/23 09:05

Samples Received at: _____ deg C All containers received and intact: YES NO

Analysis	Department	Expires	Comments
23J4274-01 C022074-01 [Water] Sampled 10/26/23 15:04			
NB 8260 THMs	NB GCMS	11/09/23 23:59	

Containers Supplied:
VOA Vial - Na2S2O3 (B)
VOA Vial - Na2S2O3 (C)
VOA Vial - Na2S2O3 (D)

Relinquished By	10/31/23 Date	Time	Received By	11/1/23 Date	0730 Time
Relinquished By	11/1/23 Date	1250 Time	Received By	Date	Time

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

19 January 2024

David Behnken

MS 704

Re: Bayside Ground Water Project

COC# C022073

Report Generated: 01/18/2024 17:08

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 C022073

Samples Included in the Report

Sample Number	Sample Type	Sampled Date	Location Name	Sample Name
C022073-01	GRAB	Oct 24 2023 14:07	GW BAYSIDE - BAY1-MW6	-

Samples Results for C022073

Sample ID:	C022073-01		
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:	Oct 24 2023 14:07	**Sample Collector:**	MTseng
Date Received:	Oct 25 2023 09:00	**Sample Receiver:**	C Soohoo
Sample Comments:			

Analyte	Qualifier	Result	MDL	RL	Units	DF	Batch	Prepared	Analyzed
Field data entry into LIMS									
TARGET ANALYTES									
CL2R		**0.0**	0.02		mg/L				10/24/2023 14:07
Field data entry into LIMS									
TARGET ANALYTES									
Depth		**30**			Feet				10/24/2023 14:07
Field data entry into LIMS									
TARGET ANALYTES									
pH		**6.0**			pH Units				10/24/2023 14:07
Field data entry into LIMS									
TARGET ANALYTES									
Temperature		**20.6**			C				10/24/2023 14:07
Total Dissolved Solids by SM 2540 C-2011									
TARGET ANALYTES									
Total Dissolved Solids		**410**	10	55	mg/L	1.0	B231025-012		10/26/2023 09:25
Alkalinity by SM 2320 B-2011									
TARGET ANALYTES									
Alkalinity: Total as CaCO3		**220**	5	30	mg/L	1.0	B231025-009		10/25/2023 10:03
Alkalinity: Carbonate	U	5	5	30	mg/L	1.0	B231025-009		10/25/2023 10:03
Alkalinity: Bicarbonate		**220**	5	30	mg/L	1.0	B231025-009		10/25/2023 10:03
Alkalinity: Hydroxide	U	5	5	30	mg/L	1.0	B231025-009		10/25/2023 10:03
Ammonia as N by SM 4500-NH3 C-2011									
TARGET ANALYTES									
Ammonia as N	U	0.29	0.29	1.5	mg/L	1.0	B231026-007		10/26/2023 12:14
Hardness as CaCO3 by SM 2340 C-2011									
TARGET ANALYTES									
Hardness as CaCO3		**120**	4	7	mg/L	1.0	B231106-008		11/06/2023 09:00
Anions by EPA 300.1									
TARGET ANALYTES									
Chloride		**61**	0.38	2.0	mg/L	10	B231025-005		10/25/2023 17:41
Nitrate as N	**E1**	**0.079**	0.023	0.30	mg/L	10	B231025-005		10/25/2023 17:41
Sulfate		**46**	0.69	2.0	mg/L	10	B231025-005		10/25/2023 17:41
SURROGATES									
Dichloroacetate (%)		100			%	10	B231025-005		10/25/2023 17:41

Samples Results for C022073

Sample ID: C022073-01
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: Oct 24 2023 14:07 **Sample Collector:** MTseng
Date Received: Oct 25 2023 09:00 **Sample Receiver:** C Soohoo
Sample Comments:

Analyte	Qualifier	Result	MDL	RL	Units	DF	Batch	Prepared	Analyzed
Metals by EPA 200.7									
TARGET ANALYTES									
Calcium		**32600**	4.70	41.6	ug/L	1.0	B231114-002	11/01/2023 10:29	11/15/2023 12:51
Iron	**E1**	**33.4**	6.52	41.6	ug/L	1.0	B231114-002	11/01/2023 10:29	11/15/2023 12:51
Potassium		**3300**	73.5	208	ug/L	1.0	B231114-002	11/01/2023 10:29	11/15/2023 12:51
Magnesium		**8110**	1.01	41.6	ug/L	1.0	B231114-002	11/01/2023 10:29	11/15/2023 12:51
Manganese		**184**	0.12	16.6	ug/L	1.0	B231114-002	11/01/2023 10:29	11/15/2023 12:51
Sodium		**109000**	1.61	41.6	ug/L	1.0	B231114-002	11/01/2023 10:29	11/15/2023 12:51
INTERNAL STANDARD									
Yttrium (%)		98			%	1.0	B231114-002	11/01/2023 10:29	11/15/2023 12:51
Yttrium Radial (%)		98			%	1.0	B231114-002	11/01/2023 10:29	11/15/2023 12:51
Haloacetic Acids, GC/ECD by EPA 552.2									
TARGET ANALYTES									
Dibromoacetic Acid	U	0.27	0.27	1.0	ug/L	1.0	B231101-021	11/01/2023 09:39	11/02/2023 03:45
Dichloroacetic Acid	U	0.23	0.23	1.0	ug/L	1.0	B231101-021	11/01/2023 09:39	11/02/2023 03:45
Monobromoacetic Acid	U	0.16	0.16	1.0	ug/L	1.0	B231101-021	11/01/2023 09:39	11/02/2023 03:45
Monochloroacetic Acid	U	0.45	0.45	1.0	ug/L	1.0	B231101-021	11/01/2023 09:39	11/02/2023 03:45
Trichloroacetic Acid	U	0.30	0.30	1.0	ug/L	1.0	B231101-021	11/01/2023 09:39	11/02/2023 03:45
HAA(5), calculated		**0.00**		1.0	ug/L	1.0	B231101-021	11/01/2023 09:39	11/02/2023 03:45
	Comments: HAA (5) calculation uses a zero for any individual HAA result less than the California DLR for that HAA								
INTERNAL STANDARD									
1,2,3-Trichloropropane (%)		106			%	1.0	B231101-021	11/01/2023 09:39	11/02/2023 03:45
SURROGATES									
2,3-Dibromopropionic Acid (%)		102			%	1.0	B231101-021	11/01/2023 09:39	11/02/2023 03:45
Oxygen 18 Isotope Analysis									
Subcontract data from:	Alpha Analytical Laboratory ELAP#: Refer to external lab report								
TARGET ANALYTES									
See subcontract report									
Trihalomethanes, Total, GC/MS by EPA 8260B									
Subcontract data from:	Alpha Analytical Laboratory ELAP#: Refer to external lab report								
TARGET ANALYTES									
Bromodichloromethane	U	0.30	0.30	1.0	ug/L	1		10/31/2023 07:00	10/31/2023 15:58
	Comments: SUB: Analyte included in analysis but not detected at or above MDL								
Bromoform	U	0.20	0.20	1.0	ug/L	1		10/31/2023 07:00	10/31/2023 15:58
	Comments: SUB: Analyte included in analysis but not detected at or above MDL								
Chloroform	U	0.10	0.10	1.0	ug/L	1		10/31/2023 07:00	10/31/2023 15:58
	Comments: SUB: Analyte included in analysis but not detected at or above MDL								
Dibromochloromethane	U	0.20	0.20	1.0	ug/L	1		10/31/2023 07:00	10/31/2023 15:58
	Comments: SUB: Analyte included in analysis but not detected at or above MDL								
Total Trihalomethanes, calculated	U	0.30	0.30	1.0	ug/L	1		10/31/2023 07:00	10/31/2023 15:58
	Comments: SUB: Analyte included in analysis but not detected at or above MDL								

Quality Control for C022073

Analyte	Qualifier	Result	MDL	RL	Units	Spike Level	Source Result	% REC	% REC Limits	RPD	RPD Limits
Total Dissolved Solids DUP by SM 2540 C-2011, B231025-012											
B231025-012 analyzed on 10/26/2023 09:25; Source = C022073-01											
Total Dissolved Solids		**400**	10	55	mg/L		410			0.7	10
Total Dissolved Solids LCS by SM 2540 C-2011, B231025-012											
B231025-012 analyzed on 10/26/2023 09:25											
Total Dissolved Solids		370	20	110	mg/L	370		99	85 - 115		
Total Dissolved Solids MB by SM 2540 C-2011, B231025-012											
B231025-012 analyzed on 10/26/2023 09:25											
Total Dissolved Solids	U	10	10	55	mg/L						
Alkalinity DUP by SM 2320 B-2011, B231025-009											
B231025-009 analyzed on 10/25/2023 10:08; Source = C022073-01											
Alkalinity: Total as CaCO3		**220**	5	30	mg/L		220			0.7	20
Alkalinity DUP by SM 2320 B-2011, B231025-009											
B231025-009 analyzed on 10/25/2023 10:59; Source = C021078-10											
Alkalinity: Total as CaCO3		**6600**	62	380	mg/L		6600			0.1	20
Alkalinity LCS by SM 2320 B-2011, B231025-009											
B231025-009 analyzed on 10/25/2023 09:30											
Alkalinity: Total as CaCO3		300	5	30	mg/L	300		99	85 - 115		
Alkalinity MB by SM 2320 B-2011, B231025-009											
B231025-009 analyzed on 10/25/2023 09:18											
Alkalinity: Total as CaCO3	U	5	5	30	mg/L						
Alkalinity MS by SM 2320 B-2011, B231025-009											
B231025-009 analyzed on 10/25/2023 10:13; Source = C022073-01											
Alkalinity: Total as CaCO3		520	5	30	mg/L	300	220	99	80 - 120		
Alkalinity MS by SM 2320 B-2011, B231025-009											
B231025-009 analyzed on 10/25/2023 11:04; Source = C021078-10											
Alkalinity: Total as CaCO3		11000	62	380	mg/L	5000	6600	98	80 - 120		
Alkalinity QCS by SM 2320 B-2011, B231025-009											
B231025-009 analyzed on 10/25/2023 09:37											
Alkalinity: Total as CaCO3		68	5	30	mg/L	66		103	91 - 111		

Quality Control for C022073

Analyte	Qualifier	Result	MDL	RL	Units	Spike Level	Source Result	% REC	% REC Limits	RPD	RPD Limits
Ammonia as N DUP by SM 4500-NH3 C-2011, B231026-007											
B231026-007 analyzed on 10/26/2023 12:14; Source = C021337-09											
Ammonia as N		**39**	1.4	7.5	mg/L		38			1.2	10
Ammonia as N LCS by SM 4500-NH3 C-2011, B231026-007											
B231026-007 analyzed on 10/26/2023 12:14											
Ammonia as N		12	0.29	1.5	mg/L	12		97	85 - 115		
Ammonia as N LOQ by SM 4500-NH3 C-2011, B231026-007											
B231026-007 analyzed on 10/26/2023 12:14											
Ammonia as N	E1	1.5	0.29	1.5	mg/L	1.5		99	50 - 150		
Ammonia as N MB by SM 4500-NH3 C-2011, B231026-007											
B231026-007 analyzed on 10/26/2023 12:14											
Ammonia as N	U	0.29	0.29	1.5	mg/L						
Ammonia as N MS by SM 4500-NH3 C-2011, B231026-007											
B231026-007 analyzed on 10/26/2023 12:14; Source = C021337-08											
Ammonia as N		110	1.4	7.5	mg/L	60	50	99	80 - 120		
Ammonia as N MSD by SM 4500-NH3 C-2011, B231026-007											
B231026-007 analyzed on 10/26/2023 12:14; Source = C021337-08											
Ammonia as N		110	1.4	7.5	mg/L	60	50	98	80 - 120	0.0	15
Hardness as CaCO3 DUP by SM 2340 C-2011, B231106-008											
B231106-008 analyzed on 11/06/2023 09:00; Source = C020700-01											
Hardness as CaCO3		**15**	4	7	mg/L		16			5.1	10
Hardness as CaCO3 DUP by SM 2340 C-2011, B231106-008											
B231106-008 analyzed on 11/06/2023 09:00; Source = C020854-03											
Hardness as CaCO3		**11**	4	7	mg/L		12			7.1	10
Hardness as CaCO3 LCS by SM 2340 C-2011, B231106-008											
B231106-008 analyzed on 11/06/2023 09:00											
Hardness as CaCO3		110	4	7	mg/L	100		106	85 - 115		
Hardness as CaCO3 LOQ by SM 2340 C-2011, B231106-008											
B231106-008 analyzed on 11/06/2023 09:00											
Hardness as CaCO3		7	4	7	mg/L	7.0		103	50 - 150		

Quality Control for C022073

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, B231106-008											
B231106-008 analyzed on 11/06/2023 09:00											
Hardness as CaCO3	U	4	4	7	mg/L						
Hardness as CaCO3 MS by SM 2340 C-2011, B231106-008											
B231106-008 analyzed on 11/06/2023 09:00; Source = C020700-01											
Hardness as CaCO3		120	4	7	mg/L	100	16	102	85 - 115		
Hardness as CaCO3 MS by SM 2340 C-2011, B231106-008											
B231106-008 analyzed on 11/06/2023 09:00; Source = C020854-03											
Hardness as CaCO3		120	4	7	mg/L	100	12	104	85 - 115		
Hardness as CaCO3 QCS by SM 2340 C-2011, B231106-008											
B231106-008 analyzed on 11/06/2023 09:00											
Hardness as CaCO3		160	4	7	mg/L	150		104	91 - 107		
Anions LCS by EPA 300.1, B231025-005											
B231025-005 analyzed on 10/25/2023 17:03											
Chloride		0.97	0.061	0.2	mg/L	1.0		97	85 - 115		
Nitrate as N		0.045	0.0035	0.03	mg/L	0.05		90	85 - 115		
Sulfate		0.87	0.079	0.2	mg/L	1.0		87	85 - 115		
Dichloroacetate (%)		99			%						
Anions LOQ by EPA 300.1, B231025-005											
B231025-005 analyzed on 10/25/2023 16:25											
Chloride		0.21	0.061	0.2	mg/L	0.20		107	50 - 150		
Nitrate as N	E1	0.028	0.0035	0.03	mg/L	0.03		93	50 - 150		
Sulfate	E1	0.20	0.079	0.2	mg/L	0.20		100	50 - 150		
Dichloroacetate (%)		102			%						
Anions MB by EPA 300.1, B231025-005											
B231025-005 analyzed on 10/25/2023 15:48											
Chloride	U	0.061	0.061	0.2	mg/L						
Nitrate as N	U	0.0035	0.0035	0.03	mg/L						
Sulfate	U	0.079	0.079	0.2	mg/L						
Dichloroacetate (%)		100			%						
Anions DUP by EPA 300.1, B231025-005											
B231025-005 analyzed on 10/25/2023 20:12; Source = C021081-10											
Nitrate as N	**E1**	**0.020**	0.0035	0.030	mg/L		0.020			2.4	10
Dichloroacetate (%)		103			%		101				
Anions MS by EPA 300.1, B231025-005											
B231025-005 analyzed on 10/25/2023 20:50; Source = C021081-10											
Nitrate as N		0.066	0.0035	0.030	mg/L	0.05	0.020	92	75 - 125		

Quality Control for C022073

Analyte	Qualifier	Result	MDL	RL	Units	Spike Level	Source Result	% REC	% REC Limits	RPD	RPD Limits
Dichloroacetate (%)		101			%		101				

Metals LCS by EPA 200.7, B231114-002

B231114-002 analyzed on 11/15/2023 12:18; B231101-014 prepared on 11/01/2023 10:29

Calcium		8120	4.90	43.4	ug/L	8300		97	85 - 115		
Iron		1110	6.80	43.4	ug/L	1100		100	85 - 115		
Potassium		9290	76.6	217	ug/L	8300		112	85 - 115		
Magnesium		8200	1.06	43.4	ug/L	8300		98	85 - 115		
Manganese		220	0.12	17.4	ug/L	220		99	85 - 115		
Sodium		8760	1.68	43.4	ug/L	8300		105	85 - 115		
Yttrium (%)		100			%						
Yttrium Radial (%)		100			%						

Metals LCSD by EPA 200.7, B231114-002

B231114-002 analyzed on 11/15/2023 12:22; B231101-014 prepared on 11/01/2023 10:29

Calcium		8040	4.90	43.4	ug/L	8300		96	85 - 115	1.0	10
Iron		1100	6.80	43.4	ug/L	1100		99	85 - 115	0.9	10
Potassium		9200	76.6	217	ug/L	8300		110	85 - 115	1.0	10
Magnesium		8120	1.06	43.4	ug/L	8300		97	85 - 115	1.0	10
Manganese		218	0.12	17.4	ug/L	220		98	85 - 115	1.0	10
Sodium		8660	1.68	43.4	ug/L	8300		104	85 - 115	1.1	10
Yttrium (%)		101			%						
Yttrium Radial (%)		100			%						

Metals LOQ by EPA 200.7, B231114-002

B231114-002 analyzed on 11/15/2023 12:05; B231101-014 prepared on 11/01/2023 10:29

Calcium	E1	38.9	4.75	42.0	ug/L	40		97	50 - 150		
Iron	E1	39.5	6.58	42.0	ug/L	40		99	50 - 150		
Potassium		230	74.2	210	ug/L	200		115	50 - 150		
Magnesium	E1	38.8	1.02	42.0	ug/L	40		97	50 - 150		
Manganese	E1	16.0	0.12	16.8	ug/L	16		100	50 - 150		
Sodium	E1	35.6	1.63	42.0	ug/L	40		89	50 - 150		
Yttrium (%)		102			%						
Yttrium Radial (%)		103			%						

Metals MB by EPA 200.7, B231114-002

B231114-002 analyzed on 11/15/2023 11:59; B231101-014 prepared on 11/01/2023 10:29

Calcium	U	4.70	4.70	41.6	ug/L						
Iron	U	6.52	6.52	41.6	ug/L						
Potassium	U	73.5	73.5	208	ug/L						
Magnesium	U	1.01	1.01	41.6	ug/L						
Manganese	U	0.12	0.12	16.6	ug/L						
Sodium	U	1.61	1.61	41.6	ug/L						
Yttrium (%)		102			%						
Yttrium Radial (%)		103			%						

Metals MS by EPA 200.7, B231114-002

B231114-002 analyzed on 11/15/2023 13:23; B231101-014 prepared on 11/01/2023 10:29; Source = C022071-01

Calcium		1290000	196	1740	ug/L	8300	1280000	102	70 - 130		
Iron	E1	1150	272	1740	ug/L	1100	261	103	70 - 130		

Quality Control for C022073

Analyte	Qualifier	Result	MDL	RL	Units	Spike Level	Source Result	% REC	% REC Limits	RPD	RPD Limits
Potassium	M1	473000	3060	8680	ug/L	8300	461000	140	70 - 130		
Magnesium	M1	3060000	42.3	1740	ug/L	8300	3030000	258	70 - 130		
Manganese		37600	4.99	694	ug/L	220	37300	123	70 - 130		
Sodium	M1	21100000	67.2	1740	ug/L	8300	21100000	254	70 - 130		
Yttrium (%)		94			%		94				
Yttrium Radial (%)		106			%		106				
Metals MSD by EPA 200.7, B231114-002											
B231114-002 analyzed on 11/15/2023 13:26; B231101-014 prepared on 11/01/2023 10:29; Source = C022071-01											
Calcium	M1	1280000	196	1740	ug/L	8300	1280000	23	70 - 130	0.5	20
Iron	E1	1140	272	1740	ug/L	1100	261	103	70 - 130	0.3	20
Potassium	M1	473000	3060	8680	ug/L	8300	461000	142	70 - 130	0.0	20
Magnesium		3040000	42.3	1740	ug/L	8300	3030000	81	70 - 130	0.5	20
Manganese	M1	37400	4.99	694	ug/L	220	37300	20	70 - 130	0.6	20
Sodium	M1	21100000	67.2	1740	ug/L	8300	21100000	169	70 - 130	0.0	20
Yttrium (%)		94			%		94				
Yttrium Radial (%)		106			%		106				
Haloacetic Acids, GC/ECD LCS by EPA 552.2, B231101-021											
B231101-021 analyzed on 11/01/2023 21:05; B231101-011 prepared on 11/01/2023 09:39											
Dibromoacetic Acid		16	0.27	1	ug/L	15		106	70 - 130		
Dichloroacetic Acid		16	0.23	1	ug/L	15		104	70 - 130		
Monobromoacetic Acid		16	0.16	1	ug/L	15		104	70 - 130		
Monochloroacetic Acid		15	0.45	1	ug/L	15		102	70 - 130		
Trichloroacetic Acid		16	0.3	1	ug/L	15		107	70 - 130		
1,2,3-Trichloropropane (%)		97			%						
2,3-Dibromopropionic Acid (%)		109			%						
Haloacetic Acids, GC/ECD LOQ by EPA 552.2, B231101-021											
B231101-021 analyzed on 11/01/2023 20:40; B231101-011 prepared on 11/01/2023 09:39											
Dibromoacetic Acid		1.1	0.27	1	ug/L	1.0		107	50 - 150		
Dichloroacetic Acid	E1	0.99	0.23	1	ug/L	1.0		99	50 - 150		
Monobromoacetic Acid		1.0	0.16	1	ug/L	1.0		105	50 - 150		
Monochloroacetic Acid		1.1	0.45	1	ug/L	1.0		108	50 - 150		
Trichloroacetic Acid	E1	0.98	0.3	1	ug/L	1.0		98	50 - 150		
1,2,3-Trichloropropane (%)		104			%						
2,3-Dibromopropionic Acid (%)		107			%						
Haloacetic Acids, GC/ECD MB by EPA 552.2, B231101-021											
B231101-021 analyzed on 11/01/2023 20:15; B231101-011 prepared on 11/01/2023 09:39											
Dibromoacetic Acid	U	0.27	0.27	1	ug/L						
Dichloroacetic Acid	U	0.23	0.23	1	ug/L						
Monobromoacetic Acid	U	0.16	0.16	1	ug/L						
Monochloroacetic Acid	U	0.45	0.45	1	ug/L						
Trichloroacetic Acid	U	0.3	0.3	1	ug/L						
1,2,3-Trichloropropane (%)		100			%						
2,3-Dibromopropionic Acid (%)		107			%						
Haloacetic Acids, GC/ECD MS by EPA 552.2, B231101-021											
B231101-021 analyzed on 11/01/2023 21:55; B231101-011 prepared on 11/01/2023 09:39; Source = C020680-01											
Dibromoacetic Acid		16	0.27	1.0	ug/L	15	0.27	104	70 - 130		

Quality Control for C022073

Analyte	Qualifier	Result	MDL	RL	Units	Spike Level	Source Result	% REC	% REC Limits	RPD	RPD Limits
Dichloroacetic Acid		15	0.23	1.0	ug/L	15	0.23	103	70 - 130		
Monobromoacetic Acid		16	0.16	1.0	ug/L	15	0.16	104	70 - 130		
Monochloroacetic Acid		15	0.45	1.0	ug/L	15	0.45	103	70 - 130		
Trichloroacetic Acid		16	0.30	1.0	ug/L	15	0.30	105	70 - 130		
1,2,3-Trichloropropane (%)		96			%		99				
2,3-Dibromopropionic Acid (%)		107			%		108				
Haloacetic Acids, GC/ECD MS by EPA 552.2, B231101-021											
B231101-021 analyzed on 11/02/2023 02:55; B231101-011 prepared on 11/01/2023 09:39; Source = C022072-01											
Dibromoacetic Acid		16	0.27	1.0	ug/L	15	0.27	107	70 - 130		
Dichloroacetic Acid		16	0.23	1.0	ug/L	15	0.23	104	70 - 130		
Monobromoacetic Acid		16	0.16	1.0	ug/L	15	0.16	104	70 - 130		
Monochloroacetic Acid		16	0.45	1.0	ug/L	15	0.45	110	70 - 130		
Trichloroacetic Acid		16	0.30	1.0	ug/L	15	0.30	110	70 - 130		
1,2,3-Trichloropropane (%)		100			%		100				
2,3-Dibromopropionic Acid (%)		112			%		108				
Haloacetic Acids, GC/ECD MSD by EPA 552.2, B231101-021											
B231101-021 analyzed on 11/01/2023 22:20; B231101-011 prepared on 11/01/2023 09:39; Source = C020680-01											
Dibromoacetic Acid		16	0.27	1.0	ug/L	15	0.27	106	70 - 130	1.1	20
Dichloroacetic Acid		16	0.23	1.0	ug/L	15	0.23	105	70 - 130	1.5	20
Monobromoacetic Acid		16	0.16	1.0	ug/L	15	0.16	105	70 - 130	1.0	20
Monochloroacetic Acid		14	0.45	1.0	ug/L	15	0.45	92	70 - 130	10.7	20
Trichloroacetic Acid		16	0.30	1.0	ug/L	15	0.30	106	70 - 130	0.8	20
1,2,3-Trichloropropane (%)		92			%		99				
2,3-Dibromopropionic Acid (%)		110			%		108				
Haloacetic Acids, GC/ECD MSD by EPA 552.2, B231101-021											
B231101-021 analyzed on 11/02/2023 03:20; B231101-011 prepared on 11/01/2023 09:39; Source = C022072-01											
Dibromoacetic Acid		16	0.27	1.0	ug/L	15	0.27	104	70 - 130	3.1	20
Dichloroacetic Acid		15	0.23	1.0	ug/L	15	0.23	102	70 - 130	1.7	20
Monobromoacetic Acid		16	0.16	1.0	ug/L	15	0.16	106	70 - 130	2.1	20
Monochloroacetic Acid		17	0.45	1.0	ug/L	15	0.45	111	70 - 130	0.9	20
Trichloroacetic Acid		16	0.30	1.0	ug/L	15	0.30	104	70 - 130	5.3	20
1,2,3-Trichloropropane (%)		99			%		100				
2,3-Dibromopropionic Acid (%)		109			%		108				

Qualifiers and Definitions

E1	Concentration estimated. Analyte detected below reporting limit (RL) but above MDL. For SIP, E1=DNQ, Estimated Concentration.
M1	The MS recovery was outside acceptance limits due to possible matrix interference. The analytical batch meets accuracy criteria for reporting.
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
LCSD	Laboratory Control Sample Duplicate
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 #: C022073	Project Title: Bayside Ground Water Project TAT: Standard	Client PM: David Behnken Lab PM: Kristi Schwab Job #:	Expect Date: 10/24/2023 Sampled By: MELODY TSENG ☒ Samples transported on ice 4.1°C #13 @ 10/25/2023

Date	Time	Site/Locator	Sample ID	Type	Matrix	ID	Type	Tests Required
10/24/23	1407	GW BAYSIDE - BAY1-MW6	C022073-01	GRAB	Aqueous			+SAMP KIT
						-01A	PLSTL	EPA 200.7-W (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 =	Ø	mg/L
Depth =	12	Feet
pH =	6.0	pH Units
Temperature =	20.6	C

Field Comments:

Field Instructions:

Page 1 of 2 for C022073

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

COC #: C022073	Project Title: Bayside Ground Water Project TAT: Standard	Client PM: David Behnken Lab PM: Kristi Schwab Job #:	Expect Date: 10/24/2023 Sampled By: MELODY TSENG ☒ Samples transported on ice

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

Total Containers for: C022073	12

	Signature	Print Name	Time	Date
Relinquished by:		MELODY TSENG	1610	10/24/23
Received by:				
Relinquished by:				
Received by:				
Relinquished by:				
Received by:			0900	10/25/2023

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 C022073

Soohoo, Cynthia

From: Tseng, Melody
Sent: Wednesday, October 25, 2023 9:12 AM
To: Molina, Robert; Soohoo, Cynthia
Subject: C022073

Apologies! I have a correction for the C022073.

The sampling depth notated is 12ft but corrected sampling depth should be 30ft.

Please let me know if I need to stop in this afternoon to make the correction on the hardcopy

Sorry again!

Melody

Get Outlook for iOS

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

COC #: C022073	Project Title: Bayside Ground Water Project TAT: Standard	Client PM: David Behnken Lab PM: Kristi Schwab Job #:	Received Date/Time: 10/25/2023 09:00 Received By: Cynthia Soohoo Sampled By: MTseng Due Date: 11/27/2023

Date	Time	Site/Locator	Sample ID	Type	Matrix	ID	Type	Tests Required
10/24/2023	14:07	GW BAYSIDE - BAY1-MW6	C022073-01	GRAB	Aqueous			+SAMP KIT
						-01A	PLSTL	EPA 200.7-W (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 =	0.0	mg/L
Depth =	30	Feet
pH =	6.0	pH Units
Temperature =	20.6	C

Field Comments:
Field Instructions:
Sample External Comments:

Total Containers for: C022073	12

Page 1 of 4 for C022073

EBMUD

C022073 Sample Acceptance Report

Received: 10/25/2023 09:00
Received By: Cynthia Soohoo

Chain-of-Custody		Comments
Chilled During Transport?	Yes	
Missing or incorrect information	No	
Mode of receipt	Drop-off Room	
Shipping Slip?	No	

Containers		Comments
BACT (120 mL) lot number	Add lot no	
BACTL (290 mL) lot number	Add lot no	
Container and label are legible and match COC?	Yes	
Correct container used with field preservation?	Yes	
Received within holding times?	Yes	
Sufficient volume, undamaged, or uncontaminated?	Yes	

Sample: C022073-01		Comments
Bubbles in ZHS/VOA containers	Yes	

Intent to chill

Cooler: 1		Comments
Corrected Temp (° C)	4.5	
IR Thermometer Number	IR #13	
Representative temperature taken from	-01	
Uncorrected Temp (° C)	4.1	
Visible ice formed inside sample container?	No	

Acceptance		Comments
PM notified?	N/A	

Page 2 of 4 for C022073

EBMUD

C022073 Sample Acceptance Report

Received: 10/25/2023 09:00
Received By: Cynthia Soohoo

Samples meet acceptance requirements?	Yes	

Page 3 of 4 for C022073

Sample Acceptance Preservation Report

COC: C022073

Report Generated: 10/25/2023 09:15

Inventory Item	Inventory ID	Open Date	Prep Date	Expiration Date
Ammonium Hydroxide	ST221116-012	11/16/2022	N/A	11/16/2023
Ammonium Sulfate Buffer (ASB-07)	ST230515-003	N/A	05/15/2023	11/15/2023
Ethylenediamine 12.5 mg/mL (EDA-42)	ST230927-005	N/A	09/27/2023	10/27/2023
Hydrochloric Acid 1+1 (HCl-04)	ST230104-013	N/A	01/04/2023	01/04/2024
NaOH 15 mL 1:1 LDPE dropper	ST230127-020	N/A	N/A	07/31/2024
Nitric Acid Trace Metals Grade	ST221118-013	01/03/2023	N/A	06/30/2024
pH Strip 0-14	ST221220-011	05/23/2023	N/A	07/31/2027
pH Strip 0-6	ST230131-001	01/31/2023	N/A	05/31/2026
pH Strip 6-10	ST230131-026	02/03/2023	N/A	06/30/2026
pH Strip 7-14	ST230126-011	06/27/2023	N/A	10/31/2026
Sulfuric Acid ACS Grade	ST230515-015	06/20/2023	N/A	05/15/2028

Container Number	Container Name	Tests	Preservation Requirement	Result	Initial/ Date
C022073-01A	PLSTL	EPA 200.7-W	HNO3 to pH <2. Preservation Time = 0415	DWS	C/0/27/2023
C022073-01C	PLSTM	Hardness	HNO3 to pH <2		
C022073-01F	PSQLT	Ammonia: Titr-AQ	Check Cl2R = 0 [PSQLT], then H2SO4 to pH <2		
C022073-01G	A125N	EPA 552.2	Check Container		
C022073-01H	A125N	EPA 552.2-FR	Check Container		
C022073-01K	VOC4T	EPA 8260B-FR	Check Container		
C022073-01L	VOC4T	EPA 8260B-FR	Check Container		

Page 4 of 4 for C022073

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

27 November 2023

EBMUD
Attn: Jack Lim
PO Box 24055
Oakland, CA 94607
RE: Bayside Ground Water Project WDR
Work Order: 23J4205

Enclosed are the results of analyses for samples received by the laboratory on 10/26/23 22:15. 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: Jack Lim	
PO Box 24055	Project: Bayside Ground Water Project WDR	Reported:
Oakland CA, 94607	Project Number: C022073	11/27/23 16:28

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 | ELAP# 3091

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
C022073-01	23J4205-01	Water	10/24/23 14:07	10/26/23 22:15

This represents an amended copy of the original report.
MDL values reported.

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

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: Jack Lim	
PO Box 24055	Project: Bayside Ground Water Project WDR	Reported:
Oakland CA, 94607	Project Number: C022073	11/27/23 16:28

Volatile Organic Compounds by EPA Method 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Analyst	ELAP #	Notes
C022073-01 (23J4205-01) Water	**Sampled: 10/24/23 14:07**		**Received: 10/26/23 22:15**									
Chloroform	ND	0.10	1.0	ug/L	1	AJ35161	10/31/23 07:00	10/31/23 15:58	EPA 8260B	MVA	2303	U
Bromodichloromethane	ND	0.30	1.0	ug/L	1	AJ35161	10/31/23 07:00	10/31/23 15:58	EPA 8260B	MVA	2303	U
Dibromochloromethane	ND	0.20	1.0	ug/L	1	AJ35161	10/31/23 07:00	10/31/23 15:58	EPA 8260B	MVA	2303	U
Bromoform	ND	0.20	1.0	ug/L	1	AJ35161	10/31/23 07:00	10/31/23 15:58	EPA 8260B	MVA	2303	U
Trihalomethanes (total)	ND	0.30	1.0	ug/L	1	AJ35161	10/31/23 07:00	10/31/23 15:58	EPA 8260B	MVA	2303	U
Surrogate: Dibromofluoromethane		*107 %*	*70-130*			*AJ35161*	*10/31/23 07:00*	*10/31/23 15:58*	*EPA 8260B*	*MVA*	2303	
Surrogate: Toluene-d8		*104 %*	*70-130*			*AJ35161*	*10/31/23 07:00*	*10/31/23 15:58*	*EPA 8260B*	*MVA*	2303	
Surrogate: Bromofluorobenzene		*92.7 %*	*70-130*			*AJ35161*	*10/31/23 07:00*	*10/31/23 15:58*	*EPA 8260B*	*MVA*	2303	

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: Jack Lim	
PO Box 24055	Project: Bayside Ground Water Project WDR	Reported:
Oakland CA, 94607	Project Number: C022073	11/27/23 16:28

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 AJ35161 - NB EPA 5030 Water GCMS											
Blank (AJ35161-BLK1)					Prepared & Analyzed: 10/30/23						
1,1-Dichloroethene	ND	0.50	1.0	ug/L							U
Benzene	ND	0.50	1.0	ug/L							U
Trichloroethene	ND	0.50	1.0	ug/L							U
Toluene	ND	0.50	1.0	ug/L							U
Chlorobenzene	ND	0.50	1.0	ug/L							U
Surrogate: Dibromofluoromethane	*21.4*			*ug/L*	*20.0*		*107*	*70-130*			
Surrogate: Toluene-d8	*20.3*			*ug/L*	*20.0*		*102*	*70-130*			
Surrogate: Bromofluorobenzene	*18.9*			*ug/L*	*20.0*		*94.5*	*70-130*			
Matrix Spike (AJ35161-MS1)		**Source: 23J4044-03**			Prepared & Analyzed: 10/30/23						
1,1-Dichloroethene	23.4	0.50	1.0	ug/L	25.0	ND	93.7	70-130			
Benzene	23.9	0.50	1.0	ug/L	25.0	ND	95.7	70-130			
Trichloroethene	22.3	0.50	1.0	ug/L	25.0	ND	89.1	70-130			
Toluene	24.7	0.50	1.0	ug/L	25.0	ND	98.8	70-130			
Chlorobenzene	24.8	0.50	1.0	ug/L	25.0	ND	99.0	70-130			
Surrogate: Dibromofluoromethane	*19.8*			*ug/L*	*20.0*		*99.1*	*70-130*			
Surrogate: Toluene-d8	*20.8*			*ug/L*	*20.0*		*104*	*70-130*			
Surrogate: Bromofluorobenzene	*18.7*			*ug/L*	*20.0*		*93.3*	*70-130*			
Matrix Spike Dup (AJ35161-MSD1)		**Source: 23J4044-03**			Prepared & Analyzed: 10/30/23						
1,1-Dichloroethene	20.6	0.50	1.0	ug/L	25.0	ND	82.2	70-130	13.0	25	
Benzene	21.3	0.50	1.0	ug/L	25.0	ND	85.2	70-130	11.5	25	
Trichloroethene	20.6	0.50	1.0	ug/L	25.0	ND	82.4	70-130	7.84	25	
Toluene	21.5	0.50	1.0	ug/L	25.0	ND	85.8	70-130	14.0	25	
Chlorobenzene	22.3	0.50	1.0	ug/L	25.0	ND	89.0	70-130	10.6	25	
Surrogate: Dibromofluoromethane	*22.4*			*ug/L*	*20.0*		*112*	*70-130*			
Surrogate: Toluene-d8	*20.4*			*ug/L*	*20.0*		*102*	*70-130*			
Surrogate: Bromofluorobenzene	*19.6*			*ug/L*	*20.0*		*97.8*	*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: Jack Lim	
PO Box 24055	Project: Bayside Ground Water Project WDR	Reported:
Oakland CA, 94607	Project Number: C022073	11/27/23 16:28

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

* ELAP does not offer accreditation in this matrix for the requested analyte/method combination

ISOTECH
a Stratum Reservoir brand
www.isotechlabs.com

Lab #:	896190	Job #:	56573	IS-69368	Co. Job#:
Sample Name:	23J4205-01				Co. Lab#:
Company:	Alpha Analytical Laboratories, Inc.				
API/Well:					
Container:	500ml Plastic Bottle				
Field/Site Name:	23J4205				
Location:					
Formation/Depth:					
Sampling Point:	C022073-01				
Date Sampled:	10/24/2023 14:07	Date Received:	11/06/2023	Date Reported:	11/20/2023

δD of water	----------	-48.0 ‰ relative to VSMOW
δ^{18}O of water	----------	-7.20 ‰ relative to VSMOW
Tritium content of water	----------	na
δ^{13}C of DIC	----------	na
^{14}C content of DIC	----------	na
δ^{15}N of nitrate	----------	na
δ^{18}O of nitrate	----------	na
δ^{34}S of sulfate	----------	na
δ^{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

23J4205

1.1 C

EBMUD

East Bay Municipal Utility District Laboratory Services Subcontract Chain of Custody

COC #: C022073	Project Title: Bayside Ground Water Project	Lab PM: Kristi Schwab (510) 287-1696 Shipping Method: Alpha Courier	Sampled By: MTseng
	TAT: Standard	PO#: BRD-13921-AX Expiration: 12/31/2023	Submitted Date: 10/26/2023

Date	Time	Sample ID	Location/PS Code	Matrix	Container ID	Type	Tests Required	Method Reference
10/24/2023	14:07	C022073-01	GW BAYSIDE - BAY1-MW6	Aqueous	-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). THMs by EPA 8260 (report individual THM results and total sum).								
			Total containers received:	4				

	Signature	Print Name	Time	Date
Relinquished by:		Michael Lopez	11:55	10/26/2023
Received by:		Michael Lopez	11:55	10/26/23
Relinquished by:				
Received by:	JW	John Willis	1900	10.26.23
Relinquished by:	JW		2215	10.26.23
Received by:	JW	John Willis	2215	10.26.23

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

wko_UKtoNB_COC.rpt

WORK ORDER

23J4205

Printed: 10/30/2023 11:34:47AM

Alpha Analytical Laboratories Ukiah to North Bay Chain of Custody

Client: EBMUD **Client Code:** RP_EBMUD **Bid:** 1_Master Price Sheet
Project: Bayside Ground Water Project WDR **Project Number:** C022073 **PO #:**

Date Due: 11/10/23 15:00 (10 day TAT)
Received By: John Willis Date Received: 10/26/23 22:15
Logged In By: Aaron J. Kooyers Date Logged 10/30/23 11:28

Samples Received at: _____ deg C All containers received and intact: YES NO

Analysis	Department	Expires	Comments
23J4205-01 C022073-01 [Water] Sampled 10/24/23 14:07			
NB 8260 THMs	NB GCMS	11/07/23 23:59	

Containers Supplied:
VOA Vial - Na2S2O3 (B)
VOA Vial - Na2S2O3 (C)
VOA Vial - Na2S2O3 (D)

Relinquished By	Date	Time	Received By	Date	Time
	10/30/23			10/31/23	
	10/31/23			10/31/23	

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

18 January 2024

David Behnken

MS 704

Re: Bayside Ground Water Project

COC# C022075

Report Generated: 01/18/2024 14:50

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 C022075

Samples Included in the Report

Sample Number	Sample Type	Sampled Date	Location Name	Sample Name
C022075-01	GRAB	Oct 25 2023 14:32	GW BAYSIDE - BAY1-MW7	-

Samples Results for C022075

Sample ID:	C022075-01		
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:	Oct 25 2023 14:32	**Sample Collector:**	DWilliams
Date Received:	Oct 26 2023 09:00	**Sample Receiver:**	C Soohoo
Sample Comments:			

Analyte	Qualifier	Result	MDL	RL	Units	DF	Batch	Prepared	Analyzed
Field data entry into LIMS									
TARGET ANALYTES									
CL2R		**0.0**	0.02		mg/L				10/25/2023 14:32
Field data entry into LIMS									
TARGET ANALYTES									
Depth		**30**			Feet				10/25/2023 14:32
Field data entry into LIMS									
TARGET ANALYTES									
pH		**7.70**			pH Units				10/25/2023 14:32
Field data entry into LIMS									
TARGET ANALYTES									
Temperature		**21.9**			C				10/25/2023 14:32
Total Dissolved Solids by SM 2540 C-2011									
TARGET ANALYTES									
Total Dissolved Solids		**460**	10	55	mg/L	1.0	B231025-012		10/26/2023 09:25
Alkalinity by SM 2320 B-2011									
TARGET ANALYTES									
Alkalinity: Total as CaCO3		**230**	5	30	mg/L	1.0	B231027-007		10/27/2023 10:50
Alkalinity: Carbonate	U	5	5	30	mg/L	1.0	B231027-007		10/27/2023 10:50
Alkalinity: Bicarbonate		**230**	5	30	mg/L	1.0	B231027-007		10/27/2023 10:50
Alkalinity: Hydroxide	U	5	5	30	mg/L	1.0	B231027-007		10/27/2023 10:50
Ammonia as N by SM 4500-NH3 C-2011									
TARGET ANALYTES									
Ammonia as N	U	0.29	0.29	1.5	mg/L	1.0	B231026-007		10/26/2023 12:14
Hardness as CaCO3 by SM 2340 C-2011									
TARGET ANALYTES									
Hardness as CaCO3		**140**	4	7	mg/L	1.0	B231106-008		11/06/2023 09:00
Anions by EPA 300.1									
TARGET ANALYTES									
Chloride		**89**	0.95	5.0	mg/L	25	B231026-013		10/26/2023 17:47
Nitrate as N	**E1**	**0.11**	0.058	0.75	mg/L	25	B231026-013		10/26/2023 17:47
Sulfate		**55**	1.7	5.0	mg/L	25	B231026-013		10/26/2023 17:47
SURROGATES									
Dichloroacetate (%)		100			%	25	B231026-013		10/26/2023 17:47

Samples Results for C022075

Sample ID: C022075-01
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: Oct 25 2023 14:32 — **Sample Collector:** DWilliams
Date Received: Oct 26 2023 09:00 — **Sample Receiver:** C Soohoo
Sample Comments:

Analyte	Qualifier	Result	MDL	RL	Units	DF	Batch	Prepared	Analyzed
Metals by EPA 200.7									
TARGET ANALYTES									
Calcium		**37900**	4.70	41.6	ug/L	1.0	B231114-002	11/01/2023 10:29	11/15/2023 13:07
Iron	**E1**	**16.2**	6.52	41.6	ug/L	1.0	B231114-002	11/01/2023 10:29	11/15/2023 13:07
Potassium		**3220**	73.5	208	ug/L	1.0	B231114-002	11/01/2023 10:29	11/15/2023 13:07
Magnesium		**9990**	1.01	41.6	ug/L	1.0	B231114-002	11/01/2023 10:29	11/15/2023 13:07
Manganese		**226**	0.12	16.6	ug/L	1.0	B231114-002	11/01/2023 10:29	11/15/2023 13:07
Sodium		**126000**	1.61	41.6	ug/L	1.0	B231114-002	11/01/2023 10:29	11/15/2023 13:07
INTERNAL STANDARD									
Yttrium (%)		97			%	1.0	B231114-002	11/01/2023 10:29	11/15/2023 13:07
Yttrium Radial (%)		102			%	1.0	B231114-002	11/01/2023 10:29	11/15/2023 13:07
Haloacetic Acids, GC/ECD by EPA 552.2									
TARGET ANALYTES									
Dibromoacetic Acid	U	0.27	0.27	1.0	ug/L	1.0	B231101-021	11/01/2023 09:39	11/02/2023 04:35
Dichloroacetic Acid	U	0.23	0.23	1.0	ug/L	1.0	B231101-021	11/01/2023 09:39	11/02/2023 04:35
Monobromoacetic Acid	U	0.16	0.16	1.0	ug/L	1.0	B231101-021	11/01/2023 09:39	11/02/2023 04:35
Monochloroacetic Acid	U	0.45	0.45	1.0	ug/L	1.0	B231101-021	11/01/2023 09:39	11/02/2023 04:35
Trichloroacetic Acid	U	0.30	0.30	1.0	ug/L	1.0	B231101-021	11/01/2023 09:39	11/02/2023 04:35
HAA(5), calculated		**0.00**		1.0	ug/L	1.0	B231101-021	11/01/2023 09:39	11/02/2023 04:35
	Comments: HAA (5) calculation uses a zero for any individual HAA result less than the California DLR for that HAA								
INTERNAL STANDARD									
1,2,3-Trichloropropane (%)		102			%	1.0	B231101-021	11/01/2023 09:39	11/02/2023 04:35
SURROGATES									
2,3-Dibromopropionic Acid (%)		102			%	1.0	B231101-021	11/01/2023 09:39	11/02/2023 04:35
Oxygen 18 Isotope Analysis									
Subcontract data from:	Alpha Analytical Laboratory ELAP#: Refer to external lab report								
TARGET ANALYTES									
See subcontract report									
Trihalomethanes, Total, GC/MS by EPA 8260B									
Subcontract data from:	Alpha Analytical Laboratory ELAP#: Refer to external lab report								
TARGET ANALYTES									
Bromodichloromethane	U	0.30	0.30	1.0	ug/L	1		10/31/2023 07:00	10/31/2023 15:33
	Comments: SUB: Analyte included in analysis but not detected at or above MDL								
Bromoform	U	0.20	0.20	1.0	ug/L	1		10/31/2023 07:00	10/31/2023 15:33
	Comments: SUB: Analyte included in analysis but not detected at or above MDL								
Chloroform	U	0.10	0.10	1.0	ug/L	1		10/31/2023 07:00	10/31/2023 15:33
	Comments: SUB: Analyte included in analysis but not detected at or above MDL								
Dibromochloromethane	U	0.20	0.20	1.0	ug/L	1		10/31/2023 07:00	10/31/2023 15:33
	Comments: SUB: Analyte included in analysis but not detected at or above MDL								
Total Trihalomethanes, calculated	U	0.30	0.30	1.0	ug/L	1		10/31/2023 07:00	10/31/2023 15:33
	Comments: SUB: Analyte included in analysis but not detected at or above MDL								

Quality Control for C022075

Analyte	Qualifier	Result	MDL	RL	Units	Spike Level	Source Result	% REC	% REC Limits	RPD	RPD Limits
Total Dissolved Solids DUP by SM 2540 C-2011, B231025-012											
B231025-012 analyzed on 10/26/2023 09:25; Source = C022073-01											
Total Dissolved Solids		**400**	10	55	mg/L		410			0.7	10
Total Dissolved Solids LCS by SM 2540 C-2011, B231025-012											
B231025-012 analyzed on 10/26/2023 09:25											
Total Dissolved Solids		370	20	110	mg/L	370		99	85 - 115		
Total Dissolved Solids MB by SM 2540 C-2011, B231025-012											
B231025-012 analyzed on 10/26/2023 09:25											
Total Dissolved Solids	U	10	10	55	mg/L						
Ammonia as N DUP by SM 4500-NH3 C-2011, B231026-007											
B231026-007 analyzed on 10/26/2023 12:14; Source = C021337-09											
Ammonia as N		**39**	1.4	7.5	mg/L		38			1.2	10
Ammonia as N LCS by SM 4500-NH3 C-2011, B231026-007											
B231026-007 analyzed on 10/26/2023 12:14											
Ammonia as N		12	0.29	1.5	mg/L	12		97	85 - 115		
Ammonia as N LOQ by SM 4500-NH3 C-2011, B231026-007											
B231026-007 analyzed on 10/26/2023 12:14											
Ammonia as N	E1	1.5	0.29	1.5	mg/L	1.5		99	50 - 150		
Ammonia as N MB by SM 4500-NH3 C-2011, B231026-007											
B231026-007 analyzed on 10/26/2023 12:14											
Ammonia as N	U	0.29	0.29	1.5	mg/L						
Ammonia as N MS by SM 4500-NH3 C-2011, B231026-007											
B231026-007 analyzed on 10/26/2023 12:14; Source = C021337-08											
Ammonia as N		110	1.4	7.5	mg/L	60	50	99	80 - 120		
Ammonia as N MSD by SM 4500-NH3 C-2011, B231026-007											
B231026-007 analyzed on 10/26/2023 12:14; Source = C021337-08											
Ammonia as N		110	1.4	7.5	mg/L	60	50	98	80 - 120	0.0	15
Alkalinity DUP by SM 2320 B-2011, B231027-007											
B231027-007 analyzed on 10/27/2023 10:31; Source = C022072-01											
Alkalinity: Total as CaCO3		**200**	5	30	mg/L		200			0.3	20

Quality Control for C022075

Analyte	Qualifier	Result	MDL	RL	Units	Spike Level	Source Result	% REC	% REC Limits	RPD	RPD Limits
Alkalinity DUP by SM 2320 B-2011, B231027-007											
B231027-007 analyzed on 10/27/2023 11:28; Source = C021104-06											
Alkalinity: Total as CaCO3		**6700**	62	380	mg/L		6700			0.3	20
Alkalinity LCS by SM 2320 B-2011, B231027-007											
B231027-007 analyzed on 10/27/2023 09:25											
Alkalinity: Total as CaCO3		400	5	30	mg/L	400		99	85 - 115		
Alkalinity MB by SM 2320 B-2011, B231027-007											
B231027-007 analyzed on 10/27/2023 09:14											
Alkalinity: Total as CaCO3	U	5	5	30	mg/L						
Alkalinity MS by SM 2320 B-2011, B231027-007											
B231027-007 analyzed on 10/27/2023 10:36; Source = C022072-01											
Alkalinity: Total as CaCO3		600	5	30	mg/L	400	200	99	80 - 120		
Alkalinity MS by SM 2320 B-2011, B231027-007											
B231027-007 analyzed on 10/27/2023 11:33; Source = C021104-06											
Alkalinity: Total as CaCO3		12000	62	380	mg/L	5000	6700	96	80 - 120		
Alkalinity QCS by SM 2320 B-2011, B231027-007											
B231027-007 analyzed on 10/27/2023 10:12											
Alkalinity: Total as CaCO3		68	5	30	mg/L	66		104	91 - 111		
Hardness as CaCO3 DUP by SM 2340 C-2011, B231106-008											
B231106-008 analyzed on 11/06/2023 09:00; Source = C020700-01											
Hardness as CaCO3		**15**	4	7	mg/L		16			5.1	10
Hardness as CaCO3 DUP by SM 2340 C-2011, B231106-008											
B231106-008 analyzed on 11/06/2023 09:00; Source = C020854-03											
Hardness as CaCO3		**11**	4	7	mg/L		12			7.1	10
Hardness as CaCO3 LCS by SM 2340 C-2011, B231106-008											
B231106-008 analyzed on 11/06/2023 09:00											
Hardness as CaCO3		110	4	7	mg/L	100		106	85 - 115		
Hardness as CaCO3 LOQ by SM 2340 C-2011, B231106-008											
B231106-008 analyzed on 11/06/2023 09:00											
Hardness as CaCO3		7	4	7	mg/L	7.0		103	50 - 150		

Quality Control for C022075

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, B231106-008											
B231106-008 analyzed on 11/06/2023 09:00											
Hardness as CaCO3	U	4	4	7	mg/L						
Hardness as CaCO3 MS by SM 2340 C-2011, B231106-008											
B231106-008 analyzed on 11/06/2023 09:00; Source = C020700-01											
Hardness as CaCO3		120	4	7	mg/L	100	16	102	85 - 115		
Hardness as CaCO3 MS by SM 2340 C-2011, B231106-008											
B231106-008 analyzed on 11/06/2023 09:00; Source = C020854-03											
Hardness as CaCO3		120	4	7	mg/L	100	12	104	85 - 115		
Hardness as CaCO3 QCS by SM 2340 C-2011, B231106-008											
B231106-008 analyzed on 11/06/2023 09:00											
Hardness as CaCO3		160	4	7	mg/L	150		104	91 - 107		
Anions LCS by EPA 300.1, B231026-013											
B231026-013 analyzed on 10/26/2023 16:31											
Chloride		0.97	0.061	0.2	mg/L	1.0		97	85 - 115		
Nitrate as N		0.044	0.0035	0.03	mg/L	0.05		89	85 - 115		
Sulfate		0.87	0.079	0.2	mg/L	1.0		87	85 - 115		
Dichloroacetate (%)		99			%						
Anions LOQ by EPA 300.1, B231026-013											
B231026-013 analyzed on 10/26/2023 15:53											
Chloride		0.22	0.061	0.2	mg/L	0.20		109	50 - 150		
Nitrate as N	E1	0.028	0.0035	0.03	mg/L	0.03		95	50 - 150		
Sulfate	E1	0.20	0.079	0.2	mg/L	0.20		99	50 - 150		
Dichloroacetate (%)		103			%						
Anions MB by EPA 300.1, B231026-013											
B231026-013 analyzed on 10/26/2023 14:38											
Chloride	U	0.061	0.061	0.2	mg/L						
Nitrate as N	U	0.0035	0.0035	0.03	mg/L						
Sulfate	U	0.079	0.079	0.2	mg/L						
Dichloroacetate (%)		99			%						
Anions DUP by EPA 300.1, B231026-013											
B231026-013 analyzed on 10/26/2023 19:40; Source = C021096-13											
Nitrate as N	**E1**	**0.018**	0.0035	0.030	mg/L		0.018			1.0	10
Dichloroacetate (%)		103			%		103				
Anions MS by EPA 300.1, B231026-013											
B231026-013 analyzed on 10/26/2023 20:18; Source = C021096-13											
Nitrate as N		0.061	0.0035	0.030	mg/L	0.05	0.018	86	75 - 125		

Quality Control for C022075

Analyte	Qualifier	Result	MDL	RL	Units	Spike Level	Source Result	% REC	% REC Limits	RPD	RPD Limits
Dichloroacetate (%)		102			%		103				
Metals LCS by EPA 200.7, B231114-002											
B231114-002 analyzed on 11/15/2023 12:18; B231101-014 prepared on 11/01/2023 10:29											
Calcium		8120	4.90	43.4	ug/L	8300		97	85 - 115		
Iron		1110	6.80	43.4	ug/L	1100		100	85 - 115		
Potassium		9290	76.6	217	ug/L	8300		112	85 - 115		
Magnesium		8200	1.06	43.4	ug/L	8300		98	85 - 115		
Manganese		220	0.12	17.4	ug/L	220		99	85 - 115		
Sodium		8760	1.68	43.4	ug/L	8300		105	85 - 115		
Yttrium (%)		100			%						
Yttrium Radial (%)		100			%						
Metals LCSD by EPA 200.7, B231114-002											
B231114-002 analyzed on 11/15/2023 12:22; B231101-014 prepared on 11/01/2023 10:29											
Calcium		8040	4.90	43.4	ug/L	8300		96	85 - 115	1.0	10
Iron		1100	6.80	43.4	ug/L	1100		99	85 - 115	0.9	10
Potassium		9200	76.6	217	ug/L	8300		110	85 - 115	1.0	10
Magnesium		8120	1.06	43.4	ug/L	8300		97	85 - 115	1.0	10
Manganese		218	0.12	17.4	ug/L	220		98	85 - 115	1.0	10
Sodium		8660	1.68	43.4	ug/L	8300		104	85 - 115	1.1	10
Yttrium (%)		101			%						
Yttrium Radial (%)		100			%						
Metals LOQ by EPA 200.7, B231114-002											
B231114-002 analyzed on 11/15/2023 12:05; B231101-014 prepared on 11/01/2023 10:29											
Calcium	E1	38.9	4.75	42.0	ug/L	40		97	50 - 150		
Iron	E1	39.5	6.58	42.0	ug/L	40		99	50 - 150		
Potassium		230	74.2	210	ug/L	200		115	50 - 150		
Magnesium	E1	38.8	1.02	42.0	ug/L	40		97	50 - 150		
Manganese	E1	16.0	0.12	16.8	ug/L	16		100	50 - 150		
Sodium	E1	35.6	1.63	42.0	ug/L	40		89	50 - 150		
Yttrium (%)		102			%						
Yttrium Radial (%)		103			%						
Metals MB by EPA 200.7, B231114-002											
B231114-002 analyzed on 11/15/2023 11:59; B231101-014 prepared on 11/01/2023 10:29											
Calcium	U	4.70	4.70	41.6	ug/L						
Iron	U	6.52	6.52	41.6	ug/L						
Potassium	U	73.5	73.5	208	ug/L						
Magnesium	U	1.01	1.01	41.6	ug/L						
Manganese	U	0.12	0.12	16.6	ug/L						
Sodium	U	1.61	1.61	41.6	ug/L						
Yttrium (%)		102			%						
Yttrium Radial (%)		103			%						
Metals MS by EPA 200.7, B231114-002											
B231114-002 analyzed on 11/15/2023 13:23; B231101-014 prepared on 11/01/2023 10:29; Source = C022071-01											
Calcium		1290000	196	1740	ug/L	8300	1280000	102	70 - 130		
Iron	E1	1150	272	1740	ug/L	1100	261	103	70 - 130		

Quality Control for C022075

Analyte	Qualifier	Result	MDL	RL	Units	Spike Level	Source Result	% REC	% REC Limits	RPD	RPD Limits
Potassium	M1	473000	3060	8680	ug/L	8300	461000	140	70 - 130		
Magnesium	M1	3060000	42.3	1740	ug/L	8300	3030000	258	70 - 130		
Manganese		37600	4.99	694	ug/L	220	37300	123	70 - 130		
Sodium	M1	21100000	67.2	1740	ug/L	8300	21100000	254	70 - 130		
Yttrium (%)		94			%		94				
Yttrium Radial (%)		106			%		106				
Metals MSD by EPA 200.7, B231114-002											
B231114-002 analyzed on 11/15/2023 13:26; B231101-014 prepared on 11/01/2023 10:29; Source = C022071-01											
Calcium	M1	1280000	196	1740	ug/L	8300	1280000	23	70 - 130	0.5	20
Iron	E1	1140	272	1740	ug/L	1100	261	103	70 - 130	0.3	20
Potassium	M1	473000	3060	8680	ug/L	8300	461000	142	70 - 130	0.0	20
Magnesium		3040000	42.3	1740	ug/L	8300	3030000	81	70 - 130	0.5	20
Manganese	M1	37400	4.99	694	ug/L	220	37300	20	70 - 130	0.6	20
Sodium	M1	21100000	67.2	1740	ug/L	8300	21100000	169	70 - 130	0.0	20
Yttrium (%)		94			%		94				
Yttrium Radial (%)		106			%		106				
Haloacetic Acids, GC/ECD LCS by EPA 552.2, B231101-021											
B231101-021 analyzed on 11/01/2023 21:05; B231101-011 prepared on 11/01/2023 09:39											
Dibromoacetic Acid		16	0.27	1	ug/L	15		106	70 - 130		
Dichloroacetic Acid		16	0.23	1	ug/L	15		104	70 - 130		
Monobromoacetic Acid		16	0.16	1	ug/L	15		104	70 - 130		
Monochloroacetic Acid		15	0.45	1	ug/L	15		102	70 - 130		
Trichloroacetic Acid		16	0.3	1	ug/L	15		107	70 - 130		
1,2,3-Trichloropropane (%)		97			%						
2,3-Dibromopropionic Acid (%)		109			%						
Haloacetic Acids, GC/ECD LOQ by EPA 552.2, B231101-021											
B231101-021 analyzed on 11/01/2023 20:40; B231101-011 prepared on 11/01/2023 09:39											
Dibromoacetic Acid		1.1	0.27	1	ug/L	1.0		107	50 - 150		
Dichloroacetic Acid	E1	0.99	0.23	1	ug/L	1.0		99	50 - 150		
Monobromoacetic Acid		1.0	0.16	1	ug/L	1.0		105	50 - 150		
Monochloroacetic Acid		1.1	0.45	1	ug/L	1.0		108	50 - 150		
Trichloroacetic Acid	E1	0.98	0.3	1	ug/L	1.0		98	50 - 150		
1,2,3-Trichloropropane (%)		104			%						
2,3-Dibromopropionic Acid (%)		107			%						
Haloacetic Acids, GC/ECD MB by EPA 552.2, B231101-021											
B231101-021 analyzed on 11/01/2023 20:15; B231101-011 prepared on 11/01/2023 09:39											
Dibromoacetic Acid	U	0.27	0.27	1	ug/L						
Dichloroacetic Acid	U	0.23	0.23	1	ug/L						
Monobromoacetic Acid	U	0.16	0.16	1	ug/L						
Monochloroacetic Acid	U	0.45	0.45	1	ug/L						
Trichloroacetic Acid	U	0.3	0.3	1	ug/L						
1,2,3-Trichloropropane (%)		100			%						
2,3-Dibromopropionic Acid (%)		107			%						
Haloacetic Acids, GC/ECD MS by EPA 552.2, B231101-021											
B231101-021 analyzed on 11/01/2023 21:55; B231101-011 prepared on 11/01/2023 09:39; Source = C020680-01											
Dibromoacetic Acid		16	0.27	1.0	ug/L	15	0.27	104	70 - 130		

Quality Control for C022075

Analyte	Qualifier	Result	MDL	RL	Units	Spike Level	Source Result	% REC	% REC Limits	RPD	RPD Limits
Dichloroacetic Acid		15	0.23	1.0	ug/L	15	0.23	103	70 - 130		
Monobromoacetic Acid		16	0.16	1.0	ug/L	15	0.16	104	70 - 130		
Monochloroacetic Acid		15	0.45	1.0	ug/L	15	0.45	103	70 - 130		
Trichloroacetic Acid		16	0.30	1.0	ug/L	15	0.30	105	70 - 130		
1,2,3-Trichloropropane (%)		96			%		99				
2,3-Dibromopropionic Acid (%)		107			%		108				
Haloacetic Acids, GC/ECD MS by EPA 552.2, B231101-021											
B231101-021 analyzed on 11/02/2023 02:55; B231101-011 prepared on 11/01/2023 09:39; Source = C022072-01											
Dibromoacetic Acid		16	0.27	1.0	ug/L	15	0.27	107	70 - 130		
Dichloroacetic Acid		16	0.23	1.0	ug/L	15	0.23	104	70 - 130		
Monobromoacetic Acid		16	0.16	1.0	ug/L	15	0.16	104	70 - 130		
Monochloroacetic Acid		16	0.45	1.0	ug/L	15	0.45	110	70 - 130		
Trichloroacetic Acid		16	0.30	1.0	ug/L	15	0.30	110	70 - 130		
1,2,3-Trichloropropane (%)		100			%		100				
2,3-Dibromopropionic Acid (%)		112			%		108				
Haloacetic Acids, GC/ECD MSD by EPA 552.2, B231101-021											
B231101-021 analyzed on 11/01/2023 22:20; B231101-011 prepared on 11/01/2023 09:39; Source = C020680-01											
Dibromoacetic Acid		16	0.27	1.0	ug/L	15	0.27	106	70 - 130	1.1	20
Dichloroacetic Acid		16	0.23	1.0	ug/L	15	0.23	105	70 - 130	1.5	20
Monobromoacetic Acid		16	0.16	1.0	ug/L	15	0.16	105	70 - 130	1.0	20
Monochloroacetic Acid		14	0.45	1.0	ug/L	15	0.45	92	70 - 130	10.7	20
Trichloroacetic Acid		16	0.30	1.0	ug/L	15	0.30	106	70 - 130	0.8	20
1,2,3-Trichloropropane (%)		92			%		99				
2,3-Dibromopropionic Acid (%)		110			%		108				
Haloacetic Acids, GC/ECD MSD by EPA 552.2, B231101-021											
B231101-021 analyzed on 11/02/2023 03:20; B231101-011 prepared on 11/01/2023 09:39; Source = C022072-01											
Dibromoacetic Acid		16	0.27	1.0	ug/L	15	0.27	104	70 - 130	3.1	20
Dichloroacetic Acid		15	0.23	1.0	ug/L	15	0.23	102	70 - 130	1.7	20
Monobromoacetic Acid		16	0.16	1.0	ug/L	15	0.16	106	70 - 130	2.1	20
Monochloroacetic Acid		17	0.45	1.0	ug/L	15	0.45	111	70 - 130	0.9	20
Trichloroacetic Acid		16	0.30	1.0	ug/L	15	0.30	104	70 - 130	5.3	20
1,2,3-Trichloropropane (%)		99			%		100				
2,3-Dibromopropionic Acid (%)		109			%		108				

Qualifiers and Definitions

E1	Concentration estimated. Analyte detected below reporting limit (RL) but above MDL. For SIP, E1=DNQ, Estimated Concentration.
M1	The MS recovery was outside acceptance limits due to possible matrix interference. The analytical batch meets accuracy criteria for reporting.
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
LCSD	Laboratory Control Sample Duplicate
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 #: C022075	Project Title: Bayside Ground Water Project TAT: Standard	Client PM: David Behnken Lab PM: Kristi Schwab Job #:	Expect Date: 10/26/2023 Sampled By: D. Williams ☑ Samples transported on ice 4.5°C #13 C 10/26/2023

Date	Time	Site/Locator	Sample ID	Type	Matrix	ID	Type	Tests Required
10/25/23	1432	GW BAYSIDE - BAY1-MW7	C022075-01	GRAB	Aqueous			+SAMP KIT
						-01A	PLSTL	EPA 200.7-W (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	mg/L
Depth =	30	Feet
pH =	7.70	pH Units
Temperature =	21.9	C

Field Comments: ~

Field Instructions: ~

Page 1 of 2 for C022075

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

COC #: C022075	Project Title: Bayside Ground Water Project TAT: Standard	Client PM: David Behnken Lab PM: Kristi Schwab Job #:	Expect Date: 10/26/2023 Sampled By: D. Williams ☒ Samples transported on ice

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

Total Containers for: C022075 | 12

	Signature	Print Name	Time	Date
Relinquished by:				
Received by: DW 11/2/2023		David Williams	454 pm	10/23/2023
Relinquished by:				
Received by:				
Relinquished by:				
Received by:		Scott	0900	10/26/2023

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 C022075

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

COC #: C022075	Project Title: Bayside Ground Water Project TAT: Standard	Client PM: David Behnken Lab PM: Kristi Schwab Job #:	Received Date/Time: 10/26/2023 09:00 Received By: Cynthia Soohoo Sampled By: DWilliams Due Date: 11/28/2023

Date	Time	Site/Locator	Sample ID	Type	Matrix	ID	Type	Tests Required
10/25/2023	14:32	GW BAYSIDE - BAY1-MW7	C022075-01	GRAB	Aqueous			+SAMP KIT
						-01A	PLSTL	EPA 200.7-W (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 =	0.0	mg/L
Depth =	30	Feet
pH =	7.70	pH Units
Temperature =	21.9	C

Field Comments:

Field Instructions:

Sample External Comments:

Total Containers for: C022075	12

Page 1 of 4 for C022075

EBMUD

C022075 Sample Acceptance Report

Received: 10/26/2023 09:00
Received By: Cynthia Soohoo

Chain-of-Custody		Comments
Chilled During Transport?	Yes	
Missing or incorrect information	Yes	Relinquish date needs to be verified Sampler signed off on the Received by line
Mode of receipt	Drop-off Room	
Shipping Slip?	No	

Containers		Comments
BACT (120 mL) lot number	Add lot no	
BACTL (290 mL) lot number	Add lot no	
Container and label are legible and match COC?	Yes	
Correct container used with field preservation?	Yes	
Received within holding times?	Yes	
Sufficient volume, undamaged, or uncontaminated?	Yes	

Sample: C022075-01		Comments
Bubbles in ZHS/VOA containers	No	

Intent to chill

Cooler: 1		Comments
Corrected Temp (° C)	4.9	
IR Thermometer Number	IR #13	
Representative temperature taken from	-01	
Uncorrected Temp (° C)	4.5	
Visible ice formed inside sample container?	No	

Acceptance		Comments
PM notified?	N/A	

C022075 Sample Acceptance Report

Received: 10/26/2023 09:00
Received By: Cynthia Soohoo

Samples meet acceptance requirements?	Yes	

Sample Acceptance Preservation Report

COC: C022075

Report Generated: 10/26/2023 09:09

Inventory Item	Inventory ID	Open Date	Prep Date	Expiration Date
Ammonium Hydroxide	ST221116-012	11/16/2022	N/A	11/16/2023
Ammonium Sulfate Buffer (ASB-07)	ST230515-003	N/A	05/15/2023	11/15/2023
Ethylenediamine 12.5 mg/mL (EDA-42)	ST230927-005	N/A	09/27/2023	10/27/2023
Hydrochloric Acid 1+1 (HCl-04)	ST230104-013	N/A	01/04/2023	01/04/2024
NaOH 15 mL 1:1 LDPE dropper	ST230127-020	N/A	N/A	07/31/2024
Nitric Acid Trace Metals Grade	ST221118-013	01/03/2023	N/A	06/30/2024
pH Strip 0-14	ST221220-011	05/23/2023	N/A	07/31/2027
pH Strip 0-6	ST230131-001	01/31/2023	N/A	05/31/2026
pH Strip 6-10	ST230131-026	02/03/2023	N/A	06/30/2026
pH Strip 7-14	ST230126-011	06/27/2023	N/A	10/31/2026
Sulfuric Acid ACS Grade	ST230515-015	06/20/2023	N/A	05/15/2028

Container Number	Container Name	Tests	Preservation Requirement	Result	Initial/ Date
C022075-01A	PLSTL	EPA 200.7-W	HNO3 to pH <2. Preservation Time = 0410	pass	a 10/24 hours
C022075-01C	PLSTM	Hardness	HNO3 to pH <2		
C022075-01F	PSQLT	Ammonia: Titr-AQ	Check Cl2R = 0 [PSQLT], then H2SO4 to pH <2		
C022075-01G	A125N	EPA 552.2	Check Container		
C022075-01H	A125N	EPA 552.2-FR	Check Container		
C022075-01K	VOC4T	EPA 8260B-FR	Check Container		
C022075-01L	VOC4T	EPA 8260B-FR	Check Container	✓	✓

Page 4 of 4 for C022075

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

27 November 2023

EBMUD
Attn: Jack Lim
PO Box 24055
Oakland, CA 94607
RE: Bayside Ground Water Project WDR
Work Order: 23J4201

Enclosed are the results of analyses for samples received by the laboratory on 10/26/23 22:15. 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: Jack Lim	
PO Box 24055	Project: Bayside Ground Water Project WDR	Reported:
Oakland CA, 94607	Project Number: C022075	11/27/23 16:27

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 | ELAP# 3091

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
C022075-01	23J4201-01	Water	10/25/23 14:32	10/26/23 22:15

This represents an amended copy of the original report.
MDL values reported.

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

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: Jack Lim	
PO Box 24055	Project: Bayside Ground Water Project WDR	Reported:
Oakland CA, 94607	Project Number: C022075	11/27/23 16:27

Volatile Organic Compounds by EPA Method 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Analyst	ELAP #	Notes
C022075-01 (23J4201-01) Water	**Sampled: 10/25/23 14:32**		**Received: 10/26/23 22:15**									
Chloroform	ND	0.10	1.0	ug/L	1	AJ35161	10/31/23 07:00	10/31/23 15:33	EPA 8260B	MVA	2303	U
Bromodichloromethane	ND	0.30	1.0	ug/L	1	AJ35161	10/31/23 07:00	10/31/23 15:33	EPA 8260B	MVA	2303	U
Dibromochloromethane	ND	0.20	1.0	ug/L	1	AJ35161	10/31/23 07:00	10/31/23 15:33	EPA 8260B	MVA	2303	U
Bromoform	ND	0.20	1.0	ug/L	1	AJ35161	10/31/23 07:00	10/31/23 15:33	EPA 8260B	MVA	2303	U
Trihalomethanes (total)	ND	0.30	1.0	ug/L	1	AJ35161	10/31/23 07:00	10/31/23 15:33	EPA 8260B	MVA	2303	U
Surrogate: Dibromofluoromethane		*108 %*	*70-130*			*AJ35161*	*10/31/23 07:00*	*10/31/23 15:33*	*EPA 8260B*	*MVA*	2303	
Surrogate: Toluene-d8		*103 %*	*70-130*			*AJ35161*	*10/31/23 07:00*	*10/31/23 15:33*	*EPA 8260B*	*MVA*	2303	
Surrogate: Bromofluorobenzene		*99.0 %*	*70-130*			*AJ35161*	*10/31/23 07:00*	*10/31/23 15:33*	*EPA 8260B*	*MVA*	2303	

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: Jack Lim	
PO Box 24055	Project: Bayside Ground Water Project WDR	Reported:
Oakland CA, 94607	Project Number: C022075	11/27/23 16:27

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 AJ35161 - NB EPA 5030 Water GCMS											
Blank (AJ35161-BLK1)					Prepared & Analyzed: 10/30/23						
1,1-Dichloroethene	ND	0.50	1.0	ug/L							U
Benzene	ND	0.50	1.0	ug/L							U
Trichloroethene	ND	0.50	1.0	ug/L							U
Toluene	ND	0.50	1.0	ug/L							U
Chlorobenzene	ND	0.50	1.0	ug/L							U
Surrogate: Dibromofluoromethane	*21.4*			*ug/L*	*20.0*		*107*	*70-130*			
Surrogate: Toluene-d8	*20.3*			*ug/L*	*20.0*		*102*	*70-130*			
Surrogate: Bromofluorobenzene	*18.9*			*ug/L*	*20.0*		*94.5*	*70-130*			
Matrix Spike (AJ35161-MS1)		**Source: 23J4044-03**			Prepared & Analyzed: 10/30/23						
1,1-Dichloroethene	23.4	0.50	1.0	ug/L	25.0	ND	93.7	70-130			
Benzene	23.9	0.50	1.0	ug/L	25.0	ND	95.7	70-130			
Trichloroethene	22.3	0.50	1.0	ug/L	25.0	ND	89.1	70-130			
Toluene	24.7	0.50	1.0	ug/L	25.0	ND	98.8	70-130			
Chlorobenzene	24.8	0.50	1.0	ug/L	25.0	ND	99.0	70-130			
Surrogate: Dibromofluoromethane	*19.8*			*ug/L*	*20.0*		*99.1*	*70-130*			
Surrogate: Toluene-d8	*20.8*			*ug/L*	*20.0*		*104*	*70-130*			
Surrogate: Bromofluorobenzene	*18.7*			*ug/L*	*20.0*		*93.3*	*70-130*			
Matrix Spike Dup (AJ35161-MSD1)		**Source: 23J4044-03**			Prepared & Analyzed: 10/30/23						
1,1-Dichloroethene	20.6	0.50	1.0	ug/L	25.0	ND	82.2	70-130	13.0	25	
Benzene	21.3	0.50	1.0	ug/L	25.0	ND	85.2	70-130	11.5	25	
Trichloroethene	20.6	0.50	1.0	ug/L	25.0	ND	82.4	70-130	7.84	25	
Toluene	21.5	0.50	1.0	ug/L	25.0	ND	85.8	70-130	14.0	25	
Chlorobenzene	22.3	0.50	1.0	ug/L	25.0	ND	89.0	70-130	10.6	25	
Surrogate: Dibromofluoromethane	*22.4*			*ug/L*	*20.0*		*112*	*70-130*			
Surrogate: Toluene-d8	*20.4*			*ug/L*	*20.0*		*102*	*70-130*			
Surrogate: Bromofluorobenzene	*19.6*			*ug/L*	*20.0*		*97.8*	*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: Jack Lim	
PO Box 24055	Project: Bayside Ground Water Project WDR	Reported:
Oakland CA, 94607	Project Number: C022075	11/27/23 16:27

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

* ELAP does not offer accreditation in this matrix for the requested analyte/method combination

ISOTECH
a Stratum Reservoir brand
www.isotechlabs.com

Lab #:	896191	Job #:	56573	IS-69368	Co. Job#:
Sample Name:	23J4201-01				Co. Lab#:
Company:	Alpha Analytical Laboratories, Inc.				
API/Well:					
Container:	500ml Plastic Bottle				
Field/Site Name:	23J4201				
Location:					
Formation/Depth:					
Sampling Point:	C022075-01				
Date Sampled:	10/25/2023 14:32	Date Received:	11/06/2023	Date Reported:	11/20/2023

δD of water	----------	-49.5 ‰ relative to VSMOW
$\delta^{18}O$ of water	----------	-7.36 ‰ 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

2354201

1.1°C

EBMUD

East Bay Municipal Utility District Laboratory Services Subcontract Chain of Custody

COC #: C022075	Project Title: Bayside Ground Water Project	Lab PM: Kristi Schwab (510) 287-1696 Shipping Method: Alpha Courier	Sampled By: DWilliams
	TAT: Standard	PO#: BRD-13921-AX Expiration: 12/31/2023	Submitted Date: 10/26/2023

Date	Time	Sample ID	Location/PS Code	Matrix	Container ID	Type	Tests Required	Method Reference
10/25/2023	14:32	C022075-01	GW BAYSIDE - BAY1-MW7	Aqueous	-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). THMs by EPA 8260 (report individual THM results and total sum).								
Total containers received:				4				

	Signature	Print Name	Time	Date
Relinquished by:		SHIPPED	1155	10/26/2023
Received by:		Michael Lorenzo	11:55	10/26/23
Relinquished by:				
Received by:	JW	John Willis	1900	10-26-23
Relinquished by:	JW		2215	10-26-23
Received by:	JW	John Willis	2215	10-26-23

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

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

Laboratory Services Division
ELAP#1060

wko_UKtoNB_COC.rpt

WORK ORDER

23J4201

Printed: 10/30/2023 11:25:50AM

Alpha Analytical Laboratories Ukiah to North Bay Chain of Custody

Client: EBMUD **Client Code:** RP_EBMUD **Bid:** 1_Master Price Sheet
Project: Bayside Ground Water Project WDR **Project Number:** C022075 **PO #:**

Date Due: 11/10/23 15:00 (10 day TAT)
Received By: John Willis Date Received: 10/26/23 22:15
Logged In By: Aaron J. Kooyers Date Logged 10/30/23 10:59

Samples Received at: _____ deg C All containers received and intact: YES NO

Analysis	Department	Expires	Comments
23J4201-01 C022075-01 [Water] Sampled 10/25/23 14:32			
NB 8260 THMs	NB GCMS	11/08/23 23:59	

Containers Supplied:
VOA Vial - Na2S2O3 (B)
VOA Vial - Na2S2O3 (C)
VOA Vial - Na2S2O3 (D)

Relinquished By	10/30/23	Time	Received By	10/31/23	Time
Relinquished By	10/31/23	Time	Received By	10/31/23	Time

Page 1 of 1