



February 28, 2022

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, 2021 Annual Report, Order No. R2-2007-0038

Dear Ms. Karpowicz:

In accordance with the Waste Discharge Requirements of Order No. R2-2007-0038, the East Bay Municipal Utility District (EBMUD) is submitting the enclosed 2021 annual self-monitoring report (SMR) for the Bayside Groundwater Project. There were no exceedances of the permit's water quality limits.

Table 1 includes construction details for the project's groundwater monitoring wells. Table 2 summarizes historical injected and recovered water volumes. No injection of treated drinking water in the Bayside Well occurred in 2021, and no extraction events took place in 2021.

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

Table 3 summarizes groundwater level elevations and depths; Table 4 presents the vertical hydraulic gradients at MW-5S, MW-5I, and MW-5D; and Tables 5 and 6 contain current and historical groundwater quality results. Figure 1 is a well location map; Figures 2 and 3 present the groundwater elevation contours on August 1, 2021 and March 1, 2021, respectively; and Figure 4 shows TDS concentration contours. Attachment B contains figures showing the monitoring wells' groundwater elevation trends in 2021.

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

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

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CERTIFICATION

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

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

Sincerely,

A handwritten signature in blue ink, appearing to read "Chandra Johannesson", with a long horizontal flourish extending to the right.

Chandra Johannesson
Manager of Environmental Compliance



February 28, 2022

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, 2021 Annual Report,
Waste Discharge Requirements Order No. R2-2007-0038**

Dear Mr. Behnken:

Larry Walker Associates (LWA) has prepared this 2021 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 2021. Groundwater samples were collected on October 12, October 13, November 1, and November 2 for analytical testing. Groundwater elevations and analytical results are provided in this Report, along with results from previous years in accordance with the SMRP, for evaluation of long-term trends.

This Report addresses the following topics:

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

PROJECT OVERVIEW

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

The Bayside Well is an Aquifer Storage and Recovery (ASR) well designed, constructed, and operated for injection of treated drinking water from EBMUD's distribution system into the South East Bay Plain Groundwater Basin for aquifer storage during wet years and, later, for recovery as a source of supplemental drinking water supply for EBMUD during dry years. No injection of treated drinking water took place 2021. No extraction of water occurred during 2021.

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

REGULATORY REQUIREMENTS

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

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

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

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

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

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

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

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

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

INJECTION AND RECOVERY ACTIVITIES

No injection of treated drinking water in the Bayside Well took place in 2021 and no extractions from the Bayside Well occurred in 2021. 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 2021.

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 2021 groundwater samples from the required monitoring wells. The required annual water quality sampling was performed on October 12, October 13, November 1, and November 2.

Submersible pumps fitted with new tubing were used to purge and sample groundwater monitoring wells MW-2S, MW-2I, MW-4, MW-5D, MW-6 and MW-7. The Bayside Well was purged using the dedicated downhole turbine pump with the sample collected from a spigot at the wellhead. Purge water was disposed of on permeable ground adjacent to monitoring wells. Purge water from the Bayside Well was pumped to an onsite holding tank and eventually discharged to Oro Loma Sanitary District (OLSD) under an ‘over the counter’ permit per OLSD Ordinance No. 35-16, including Attachment A to Resolution No. 3627. No surface water discharges occurred during the 2021 reporting period.

Groundwater monitoring and sampling were completed using the following procedures:

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

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

GROUNDWATER ELEVATIONS AND FLOW DIRECTIONS

Static depth to groundwater levels measured prior to well purging and sampling in 2021 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 2021 (**Attachment B**). These elevations were calculated by EBMUD staff. It should be noted that MW-7, which was damaged in prior years and unable to generate water quality samples, was repaired on December 6, 2018, and modified with a flush mount surface, resulting in a groundwater elevation shift.

Groundwater elevation contour maps were generated using groundwater elevation data collected at specific times using the pressure transducers. Groundwater elevation contours for August 1, 2021, corresponding to a low tide in San Francisco Bay, are shown on **Figure 2**. Groundwater elevation contours for March 1, 2021, corresponding to a high tide in San Francisco Bay, are

shown on **Figure 3**. As shown on **Figures 2** and **Figure 3**, the groundwater flow direction was primarily to the west at low tide (**Figure 2**) and southeasterly at high tide (**Figure 3**). The horizontal hydraulic gradients were variable with lower gradients generally further from the bay and higher gradients closer to the bay.

Groundwater elevations during low tide ranged from -6.15 feet above mean sea level (amsl) to -5.79 feet amsl for the five wells shown on **Figure 2**. Groundwater elevations during high tide ranged from -2.07 feet amsl to -3.43 feet amsl at the same wells (**Figure 3**).

Vertical hydraulic gradients were calculated based on groundwater elevations and the distance to the center of the screened interval specified in **Table 4** for the nested wells MW-5S, MW-5I, and MW-5D. Specifically, vertical gradients were calculated for a low tide using groundwater elevation data from around 1:00 on August 1, 2021, and for a high tide using groundwater elevation data from around 13:00 on March 1, 2021. 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 feet per foot. These results are consistent with the vertical gradients reported in previous Annual Reports.

GROUNDWATER QUALITY RESULTS

The 2021 analytical results are included in the following tables, along with historical water quality results for the previous seven years (2014 through 2020):

- **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 2021 water quality data are provided in **Attachment C**.³ The laboratory report for the Bayside Well also includes data collected by EBMUD for additional constituents beyond those presented in **Table 5** and **Table 6**. These results are for “Title 22” parameters that would be of interest in a future water system permit application to the State.

For wells with historical data (Bayside Well, MW-2S, MW-2I, MW-4, MW-5D, MW-6 and MW-7), the 2021 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 2021 groundwater quality results summarized in **Table 5**, TDS has been used as a representative constituent to evaluate overall groundwater quality conditions. The isoconcentration contours shown on **Figure 4** are based on TDS concentrations for deep

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

monitoring wells, including the Bayside Well, MW-4, MW-5D, MW-6 and MW-7. The isoconcentration contours indicate the lowest concentration of 150 milligrams per liter (mg/L) occurs at the Bayside Well with increasing TDS concentrations in a northerly direction (i.e. further inland). The highest TDS concentration of 470 mg/L was detected at well MW-5D. Therefore, TDS concentrations decrease along the southerly groundwater flow direction (**Figure 4**).

The current DBPs data summarized in **Table 6** are consistent with the historical groundwater monitoring results with all but one constituent below the method detection limits (MDLs) in each well. This exception is chloroform at 0.848 µg/L at the Bayside well. In addition, the combined DBPs as HAA(5),⁴ HAA(9),⁵ and TTHMs are within the range of historical results in the monitoring wells. These data indicates there are no exceedances of the Permit's water quality limits for HAAs and TTHMs at 60 µg/L and 80 µg/L, respectively.

CONCLUSIONS

EBMUD conducted the 2021 groundwater monitoring for the Bayside Groundwater Project site in accordance with the Self-Monitoring and Reporting Program of Waste Discharge Requirements Order No. R2-2007-0038. EBMUD will continue to implement groundwater monitoring for the Group 3 wells during 2022. The 2022 Annual Report will be submitted to the Regional Board by March 1, 2023.

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

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

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- Attachment A. Groundwater Purging Logs
- Attachment B. Groundwater Elevation Trends for Monitoring Wells
- Attachment C. Analytical Lab Reports for 2021 Water Quality Monitoring

LIST OF REFERENCES

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

East Bay Municipal Utility District Bayside Groundwater Project Annual Report 2021

Prepared for

East Bay Municipal Utility District
February 2022

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



Alina Constantinescu

Alina Constantinescu
P.E. C72181



Table 1. Groundwater Monitoring Well Construction Details

Well ID	Latitude	Longitude	Address	City	Completion Date	Drilled Depth, feet bgs ^(a)	Casing Depth, feet bgs	Depth to Top of Perforation, feet bgs	Depth to Bottom of Perforation, feet bgs	Casing Diameter, inches	Reference Elevation, feet amsl ^(b)	Reference Location on Well	
MW-1	37° 40' 4.8"	122° 9' 25.2"	2600 Grant Avenue	San Lorenzo		665	650	520	640	2	8.71	Top of steel casing	
MW-2S						210	60	40	60	2	9.90	Top of steel casing	
MW-2I ^(c)						210	200	160	190	2			
MW-3	37° 40' 4.8"	122° 9' 28.8"					665	660	520	650	2	8.12	Top of steel casing
MW-4	37° 40' 11.6"	122° 9' 28.8"	2575 Grant Avenue				705	650	520	650	2	8.96	Top of steel rim
MW-5S	37° 40' 34.4"	122° 9' 06.6"	2006 Via Barrett			Sep. 2008	460	210	200	210	2	13.88	Seal of vault lid at easterly edge
MW-5I	37° 40' 34.4"	122° 9' 06.6"	2005 Via Barrett			Sep. 2008	460	325	315	325	2		
MW-5D	37° 40' 34.4"	122° 9' 06.6"	2007 Via Barrett			Feb. 2001	1,025	640	500	630	4		
MW-6	37° 40' 07"	122° 9' 04.5"	15600 Worthley			Nov. 2000	1,000	655	480	650	4	9.46	Top of casing at easterly edge
MW-7	37° 39' 56.5"	122° 8' 44.2"	Western tip of San Lorenzo Park			Dec. 2018	972	680	510	630	4	7.70	Top of vault lid ^(e)
MW-8D	37° 43' 04"	122° 11' 50.3"	1970 Davis Street				910	490	420	480	2	14.76	Top of steel rim
MW-9S	37° 41' 11"	122° 6' 46"	589 E. Lewelling Avenue			Jan. 2008	460	120	110	120	2	54.39	Seal of vault lid at westerly edge
MW-9I					Jan. 2008	460	210	200	210	2			
MW-9D ^(d)					Jan. 2008	460	335	325	335	2			
MW-10S	37° 41' 19"	122° 9' 43"	15526 Wick Boulevard	San Leandro	Sep. 2008	680	120	100	120	2	11.76	Seal of vault lid at easterly edge	
MW-10I					Sep. 2008	680	360	340	360	2			
MW-10D					Sep. 2008	680	610	590	610	2			

(a) bgs = below ground surface

(b) amsl = above Mean Sea Level

(c) Well MW-2I is referred to in the Permit as "MW-2D."

(d) Well MW-9D is referred to in the Permit as "MW-9."

(e) Well surface completion was modified to fix the monitoring well. An estimated Reference Elevation is shown until MW-7 is resurveyed. The difference between the new top of casing reference point and the original flush mounted vault at ground surface of ~7.4 feet was measured to be ~0.3 feet.

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
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

(a) Groundwater elevation is averaged over the measurement date period from transducer data, and used to calculate the depth to groundwater using the surveyed elevation.
 (b) Gray shaded cells indicate that no monitoring was required for the well at that time period, reflecting the transition between monitoring groups.
 (c) Applicable well reference elevations are different from those in Table 1.
 (d) Well MW-7 was damaged in 2012, and accurate data collection was not feasible until 2016. In 2017, a sample wasn't collected because the pump EBMUD owns was found to be incompatible with the well.
 (e) Well MW-6 was not monitored in late 2015 due to a pump equipment failure.
 (f) Depth to Groundwater for MW-1 was incorrectly reported between 2015 and 2020 due to measurement errors.

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

Nested Well	Measurement Date and Time	Screened Interval, ft	Center of Screened Intervals, ft bgs	Groundwater Elevation, ft amsl	Shallow to Intermediate Vertical Gradient, ft/ft	Intermediate to Deep Vertical Gradient, ft/ft	Shallow to Deep Vertical Gradient, ft/ft	Vertical Gradient Direction
Low Tide								
MW-5S	8/1/2021 @ 05:00	200 - 210	205	7.90	0.026	--	0.038	downward
MW-5I	8/1/2021 @ 05:00	315 - 325	320	4.91		0.043		
MW-5D	8/1/2021 @ 05:00	500 - 630	575	-6.12		--		
High Tide								
MW-5S	3/1/2021 @ 13:00	200 - 210	205	11.43	0.050	--	0.038	downward
MW-5I	3/1/2021 @ 13:00	315 - 325	320	5.69		0.033		
MW-5D	3/1/2021 @ 13:00	500 - 630	575	-2.77		--		

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

Sample Date	General Water Quality Parameters								Standard Minerals									
	pH	Chlorine Residual, mg/L	TDS, mg/L	Ammonia, mg/L	Nitrate as N, mg/L	Chloride, mg/L	Manganese, µg/L	Iron, µg/L	Calcium, mg/L	Magnesium, mg/L	Potassium, mg/L	Sodium, mg/L	Sulfate, mg/L	Hardness, mg/L	Alkalinity (as CaCO ₃)			
															Total, mg/L	Hydroxide, mg/L	Carbonate, mg/L	Bicarbonate, mg/L
Bayside Well																		
12/17/2014	8.19	ND	130	0.42	<0.009	15	23.0	52.3	14.7	3.88	1.07	28.0	15	70	69	<0.1	0.99	68
11/16/2015	7.68	0.10	75	<0.3	<0.009	15	22.3	215	13.5	3.64	1.01	23.3	16	48	70	<0.1	<0.1	70
12/7/2016	8.09	0.10	140	0.11	<0.009	17	16.2	70.2	16.4	4.15	1.13	27.1	18	55	68	<0.1	<0.1	68
12/5/2017	7.91	ND	150	0.25	<0.040	16	12.9	66.5	16.5	4.17	1.19	25.0	21	62	68	<0.1	<0.1	68
12/5/2018	7.93	<0.02	170	0.280	0.12	13	13.2	946	23.2	7.66	1.34	24.0	32	94	89	<0.10	<0.10	89
10/8/2019	6.85	<0.02	190	<0.25	<0.035	15	17.0	75.6	21.5	6.65	1.30	24.7	34	87	95	<0.10	<0.10	95
8/25/2020	8.10	0.20	160	<0.25	0.20	13	11.7	269	19.9	6.32	1.19	21.5	23	84	88	<0.10	<0.10	88
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
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
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
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	102.0	38	100	230	<5.0	<5.0	230

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

Sample Date	General Water Quality Parameters								Standard Minerals									
	pH	Chlorine Residual, mg/L	TDS, mg/L	Ammonia, mg/L	Nitrate as N, mg/L	Chloride, mg/L	Manganese, µg/L	Iron, µg/L	Calcium, mg/L	Magnesium, mg/L	Potassium, mg/L	Sodium, mg/L	Sulfate, mg/L	Hardness, mg/L	Alkalinity (as CaCO ₃)			
															Total, mg/L	Hydroxide, mg/L	Carbonate, mg/L	Bicarbonate, mg/L
MW-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
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
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

^(a) Symbols and data qualifiers are described as follows:
 "<" or "ND" indicates non-detect (ND) results, with the Method Detection Limit (MDL) shown as the value following "<".
 "B" preceding a value indicates that the parameter was detected in the laboratory blank associated with the reported result.
 "E" preceding a value indicates a detected results with a value reported as "estimated" between the MDL and the Reporting Limit.
 "--" indicates that no result was reported for the analyte on the corresponding sample date.
^(b) The analytical laboratory report notes that the analysis for nitrate exceeded the hold time for the MW-2S sample collected 12/13/2014.
^(c) Well MW-6 was not sampled in 2015 due to pump equipment failure.
^(d) The analytical laboratory report notes that the analysis for nitrate exceeded the hold time for the MW-6 sample collected 8/13/2020.
^(e) Well MW-7 was not sampled in 2016 and 2017 because the pump EBMUD owns was found to be incompatible with the well.

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

Sample Date	Haloacetic Acids											Trihalomethanes				
	HAA(5), ^(b) µg/L	HAA(9), ^(c) µg/L	Bromochloroacetic Acid, µg/L	Bromodichloroacetic Acid, µg/L	Chlorodibromoacetic Acid, µg/L	Dibromoacetic Acid, µg/L	Dichloroacetic Acid, µg/L	Monobromoacetic Acid, µg/L	Monochloroacetic Acid, µg/L	Tribromoacetic Acid, µg/L	Trichloroacetic Acid, µg/L	TTHMs, ^(d) µg/L	Chloroform, µg/L	Bromodichloromethane, µg/L	Dibromochloromethane, µg/L	Bromoform, µg/L
Bayside Well																
12/17/2014	ND	ND	<0.15	<0.31	<0.31	<0.25	<0.18	<0.29	<0.65	<0.72	<0.17	<0.89	0.45	<0.079	<0.13	<0.23
11/16/2015	1.7	<3.2	<0.15	<0.31	<0.31	<0.25	<0.18	<0.29	<0.65	<0.72	0.36	<0.98	0.37	<0.145	<0.20	<0.27
12/7/2016	ND	ND	<0.15	<0.31	<0.31	<0.25	<0.18	<0.29	<0.65	<0.72	<0.17	<4.95	4.4	0.19	<0.13	<0.23
12/5/2017	1.6	<3.1	<0.15	<0.31	<0.31	<0.25	<0.18	<0.29	<0.65	<0.72	0.26	<15.56	14	1.2	<0.13	<0.23
12/5/2018	<10.4	<12.8	<0.15	1.2	<0.31	1.1	3.4	<0.29	<0.65	<0.72	5.0	<35.22	29.71	3.56	1.65	<0.3
10/8/2019	<1.5	3.3	<0.15	<0.31	<0.31	<0.25	<0.18	<0.29	<0.65	0.99	<0.17	10.51	9.14	0.67	<0.4	<0.3
8/25/2020	1.6	3.6	<0.16	<0.20	1.20	<0.28	<0.25	<0.25	<0.25	<0.35	0.61	30.82	28.26	1.86	<0.4	<0.3
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
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
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
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

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

Sample Date	Haloacetic Acids											Trihalomethanes				
	HAA(5), ^(b) µg/L	HAA(9), ^(c) µg/L	Bromochloroacetic Acid, µg/L	Bromodichloroacetic Acid, µg/L	Chlorodibromoacetic Acid, µg/L	Dibromoacetic Acid, µg/L	Dichloroacetic Acid, µg/L	Monobromoacetic Acid, µg/L	Monochloroacetic Acid, µg/L	Tribromoacetic Acid, µg/L	Trichloroacetic Acid, µg/L	TTHMs, ^(d) µg/L	Chloroform, µg/L	Bromodichloromethane, µg/L	Dibromochloromethane, µg/L	Bromoform, µg/L
MW-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
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
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

^(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.

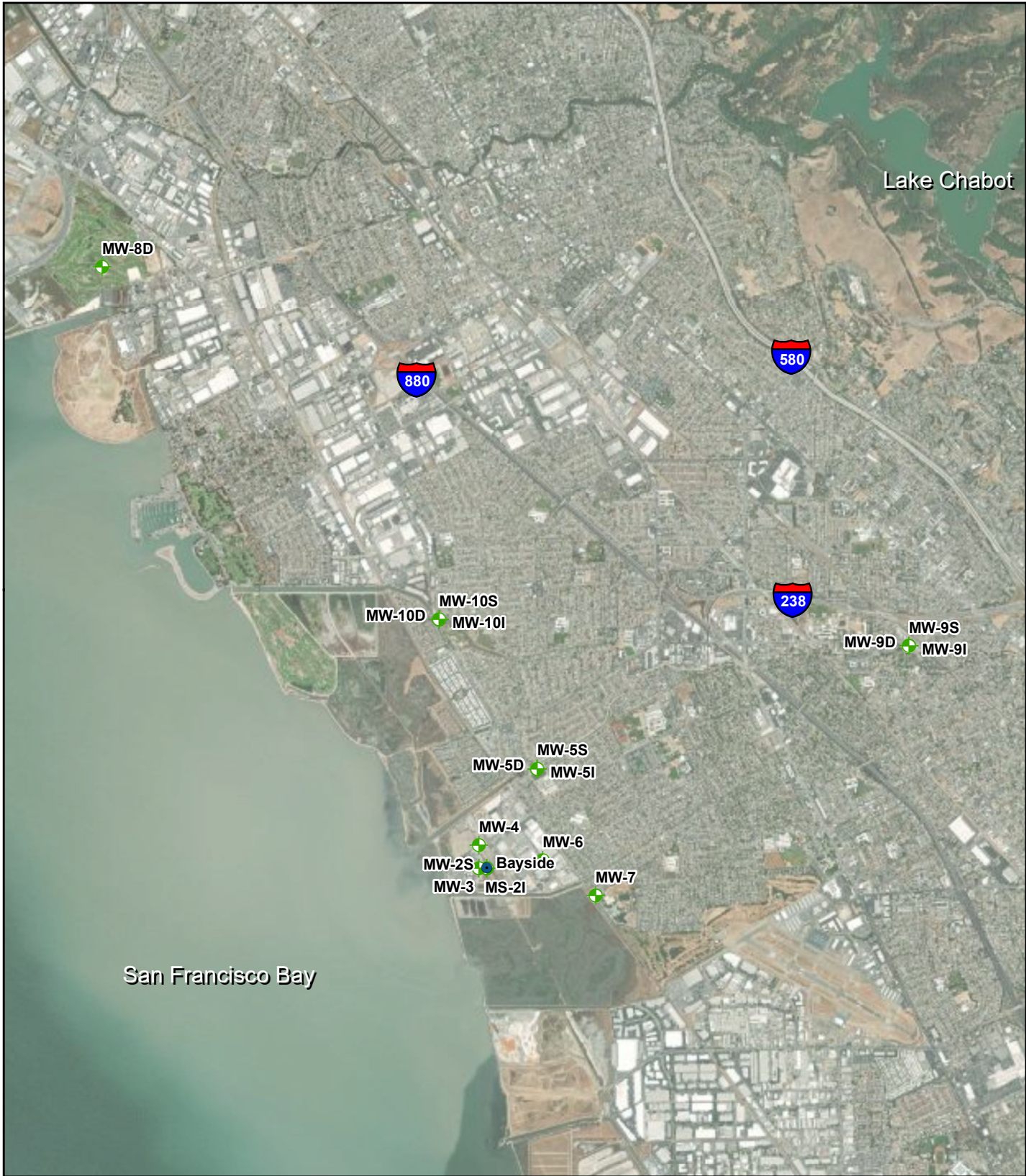
^(d) TTHMs value is calculated by adding individual trihalomethane results (including MDLs for ND data). If ND data is included, "<" is indicated with the TTHMs result.

^(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.



LEGEND

-  Groundwater Monitoring Well
-  Bayside Aquifer Storage and Recovery Well

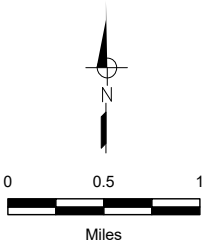
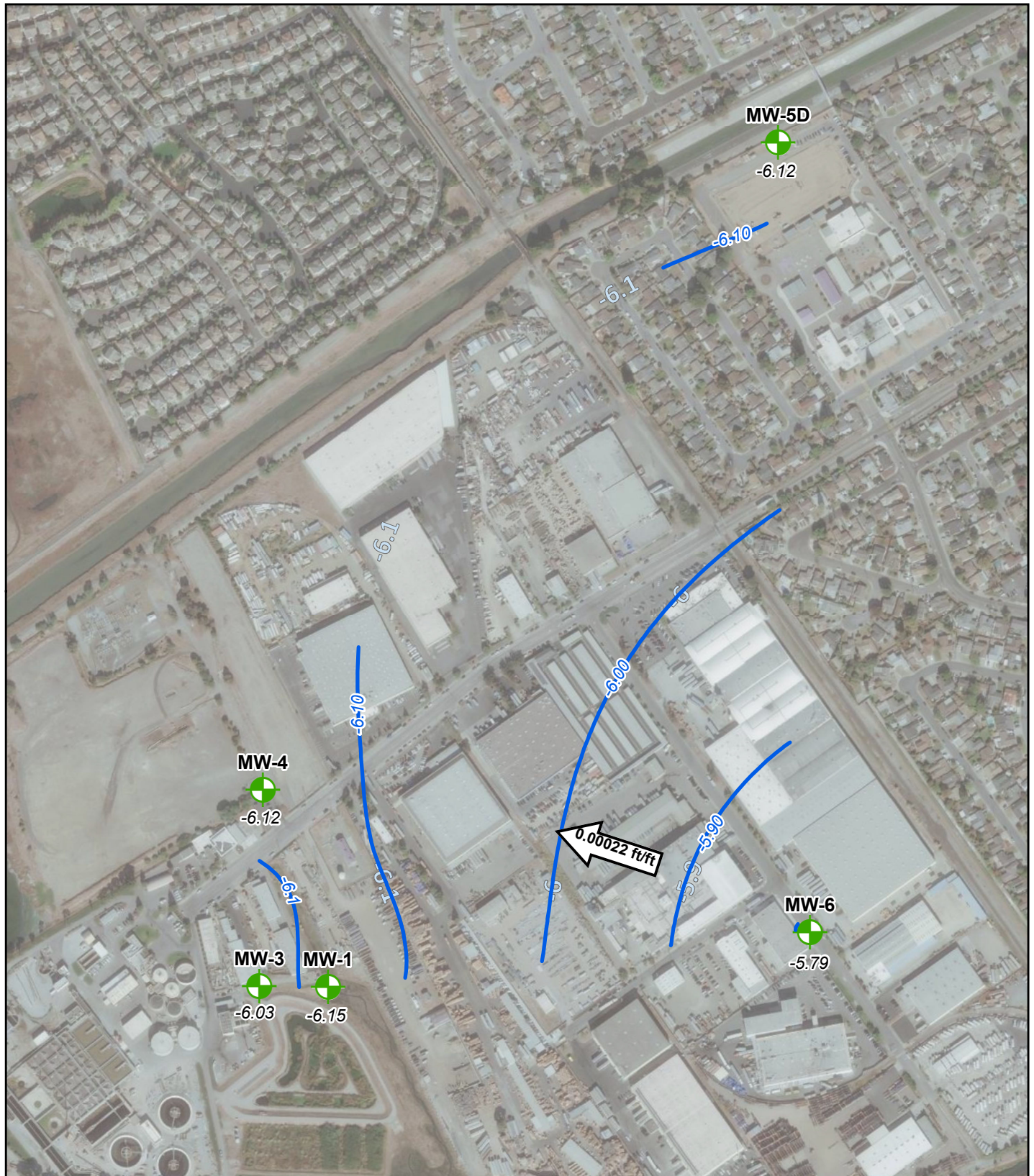






FIGURE 1


**East Bay Municipal Utility District
2021 Bayside Annual Report**

Well Location Map



LEGEND

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

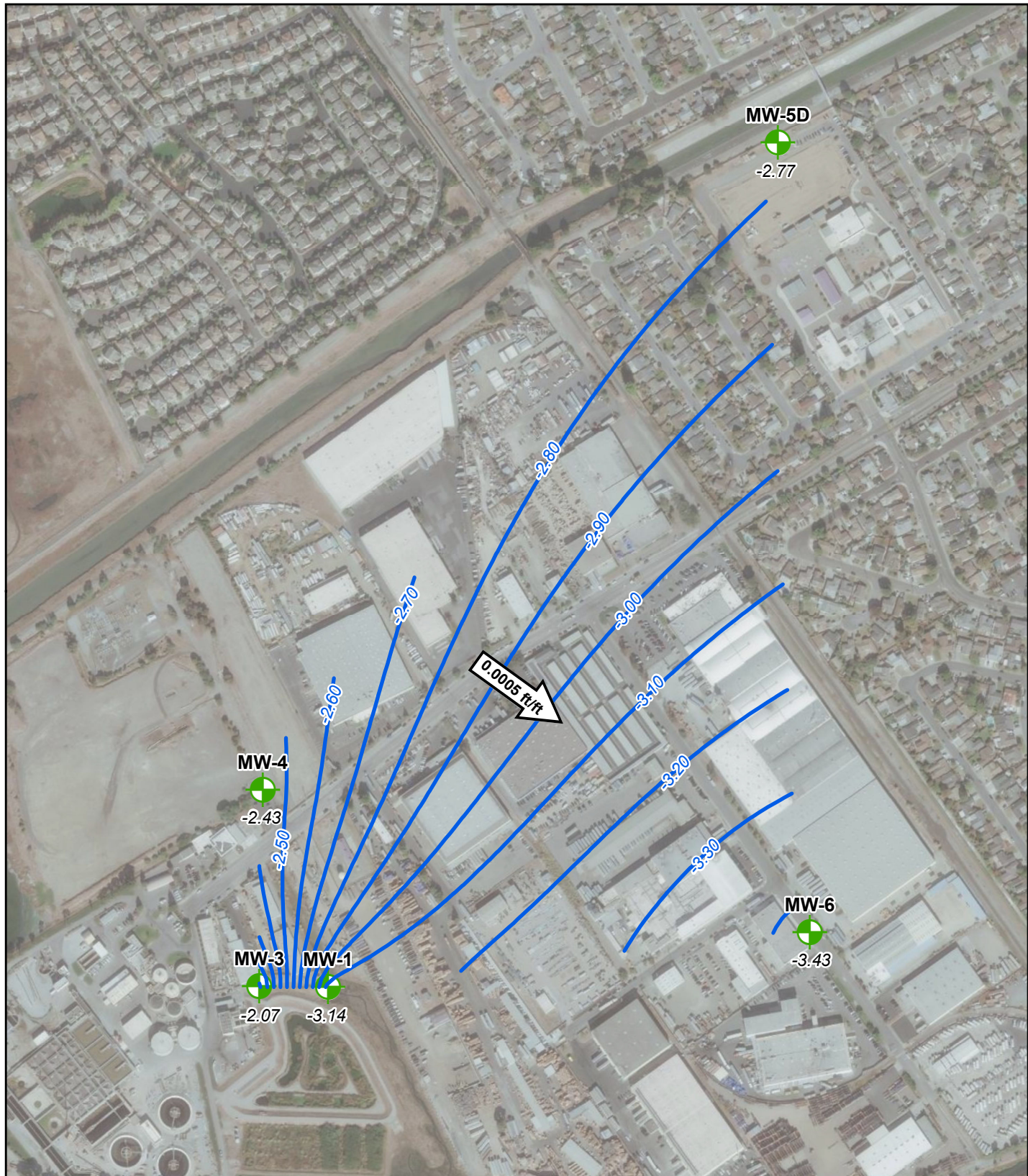


Scale in Feet





FIGURE 2


**East Bay Municipal Utility District
2021 Bayside Annual Report**

**Groundwater Elevation Contours
Low Tide (August 1, 2021)**



LEGEND

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



Scale in Feet



FIGURE 3

**East Bay Municipal Utility District
2021 Bayside Annual Report**

**Groundwater Elevation Contours
(High Tide March 1, 2021)**



LEGEND

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

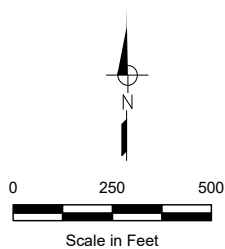


FIGURE 4

**East Bay Municipal Utility District
2021 Bayside Annual Report**

**Groundwater TDS Contours
October 2021**

Attachment A – Groundwater Purging Logs

Attachment B – Groundwater Elevation Trends for Monitoring Wells

Figure B-1. 2021 MW-1 Groundwater Elevation Trend

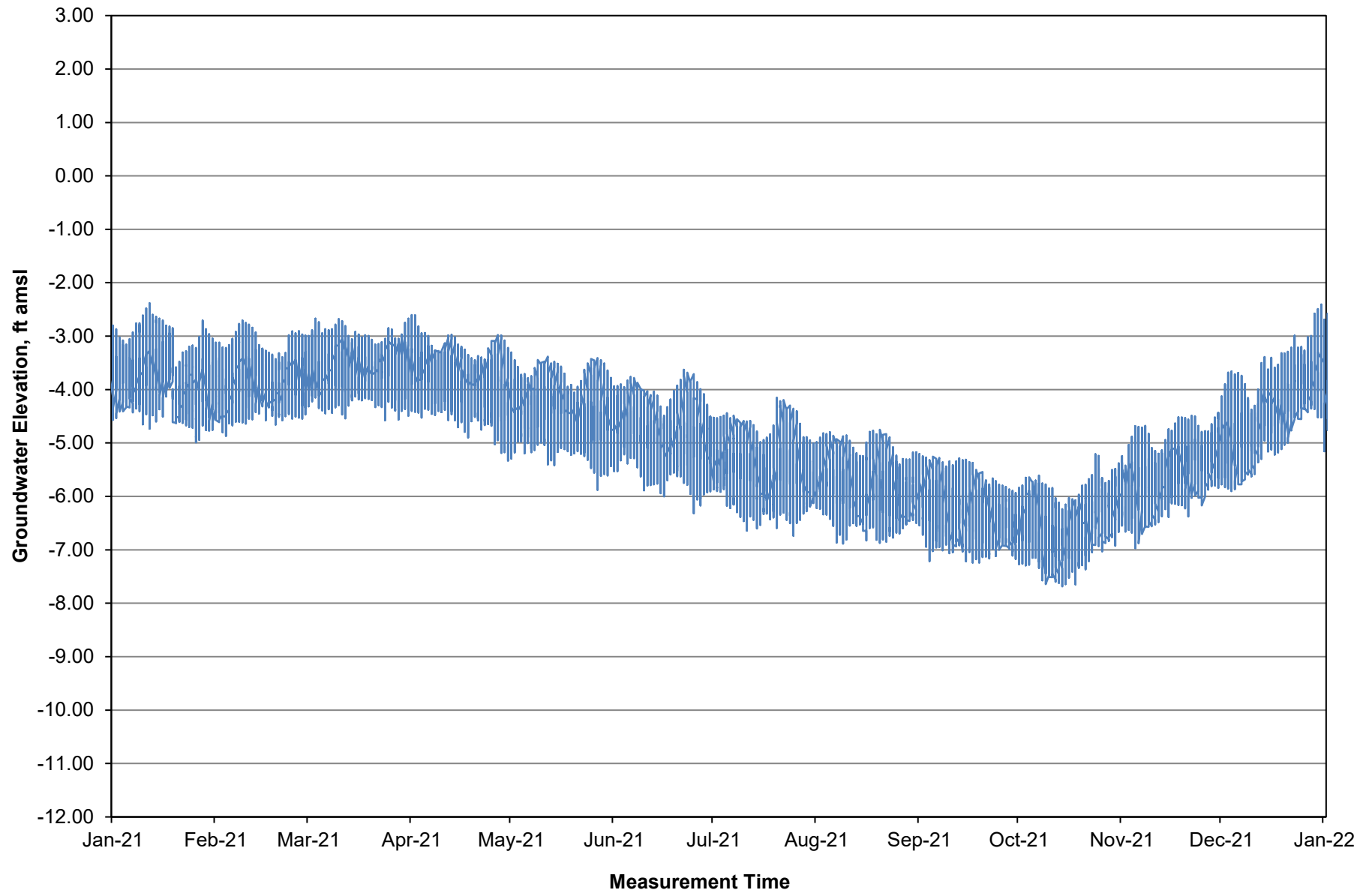


Figure B-2. 2021 MW-2S Groundwater Elevation Trend

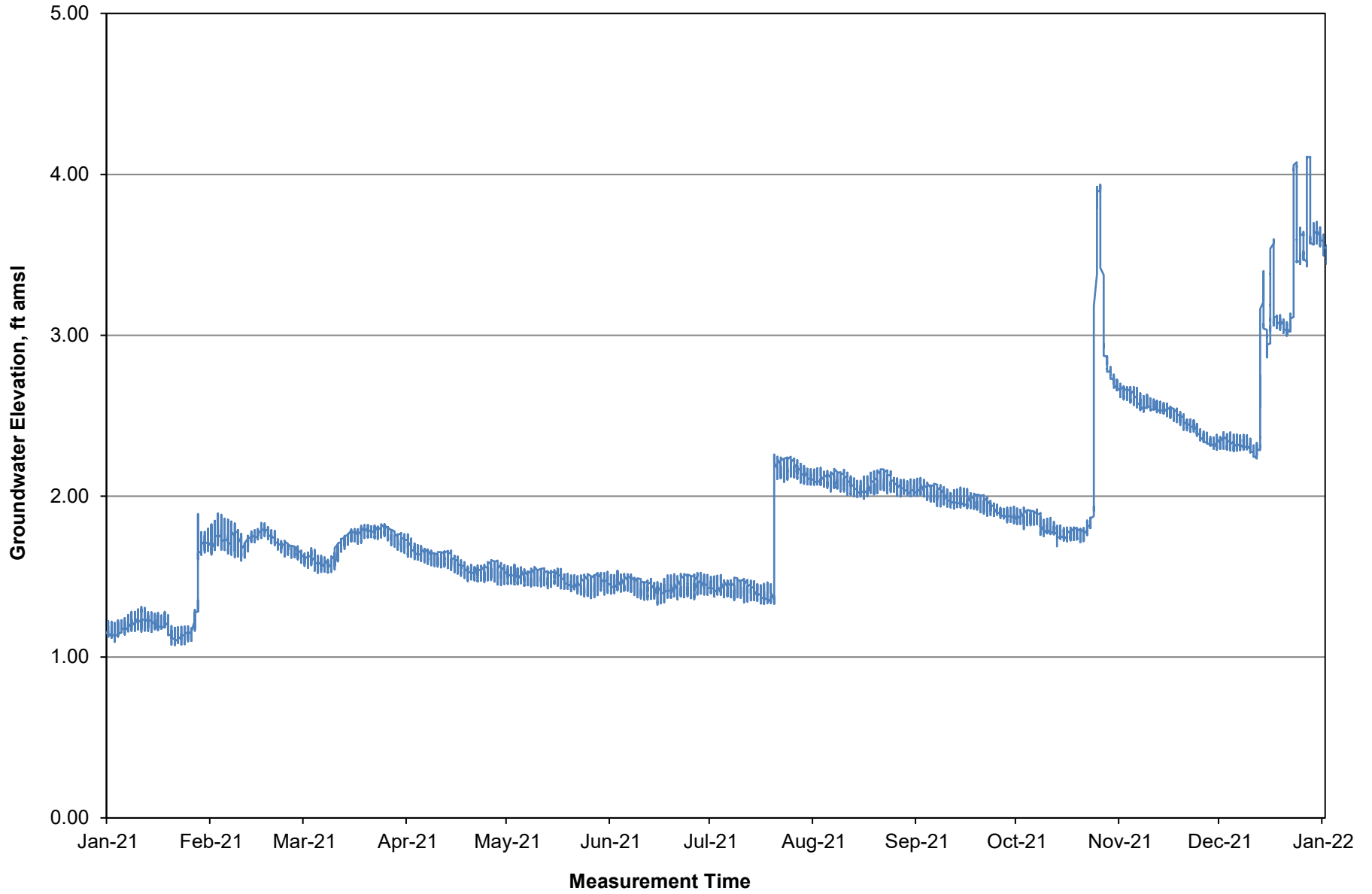


Figure B-3. 2021 MW-21 Groundwater Elevation Trend

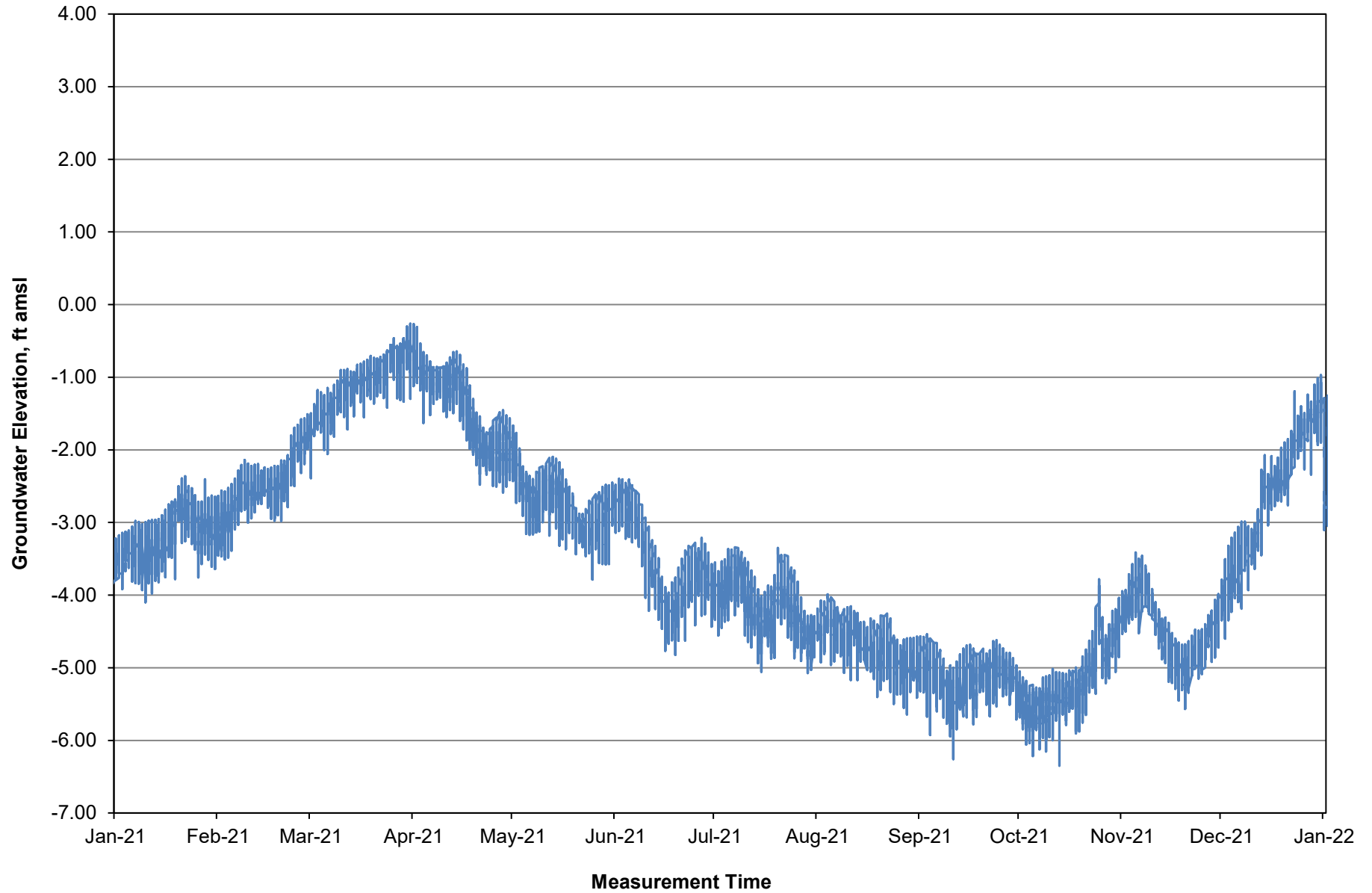


Figure B-4. 2021 MW-3 Groundwater Elevation Trend

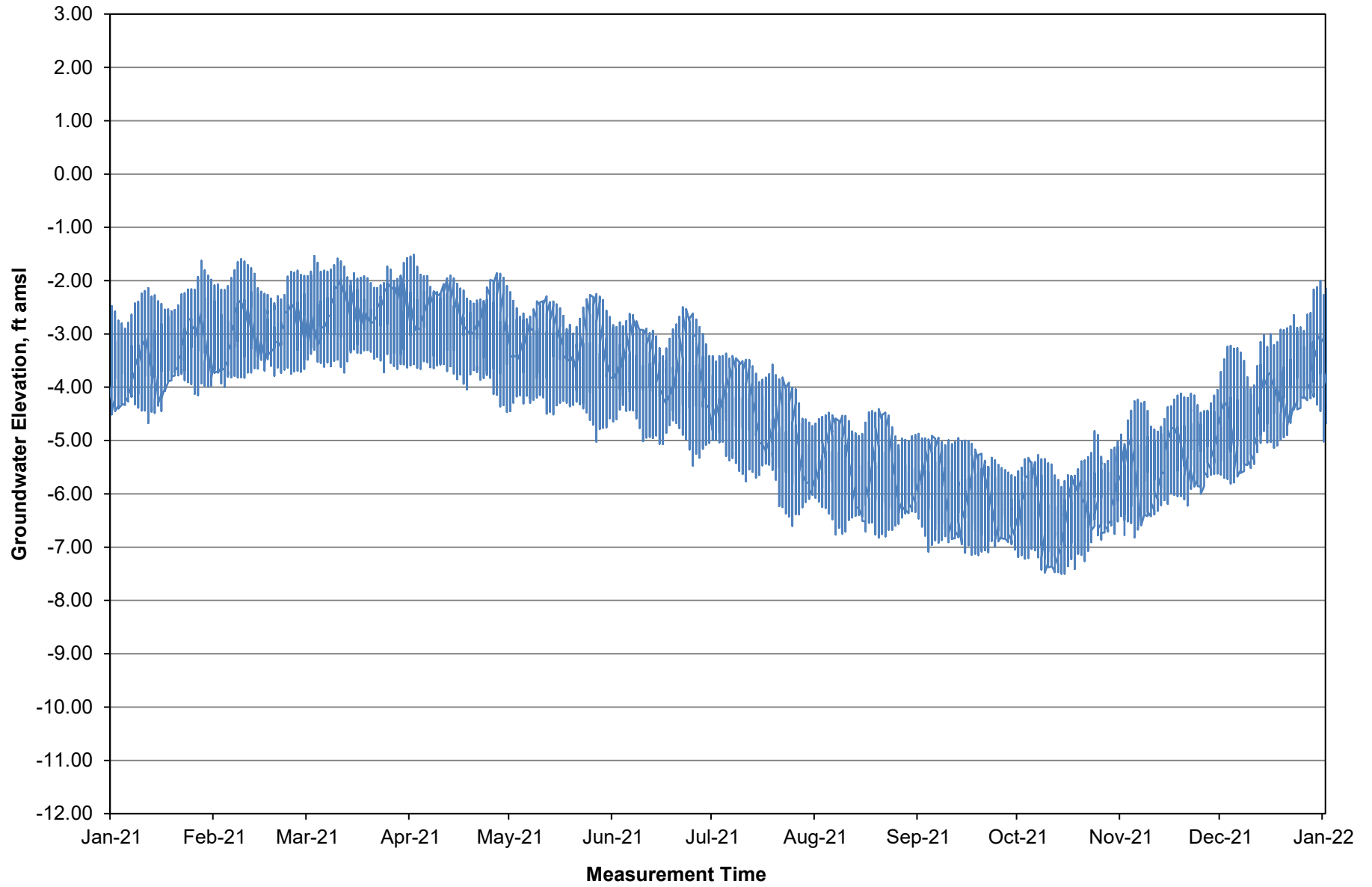


Figure B-5. 2021 MW-4 Groundwater Elevation Trend

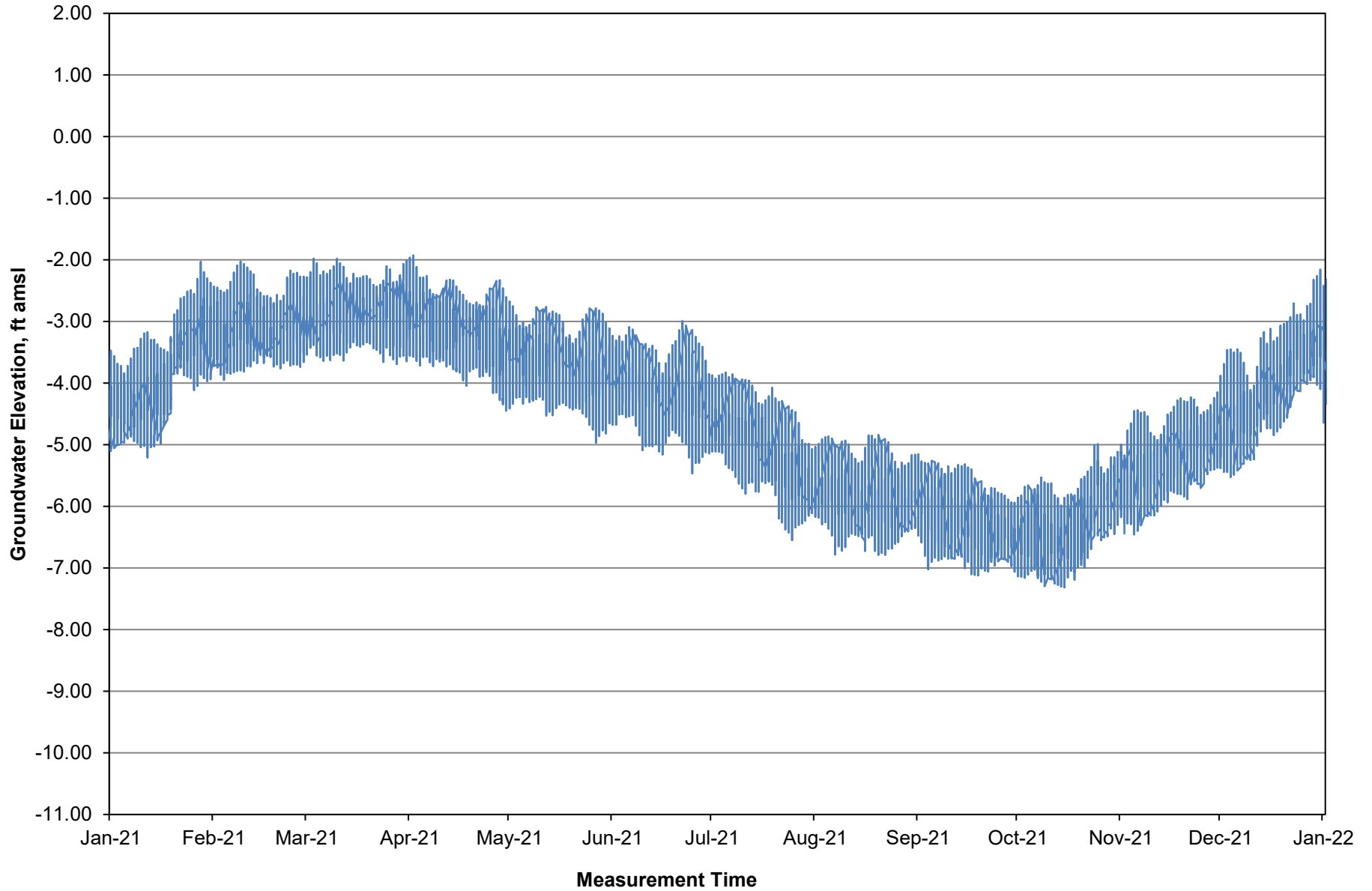


Figure B-6. 2021 MW-5S Groundwater Elevation Trend

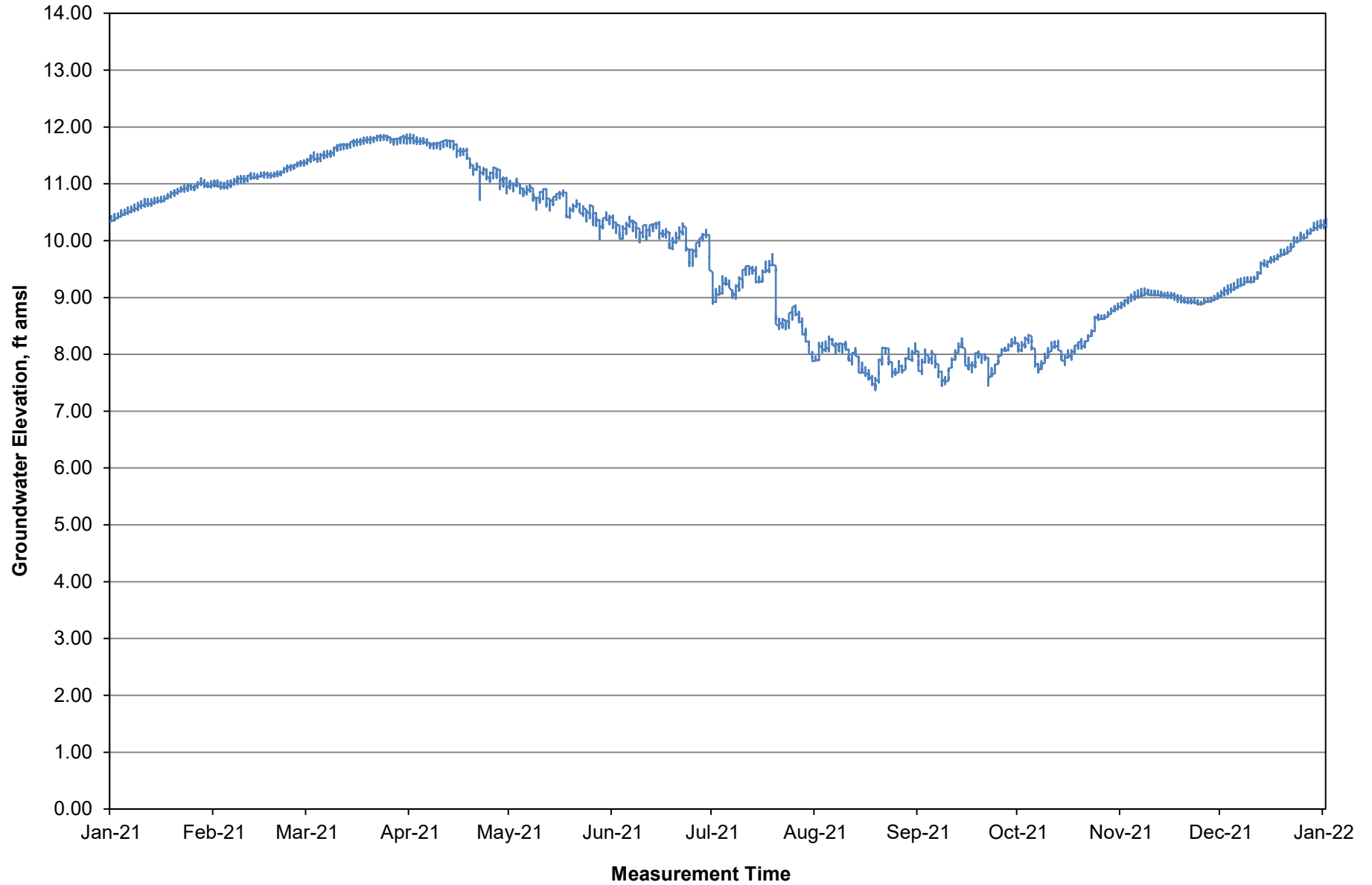


Figure B-7. 2021 MW-5I Groundwater Elevation Trend

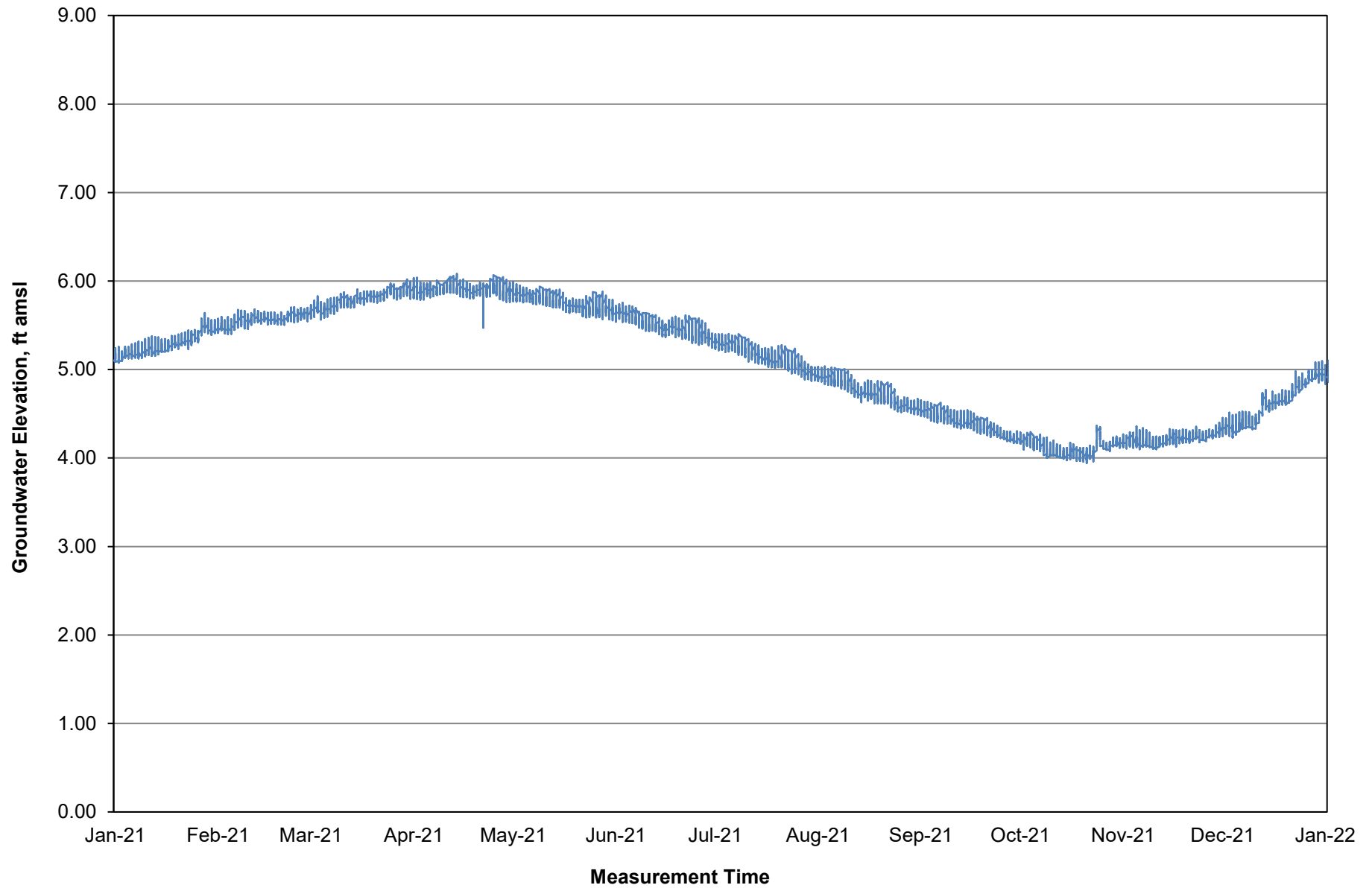


Figure B-8. 2021 MW-5D Groundwater Elevation Trend

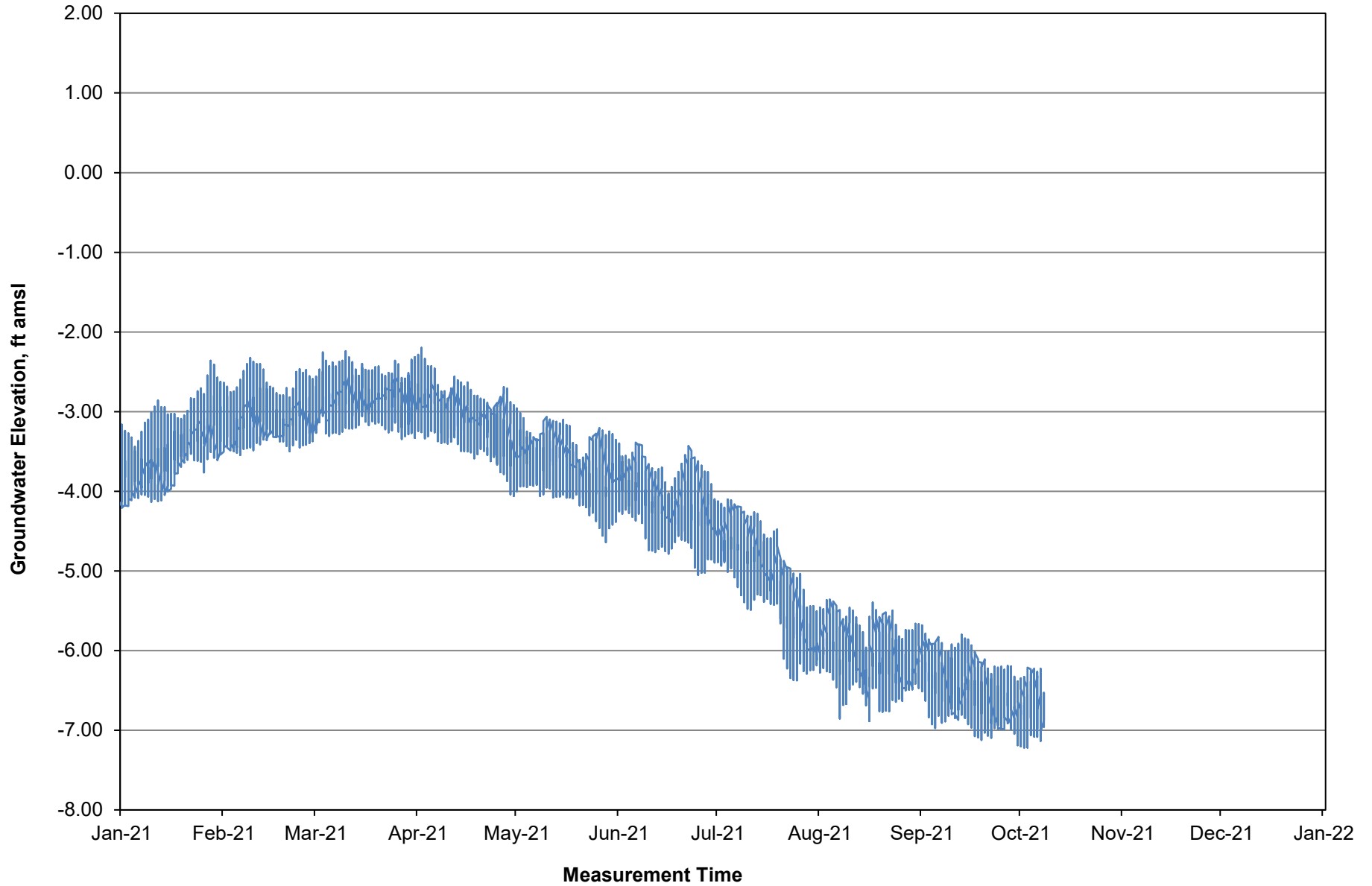


Figure B-9. 2021 MW-6 Groundwater Elevation Trend

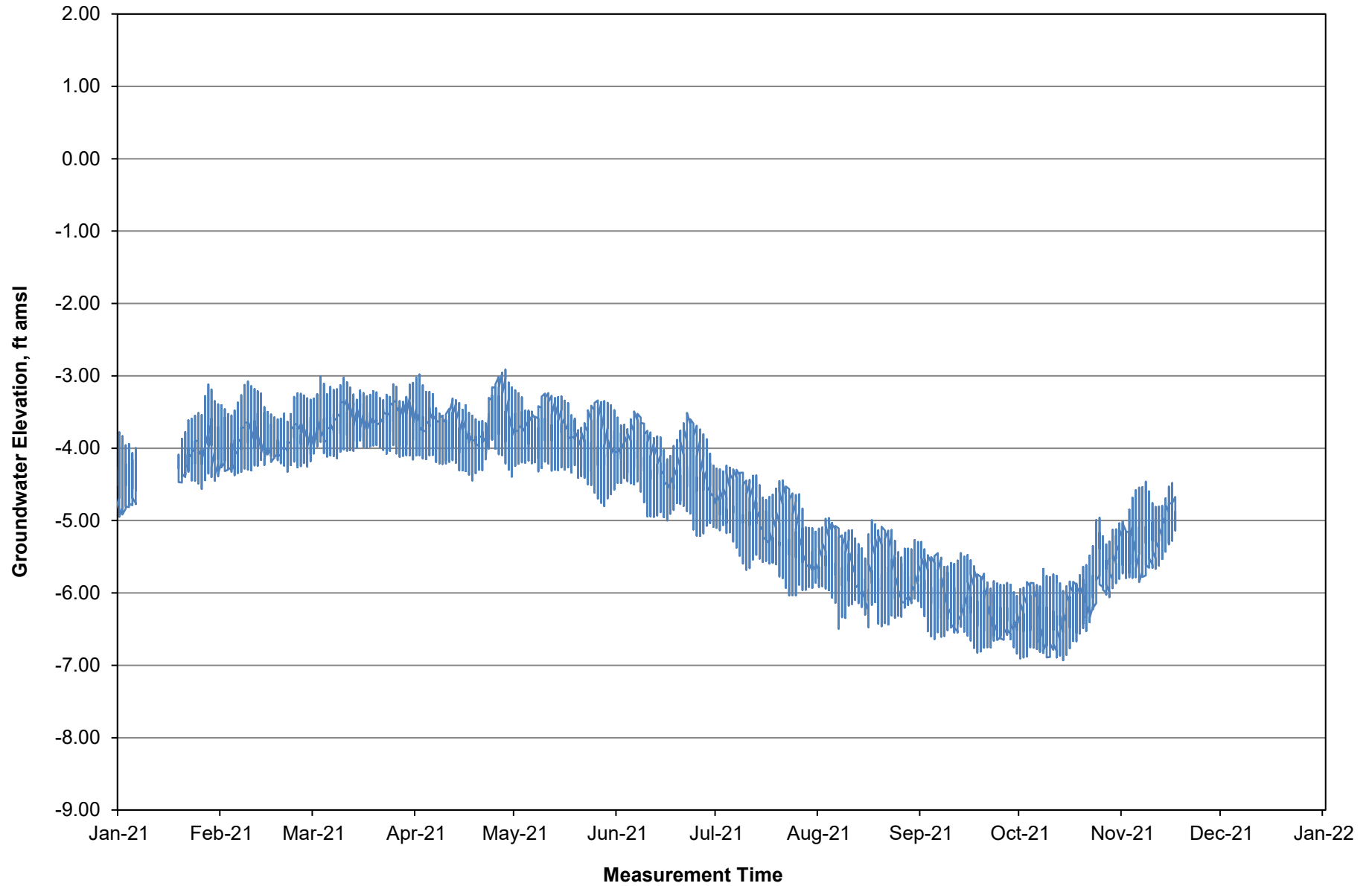


Figure B-10. 2021 MW-7 Groundwater Elevation Trend

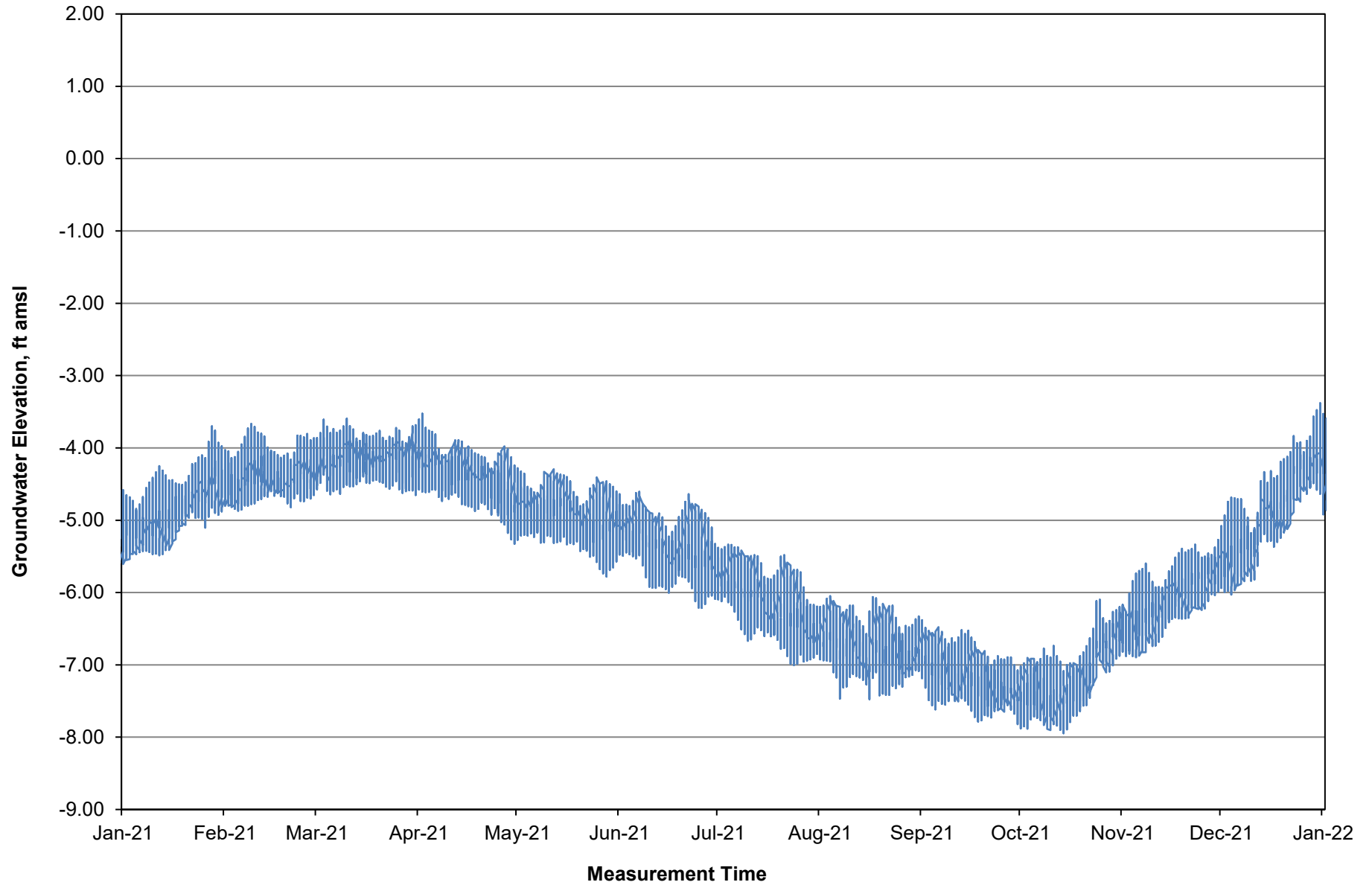


Figure B-11. 2021 MW-9D Groundwater Elevation Trend

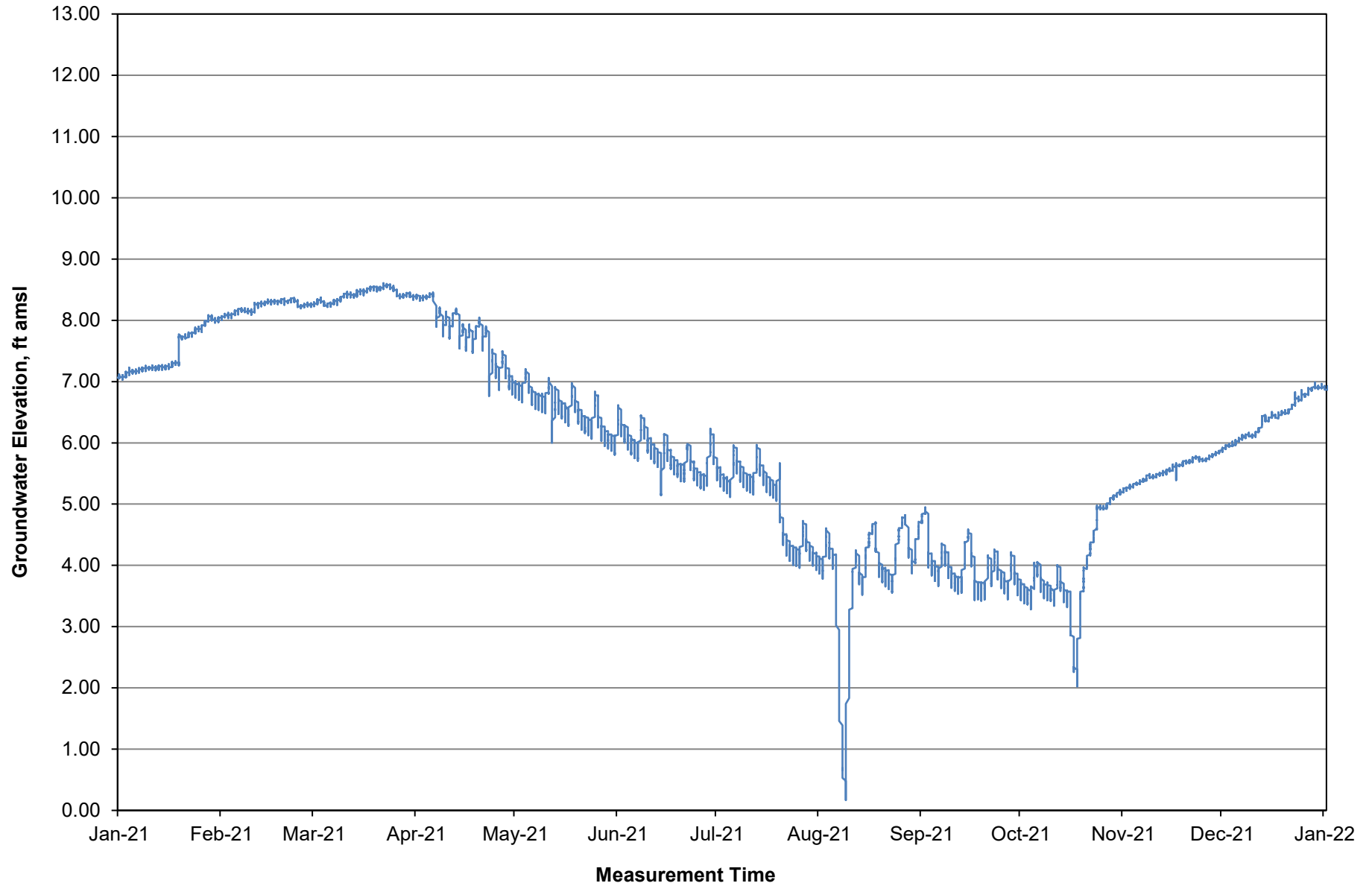


Figure B-12. 2021 MW-10I Groundwater Elevation Trend

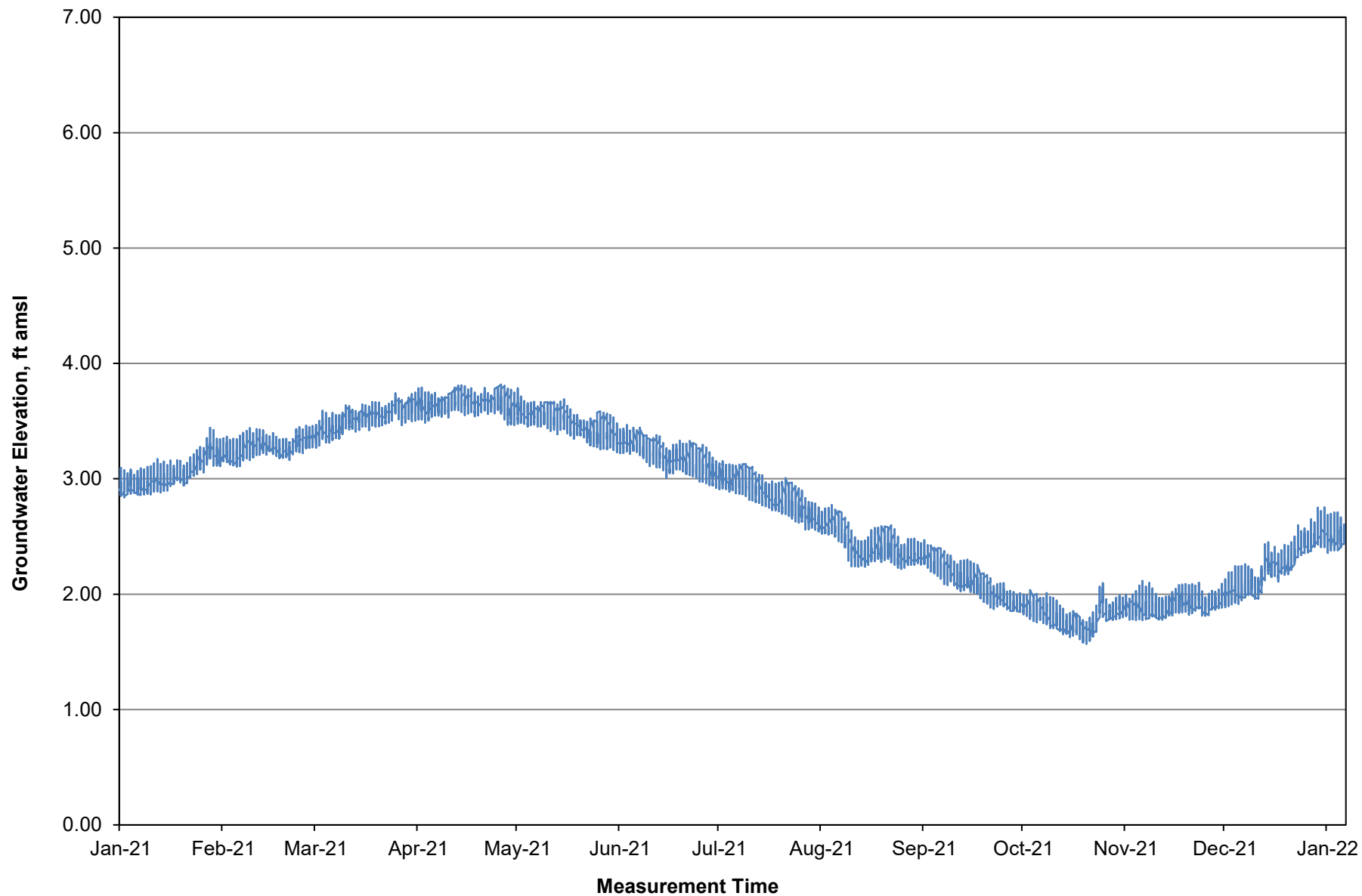
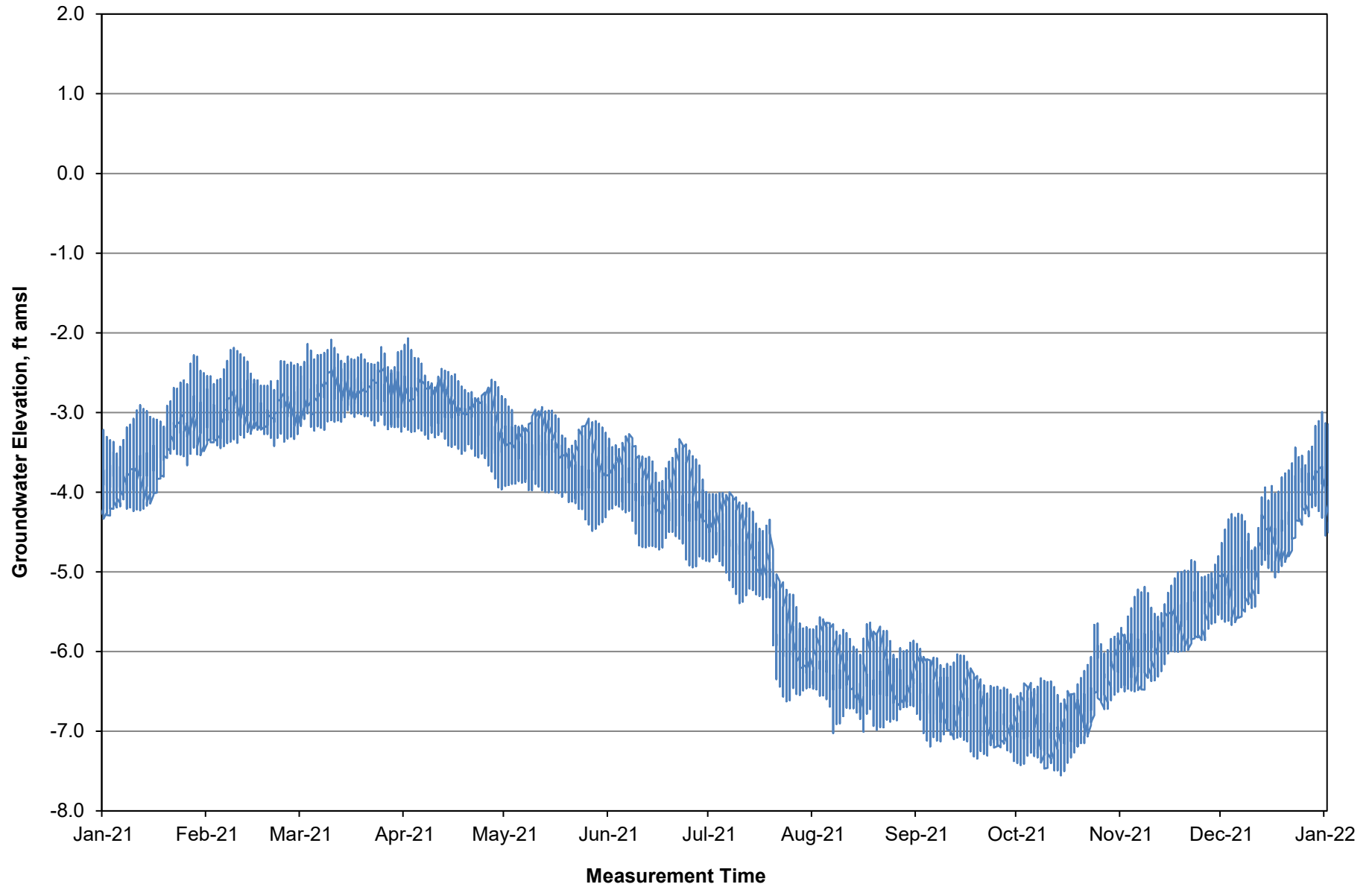


Figure B-13. 2021 MW-10D Groundwater Elevation Trend



Attachment C – Analytical Lab Reports for 2021 Water Quality Monitoring



16 December 2021

David Behnken

MS 704

Re: Bayside Ground Water Project

COC# C002089

Report Generated: 12/15/2021 16:11

Login Performance Summary

- 1 samples received by the lab on: 10/13/2021 16:02
- 0 Lost Analyses
- 0 Hold Time Exceedances
- Turn-around-time not met

Report Notes

For Oxygen 18 data: Original Report transmitted to client and accessible at COC

For questions concerning this report, please contact:

Reported By:

Jack Lim

Senior Chemist

Approved By:

Yuyun Shang

Lab Manager



Samples for C002089

Samples Included in the Report

Sample Number	Sample Type	Sampled Date	Location Name	Sample Name	Parent Sample
C002089-01	GRAB	Oct 13 2021 11:20	GW BAYSIDE - BAY1-MW2S	-	



Samples Results for C002089

Sample ID: C002089-01
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 13 2021 11:20 **Sample Collector:** J. Marshak/Terraphase
Date Received: Oct 13 2021 16:02 **Sample Receiver:** A Ng
Sample Comments:

Analyte	Qualifier	Result	MDL	RL	Units	DF	Batch	Prepared	Analyzed
Field data entry into LIMS									
TARGET ANALYTES									
CL2R		0.22			mg/L				10/13/2021 00:00
Field data entry into LIMS									
TARGET ANALYTES									
Depth		9.23			Feet				10/13/2021 00:00
Field data entry into LIMS									
TARGET ANALYTES									
pH		6.54			pH Units				10/13/2021 00:00
Field data entry into LIMS									
TARGET ANALYTES									
Temperature		17.8			C				10/13/2021 00:00
Total Dissolved Solids by SM 2540 C-2011									
TARGET ANALYTES									
Total Dissolved Solids		80000	330	1800	mg/L	33	B211019-003		10/09/2021 09:10
Alkalinity by SM 2320 B-2011									
TARGET ANALYTES									
Alkalinity: Total as CaCO3		400	5	30	mg/L	1.0	B211018-008		10/18/2021 10:23
Alkalinity: Carbonate	U	5	5	30	mg/L	1.0	B211018-008		10/18/2021 10:23
Alkalinity: Bicarbonate		400	5	30	mg/L	1.0	B211018-008		10/18/2021 10:23
Alkalinity: Hydroxide	U	5	5	30	mg/L	1.0	B211018-008		10/18/2021 10:23
Ammonia as N by SM 4500-NH3 C-2011									
TARGET ANALYTES									
Ammonia as N	E1	1.1	0.25	1.5	mg/L	1.0	B211021-012		10/21/2021 09:40
Hardness as CaCO3 by SM 2340 C-2011									
TARGET ANALYTES									
Hardness as CaCO3		15000	200	350	mg/L	50	B211027-021		10/27/2021 15:00
Anions by EPA 300.1									
TARGET ANALYTES									
Chloride		42000	130	1000	mg/L	5000	B211013-013		10/14/2021 03:14
Nitrate as N	U	36	36	150	mg/L	5000	B211013-013		10/14/2021 03:14
Sulfate		5200	240	1000	mg/L	5000	B211013-013		10/14/2021 03:14
SURROGATES									
Dichloroacetate (%)		94			%	5000	B211013-013		10/14/2021 03:14



Samples Results for C002089

Sample ID: C002089-01
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 13 2021 11:20 **Sample Collector:** J. Marshak/Terraphase
Date Received: Oct 13 2021 16:02 **Sample Receiver:** A Ng
Sample Comments:

Analyte	Qualifier	Result	MDL	RL	Units	DF	Batch	Prepared	Analyzed
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Metals by EPA 200.7 (1994 Rev 4.4)

TARGET ANALYTES

Calcium		1090000	52.5	260	ug/L	5.2	B211108-004	11/04/2021 09:40	11/08/2021 10:56
Iron	U	56.7	56.7	260	ug/L	5.2	B211108-004	11/04/2021 09:40	11/08/2021 10:56
Potassium		457000	99.3	1300	ug/L	5.2	B211108-004	11/04/2021 09:40	11/08/2021 10:56
Manganese		31800	1.25	104	ug/L	5.2	B211108-004	11/04/2021 09:40	11/08/2021 10:56
Magnesium		2920000	572	5200	ug/L	100	B211108-004	11/04/2021 09:40	11/08/2021 11:16
Sodium		19400000	1390	10400	ug/L	210	B211108-004	11/04/2021 09:40	11/08/2021 11:26

INTERNAL STANDARD

Yttrium (%)		94			%	5.2	B211108-004	11/04/2021 09:40	11/08/2021 10:56
Yttrium Radial (%)		111			%	5.2	B211108-004	11/04/2021 09:40	11/08/2021 10:56
Yttrium (%)		99			%	100	B211108-004	11/04/2021 09:40	11/08/2021 11:16
Yttrium Radial (%)		101			%	100	B211108-004	11/04/2021 09:40	11/08/2021 11:16
Yttrium (%)		105			%	210	B211108-004	11/04/2021 09:40	11/08/2021 11:26
Yttrium Radial (%)		104			%	210	B211108-004	11/04/2021 09:40	11/08/2021 11:26

Purgeable Organic Compounds, GC/MS by EPA 624.1

TARGET ANALYTES

Bromodichloromethane	U	0.129	0.129	0.500	ug/L	1.0	B211014-005		10/14/2021 16:29
Bromoform	U	0.166	0.166	0.500	ug/L	1.0	B211014-005		10/14/2021 16:29
Chloroform	U	0.196	0.196	0.500	ug/L	1.0	B211014-005		10/14/2021 16:29
Dibromochloromethane	U	0.131	0.131	0.500	ug/L	1.0	B211014-005		10/14/2021 16:29
Total Trihalomethanes, Calculated		0.000			ug/L	1.0	B211014-005		10/14/2021 16:29

Comments: TTHM calculation uses a zero for any individual THM result less than the MDL for that THM

INTERNAL STANDARD

Fluorobenzene (%)		82			%	1.0	B211014-005		10/14/2021 16:29
d5-Chlorobenzene (%)		84			%	1.0	B211014-005		10/14/2021 16:29
d4-1,4-Dichlorobenzene (%)		79.4			%	1.0	B211014-005		10/14/2021 16:29
SURROGATES									
d4-Dichloroethane (%)		102			%	1.0	B211014-005		10/14/2021 16:29
d8-Toluene (%)		100			%	1.0	B211014-005		10/14/2021 16:29
4-Bromofluorobenzene (%)		90			%	1.0	B211014-005		10/14/2021 16:29

Haloacetic Acids, GC/ECD by EPA 552.2

TARGET ANALYTES

Bromochloroacetic Acid	U	0.34	0.34	1.0	ug/L	1.0	B211020-002	10/19/2021 09:00	10/20/2021 17:03
		Comments: Compound not available for certification by ELAP							
Bromodichloroacetic Acid	U	0.36	0.36	1.0	ug/L	1.0	B211020-002	10/19/2021 09:00	10/20/2021 17:03
		Comments: Compound not available for certification by ELAP							
Chlorodibromoacetic Acid	U	0.36	0.36	1.0	ug/L	1.0	B211020-002	10/19/2021 09:00	10/20/2021 17:03
		Comments: Compound not available for certification by ELAP							
Dibromoacetic Acid	U	0.36	0.36	1.0	ug/L	1.0	B211020-002	10/19/2021 09:00	10/20/2021 17:03



Samples Results for C002089

Sample ID: C002089-01
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 13 2021 11:20 **Sample Collector:** J. Marshak/Terraphase
Date Received: Oct 13 2021 16:02 **Sample Receiver:** A Ng
Sample Comments:

Analyte	Qualifier	Result	MDL	RL	Units	DF	Batch	Prepared	Analyzed
Haloacetic Acids, GC/ECD by EPA 552.2									
Dichloroacetic Acid	U	0.34	0.34	1.0	ug/L	1.0	B211020-002	10/19/2021 09:00	10/20/2021 17:03
Monobromoacetic Acid	U	0.29	0.29	1.0	ug/L	1.0	B211020-002	10/19/2021 09:00	10/20/2021 17:03
Monochloroacetic Acid	U	0.42	0.42	1.0	ug/L	1.0	B211020-002	10/19/2021 09:00	10/20/2021 17:03
Trichloroacetic Acid	U	0.35	0.35	1.0	ug/L	1.0	B211020-002	10/19/2021 09:00	10/20/2021 17:03
HAA(5), calculated		0.00			ug/L	1.0	B211020-002	10/19/2021 09:00	10/20/2021 17:03

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 (%) 109 % 1.0 B211020-002 10/19/2021 09:00 10/20/2021 17:03

SURROGATES

2,3-Dibromopropionic Acid (%) 88 % 1.0 B211020-002 10/19/2021 09:00 10/20/2021 17:03

Oxygen 18 Isotope Analysis

Subcontract data from: Alpha Analytical Laboratory

Test External Comments: For Oxygen 18 data: Original Report transmitted to client and accessible at end of this report

TARGET ANALYTES

Comment **SUB RPT**



Quality Control for C002089

Analyte	Qualifier	Result	MDL	RL	Units	Spike Level	Source Result	% REC	% REC Limits	RPD	RPD Limits
Total and Fixed Dissolved Solids MB by EPA 160.4, B211019-003											
Total Dissolved Solids	U	10	10	55	mg/L						
Fixed Dissolved Solids	U	10	10	69	mg/L						
Total Dissolved Solids LCS by SM 2540 C-2011, B211019-003											
Total Dissolved Solids		320	10	55	mg/L			97	85 - 115		
Total Dissolved Solids DUP by SM 2540 C-2011, B211019-003											
Total Dissolved Solids		76000	330	1800	mg/L		80000			4.7	10
Fixed Dissolved Solids DUP by EPA 160.4, B211019-003											
Fixed Dissolved Solids		73	10	69	mg/L		76			4.0	10
Alkalinity MB by SM 2320 B-2011, B211018-008											
Alkalinity: Total as CaCO3	U	5	5	30	mg/L						
Alkalinity LCS by SM 2320 B-2011, B211018-008											
Alkalinity: Total as CaCO3		200	5	30	mg/L			101	85 - 115		
Alkalinity DUP by SM 2320 B-2011, B211018-008											
Alkalinity: Total as CaCO3		7900	62	380	mg/L		8500			7.9	20
Alkalinity: Total as CaCO3		61	5	30	mg/L		60			1.4	20
Alkalinity MS by SM 2320 B-2011, B211018-008											
Alkalinity: Total as CaCO3		260	5	30	mg/L		60	101	80 - 120		
Alkalinity: Total as CaCO3		13000	62	380	mg/L		8500	91	80 - 120		
Alkalinity LOQ by SM 2320 B-2011, B211018-008											
Alkalinity: Total as CaCO3		33	5	30	mg/L			111	50 - 150		
Alkalinity QCS by SM 2320 B-2011, B211018-008											
Alkalinity: Total as CaCO3		110	5	30	mg/L			104	91 - 111		
Ammonia as N MB by SM 4500-NH3 C-2011, B211021-012											
Ammonia as N	U	0.25	0.25	1.5	mg/L						
Ammonia as N LCS by SM 4500-NH3 C-2011, B211021-012											
Ammonia as N		12	0.25	1.5	mg/L			103	85 - 115		
Ammonia as N DUP by SM 4500-NH3 C-2011, B211021-012											
Ammonia as N		55	1.2	7.5	mg/L		54			2.3	10
Ammonia as N MS by SM 4500-NH3 C-2011, B211021-012											
Ammonia as N		110	1.2	7.5	mg/L		54	95	80 - 120		



Quality Control for C002089

Analyte	Qualifier	Result	MDL	RL	Units	Spike Level	Source Result	% REC	% REC Limits	RPD	RPD Limits
Ammonia as N MSD by SM 4500-NH3 C-2011, B211021-012											
Ammonia as N		110	1.2	7.5	mg/L		54	96	80 - 120	0.5	15
Hardness as CaCO3 MB by SM 2340 C-2011, B211027-021											
Hardness as CaCO3	U	4	4	7	mg/L						
Hardness as CaCO3 LCS by SM 2340 C-2011, B211027-021											
Hardness as CaCO3		100	4	7	mg/L			100	85 - 115		
Hardness as CaCO3 DUP by SM 2340 C-2011, B211027-021											
Hardness as CaCO3		130	4	7	mg/L		130			1.2	10
Hardness as CaCO3 MS by SM 2340 C-2011, B211027-021											
Hardness as CaCO3		220	4	7	mg/L		130	88	85 - 115		
Hardness as CaCO3 QCS by SM 2340 C-2011, B211027-021											
Hardness as CaCO3		120	4	7	mg/L			92	91 - 107		
Anions MB by EPA 300.1, B211013-013											
Bromide	U	0.0034	0.0034	0.030	mg/L						
Chloride	U	0.026	0.026	0.20	mg/L						
Fluoride	U	0.0091	0.0091	0.075	mg/L						
Nitrate as N	U	0.0071	0.0071	0.030	mg/L						
Nitrite as N	U	0.0048	0.0048	0.030	mg/L						
Orthophosphate as P	U	0.0092	0.0092	0.030	mg/L						
Sulfate	U	0.049	0.049	0.20	mg/L						
Dichloroacetate (%)		96			%						
Anions LCS by EPA 300.1, B211013-013											
Bromide		0.048	0.0034	0.030	mg/L			95	85 - 115		
Chloride		0.96	0.026	0.20	mg/L			96	85 - 115		
Fluoride		0.48	0.0091	0.075	mg/L			97	85 - 115		
Nitrate as N		0.046	0.0071	0.030	mg/L			92	85 - 115		
Nitrite as N		0.044	0.0048	0.030	mg/L			88	85 - 115		
Orthophosphate as P		0.046	0.0092	0.030	mg/L			92	85 - 115		
Sulfate		0.92	0.049	0.20	mg/L			92	85 - 115		
Dichloroacetate (%)		97			%						
Anions DUP by EPA 300.1, B211013-013											
Bromide	U	0.0034	0.0034	0.030	mg/L		0.0034			NC	10
Bromide	U	0.0034	0.0034	0.030	mg/L		0.0034			NC	10
Chloride		2.2	0.026	0.20	mg/L		2.3			4.3	10
Chloride		7.7	0.026	0.20	mg/L		7.7			0.1	10
Fluoride	E1	0.014	0.0091	0.075	mg/L		0.014			1.7	10
Fluoride	E1	0.042	0.0091	0.075	mg/L		0.043			1.3	10
Nitrate as N	U	0.0071	0.0071	0.030	mg/L		0.0071			NC	10
Nitrate as N		0.054	0.0071	0.030	mg/L		0.053			2.3	10



Quality Control for C002089

Analyte	Qualifier	Result	MDL	RL	Units	Spike Level	Source Result	% REC	% REC Limits	RPD	RPD Limits
Anions DUP by EPA 300.1, B211013-013											
Nitrite as N	E1	0.012	0.0048	0.030	mg/L		0.012			6.3	10
Nitrite as N	U	0.0048	0.0048	0.030	mg/L		0.0048			NC	10
Orthophosphate as P	U	0.0092	0.0092	0.030	mg/L		0.0092			NC	10
Orthophosphate as P	U	0.0092	0.0092	0.030	mg/L		0.0092			NC	10
Sulfate	E1	0.062	0.049	0.20	mg/L		0.062			0.8	10
Sulfate		6.3	0.049	0.20	mg/L		6.4			0.2	10
Dichloroacetate (%)		96			%		93				
Dichloroacetate (%)		96			%		95				
Anions MS by EPA 300.1, B211013-013											
Bromide		0.049	0.0034	0.030	mg/L		0.0034	98	75 - 125		
Bromide		0.040	0.0034	0.030	mg/L		0.0034	79	75 - 125		
Chloride		3.4	0.026	0.20	mg/L		2.3	108	75 - 125		
Chloride		8.6	0.026	0.20	mg/L		7.7	88	75 - 125		
Fluoride		0.51	0.0091	0.075	mg/L		0.043	94	75 - 125		
Fluoride		0.49	0.0091	0.075	mg/L		0.014	95	75 - 125		
Nitrate as N		0.045	0.0071	0.030	mg/L		0.0071	89	75 - 125		
Nitrate as N	M1	0.15	0.0071	0.030	mg/L		0.053	189	75 - 125		
Nitrite as N	E1, M1	0.012	0.0048	0.030	mg/L		0.012	0	75 - 125		
Nitrite as N		0.043	0.0048	0.030	mg/L		0.0048	87	75 - 125		
Orthophosphate as P		0.048	0.0092	0.030	mg/L		0.0092	97	75 - 125		
Orthophosphate as P		0.049	0.0092	0.030	mg/L		0.0092	98	75 - 125		
Sulfate		7.3	0.049	0.20	mg/L		6.4	96	75 - 125		
Sulfate		0.92	0.049	0.20	mg/L		0.062	86	75 - 125		
Dichloroacetate (%)		95			%		93				
Dichloroacetate (%)		96			%		95				
Anions LOQ by EPA 300.1, B211013-013											
Bromide	E1	0.029	0.0034	0.030	mg/L			96	50 - 150		
Chloride	E1	0.20	0.026	0.20	mg/L			99	50 - 150		
Fluoride	E1	0.068	0.0091	0.075	mg/L			91	50 - 150		
Nitrate as N	E1	0.028	0.0071	0.030	mg/L			94	50 - 150		
Nitrite as N	E1	0.027	0.0048	0.030	mg/L			90	50 - 150		
Orthophosphate as P	E1	0.027	0.0092	0.030	mg/L			92	50 - 150		
Sulfate		0.20	0.049	0.20	mg/L			101	50 - 150		
Dichloroacetate (%)		97			%						
Metals MB by EPA 200.7, B211108-004											
Calcium	U	10.5	10.5	52.0	ug/L						
Iron	U	11.3	11.3	52.0	ug/L						
Potassium	U	19.9	19.9	260	ug/L						
Magnesium	U	5.72	5.72	52.0	ug/L						
Manganese	U	0.25	0.25	20.8	ug/L						
Sodium	U	6.97	6.97	52.0	ug/L						
Silicon	U	27.9	27.9	260	ug/L						
Yttrium (%)		104			%						
Yttrium Radial (%)		104			%						



Quality Control for C002089

Analyte	Qualifier	Result	MDL	RL	Units	Spike Level	Source Result	% REC	% REC Limits	RPD	RPD Limits
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Metals LCS by EPA 200.7, B211108-004

Calcium		9650	10.9	54.0	ug/L			96	85 - 115		
Iron		976	11.8	54.0	ug/L			98	85 - 115		
Potassium		9700	20.6	270	ug/L			97	85 - 115		
Magnesium		10000	5.94	54.0	ug/L			100	85 - 115		
Manganese		194	0.26	21.6	ug/L			97	85 - 115		
Sodium		9820	7.24	54.0	ug/L			98	85 - 115		
Silicon		1940	28.9	270	ug/L			97	85 - 115		
Yttrium (%)		101			%						
Yttrium Radial (%)		101			%						

Metals LCSD by EPA 200.7, B211108-004

Calcium		9550	10.9	54.0	ug/L			96	85 - 115	1.1	10
Iron		968	11.8	54.0	ug/L			97	85 - 115	0.9	10
Potassium		9520	20.6	270	ug/L			95	85 - 115	2.0	10
Magnesium		9960	5.94	54.0	ug/L			100	85 - 115	0.9	10
Manganese		193	0.26	21.6	ug/L			96	85 - 115	0.8	10
Sodium		9880	7.24	54.0	ug/L			99	85 - 115	0.5	10
Silicon		1920	28.9	270	ug/L			96	85 - 115	1.2	15
Yttrium (%)		102			%						
Yttrium Radial (%)		99			%						

Metals MS by EPA 200.7, B211108-004

Calcium		19200	10.9	54.0	ug/L		9860	93	70 - 130		
Iron		33200	11.8	54.0	ug/L		32500	76	70 - 130		
Manganese		645	0.26	21.6	ug/L		462	92	70 - 130		
Silicon		6840	28.9	270	ug/L		4810	102	70 - 130		
Yttrium (%)		100			%		98				
Yttrium Radial (%)		100			%		101				

Metals MSD by EPA 200.7, B211108-004

Calcium		19300	10.9	54.0	ug/L		9860	94	70 - 130	0.8	20
Iron		33500	11.8	54.0	ug/L		32500	103	70 - 130	0.8	20
Manganese		652	0.26	21.6	ug/L		462	95	70 - 130	1.0	20
Silicon		6920	28.9	270	ug/L		4810	105	70 - 130	1.1	20
Yttrium (%)		97			%		98				
Yttrium Radial (%)		101			%		101				

Metals LOQ by EPA 200.7, B211108-004

Calcium	E1	46.2	10.6	52.5	ug/L			92	50 - 150		
Iron	E1	49.4	11.4	52.5	ug/L			99	50 - 150		
Potassium	E1	209	20.0	262	ug/L			83	50 - 150		
Magnesium	E1	48.7	5.78	52.5	ug/L			97	50 - 150		
Manganese	E1	19.9	0.25	21.0	ug/L			99	50 - 150		
Sodium	E1	45.0	7.04	52.5	ug/L			90	50 - 150		
Silicon	E1	246	28.1	262	ug/L			99	50 - 150		
Yttrium (%)		105			%						
Yttrium Radial (%)		105			%						



Quality Control for C002089

Analyte	Qualifier	Result	MDL	RL	Units	Spike Level	Source Result	% REC	% REC Limits	RPD	RPD Limits
Purgeable Organic Compounds, GC/MS MB by EPA 624.1, B211014-005											
1,1,1-Trichloroethane	U	0.259	0.259	0.500	ug/L						
1,1,2,2-Tetrachloroethane	U	0.125	0.125	0.500	ug/L						
1,1,2-Trichloroethane	U	0.108	0.108	0.500	ug/L						
1,1-Dichloroethane	U	0.279	0.279	0.500	ug/L						
1,1-Dichloroethene	U	0.187	0.187	0.500	ug/L						
1,2-Dichlorobenzene	U	0.112	0.112	0.500	ug/L						
1,2-Dichloroethane	U	0.122	0.122	0.500	ug/L						
1,2-Dichloropropane	U	0.129	0.129	0.500	ug/L						
1,3-Dichlorobenzene	U	0.131	0.131	0.500	ug/L						
1,4-Dichlorobenzene	U	0.115	0.115	0.500	ug/L						
2-Butanone	U	0.422	0.422	1.00	ug/L						
2-Chloroethylvinyl Ether	U	0.270	0.270	1.00	ug/L						
Benzene	U	0.143	0.143	0.500	ug/L						
Bromodichloromethane	U	0.129	0.129	0.500	ug/L						
Bromoform	U	0.166	0.166	0.500	ug/L						
Bromomethane	U	0.561	0.561	1.00	ug/L						
Carbon Tetrachloride	U	0.372	0.372	0.500	ug/L						
Chlorobenzene	U	0.114	0.114	0.500	ug/L						
Chloroethane	U	0.258	0.258	0.500	ug/L						
Chloroform	U	0.196	0.196	0.500	ug/L						
Chloromethane	U	0.316	0.316	0.500	ug/L						
cis-1,3-Dichloropropene	U	0.164	0.164	0.500	ug/L						
Dibromochloromethane	U	0.131	0.131	0.500	ug/L						
Ethyl Benzene	U	0.126	0.126	0.500	ug/L						
Fluorotrichloromethane	U	0.325	0.325	1.00	ug/L						
m+p Xylenes	U	0.287	0.287	1.00	ug/L						
Methylene Chloride	U	0.279	0.279	0.500	ug/L						
Methyl-t-butyl Ether	U	0.126	0.126	1.00	ug/L						
o-Xylene	U	0.150	0.150	0.500	ug/L						
Tetrachloroethene	U	0.167	0.167	0.500	ug/L						
Toluene	U	0.153	0.153	0.500	ug/L						
trans-1,2-Dichloroethene	U	0.230	0.230	0.500	ug/L						
trans-1,3-Dichloropropene	U	0.117	0.117	0.500	ug/L						
Trichloroethene	U	0.172	0.172	0.500	ug/L						
Vinyl Chloride	U	0.216	0.216	0.500	ug/L						
Fluorobenzene (%)		88			%						
d5-Chlorobenzene (%)		87			%						
d4-1,4-Dichlorobenzene (%)		78			%						
d4-Dichloroethane (%)		107			%						
d8-Toluene (%)		96			%						
4-Bromofluorobenzene (%)		92			%						

Purgeable Organic Compounds, GC/MS LCS by EPA 624.1, B211014-005

1,1,1-Trichloroethane	22.5	0.259	0.500	ug/L	113	70 - 130
1,1,2,2-Tetrachloroethane	19.0	0.125	0.500	ug/L	96	60 - 140
1,1,2-Trichloroethane	21.1	0.108	0.500	ug/L	106	70 - 130
1,1-Dichloroethane	21.1	0.279	0.500	ug/L	106	70 - 130
1,1-Dichloroethene	21.2	0.187	0.500	ug/L	107	50 - 150
1,2-Dichlorobenzene	19.9	0.112	0.500	ug/L	100	65 - 135
1,2-Dichloroethane	20.9	0.122	0.500	ug/L	105	70 - 130
1,2-Dichloropropane	20.7	0.129	0.500	ug/L	104	35 - 165



Quality Control for C002089

Analyte	Qualifier	Result	MDL	RL	Units	Spike Level	Source Result	% REC	% REC Limits	RPD	RPD Limits
Purgeable Organic Compounds, GC/MS LCS by EPA 624.1, B211014-005											
1,3-Dichlorobenzene		20.1	0.131	0.500	ug/L			101	70 - 130		
1,4-Dichlorobenzene		20.6	0.115	0.500	ug/L			104	65 - 135		
2-Butanone		17.7	0.422	1.00	ug/L			89	64 - 137		
2-Chloroethylvinyl Ether		17.1	0.270	1.00	ug/L			86	1 - 225		
Benzene		20.9	0.143	0.500	ug/L			105	65 - 135		
Bromodichloromethane		21.4	0.129	0.500	ug/L			108	65 - 135		
Bromoform		21.8	0.166	0.500	ug/L			110	70 - 130		
Bromomethane		20.5	0.561	1.00	ug/L			103	15 - 185		
Carbon Tetrachloride		22.9	0.372	0.500	ug/L			115	70 - 130		
Chlorobenzene		21.3	0.114	0.500	ug/L			107	65 - 135		
Chloroethane		21.4	0.258	0.500	ug/L			108	40 - 160		
Chloroform		21.4	0.196	0.500	ug/L			108	70 - 135		
Chloromethane		20.8	0.316	0.500	ug/L			105	1 - 205		
cis-1,3-Dichloropropene		21.4	0.164	0.500	ug/L			108	25 - 175		
Dibromochloromethane		21.4	0.131	0.500	ug/L			108	70 - 135		
Ethyl Benzene		21.0	0.126	0.500	ug/L			106	60 - 140		
Fluorotrichloromethane		23.4	0.325	1.00	ug/L			118	50 - 150		
m+p Xylenes		45.5	0.287	1.00	ug/L			114	78 - 123		
Methylene Chloride		20.7	0.279	0.500	ug/L			104	60 - 140		
Methyl-t-butyl Ether		20.0	0.126	1.00	ug/L			100	78 - 134		
o-Xylene		21.6	0.150	0.500	ug/L			109	80 - 123		
Tetrachloroethene		22.6	0.167	0.500	ug/L			114	70 - 130		
Toluene		20.9	0.153	0.500	ug/L			105	70 - 130		
trans-1,2-Dichloroethene		22.4	0.230	0.500	ug/L			113	70 - 130		
trans-1,3-Dichloropropene		21.2	0.117	0.500	ug/L			107	50 - 150		
Trichloroethene		21.4	0.172	0.500	ug/L			108	65 - 135		
Vinyl Chloride		19.9	0.216	0.500	ug/L			100	5 - 195		
Fluorobenzene (%)		110			%						
d5-Chlorobenzene (%)		107			%						
d4-1,4-Dichlorobenzene (%)		117			%						
d4-Dichloroethane (%)		103			%						
d8-Toluene (%)		102			%						
4-Bromofluorobenzene (%)		104			%						

Purgeable Organic Compounds, GC/MS MS by EPA 624.1, B211014-005

1,1,1-Trichloroethane		22.4	0.259	0.500	ug/L	0.259		113	52 - 162		
1,1,2,2-Tetrachloroethane		18.8	0.125	0.500	ug/L	0.125		95	46 - 157		
1,1,2-Trichloroethane		21.8	0.108	0.500	ug/L	0.108		110	52 - 150		
1,1-Dichloroethane		21.4	0.279	0.500	ug/L	0.279		108	59 - 155		
1,1-Dichloroethene		21.3	0.187	0.500	ug/L	0.187		107	1 - 234		
1,2-Dichlorobenzene		20.3	0.112	0.500	ug/L	0.112		102	18 - 190		
1,2-Dichloroethane		21.4	0.122	0.500	ug/L	0.122		108	49 - 155		
1,2-Dichloropropane		20.8	0.129	0.500	ug/L	0.129		105	1 - 210		
1,3-Dichlorobenzene		20.1	0.131	0.500	ug/L	0.131		101	59 - 156		
1,4-Dichlorobenzene		20.7	0.115	0.500	ug/L	0.115		104	18 - 190		
2-Butanone		17.5	0.422	1.00	ug/L	0.422		88	56 - 150		
2-Chloroethylvinyl Ether		19.5	0.270	1.00	ug/L	0.270		98	1 - 305		
Benzene		20.8	0.143	0.500	ug/L	0.143		105	37 - 151		
Bromodichloromethane		21.6	0.129	0.500	ug/L	0.129		109	35 - 155		
Bromoform		22.6	0.166	0.500	ug/L	0.166		114	45 - 169		
Bromomethane		24.6	0.561	1.00	ug/L	0.561		124	1 - 242		



Quality Control for C002089

Analyte	Qualifier	Result	MDL	RL	Units	Spike Level	Source Result	% REC	% REC Limits	RPD	RPD Limits
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Purgeable Organic Compounds, GC/MS MS by EPA 624.1, B211014-005

Carbon Tetrachloride		22.7	0.372	0.500	ug/L		0.372	114	70 - 140		
Chlorobenzene		21.6	0.114	0.500	ug/L		0.114	109	37 - 160		
Chloroethane		21.7	0.258	0.500	ug/L		0.258	109	14 - 230		
Chloroform		22.1	0.196	0.500	ug/L		0.196	111	51 - 138		
Chloromethane		20.9	0.316	0.500	ug/L		0.341	104	1 - 273		
cis-1,3-Dichloropropene		22.5	0.164	0.500	ug/L		0.164	113	1 - 227		
Dibromochloromethane		22.2	0.131	0.500	ug/L		0.131	112	53 - 149		
Ethyl Benzene		21.5	0.126	0.500	ug/L		0.126	108	37 - 162		
Fluorotrichloromethane		23.5	0.325	1.00	ug/L		0.325	118	17 - 181		
m+p Xylenes		45.6	0.287	1.00	ug/L		0.287	115	68 - 145		
Methylene Chloride		21.4	0.279	0.500	ug/L		0.279	108	1 - 221		
Methyl-t-butyl Ether		19.6	0.126	1.00	ug/L		0.126	99	71 - 133		
o-Xylene		21.9	0.150	0.500	ug/L		0.150	110	69 - 138		
Tetrachloroethene		23.1	0.167	0.500	ug/L		0.167	116	64 - 148		
Toluene		21.2	0.153	0.500	ug/L		0.153	107	47 - 150		
trans-1,2-Dichloroethene		21.5	0.230	0.500	ug/L		0.230	108	54 - 156		
trans-1,3-Dichloropropene		22.0	0.117	0.500	ug/L		0.117	111	17 - 183		
Trichloroethene		22.1	0.172	0.500	ug/L		0.172	112	70 - 157		
Vinyl Chloride		20.1	0.216	0.500	ug/L		0.216	101	1 - 251		
Fluorobenzene (%)		91			%		103				
d5-Chlorobenzene (%)		88			%		104				
d4-1,4-Dichlorobenzene (%)		99			%		90				
d4-Dichloroethane (%)		102			%		109				
d8-Toluene (%)		106			%		95				
4-Bromofluorobenzene (%)		108			%		95				

Purgeable Organic Compounds, GC/MS MS by EPA 624.1, B211014-005

Bromodichloromethane		20.6	0.129	0.500	ug/L		0.129	104	35 - 155		
Bromoform		22.1	0.166	0.500	ug/L		0.166	111	45 - 169		
Chloroform		20.8	0.196	0.500	ug/L		0.196	105	51 - 138		
Dibromochloromethane		21.0	0.131	0.500	ug/L		0.131	106	53 - 149		
Fluorobenzene (%)		91			%		94				
d5-Chlorobenzene (%)		89			%		90				
d4-1,4-Dichlorobenzene (%)		100			%		80.1				
d4-Dichloroethane (%)		97			%		105				
d8-Toluene (%)		100			%		93				
4-Bromofluorobenzene (%)		103			%		93				

Purgeable Organic Compounds, GC/MS MSD by EPA 624.1, B211014-005

1,1,1-Trichloroethane		21.7	0.259	0.500	ug/L		0.259	109	52 - 162	3.3	36
1,1,2,2-Tetrachloroethane		18.7	0.125	0.500	ug/L		0.125	94	46 - 157	0.6	61
1,1,2-Trichloroethane		21.3	0.108	0.500	ug/L		0.108	107	52 - 150	2.5	45
1,1-Dichloroethane		20.3	0.279	0.500	ug/L		0.279	102	59 - 155	5.0	40
1,1-Dichloroethene		21.2	0.187	0.500	ug/L		0.187	107	1 - 234	0.1	32
1,2-Dichlorobenzene		19.8	0.112	0.500	ug/L		0.112	100	18 - 190	2.6	57
1,2-Dichloroethane		19.9	0.122	0.500	ug/L		0.122	100	49 - 155	7.1	49
1,2-Dichloropropane		20.3	0.129	0.500	ug/L		0.129	102	1 - 210	2.5	55
1,3-Dichlorobenzene		20.5	0.131	0.500	ug/L		0.131	103	59 - 156	2.2	43
1,4-Dichlorobenzene		20.6	0.115	0.500	ug/L		0.115	104	18 - 190	0.6	57
2-Butanone		16.9	0.422	1.00	ug/L		0.422	85	56 - 150	3.4	24



Quality Control for C002089

Analyte	Qualifier	Result	MDL	RL	Units	Spike Level	Source Result	% REC	% REC Limits	RPD	RPD Limits
Purgeable Organic Compounds, GC/MS MSD by EPA 624.1, B211014-005											
2-Chloroethylvinyl Ether		17.5	0.270	1.00	ug/L		0.270	88	1 - 305	10.9	71
Benzene		20.1	0.143	0.500	ug/L		0.143	101	37 - 151	3.6	61
Bromodichloromethane		20.3	0.129	0.500	ug/L		0.129	102	35 - 155	6.2	56
Bromoform		21.8	0.166	0.500	ug/L		0.166	110	45 - 169	4.0	42
Bromomethane		20.3	0.561	1.00	ug/L		0.561	102	1 - 242	19.3	61
Carbon Tetrachloride		22.0	0.372	0.500	ug/L		0.372	111	70 - 140	3.0	41
Chlorobenzene		21.2	0.114	0.500	ug/L		0.114	107	37 - 160	1.8	53
Chloroethane		21.7	0.258	0.500	ug/L		0.258	109	14 - 230	0.0	78
Chloroform		20.7	0.196	0.500	ug/L		0.196	104	51 - 138	6.4	54
Chloromethane		19.4	0.316	0.500	ug/L		0.341	96	1 - 273	7.4	60
cis-1,3-Dichloropropene		21.0	0.164	0.500	ug/L		0.164	106	1 - 227	6.7	58
Dibromochloromethane		21.5	0.131	0.500	ug/L		0.131	108	53 - 149	3.2	50
Ethyl Benzene		21.1	0.126	0.500	ug/L		0.126	106	37 - 162	1.8	63
Fluorotrichloromethane		23.0	0.325	1.00	ug/L		0.325	116	17 - 181	2.0	84
m+p Xylenes		44.5	0.287	1.00	ug/L		0.287	112	68 - 145	2.3	26
Methylene Chloride		19.7	0.279	0.500	ug/L		0.279	99	1 - 221	8.2	28
Methyl-t-butyl Ether		19.3	0.126	1.00	ug/L		0.126	97	71 - 133	1.7	25
o-Xylene		21.2	0.150	0.500	ug/L		0.150	107	69 - 138	3.3	21
Tetrachloroethene		22.2	0.167	0.500	ug/L		0.167	112	64 - 148	4.3	39
Toluene		20.6	0.153	0.500	ug/L		0.153	104	47 - 150	2.8	41
trans-1,2-Dichloroethene		20.9	0.230	0.500	ug/L		0.230	105	54 - 156	2.8	45
trans-1,3-Dichloropropene		20.8	0.117	0.500	ug/L		0.117	104	17 - 183	5.6	86
Trichloroethene		21.1	0.172	0.500	ug/L		0.172	106	70 - 157	4.9	48
Vinyl Chloride		19.8	0.216	0.500	ug/L		0.216	100	1 - 251	1.5	66
Fluorobenzene (%)		91			%		103				
d5-Chlorobenzene (%)		89			%		104				
d4-1,4-Dichlorobenzene (%)		97			%		90				
d4-Dichloroethane (%)		96			%		109				
d8-Toluene (%)		100			%		95				
4-Bromofluorobenzene (%)		108			%		95				

Purgeable Organic Compounds, GC/MS MSD by EPA 624.1, B211014-005

Bromodichloromethane		20.8	0.129	0.500	ug/L		0.129	105	35 - 155	0.8	56
Bromoform		21.4	0.166	0.500	ug/L		0.166	108	45 - 169	3.1	42
Chloroform		20.6	0.196	0.500	ug/L		0.196	104	51 - 138	0.8	54
Dibromochloromethane		21.0	0.131	0.500	ug/L		0.131	106	53 - 149	0.1	50
Fluorobenzene (%)		92			%		94				
d5-Chlorobenzene (%)		92			%		90				
d4-1,4-Dichlorobenzene (%)		98			%		80.1				
d4-Dichloroethane (%)		96			%		105				
d8-Toluene (%)		99			%		93				
4-Bromofluorobenzene (%)		99			%		93				

Haloacetic Acids, GC/ECD MB by EPA 552.2, B211020-002

Bromochloroacetic Acid	U	0.34	0.34	1.0	ug/L						
Bromodichloroacetic Acid	U	0.36	0.36	1.0	ug/L						
Chlorodibromoacetic Acid	U	0.36	0.36	1.0	ug/L						
Dibromoacetic Acid	U	0.36	0.36	1.0	ug/L						
Dichloroacetic Acid	U	0.34	0.34	1.0	ug/L						
Monobromoacetic Acid	U	0.29	0.29	1.0	ug/L						



Quality Control for C002089

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, B211020-002

Monochloroacetic Acid	U	0.42	0.42	1.0	ug/L						
Trichloroacetic Acid	U	0.35	0.35	1.0	ug/L						
1,2,3-Trichloropropane (%)		97			%						
2,3-Dibromopropionic Acid (%)		105			%						

Haloacetic Acids, GC/ECD LCS by EPA 552.2, B211020-002

Bromochloroacetic Acid		15	0.34	1.0	ug/L			103	70 - 130		
Bromodichloroacetic Acid		16	0.36	1.0	ug/L			108	70 - 130		
Chlorodibromoacetic Acid		18	0.36	1.0	ug/L			119	70 - 130		
Dibromoacetic Acid		15	0.36	1.0	ug/L			103	70 - 130		
Dichloroacetic Acid		15	0.34	1.0	ug/L			100	70 - 130		
Monobromoacetic Acid		15	0.29	1.0	ug/L			102	70 - 130		
Monochloroacetic Acid		15	0.42	1.0	ug/L			100	70 - 130		
Trichloroacetic Acid		16	0.35	1.0	ug/L			106	70 - 130		
1,2,3-Trichloropropane (%)		98			%						
2,3-Dibromopropionic Acid (%)		103			%						

Haloacetic Acids, GC/ECD MS by EPA 552.2, B211020-002

Bromochloroacetic Acid		16	0.34	1.0	ug/L	0.59		105	70 - 130		
Bromochloroacetic Acid		16	0.34	1.0	ug/L	0.34		107	70 - 130		
Bromodichloroacetic Acid		17	0.36	1.0	ug/L	0.36		111	70 - 130		
Bromodichloroacetic Acid		17	0.36	1.0	ug/L	0.77		108	70 - 130		
Chlorodibromoacetic Acid		18	0.36	1.0	ug/L	0.36		123	70 - 130		
Chlorodibromoacetic Acid		18	0.36	1.0	ug/L	0.36		120	70 - 130		
Dibromoacetic Acid		16	0.36	1.0	ug/L	0.36		108	70 - 130		
Dibromoacetic Acid		16	0.36	1.0	ug/L	0.36		106	70 - 130		
Dichloroacetic Acid		16	0.34	1.0	ug/L	0.34		107	70 - 130		
Dichloroacetic Acid		26	0.34	1.0	ug/L	11		99	70 - 130		
Monobromoacetic Acid		16	0.29	1.0	ug/L	0.29		104	70 - 130		
Monobromoacetic Acid		16	0.29	1.0	ug/L	0.29		104	70 - 130		
Monochloroacetic Acid		15	0.42	1.0	ug/L	0.42		99	70 - 130		
Monochloroacetic Acid		15	0.42	1.0	ug/L	1.0		96	70 - 130		
Trichloroacetic Acid		16	0.35	1.0	ug/L	0.35		111	70 - 130		
Trichloroacetic Acid		27	0.35	1.0	ug/L	12		97	70 - 130		
1,2,3-Trichloropropane (%)		94			%	94					
1,2,3-Trichloropropane (%)		86			%	96					
2,3-Dibromopropionic Acid (%)		110			%	106					
2,3-Dibromopropionic Acid (%)		105			%	110					

Haloacetic Acids, GC/ECD MSD by EPA 552.2, B211020-002

Bromochloroacetic Acid		16	0.34	1.0	ug/L	0.59		106	70 - 130	1.1	20
Bromochloroacetic Acid		16	0.34	1.0	ug/L	0.34		108	70 - 130	0.2	20
Bromodichloroacetic Acid		17	0.36	1.0	ug/L	0.36		112	70 - 130	0.6	20
Bromodichloroacetic Acid		18	0.36	1.0	ug/L	0.77		113	70 - 130	4.1	20
Chlorodibromoacetic Acid		18	0.36	1.0	ug/L	0.36		123	70 - 130	0.2	20
Chlorodibromoacetic Acid		19	0.36	1.0	ug/L	0.36		126	70 - 130	4.8	20



Quality Control for C002089

Analyte	Qualifier	Result	MDL	RL	Units	Spike Level	Source Result	% REC	% REC Limits	RPD	RPD Limits
Haloacetic Acids, GC/ECD MSD by EPA 552.2, B211020-002											
Dibromoacetic Acid		16	0.36	1.0	ug/L		0.36	107	70 - 130	1.4	20
Dibromoacetic Acid		16	0.36	1.0	ug/L		0.36	108	70 - 130	0.2	20
Dichloroacetic Acid		16	0.34	1.0	ug/L		0.34	109	70 - 130	2.0	20
Dichloroacetic Acid		26	0.34	1.0	ug/L		11	99	70 - 130	0.4	20
Monobromoacetic Acid		15	0.29	1.0	ug/L		0.29	103	70 - 130	0.8	20
Monobromoacetic Acid		16	0.29	1.0	ug/L		0.29	104	70 - 130	0.3	20
Monochloroacetic Acid		15	0.42	1.0	ug/L		1.0	94	70 - 130	1.4	20
Monochloroacetic Acid		15	0.42	1.0	ug/L		0.42	99	70 - 130	0.0	20
Trichloroacetic Acid		17	0.35	1.0	ug/L		0.35	111	70 - 130	0.0	20
Trichloroacetic Acid		28	0.35	1.0	ug/L		12	102	70 - 130	2.5	20
1,2,3-Trichloropropane (%)		92			%		94				
1,2,3-Trichloropropane (%)		86			%		96				
2,3-Dibromopropionic Acid (%)		109			%		110				
2,3-Dibromopropionic Acid (%)		111			%		106				

Haloacetic Acids, GC/ECD LOQ by EPA 552.2, B211020-002

Bromochloroacetic Acid	E1	0.94	0.34	1.0	ug/L			94	50 - 150		
Bromodichloroacetic Acid	E1	0.96	0.36	1.0	ug/L			96	50 - 150		
Chlorodibromoacetic Acid	E1	0.92	0.36	1.0	ug/L			92	50 - 150		
Dibromoacetic Acid	E1	0.98	0.36	1.0	ug/L			98	50 - 150		
Dichloroacetic Acid		1.0	0.34	1.0	ug/L			104	50 - 150		
Monobromoacetic Acid	E1	0.96	0.29	1.0	ug/L			96	50 - 150		
Monochloroacetic Acid	E1	0.94	0.42	1.0	ug/L			94	50 - 150		
Trichloroacetic Acid	E1	0.96	0.35	1.0	ug/L			96	50 - 150		
1,2,3-Trichloropropane (%)		94			%						
2,3-Dibromopropionic Acid (%)		106			%						



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.



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



COC #: C002089	Project Title: Bayside Ground Water Project TAT: Standard	Client PM: David Behnken Lab PM: Kristi Schwab Job #:	Expect Date: 10/12/2021 Sampled By: <i>Jon Marshak</i> <input checked="" type="checkbox"/> Samples transported on ice
----------------	--	---	---

Date	Time	Site/Locator	Sample ID	Type	Matrix	ID	Type	Tests Required
10/13/20		GW BAYSIDE - BAY1-MW2S	C002089-01	GRAB	Aqueous			
						-01A	PLSTL	EPA 200.7-NPW (Ca,Fe,K,Mg,Mn,Na)
						-01B	PLSTL	TDS
						-01C	PLSTM	Hardness
						-01D	PLSTS	EPA 300.1 (Cl,NO3,SO4)
						-01F	PSQLT	Ammonia: Titr-AQ
						-01G	A125N	EPA 552.2
						-01H	A125N	EPA 552.2
						-01I	PLSTM	Oxygen 18
						-01J	VOC4T	EPA 8260B THM
						-01K	VOC4T	EPA 8260
						-01L	VOC4T	EPA 8260
						-01M	C500Z	Alkalinity: Species
Field Test Parameters: CL2R = 0.22 mg/L Depth = 4.23 Feet pH = 6.54 pH Units Temperature = 17.5 C								

Field Comments:

Field Instructions:

29 2020



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



COC #: C002089	Project Title: Bayside Ground Water Project	Client PM: David Behnken Lab PM: Kristi Schwab	Expect Date: 10/12/2021
	TAT: Standard	Job #:	Sampled By: <i>Jon Marshak</i> <input checked="" type="checkbox"/> Samples transported on ice

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

Total Containers for: C002089 | 12

	Signature	Print Name	Time	Date
Relinquished by:	<i>[Signature]</i>	Jon Marshak	10/13/21	16:00
Received by:				
Relinquished by:				
Received by:				
Relinquished by:	<i>[Signature]</i>	Alvin Ng	1602	10/13/21
Received by:				

Container Legend:

A125N = Glass, amber, NM, septa top, 12.5 mg NH4Cl, Amber, 125 mL
 C500Z = Glass, clear, 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



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



COC #: C002089	Project Title: Bayside Ground Water Project TAT: Standard	Client PM: David Behnken Lab PM: Kristi Schwab Job #:	Received Date/Time: 10/13/2021 16:02 Received By: Alvin Ng Sampled By: J. Marshak/Terraphase Due Date: 11/09/2021
----------------	--	---	--

Date	Time	Site/Locator	Sample ID	Type	Matrix	ID	Type	Tests Required																				
10/13/2021	11:20	GW BAYSIDE - BAY1-MW2S	C002089-01	GRAB	Aqueous			+SAMP KIT																				
						-01A	PLSTL	EPA 200.7-NPW (Ca,Fe,K,Mg,Mn,Na)																				
						-01B	PLSTL	TDS																				
						-01C	PLSTM	Hardness																				
						-01D	PLSTS	EPA 300.1 (Cl,NO3,SO4)																				
						-01F	PSQLT	Ammonia: Titr-AQ																				
						-01G	A125N	EPA 552.2																				
						-01H	A125N	EPA 552.2																				
						-01I	PLSTM	Oxygen 18																				
						-01J	VOC4T	EPA 624.1 THM																				
						-01K	VOC4T	EPA 624.1																				
						-01L	VOC4T	EPA 624.1																				
						-01M	C500Z	Alkalinity: Species																				
<table border="1"> <thead> <tr> <th colspan="4">Field Test Parameters:</th> </tr> </thead> <tbody> <tr> <td>CL2R =</td> <td>0.22</td> <td>mg/L</td> <td>✓</td> </tr> <tr> <td>Depth =</td> <td>9.23</td> <td>Feet</td> <td>✓</td> </tr> <tr> <td>pH =</td> <td>6.54</td> <td>pH Units</td> <td>✓</td> </tr> <tr> <td>Temperature =</td> <td>17.8</td> <td>C</td> <td>✓</td> </tr> </tbody> </table>									Field Test Parameters:				CL2R =	0.22	mg/L	✓	Depth =	9.23	Feet	✓	pH =	6.54	pH Units	✓	Temperature =	17.8	C	✓
Field Test Parameters:																												
CL2R =	0.22	mg/L	✓																									
Depth =	9.23	Feet	✓																									
pH =	6.54	pH Units	✓																									
Temperature =	17.8	C	✓																									

Field Comments:

Field Instructions:

Sample External Comments:

Total Containers for: C002089 | 12

Alvin Ng 10/15/2021



C002089 Sample Acceptance Report

Received: 10/13/2021 16:02
Received By: Alvin Ng

Chain-of-Custody	Comments	
Chilled During Transport?	Yes	
CoC signatures?	Yes	
Collector identified?	Yes	
Date time of collection recorded and legible?	Yes NO	Grab time not filled out on original CoC. LEB following up with sampler. ACN 10/13/21 ✓ Sampler provided sample time. See email included in CoC packet. LEB 10/14/21 ✓
Project identified?	Yes	
Received from Sample Drop-off room?	No	
Requested analysis identified?	Yes	
Sample I.D.?	Yes	
Sample location?	Yes	
Shipping Slip?	No	

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



C002089 Sample Acceptance Report

Received: 10/13/2021 16:02
Received By: Alvin Ng

Sample: C002089-01

Comments

Bubbles in ZHS/VOA containers	No ✓	
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Intent to chill

Cooler: 1

Comments

Corrected Temp (° C)	3.1	
IR Thermometer Number	IR #12 ✓	
Representative temperature taken from	-01	
Uncorrected Temp (° C)	2.9 ✓	
Visible ice formed inside sample container?	No	

Acceptance

Comments

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



Sample Acceptance Preservation Report

Report Generated: 10/13/2021 4:08:42 PM

Inventory Item	Inventory ID	Open Date	Prep Date	Expiration Date
Ammonium Hydroxide	ST031221-004	10/27/2020	N/A	10/27/2021
Ammonium Sulfate Buffer (ASB-03)	ST210817-015	N/A	08/17/2021	10/27/2021
Ethylenediamine 12.5 mg/mL (EDA-18)	ST210927-007	N/A	09/27/2021	10/27/2021
H2SO4 15 mL 1:1 LDPE dropper	ST210716-005	09/25/2020	N/A	09/25/2030
HCl 15 mL 1:1 LDPE dropper	ST210729-008	N/A	N/A	07/22/2022
Hydrochloric Acid (HCl) 1+1 (HCl-01)	ST210529-001	N/A	05/29/2021	05/29/2022
NaOH 15 mL 1:1 LDPE dropper	ST210716-007	07/01/2020	N/A	06/10/2030
Nitric Acid TMG	ST210819-002	08/19/2021	N/A	01/08/2023
pH Strip 0-14	ST210901-009	09/01/2021	N/A	09/30/2024
pH Strip 7.9-9.8	ST210901-011	N/A	N/A	06/30/2023
Sulfuric Acid Gr ACS	ST210729-010	04/13/2021	N/A	04/13/2025

Container Number	Container Name	Tests	Preservation Requirement	Result	Initial/Date
C002089-01A	PLSTL	EPA 200.7-NPW	HNO3 to pH <2. Preservation Time = 164	PASS	ADJ 10/13/21
C002089-01C	PLSTM	Hardness	HNO3 to pH <2		
C002089-01F	PSQLT	Ammonia: Titr-AQ	Check Cl2R = 0 [PSQLT], then H2SO4 to pH <2		
C002089-01G	A125N	EPA 552.2	Check Container		
C002089-01H	A125N	EPA 552.2-FR	Check Container		
C002089-01J	VOC4T	EPA 624.1 THM	Check Container		
C002089-01K	VOC4T	EPA 624.1-FR	Check Container		
C002089-01L	VOC4T	EPA 624.1-FR	Check Container		



Brougham, Lauren

From: Jonathan Marshak <jonathan.marshak@terraphase.com>
Sent: Wednesday, October 13, 2021 4:20 PM
To: Brougham, Lauren
Cc: Molina, Robert; Lim, Jack
Subject: Re: Sampling Time C002089 GW BAYSIDE- BAY1-MW2S

CAUTION – This email came from outside of EBMUD. Do not open attachments or click on links in suspicious emails.

Hello Lauren,

Yes the sample time for well MW-2S was 11:20.

Thanks,

Jon Marshak

Get Outlook for iOS

From: Brougham, Lauren <lauren.brougham@ebmud.com>
Sent: Wednesday, October 13, 2021 4:18:06 PM
To: Jonathan Marshak <jonathan.marshak@terraphase.com>
Cc: Molina, Robert <robert.molina@ebmud.com>; Lim, Jack <jack.lim@ebmud.com>
Subject: Sampling Time C002089 GW BAYSIDE- BAY1-MW2S

Hello John,

Per our phone conversation, we are missing the sampling time on C002089-01 for GW BAYSIDE – BAY1-MW2S. Would you be able to provide that time for me?

Thanks,

Lauren Brougham | Chemist
East Bay Municipal Utility District
2020 Wake Ave, Oakland, CA 94607
Sample Receiving: (510) 287-1722
Email: lauren.brougham@ebmud.com
Stewardship ~ Integrity ~ Respect ~ Teamwork



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

08 November 2021

EBMUD

Attn: K. Schwab

PO Box 24055

Oakland, CA 94607

RE: Bayside Ground Water Project WDR

Work Order: 21J2216

Enclosed are the results of analyses for samples received by the laboratory on 10/14/21 22:10. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink that reads 'Leslie M. Quinn'.

Leslie M. Quinn For 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 PO Box 24055 Oakland, CA 94607	Project Manager: K. Schwab Project: Bayside Ground Water Project WDR Project Number: C002089	Reported: 11/08/21 18:27
--	--	-----------------------------

Bay Area: 262 Rickenbacker Circle | Livermore, CA 94551 | T: 925-828-6226 | F: 925-828-6309 | ELAP# 2728
Central Valley: 9090 Union Park Way Suite 113 | Elk Grove, CA 95624 | T: 916-686-5190 | F: 916-686-5192 | ELAP# 2922
North Bay: 110 Liberty Street | Petaluma, CA 94952 | T: 707-769-3128 | F: 707-769-8093 | ELAP# 2303
San Diego: 2722 Loker Avenue West Suite A | Carlsbad, CA 92010 | T: 760-930-2555 | F: 760-930-2510 | ELAP# 3055

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
C002089-01	21J2216-01	Water	10/13/21 12:00	10/14/21 22:10

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



ISOTECH

a Stratium (Beiservoll) brand

www.isotechlabs.com

Lab #: 806915 Job #: 49131 IS-69368 Co. Job#:
 Sample Name: 21J2216-01 Co. Lab#:
 Company: Alpha Analytical Laboratories, Inc.
 API/Well:
 Container: Plastic Bottle
 Field/Site Name: 21J2216
 Location:
 Formation/Depth:
 Sampling Point: C002089-01
 Date Sampled: 10/13/2021 12:00 Date Received: 10/20/2021 Date Reported: 11/03/2021

δ D of water ----- -24.0 ‰ relative to VSMOW

δ ¹⁸O of water ----- -2.58 ‰ relative to VSMOW

Tritium content of water ----- na

δ ¹³C of DIC ----- na

¹⁴C content of DIC ----- na

δ ¹⁵N of nitrate ----- na

δ ¹⁸O of nitrate ----- na

δ ³⁴S of sulfate ----- na

δ ¹⁸O 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



2152179
2152216 2-7c



East Bay Municipal Utility District Laboratory Services Subcontract Chain of Custody

COC #: C002089	Project Title: Bayside Ground Water Project	Lab PM: Kristi Schwab (510) 287-1696 Shipping Method: Alpha Courier	Sampled By: J. Marshak/Terraphase
	TAT: Standard	PO#: 934-37431-AX Expiration: 6/30/2021	Submitted Date: 10/14/21

Date	Time	Sample ID	Location/PS Code	Matrix	Container ID	Type	Tests Required	Method Reference
10/13/2021	12:00	C002089-01	GW BAYSIDE - BAY1-MW2S	Aqueous	-011	PLSTM	Oxygen 18	D180
Comments:				Total containers received: 1				

	Signature	Print Name	Time	Date
Relinquished by:	<i>[Signature]</i>	<i>Crystal Foster</i>	1245	10/14/21
Received by:	<i>[Signature]</i>	<i>David Rich</i>	12:15	10/14/21
Relinquished by:	<i>[Signature]</i>	<i>J. Bixler</i>	1:55	10/14/21
Received by:	<i>[Signature]</i>	<i>J. Bixler</i>	2:10	10/14/21
Relinquished by:	<i>[Signature]</i>	<i>J. Bixler</i>	2:10	10/14/21
Received by:	<i>[Signature]</i>	<i>J. Bixler</i>	2:10	10/14/21

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
Oakland, CA 94612
707-468-0401



17 December 2021

David Behnken

MS 704

Re: Bayside Ground Water Project

COC# C002088

Report Generated: 12/17/2021 12:52

Login Performance Summary

- 1 samples received by the lab on: 10/13/2021 16:26
- 0 Lost Analyses
- 0 Hold Time Exceedances
- Turn-around-time not met

Report Notes

For questions concerning this report, please contact:

Reported By:

Jack Lim

Senior Chemist

Approved By:

Yuyun Shang

Lab Manager



Samples for C002088

Samples Included in the Report

Sample Number	Sample Type	Sampled Date	Location Name	Sample Name	Parent Sample
C002088-01	GRAB	Oct 13 2021 13:50	GW BAYSIDE - BAY1-MW2I	-	



Samples Results for C002088

Sample ID: C002088-01
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 13 2021 13:50 **Sample Collector:** J. Marshak/Terraphase
Date Received: Oct 13 2021 16:26 **Sample Receiver:** V Nguyen
Sample Comments:

Analyte	Qualifier	Result	MDL	RL	Units	DF	Batch	Prepared	Analyzed
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Field data entry into LIMS

TARGET ANALYTES

CL2R		0.08			mg/L				10/13/2021 13:50
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Field data entry into LIMS

TARGET ANALYTES

Depth		35.65			Feet				10/13/2021 13:50
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Field data entry into LIMS

TARGET ANALYTES

pH		7.93			pH Units				10/13/2021 13:50
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Field data entry into LIMS

TARGET ANALYTES

Temperature		18.0			C				10/13/2021 13:50
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Total Dissolved Solids by SM 2540 C-2011

TARGET ANALYTES

Total Dissolved Solids		670	20	110	mg/L	2.0	B211019-003		10/09/2021 09:10
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Alkalinity by SM 2320 B-2011

TARGET ANALYTES

Alkalinity: Total as CaCO3		360	5	30	mg/L	1.0	B211018-008		10/18/2021 10:33
Alkalinity: Carbonate	U	5	5	30	mg/L	1.0	B211018-008		10/18/2021 10:33
Alkalinity: Bicarbonate		360	5	30	mg/L	1.0	B211018-008		10/18/2021 10:33
Alkalinity: Hydroxide	U	5	5	30	mg/L	1.0	B211018-008		10/18/2021 10:33

Ammonia as N by SM 4500-NH3 C-2011

TARGET ANALYTES

Ammonia as N	U	0.25	0.25	1.5	mg/L	1.0	B211021-012		10/21/2021 09:40
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Hardness as CaCO3 by SM 2340 C-2011

TARGET ANALYTES

Hardness as CaCO3		72	4	7	mg/L	1.0	B211027-021		10/27/2021 15:00
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Anions by EPA 300.1

TARGET ANALYTES

Nitrate as N	U	0.071	0.071	0.30	mg/L	10	B211013-013		10/14/2021 02:41
Sulfate		9.2	0.49	2.0	mg/L	10	B211013-013		10/14/2021 02:41
Chloride		150	1.3	10	mg/L	50	B211028-009		10/28/2021 14:12

SURROGATES

Dichloroacetate (%)		96			%	10	B211013-013		10/14/2021 02:41
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Samples Results for C002088

Sample ID: C002088-01
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 13 2021 13:50 **Sample Collector:** J. Marshak/Terraphase
Date Received: Oct 13 2021 16:26 **Sample Receiver:** V Nguyen
Sample Comments:

Analyte	Qualifier	Result	MDL	RL	Units	DF	Batch	Prepared	Analyzed
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Anions by EPA 300.1

Dichloroacetate (%)		103			%	50	B211028-009		10/28/2021 14:12
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Metals by EPA 200.7 (1994 Rev 4.4)

TARGET ANALYTES

Calcium		18100	10.5	52.0	ug/L	1.0	B211108-004	11/04/2021 09:40	11/08/2021 10:51
Iron		404	11.3	52.0	ug/L	1.0	B211108-004	11/04/2021 09:40	11/08/2021 10:51
Potassium		6760	19.9	260	ug/L	1.0	B211108-004	11/04/2021 09:40	11/08/2021 10:51
Magnesium		16100	5.72	52.0	ug/L	1.0	B211108-004	11/04/2021 09:40	11/08/2021 10:51
Manganese		128	0.25	20.8	ug/L	1.0	B211108-004	11/04/2021 09:40	11/08/2021 10:51
Sodium		188000	20.9	156	ug/L	3.1	B211108-004	11/04/2021 09:40	11/08/2021 11:11

INTERNAL STANDARD

Yttrium (%)		103			%	1.0	B211108-004	11/04/2021 09:40	11/08/2021 10:51
Yttrium Radial (%)		104			%	1.0	B211108-004	11/04/2021 09:40	11/08/2021 10:51
Yttrium (%)		99			%	3.1	B211108-004	11/04/2021 09:40	11/08/2021 11:11
Yttrium Radial (%)		104			%	3.1	B211108-004	11/04/2021 09:40	11/08/2021 11:11

Purgeable Organic Compounds, GC/MS by EPA 624.1

TARGET ANALYTES

Bromodichloromethane	U	0.129	0.129	0.500	ug/L	1.0	B211014-005		10/14/2021 14:35
Bromoform	U	0.166	0.166	0.500	ug/L	1.0	B211014-005		10/14/2021 14:35
Chloroform	U	0.196	0.196	0.500	ug/L	1.0	B211014-005		10/14/2021 14:35
Dibromochloromethane	U	0.131	0.131	0.500	ug/L	1.0	B211014-005		10/14/2021 14:35
Total Trihalomethanes, Calculated		0.000			ug/L	1.0	B211014-005		10/14/2021 14:35

Comments: TTHM calculation uses a zero for any individual THM result less than the MDL for that THM

INTERNAL STANDARD

Fluorobenzene (%)		94			%	1.0	B211014-005		10/14/2021 14:35
d5-Chlorobenzene (%)		90			%	1.0	B211014-005		10/14/2021 14:35
d4-1,4-Dichlorobenzene (%)		80.1			%	1.0	B211014-005		10/14/2021 14:35

SURROGATES

d4-Dichloroethane (%)		105			%	1.0	B211014-005		10/14/2021 14:35
d8-Toluene (%)		93			%	1.0	B211014-005		10/14/2021 14:35
4-Bromofluorobenzene (%)		93			%	1.0	B211014-005		10/14/2021 14:35

Haloacetic Acids, GC/ECD by EPA 552.2

TARGET ANALYTES

Bromochloroacetic Acid	U	0.34	0.34	1.0	ug/L	1.0	B211020-002	10/19/2021 09:00	10/20/2021 15:49
								Comments: Compound not available for certification by ELAP	
Bromodichloroacetic Acid	U	0.36	0.36	1.0	ug/L	1.0	B211020-002	10/19/2021 09:00	10/20/2021 15:49
								Comments: Compound not available for certification by ELAP	
Chlorodibromoacetic Acid	U	0.36	0.36	1.0	ug/L	1.0	B211020-002	10/19/2021 09:00	10/20/2021 15:49
								Comments: Compound not available for certification by ELAP	



Samples Results for C002088

Sample ID: C002088-01
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 13 2021 13:50 **Sample Collector:** J. Marshak/Terraphase
Date Received: Oct 13 2021 16:26 **Sample Receiver:** V Nguyen
Sample Comments:

Analyte	Qualifier	Result	MDL	RL	Units	DF	Batch	Prepared	Analyzed
Haloacetic Acids, GC/ECD by EPA 552.2									
Dibromoacetic Acid	U	0.36	0.36	1.0	ug/L	1.0	B211020-002	10/19/2021 09:00	10/20/2021 15:49
Dichloroacetic Acid	U	0.34	0.34	1.0	ug/L	1.0	B211020-002	10/19/2021 09:00	10/20/2021 15:49
Monobromoacetic Acid	U	0.29	0.29	1.0	ug/L	1.0	B211020-002	10/19/2021 09:00	10/20/2021 15:49
Monochloroacetic Acid	U	0.42	0.42	1.0	ug/L	1.0	B211020-002	10/19/2021 09:00	10/20/2021 15:49
Trichloroacetic Acid	U	0.35	0.35	1.0	ug/L	1.0	B211020-002	10/19/2021 09:00	10/20/2021 15:49
HAA(5), calculated		0.00			ug/L	1.0	B211020-002	10/19/2021 09:00	10/20/2021 15:49
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 (%)		96			%	1.0	B211020-002	10/19/2021 09:00	10/20/2021 15:49
SURROGATES									
2,3-Dibromopropionic Acid (%)		106			%	1.0	B211020-002	10/19/2021 09:00	10/20/2021 15:49

Oxygen 18 Isotope Analysis

Subcontract data from: Alpha Analytical Laboratory
Test External Comments: For Oxygen 18 data: Original Report transmitted to client and accessible at end of this report

TARGET ANALYTES

Comment



Quality Control for C002088

Analyte	Qualifier	Result	MDL	RL	Units	Spike Level	Source Result	% REC	% REC Limits	RPD	RPD Limits
Total and Fixed Dissolved Solids MB by EPA 160.4, B211019-003											
Total Dissolved Solids	U	10	10	55	mg/L						
Fixed Dissolved Solids	U	10	10	69	mg/L						
Total Dissolved Solids LCS by SM 2540 C-2011, B211019-003											
Total Dissolved Solids		320	10	55	mg/L			97	85 - 115		
Total Dissolved Solids DUP by SM 2540 C-2011, B211019-003											
Total Dissolved Solids		76000	330	1800	mg/L		80000			4.7	10
Fixed Dissolved Solids DUP by EPA 160.4, B211019-003											
Fixed Dissolved Solids		73	10	69	mg/L		76			4.0	10
Alkalinity MB by SM 2320 B-2011, B211018-008											
Alkalinity: Total as CaCO ₃	U	5	5	30	mg/L						
Alkalinity LCS by SM 2320 B-2011, B211018-008											
Alkalinity: Total as CaCO ₃		200	5	30	mg/L			101	85 - 115		
Alkalinity DUP by SM 2320 B-2011, B211018-008											
Alkalinity: Total as CaCO ₃		7900	62	380	mg/L		8500			7.9	20
Alkalinity: Total as CaCO ₃		61	5	30	mg/L		60			1.4	20
Alkalinity MS by SM 2320 B-2011, B211018-008											
Alkalinity: Total as CaCO ₃		260	5	30	mg/L		60	101	80 - 120		
Alkalinity: Total as CaCO ₃		13000	62	380	mg/L		8500	91	80 - 120		
Alkalinity LOQ by SM 2320 B-2011, B211018-008											
Alkalinity: Total as CaCO ₃		33	5	30	mg/L			111	50 - 150		
Alkalinity QCS by SM 2320 B-2011, B211018-008											
Alkalinity: Total as CaCO ₃		110	5	30	mg/L			104	91 - 111		
Ammonia as N MB by SM 4500-NH3 C-2011, B211021-012											
Ammonia as N	U	0.25	0.25	1.5	mg/L						
Ammonia as N LCS by SM 4500-NH3 C-2011, B211021-012											
Ammonia as N		12	0.25	1.5	mg/L			103	85 - 115		
Ammonia as N DUP by SM 4500-NH3 C-2011, B211021-012											
Ammonia as N		55	1.2	7.5	mg/L		54			2.3	10
Ammonia as N MS by SM 4500-NH3 C-2011, B211021-012											
Ammonia as N		110	1.2	7.5	mg/L		54	95	80 - 120		



Quality Control for C002088

Analyte	Qualifier	Result	MDL	RL	Units	Spike Level	Source Result	% REC	% REC Limits	RPD	RPD Limits
Ammonia as N MSD by SM 4500-NH3 C-2011, B211021-012											
Ammonia as N		110	1.2	7.5	mg/L		54	96	80 - 120	0.5	15
Hardness as CaCO3 MB by SM 2340 C-2011, B211027-021											
Hardness as CaCO3	U	4	4	7	mg/L						
Hardness as CaCO3 LCS by SM 2340 C-2011, B211027-021											
Hardness as CaCO3		100	4	7	mg/L			100	85 - 115		
Hardness as CaCO3 DUP by SM 2340 C-2011, B211027-021											
Hardness as CaCO3		130	4	7	mg/L		130			1.2	10
Hardness as CaCO3 MS by SM 2340 C-2011, B211027-021											
Hardness as CaCO3		220	4	7	mg/L		130	88	85 - 115		
Hardness as CaCO3 QCS by SM 2340 C-2011, B211027-021											
Hardness as CaCO3		120	4	7	mg/L			92	91 - 107		
Anions MB by EPA 300.1, B211013-013											
Bromide	U	0.0034	0.0034	0.030	mg/L						
Chloride	U	0.026	0.026	0.20	mg/L						
Fluoride	U	0.0091	0.0091	0.075	mg/L						
Nitrate as N	U	0.0071	0.0071	0.030	mg/L						
Nitrite as N	U	0.0048	0.0048	0.030	mg/L						
Orthophosphate as P	U	0.0092	0.0092	0.030	mg/L						
Sulfate	U	0.049	0.049	0.20	mg/L						
Dichloroacetate (%)		96			%						
Anions LCS by EPA 300.1, B211013-013											
Bromide		0.048	0.0034	0.030	mg/L			95	85 - 115		
Chloride		0.96	0.026	0.20	mg/L			96	85 - 115		
Fluoride		0.48	0.0091	0.075	mg/L			97	85 - 115		
Nitrate as N		0.046	0.0071	0.030	mg/L			92	85 - 115		
Nitrite as N		0.044	0.0048	0.030	mg/L			88	85 - 115		
Orthophosphate as P		0.046	0.0092	0.030	mg/L			92	85 - 115		
Sulfate		0.92	0.049	0.20	mg/L			92	85 - 115		
Dichloroacetate (%)		97			%						
Anions DUP by EPA 300.1, B211013-013											
Bromide	U	0.0034	0.0034	0.030	mg/L		0.0034			NC	10
Bromide	U	0.0034	0.0034	0.030	mg/L		0.0034			NC	10
Chloride		2.2	0.026	0.20	mg/L		2.3			4.3	10
Chloride		7.7	0.026	0.20	mg/L		7.7			0.1	10
Fluoride	E1	0.042	0.0091	0.075	mg/L		0.043			1.3	10
Fluoride	E1	0.014	0.0091	0.075	mg/L		0.014			1.7	10
Nitrate as N	U	0.0071	0.0071	0.030	mg/L		0.0071			NC	10
Nitrate as N		0.054	0.0071	0.030	mg/L		0.053			2.3	10



Quality Control for C002088

Analyte	Qualifier	Result	MDL	RL	Units	Spike Level	Source Result	% REC	% REC Limits	RPD	RPD Limits
Anions DUP by EPA 300.1, B211013-013											
Nitrite as N	U	0.0048	0.0048	0.030	mg/L		0.0048			NC	10
Nitrite as N	E1	0.012	0.0048	0.030	mg/L		0.012			6.3	10
Orthophosphate as P	U	0.0092	0.0092	0.030	mg/L		0.0092			NC	10
Orthophosphate as P	U	0.0092	0.0092	0.030	mg/L		0.0092			NC	10
Sulfate	E1	0.062	0.049	0.20	mg/L		0.062			0.8	10
Sulfate		6.3	0.049	0.20	mg/L		6.4			0.2	10
Dichloroacetate (%)		96			%		93				
Dichloroacetate (%)		96			%		95				
Anions MS by EPA 300.1, B211013-013											
Bromide		0.049	0.0034	0.030	mg/L		0.0034	98	75 - 125		
Bromide		0.040	0.0034	0.030	mg/L		0.0034	79	75 - 125		
Chloride		8.6	0.026	0.20	mg/L		7.7	88	75 - 125		
Chloride		3.4	0.026	0.20	mg/L		2.3	108	75 - 125		
Fluoride		0.51	0.0091	0.075	mg/L		0.043	94	75 - 125		
Fluoride		0.49	0.0091	0.075	mg/L		0.014	95	75 - 125		
Nitrate as N	M1	0.15	0.0071	0.030	mg/L		0.053	189	75 - 125		
Nitrate as N		0.045	0.0071	0.030	mg/L		0.0071	89	75 - 125		
Nitrite as N	E1, M1	0.012	0.0048	0.030	mg/L		0.012	0	75 - 125		
Nitrite as N		0.043	0.0048	0.030	mg/L		0.0048	87	75 - 125		
Orthophosphate as P		0.048	0.0092	0.030	mg/L		0.0092	97	75 - 125		
Orthophosphate as P		0.049	0.0092	0.030	mg/L		0.0092	98	75 - 125		
Sulfate		0.92	0.049	0.20	mg/L		0.062	86	75 - 125		
Sulfate		7.3	0.049	0.20	mg/L		6.4	96	75 - 125		
Dichloroacetate (%)		95			%		93				
Dichloroacetate (%)		96			%		95				
Anions LOQ by EPA 300.1, B211013-013											
Bromide	E1	0.029	0.0034	0.030	mg/L			96	50 - 150		
Chloride	E1	0.20	0.026	0.20	mg/L			99	50 - 150		
Fluoride	E1	0.068	0.0091	0.075	mg/L			91	50 - 150		
Nitrate as N	E1	0.028	0.0071	0.030	mg/L			94	50 - 150		
Nitrite as N	E1	0.027	0.0048	0.030	mg/L			90	50 - 150		
Orthophosphate as P	E1	0.027	0.0092	0.030	mg/L			92	50 - 150		
Sulfate		0.20	0.049	0.20	mg/L			101	50 - 150		
Dichloroacetate (%)		97			%						
Anions MB by EPA 300.1, B211028-009											
Chloride	U	0.026	0.026	0.20	mg/L						
Fluoride	U	0.0091	0.0091	0.075	mg/L						
Nitrate as N	U	0.0071	0.0071	0.030	mg/L						
Nitrite as N	U	0.0048	0.0048	0.030	mg/L						
Orthophosphate as P	U	0.0092	0.0092	0.030	mg/L						
Dichloroacetate (%)		105			%						
Anions LCS by EPA 300.1, B211028-009											
Chloride		0.97	0.026	0.20	mg/L			97	85 - 115		
Fluoride		0.49	0.0091	0.075	mg/L			99	85 - 115		
Nitrate as N		0.046	0.0071	0.030	mg/L			92	85 - 115		



Quality Control for C002088

Analyte	Qualifier	Result	MDL	RL	Units	Spike Level	Source Result	% REC	% REC Limits	RPD	RPD Limits
Anions LCS by EPA 300.1, B211028-009											
Nitrite as N		0.046	0.0048	0.030	mg/L			91	85 - 115		
Orthophosphate as P		0.047	0.0092	0.030	mg/L			94	85 - 115		
Dichloroacetate (%)		98			%						
Anions DUP by EPA 300.1, B211028-009											
Nitrate as N		0.051	0.0071	0.030	mg/L		0.051			0.0	10
Nitrite as N	U	0.0048	0.0048	0.030	mg/L		0.0048			NC	10
Orthophosphate as P	E1	0.016	0.0092	0.030	mg/L		0.016			1.0	10
Dichloroacetate (%)		96			%		99				
Anions MS by EPA 300.1, B211028-009											
Nitrate as N		0.098	0.0071	0.030	mg/L		0.051	95	75 - 125		
Nitrite as N		0.048	0.0048	0.030	mg/L		0.0048	96	75 - 125		
Orthophosphate as P		0.066	0.0092	0.030	mg/L		0.016	100	75 - 125		
Dichloroacetate (%)		102			%		99				
Anions LOQ by EPA 300.1, B211028-009											
Chloride		0.20	0.026	0.20	mg/L			103	50 - 150		
Fluoride	E1	0.071	0.0091	0.075	mg/L			94	50 - 150		
Nitrate as N	E1	0.029	0.0071	0.030	mg/L			96	50 - 150		
Nitrite as N	E1	0.029	0.0048	0.030	mg/L			96	50 - 150		
Orthophosphate as P	E1	0.030	0.0092	0.030	mg/L			99	50 - 150		
Dichloroacetate (%)		101			%						
Metals MB by EPA 200.7, B211108-004											
Calcium	U	10.5	10.5	52.0	ug/L						
Iron	U	11.3	11.3	52.0	ug/L						
Potassium	U	19.9	19.9	260	ug/L						
Magnesium	U	5.72	5.72	52.0	ug/L						
Manganese	U	0.25	0.25	20.8	ug/L						
Sodium	U	6.97	6.97	52.0	ug/L						
Silicon	U	27.9	27.9	260	ug/L						
Yttrium (%)		104			%						
Yttrium Radial (%)		104			%						
Metals LCS by EPA 200.7, B211108-004											
Calcium		9650	10.9	54.0	ug/L			96	85 - 115		
Iron		976	11.8	54.0	ug/L			98	85 - 115		
Potassium		9700	20.6	270	ug/L			97	85 - 115		
Magnesium		10000	5.94	54.0	ug/L			100	85 - 115		
Manganese		194	0.26	21.6	ug/L			97	85 - 115		
Sodium		9820	7.24	54.0	ug/L			98	85 - 115		
Silicon		1940	28.9	270	ug/L			97	85 - 115		
Yttrium (%)		101			%						
Yttrium Radial (%)		101			%						
Metals LCSD by EPA 200.7, B211108-004											
Calcium		9550	10.9	54.0	ug/L			96	85 - 115	1.1	10



Quality Control for C002088

Analyte	Qualifier	Result	MDL	RL	Units	Spike Level	Source Result	% REC	% REC Limits	RPD	RPD Limits
Metals LCSD by EPA 200.7, B211108-004											
Iron		968	11.8	54.0	ug/L			97	85 - 115	0.9	10
Potassium		9520	20.6	270	ug/L			95	85 - 115	2.0	10
Magnesium		9960	5.94	54.0	ug/L			100	85 - 115	0.9	10
Manganese		193	0.26	21.6	ug/L			96	85 - 115	0.8	10
Sodium		9880	7.24	54.0	ug/L			99	85 - 115	0.5	10
Silicon		1920	28.9	270	ug/L			96	85 - 115	1.2	15
Yttrium (%)		102			%						
Yttrium Radial (%)		99			%						
Metals MS by EPA 200.7, B211108-004											
Calcium		19200	10.9	54.0	ug/L		9860	93	70 - 130		
Iron		33200	11.8	54.0	ug/L		32500	76	70 - 130		
Manganese		645	0.26	21.6	ug/L		462	92	70 - 130		
Silicon		6840	28.9	270	ug/L		4810	102	70 - 130		
Yttrium (%)		100			%		98				
Yttrium Radial (%)		100			%		101				
Metals MSD by EPA 200.7, B211108-004											
Calcium		19300	10.9	54.0	ug/L		9860	94	70 - 130	0.8	20
Iron		33500	11.8	54.0	ug/L		32500	103	70 - 130	0.8	20
Manganese		652	0.26	21.6	ug/L		462	95	70 - 130	1.0	20
Silicon		6920	28.9	270	ug/L		4810	105	70 - 130	1.1	20
Yttrium (%)		97			%		98				
Yttrium Radial (%)		101			%		101				
Metals LOQ by EPA 200.7, B211108-004											
Calcium	E1	46.2	10.6	52.5	ug/L			92	50 - 150		
Iron	E1	49.4	11.4	52.5	ug/L			99	50 - 150		
Potassium	E1	209	20.0	262	ug/L			83	50 - 150		
Magnesium	E1	48.7	5.78	52.5	ug/L			97	50 - 150		
Manganese	E1	19.9	0.25	21.0	ug/L			99	50 - 150		
Sodium	E1	45.0	7.04	52.5	ug/L			90	50 - 150		
Silicon	E1	246	28.1	262	ug/L			99	50 - 150		
Yttrium (%)		105			%						
Yttrium Radial (%)		105			%						
Purgeable Organic Compounds, GC/MS MB by EPA 624.1, B211014-005											
1,1,1-Trichloroethane	U	0.259	0.259	0.500	ug/L						
1,1,1,2-Tetrachloroethane	U	0.125	0.125	0.500	ug/L						
1,1,2-Trichloroethane	U	0.108	0.108	0.500	ug/L						
1,1-Dichloroethane	U	0.279	0.279	0.500	ug/L						
1,1-Dichloroethene	U	0.187	0.187	0.500	ug/L						
1,2-Dichlorobenzene	U	0.112	0.112	0.500	ug/L						
1,2-Dichloroethane	U	0.122	0.122	0.500	ug/L						
1,2-Dichloropropane	U	0.129	0.129	0.500	ug/L						
1,3-Dichlorobenzene	U	0.131	0.131	0.500	ug/L						
1,4-Dichlorobenzene	U	0.115	0.115	0.500	ug/L						
2-Butanone	U	0.422	0.422	1.00	ug/L						
2-Chloroethylvinyl Ether	U	0.270	0.270	1.00	ug/L						



Quality Control for C002088

Analyte	Qualifier	Result	MDL	RL	Units	Spike Level	Source Result	% REC	% REC Limits	RPD	RPD Limits
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Purgeable Organic Compounds, GC/MS MB by EPA 624.1, B211014-005

Benzene	U	0.143	0.143	0.500	ug/L						
Bromodichloromethane	U	0.129	0.129	0.500	ug/L						
Bromoform	U	0.166	0.166	0.500	ug/L						
Bromomethane	U	0.561	0.561	1.00	ug/L						
Carbon Tetrachloride	U	0.372	0.372	0.500	ug/L						
Chlorobenzene	U	0.114	0.114	0.500	ug/L						
Chloroethane	U	0.258	0.258	0.500	ug/L						
Chloroform	U	0.196	0.196	0.500	ug/L						
Chloromethane	U	0.316	0.316	0.500	ug/L						
cis-1,3-Dichloropropene	U	0.164	0.164	0.500	ug/L						
Dibromochloromethane	U	0.131	0.131	0.500	ug/L						
Ethyl Benzene	U	0.126	0.126	0.500	ug/L						
Fluorotrichloromethane	U	0.325	0.325	1.00	ug/L						
m+p Xylenes	U	0.287	0.287	1.00	ug/L						
Methylene Chloride	U	0.279	0.279	0.500	ug/L						
Methyl-t-butyl Ether	U	0.126	0.126	1.00	ug/L						
o-Xylene	U	0.150	0.150	0.500	ug/L						
Tetrachloroethene	U	0.167	0.167	0.500	ug/L						
Toluene	U	0.153	0.153	0.500	ug/L						
trans-1,2-Dichloroethene	U	0.230	0.230	0.500	ug/L						
trans-1,3-Dichloropropene	U	0.117	0.117	0.500	ug/L						
Trichloroethene	U	0.172	0.172	0.500	ug/L						
Vinyl Chloride	U	0.216	0.216	0.500	ug/L						
Fluorobenzene (%)		88			%						
d5-Chlorobenzene (%)		87			%						
d4-1,4-Dichlorobenzene (%)		78			%						
d4-Dichloroethane (%)		107			%						
d8-Toluene (%)		96			%						
4-Bromofluorobenzene (%)		92			%						

Purgeable Organic Compounds, GC/MS LCS by EPA 624.1, B211014-005

1,1,1-Trichloroethane		22.5	0.259	0.500	ug/L			113	70 - 130		
1,1,2,2-Tetrachloroethane		19.0	0.125	0.500	ug/L			96	60 - 140		
1,1,2-Trichloroethane		21.1	0.108	0.500	ug/L			106	70 - 130		
1,1-Dichloroethane		21.1	0.279	0.500	ug/L			106	70 - 130		
1,1-Dichloroethene		21.2	0.187	0.500	ug/L			107	50 - 150		
1,2-Dichlorobenzene		19.9	0.112	0.500	ug/L			100	65 - 135		
1,2-Dichloroethane		20.9	0.122	0.500	ug/L			105	70 - 130		
1,2-Dichloropropane		20.7	0.129	0.500	ug/L			104	35 - 165		
1,3-Dichlorobenzene		20.1	0.131	0.500	ug/L			101	70 - 130		
1,4-Dichlorobenzene		20.6	0.115	0.500	ug/L			104	65 - 135		
2-Butanone		17.7	0.422	1.00	ug/L			89	64 - 137		
2-Chloroethylvinyl Ether		17.1	0.270	1.00	ug/L			86	1 - 225		
Benzene		20.9	0.143	0.500	ug/L			105	65 - 135		
Bromodichloromethane		21.4	0.129	0.500	ug/L			108	65 - 135		
Bromoform		21.8	0.166	0.500	ug/L			110	70 - 130		
Bromomethane		20.5	0.561	1.00	ug/L			103	15 - 185		
Carbon Tetrachloride		22.9	0.372	0.500	ug/L			115	70 - 130		
Chlorobenzene		21.3	0.114	0.500	ug/L			107	65 - 135		
Chloroethane		21.4	0.258	0.500	ug/L			108	40 - 160		
Chloroform		21.4	0.196	0.500	ug/L			108	70 - 135		



Quality Control for C002088

Analyte	Qualifier	Result	MDL	RL	Units	Spike Level	Source Result	% REC	% REC Limits	RPD	RPD Limits
Purgeable Organic Compounds, GC/MS LCS by EPA 624.1, B211014-005											
Chloromethane		20.8	0.316	0.500	ug/L			105	1 - 205		
cis-1,3-Dichloropropene		21.4	0.164	0.500	ug/L			108	25 - 175		
Dibromochloromethane		21.4	0.131	0.500	ug/L			108	70 - 135		
Ethyl Benzene		21.0	0.126	0.500	ug/L			106	60 - 140		
Fluorotrichloromethane		23.4	0.325	1.00	ug/L			118	50 - 150		
m+p Xylenes		45.5	0.287	1.00	ug/L			114	78 - 123		
Methylene Chloride		20.7	0.279	0.500	ug/L			104	60 - 140		
Methyl-t-butyl Ether		20.0	0.126	1.00	ug/L			100	78 - 134		
o-Xylene		21.6	0.150	0.500	ug/L			109	80 - 123		
Tetrachloroethene		22.6	0.167	0.500	ug/L			114	70 - 130		
Toluene		20.9	0.153	0.500	ug/L			105	70 - 130		
trans-1,2-Dichloroethene		22.4	0.230	0.500	ug/L			113	70 - 130		
trans-1,3-Dichloropropene		21.2	0.117	0.500	ug/L			107	50 - 150		
Trichloroethene		21.4	0.172	0.500	ug/L			108	65 - 135		
Vinyl Chloride		19.9	0.216	0.500	ug/L			100	5 - 195		
Fluorobenzene (%)		110			%						
d5-Chlorobenzene (%)		107			%						
d4-1,4-Dichlorobenzene (%)		117			%						
d4-Dichloroethane (%)		103			%						
d8-Toluene (%)		102			%						
4-Bromofluorobenzene (%)		104			%						

Purgeable Organic Compounds, GC/MS MS by EPA 624.1, B211014-005

1,1,1-Trichloroethane		22.4	0.259	0.500	ug/L	0.259		113	52 - 162		
1,1,2,2-Tetrachloroethane		18.8	0.125	0.500	ug/L	0.125		95	46 - 157		
1,1,2-Trichloroethane		21.8	0.108	0.500	ug/L	0.108		110	52 - 150		
1,1-Dichloroethane		21.4	0.279	0.500	ug/L	0.279		108	59 - 155		
1,1-Dichloroethene		21.3	0.187	0.500	ug/L	0.187		107	1 - 234		
1,2-Dichlorobenzene		20.3	0.112	0.500	ug/L	0.112		102	18 - 190		
1,2-Dichloroethane		21.4	0.122	0.500	ug/L	0.122		108	49 - 155		
1,2-Dichloropropane		20.8	0.129	0.500	ug/L	0.129		105	1 - 210		
1,3-Dichlorobenzene		20.1	0.131	0.500	ug/L	0.131		101	59 - 156		
1,4-Dichlorobenzene		20.7	0.115	0.500	ug/L	0.115		104	18 - 190		
2-Butanone		17.5	0.422	1.00	ug/L	0.422		88	56 - 150		
2-Chloroethylvinyl Ether		19.5	0.270	1.00	ug/L	0.270		98	1 - 305		
Benzene		20.8	0.143	0.500	ug/L	0.143		105	37 - 151		
Bromodichloromethane		21.6	0.129	0.500	ug/L	0.129		109	35 - 155		
Bromoform		22.6	0.166	0.500	ug/L	0.166		114	45 - 169		
Bromomethane		24.6	0.561	1.00	ug/L	0.561		124	1 - 242		
Carbon Tetrachloride		22.7	0.372	0.500	ug/L	0.372		114	70 - 140		
Chlorobenzene		21.6	0.114	0.500	ug/L	0.114		109	37 - 160		
Chloroethane		21.7	0.258	0.500	ug/L	0.258		109	14 - 230		
Chloroform		22.1	0.196	0.500	ug/L	0.196		111	51 - 138		
Chloromethane		20.9	0.316	0.500	ug/L	0.341		104	1 - 273		
cis-1,3-Dichloropropene		22.5	0.164	0.500	ug/L	0.164		113	1 - 227		
Dibromochloromethane		22.2	0.131	0.500	ug/L	0.131		112	53 - 149		
Ethyl Benzene		21.5	0.126	0.500	ug/L	0.126		108	37 - 162		
Fluorotrichloromethane		23.5	0.325	1.00	ug/L	0.325		118	17 - 181		
m+p Xylenes		45.6	0.287	1.00	ug/L	0.287		115	68 - 145		
Methylene Chloride		21.4	0.279	0.500	ug/L	0.279		108	1 - 221		
Methyl-t-butyl Ether		19.6	0.126	1.00	ug/L	0.126		99	71 - 133		



Quality Control for C002088

Analyte	Qualifier	Result	MDL	RL	Units	Spike Level	Source Result	% REC	% REC Limits	RPD	RPD Limits
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Purgeable Organic Compounds, GC/MS MS by EPA 624.1, B211014-005

o-Xylene		21.9	0.150	0.500	ug/L		0.150	110	69 - 138		
Tetrachloroethene		23.1	0.167	0.500	ug/L		0.167	116	64 - 148		
Toluene		21.2	0.153	0.500	ug/L		0.153	107	47 - 150		
trans-1,2-Dichloroethene		21.5	0.230	0.500	ug/L		0.230	108	54 - 156		
trans-1,3-Dichloropropene		22.0	0.117	0.500	ug/L		0.117	111	17 - 183		
Trichloroethene		22.1	0.172	0.500	ug/L		0.172	112	70 - 157		
Vinyl Chloride		20.1	0.216	0.500	ug/L		0.216	101	1 - 251		
Fluorobenzene (%)		91			%		103				
d5-Chlorobenzene (%)		88			%		104				
d4-1,4-Dichlorobenzene (%)		99			%		90				
d4-Dichloroethane (%)		102			%		109				
d8-Toluene (%)		106			%		95				
4-Bromofluorobenzene (%)		108			%		95				

Purgeable Organic Compounds, GC/MS MS by EPA 624.1, B211014-005

Bromodichloromethane		20.6	0.129	0.500	ug/L		0.129	104	35 - 155		
Bromoform		22.1	0.166	0.500	ug/L		0.166	111	45 - 169		
Chloroform		20.8	0.196	0.500	ug/L		0.196	105	51 - 138		
Dibromochloromethane		21.0	0.131	0.500	ug/L		0.131	106	53 - 149		
Fluorobenzene (%)		91			%		94				
d5-Chlorobenzene (%)		89			%		90				
d4-1,4-Dichlorobenzene (%)		100			%		80.1				
d4-Dichloroethane (%)		97			%		105				
d8-Toluene (%)		100			%		93				
4-Bromofluorobenzene (%)		103			%		93				

Purgeable Organic Compounds, GC/MS MSD by EPA 624.1, B211014-005

1,1,1-Trichloroethane		21.7	0.259	0.500	ug/L		0.259	109	52 - 162	3.3	36
1,1,2,2-Tetrachloroethane		18.7	0.125	0.500	ug/L		0.125	94	46 - 157	0.6	61
1,1,2-Trichloroethane		21.3	0.108	0.500	ug/L		0.108	107	52 - 150	2.5	45
1,1-Dichloroethane		20.3	0.279	0.500	ug/L		0.279	102	59 - 155	5.0	40
1,1-Dichloroethene		21.2	0.187	0.500	ug/L		0.187	107	1 - 234	0.1	32
1,2-Dichlorobenzene		19.8	0.112	0.500	ug/L		0.112	100	18 - 190	2.6	57
1,2-Dichloroethane		19.9	0.122	0.500	ug/L		0.122	100	49 - 155	7.1	49
1,2-Dichloropropane		20.3	0.129	0.500	ug/L		0.129	102	1 - 210	2.5	55
1,3-Dichlorobenzene		20.5	0.131	0.500	ug/L		0.131	103	59 - 156	2.2	43
1,4-Dichlorobenzene		20.6	0.115	0.500	ug/L		0.115	104	18 - 190	0.6	57
2-Butanone		16.9	0.422	1.00	ug/L		0.422	85	56 - 150	3.4	24
2-Chloroethylvinyl Ether		17.5	0.270	1.00	ug/L		0.270	88	1 - 305	10.9	71
Benzene		20.1	0.143	0.500	ug/L		0.143	101	37 - 151	3.6	61
Bromodichloromethane		20.3	0.129	0.500	ug/L		0.129	102	35 - 155	6.2	56
Bromoform		21.8	0.166	0.500	ug/L		0.166	110	45 - 169	4.0	42
Bromomethane		20.3	0.561	1.00	ug/L		0.561	102	1 - 242	19.3	61
Carbon Tetrachloride		22.0	0.372	0.500	ug/L		0.372	111	70 - 140	3.0	41
Chlorobenzene		21.2	0.114	0.500	ug/L		0.114	107	37 - 160	1.8	53
Chloroethane		21.7	0.258	0.500	ug/L		0.258	109	14 - 230	0.0	78
Chloroform		20.7	0.196	0.500	ug/L		0.196	104	51 - 138	6.4	54
Chloromethane		19.4	0.316	0.500	ug/L		0.341	96	1 - 273	7.4	60
cis-1,3-Dichloropropene		21.0	0.164	0.500	ug/L		0.164	106	1 - 227	6.7	58
Dibromochloromethane		21.5	0.131	0.500	ug/L		0.131	108	53 - 149	3.2	50



Quality Control for C002088

Analyte	Qualifier	Result	MDL	RL	Units	Spike Level	Source Result	% REC	% REC Limits	RPD	RPD Limits
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Purgeable Organic Compounds, GC/MS MSD by EPA 624.1, B211014-005

Ethyl Benzene		21.1	0.126	0.500	ug/L		0.126	106	37 - 162	1.8	63
Fluorotrichloromethane		23.0	0.325	1.00	ug/L		0.325	116	17 - 181	2.0	84
m+p Xylenes		44.5	0.287	1.00	ug/L		0.287	112	68 - 145	2.3	26
Methylene Chloride		19.7	0.279	0.500	ug/L		0.279	99	1 - 221	8.2	28
Methyl-t-butyl Ether		19.3	0.126	1.00	ug/L		0.126	97	71 - 133	1.7	25
o-Xylene		21.2	0.150	0.500	ug/L		0.150	107	69 - 138	3.3	21
Tetrachloroethene		22.2	0.167	0.500	ug/L		0.167	112	64 - 148	4.3	39
Toluene		20.6	0.153	0.500	ug/L		0.153	104	47 - 150	2.8	41
trans-1,2-Dichloroethene		20.9	0.230	0.500	ug/L		0.230	105	54 - 156	2.8	45
trans-1,3-Dichloropropene		20.8	0.117	0.500	ug/L		0.117	104	17 - 183	5.6	86
Trichloroethene		21.1	0.172	0.500	ug/L		0.172	106	70 - 157	4.9	48
Vinyl Chloride		19.8	0.216	0.500	ug/L		0.216	100	1 - 251	1.5	66
Fluorobenzene (%)		91			%		103				
d5-Chlorobenzene (%)		89			%		104				
d4-1,4-Dichlorobenzene (%)		97			%		90				
d4-Dichloroethane (%)		96			%		109				
d8-Toluene (%)		100			%		95				
4-Bromofluorobenzene (%)		108			%		95				

Purgeable Organic Compounds, GC/MS MSD by EPA 624.1, B211014-005

Bromodichloromethane		20.8	0.129	0.500	ug/L		0.129	105	35 - 155	0.8	56
Bromoform		21.4	0.166	0.500	ug/L		0.166	108	45 - 169	3.1	42
Chloroform		20.6	0.196	0.500	ug/L		0.196	104	51 - 138	0.8	54
Dibromochloromethane		21.0	0.131	0.500	ug/L		0.131	106	53 - 149	0.1	50
Fluorobenzene (%)		92			%		94				
d5-Chlorobenzene (%)		92			%		90				
d4-1,4-Dichlorobenzene (%)		98			%		80.1				
d4-Dichloroethane (%)		96			%		105				
d8-Toluene (%)		99			%		93				
4-Bromofluorobenzene (%)		99			%		93				

Haloacetic Acids, GC/ECD MB by EPA 552.2, B211020-002

Bromochloroacetic Acid	U	0.34	0.34	1.0	ug/L						
Bromodichloroacetic Acid	U	0.36	0.36	1.0	ug/L						
Chlorodibromoacetic Acid	U	0.36	0.36	1.0	ug/L						
Dibromoacetic Acid	U	0.36	0.36	1.0	ug/L						
Dichloroacetic Acid	U	0.34	0.34	1.0	ug/L						
Monobromoacetic Acid	U	0.29	0.29	1.0	ug/L						
Monochloroacetic Acid	U	0.42	0.42	1.0	ug/L						
Trichloroacetic Acid	U	0.35	0.35	1.0	ug/L						
1,2,3-Trichloropropane (%)		97			%						
2,3-Dibromopropionic Acid (%)		105			%						

Haloacetic Acids, GC/ECD LCS by EPA 552.2, B211020-002

Bromochloroacetic Acid		15	0.34	1.0	ug/L			103	70 - 130		
Bromodichloroacetic Acid		16	0.36	1.0	ug/L			108	70 - 130		
Chlorodibromoacetic Acid		18	0.36	1.0	ug/L			119	70 - 130		
Dibromoacetic Acid		15	0.36	1.0	ug/L			103	70 - 130		
Dichloroacetic Acid		15	0.34	1.0	ug/L			100	70 - 130		



Quality Control for C002088

Analyte	Qualifier	Result	MDL	RL	Units	Spike Level	Source Result	% REC	% REC Limits	RPD	RPD Limits
Haloacetic Acids, GC/ECD LCS by EPA 552.2, B211020-002											
Monobromoacetic Acid		15	0.29	1.0	ug/L			102	70 - 130		
Monochloroacetic Acid		15	0.42	1.0	ug/L			100	70 - 130		
Trichloroacetic Acid		16	0.35	1.0	ug/L			106	70 - 130		
1,2,3-Trichloropropane (%)		98			%						
2,3-Dibromopropionic Acid (%)		103			%						
Haloacetic Acids, GC/ECD MS by EPA 552.2, B211020-002											
Bromochloroacetic Acid		16	0.34	1.0	ug/L	0.59		105	70 - 130		
Bromochloroacetic Acid		16	0.34	1.0	ug/L	0.34		107	70 - 130		
Bromodichloroacetic Acid		17	0.36	1.0	ug/L	0.36		111	70 - 130		
Bromodichloroacetic Acid		17	0.36	1.0	ug/L	0.77		108	70 - 130		
Chlorodibromoacetic Acid		18	0.36	1.0	ug/L	0.36		123	70 - 130		
Chlorodibromoacetic Acid		18	0.36	1.0	ug/L	0.36		120	70 - 130		
Dibromoacetic Acid		16	0.36	1.0	ug/L	0.36		108	70 - 130		
Dibromoacetic Acid		16	0.36	1.0	ug/L	0.36		106	70 - 130		
Dichloroacetic Acid		26	0.34	1.0	ug/L	11		99	70 - 130		
Dichloroacetic Acid		16	0.34	1.0	ug/L	0.34		107	70 - 130		
Monobromoacetic Acid		16	0.29	1.0	ug/L	0.29		104	70 - 130		
Monobromoacetic Acid		16	0.29	1.0	ug/L	0.29		104	70 - 130		
Monochloroacetic Acid		15	0.42	1.0	ug/L	0.42		99	70 - 130		
Monochloroacetic Acid		15	0.42	1.0	ug/L	1.0		96	70 - 130		
Trichloroacetic Acid		27	0.35	1.0	ug/L	12		97	70 - 130		
Trichloroacetic Acid		16	0.35	1.0	ug/L	0.35		111	70 - 130		
1,2,3-Trichloropropane (%)		86			%	96					
1,2,3-Trichloropropane (%)		94			%	94					
2,3-Dibromopropionic Acid (%)		110			%	106					
2,3-Dibromopropionic Acid (%)		105			%	110					
Haloacetic Acids, GC/ECD MSD by EPA 552.2, B211020-002											
Bromochloroacetic Acid		16	0.34	1.0	ug/L	0.34		108	70 - 130	0.2	20
Bromochloroacetic Acid		16	0.34	1.0	ug/L	0.59		106	70 - 130	1.1	20
Bromodichloroacetic Acid		18	0.36	1.0	ug/L	0.77		113	70 - 130	4.1	20
Bromodichloroacetic Acid		17	0.36	1.0	ug/L	0.36		112	70 - 130	0.6	20
Chlorodibromoacetic Acid		18	0.36	1.0	ug/L	0.36		123	70 - 130	0.2	20
Chlorodibromoacetic Acid		19	0.36	1.0	ug/L	0.36		126	70 - 130	4.8	20
Dibromoacetic Acid		16	0.36	1.0	ug/L	0.36		108	70 - 130	0.2	20
Dibromoacetic Acid		16	0.36	1.0	ug/L	0.36		107	70 - 130	1.4	20
Dichloroacetic Acid		16	0.34	1.0	ug/L	0.34		109	70 - 130	2.0	20
Dichloroacetic Acid		26	0.34	1.0	ug/L	11		99	70 - 130	0.4	20
Monobromoacetic Acid		15	0.29	1.0	ug/L	0.29		103	70 - 130	0.8	20
Monobromoacetic Acid		16	0.29	1.0	ug/L	0.29		104	70 - 130	0.3	20
Monochloroacetic Acid		15	0.42	1.0	ug/L	1.0		94	70 - 130	1.4	20
Monochloroacetic Acid		15	0.42	1.0	ug/L	0.42		99	70 - 130	0.0	20
Trichloroacetic Acid		17	0.35	1.0	ug/L	0.35		111	70 - 130	0.0	20
Trichloroacetic Acid		28	0.35	1.0	ug/L	12		102	70 - 130	2.5	20
1,2,3-Trichloropropane (%)		92			%	94					
1,2,3-Trichloropropane (%)		86			%	96					



Quality Control for C002088

Analyte	Qualifier	Result	MDL	RL	Units	Spike Level	Source Result	% REC	% REC Limits	RPD	RPD Limits
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Haloacetic Acids, GC/ECD MSD by EPA 552.2, B211020-002

2,3-Dibromopropionic Acid (%)		109			%		110				
2,3-Dibromopropionic Acid (%)		111			%		106				

Haloacetic Acids, GC/ECD LOQ by EPA 552.2, B211020-002

Bromochloroacetic Acid	E1	0.94	0.34	1.0	ug/L			94	50 - 150		
Bromodichloroacetic Acid	E1	0.96	0.36	1.0	ug/L			96	50 - 150		
Chlorodibromoacetic Acid	E1	0.92	0.36	1.0	ug/L			92	50 - 150		
Dibromoacetic Acid	E1	0.98	0.36	1.0	ug/L			98	50 - 150		
Dichloroacetic Acid		1.0	0.34	1.0	ug/L			104	50 - 150		
Monobromoacetic Acid	E1	0.96	0.29	1.0	ug/L			96	50 - 150		
Monochloroacetic Acid	E1	0.94	0.42	1.0	ug/L			94	50 - 150		
Trichloroacetic Acid	E1	0.96	0.35	1.0	ug/L			96	50 - 150		
1,2,3-Trichloropropane (%)		94			%						
2,3-Dibromopropionic Acid (%)		106			%						



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.



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



COC #: C002088	Project Title: Bayside Ground Water Project TAT: Standard	Client PM: David Behrken Lab PM: Kristi Schwab Job #:	Expect Date: 10/12/2021 Sampled By: <i>Jon Marshak</i> <input checked="" type="checkbox"/> Samples transported on ice
----------------	--	---	---

Date	Time	Site/Locator	Sample ID	Type	Matrix	ID	Type	Tests Required	
<i>10/13/21</i>	<i>1350</i>	GW BAYSIDE - BAY1-MW2I	C002088-01	GRAB	Aqueous			+SAMP KIT	
						-01A	PLSTL	EPA 200.7-NPW (Ca,Fe,K,Mg,Mn,Na)	
						-01B	PLSTL	TDS	
						-01C	PLSTM	Hardness	
						-01D	PLSTS	EPA 300.1 (Cl,NO3,SO4)	
						-01F	PSQLT	Ammonia: Titr-AQ	
						-01G	A125N	EPA 552.2	
						-01H	A125N	EPA 552.2	
						-01I	PLSTM	Oxygen 18	
						-01J	VOC4T	EPA 8260B THM	
						-01K	VOC4T	EPA 8260	
						-01L	VOC4T	EPA 8260	
						-01M	C500Z	Alkalinity: Species	<i>larger than spec - red bubble in (-01M) - val 10/13/21</i>
						Field Test Parameters:			
CL2R =	<i>0.08</i>	mg/L							
Depth =	<i>35.65</i>	Feet							
pH =	<i>7.93</i>	pH Units							
Temperature =	<i>18.0</i>	C							

Field Comments:
Field Instructions:

3.8c #13



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



COC #: C002088	Project Title: Bayside Ground Water Project	Client PM: David Behnen Lab PM: Kristi Schwab	Expect Date: 10/12/2021
	TAT: Standard	Job #:	Sampled By: <i>Jon Marshak</i> <input checked="" type="checkbox"/> Samples transported on ice

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

Total Containers for: C002088 | 12

	Signature	Print Name	Time	Date
Relinquished by:	<i>[Signature]</i>	Jon Marshak	6/13/21	16:00
Received by:	_____			
Relinquished by:	_____			
Received by:	<i>[Signature]</i>	V. Nguyen	16:26	10/13/21

Container Legend:

A125N = Glass, amber, NM, septa top, 12.5 mg NH4Cl, Amber, 125 mL
 CS002 = Glass, clear, 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



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



COC #: C002088	Project Title: Bayside Ground Water Project TAT: Standard	Client PM: David Behnken Lab PM: Kristi Schwab Job #:	Received Date/Time: 10/13/2021 16:26 Received By: Victoria Nguyen Sampled By: J. Marshak / Tenphase Due Date: 11/09/2021
----------------	--	---	---

Date	Time	Site/Locator	Sample ID	Type	Matrix	ID	Type	Tests Required															
10/13/2021	13:50	GW BAYSIDE - BAY1-MW2I	C002088-01	GRAB	Aqueous			+SAMP KIT															
						-01A	PLSTL	EPA 200.7-NPW (Ca,Fe,K,Mg,Mn,Na)															
						-01B	PLSTL	TDS															
						-01C	PLSTM	Hardness															
						-01D	PLSTS	EPA 300.1 (Cl,NO3,SO4)															
						-01F	PSQLT	Ammonia: Titr-AQ															
						-01G	A125N	EPA 552.2															
						-01H	A125N	EPA 552.2															
						-01I	PLSTM	Oxygen 18															
						-01J	VOC4T	EPA 624.1 THM															
						-01K	VOC4T	EPA 624.1															
						-01L	VOC4T	EPA 624.1															
						-01M	C500Z	Alkalinity: Species															
<table border="1"> <thead> <tr> <th colspan="3">Field Test Parameters:</th> </tr> </thead> <tbody> <tr> <td>CL2R =</td> <td>0.08</td> <td>mg/L</td> </tr> <tr> <td>Depth =</td> <td>35.65</td> <td>Feet</td> </tr> <tr> <td>pH =</td> <td>7.93</td> <td>pH Units</td> </tr> <tr> <td>Temperature =</td> <td>18.0</td> <td>C</td> </tr> </tbody> </table>									Field Test Parameters:			CL2R =	0.08	mg/L	Depth =	35.65	Feet	pH =	7.93	pH Units	Temperature =	18.0	C
Field Test Parameters:																							
CL2R =	0.08	mg/L																					
Depth =	35.65	Feet																					
pH =	7.93	pH Units																					
Temperature =	18.0	C																					

Field Comments:

Field Instructions:

Sample External Comments:

Total Containers for: C002088	12
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C002088 Sample Acceptance Report

Received: 10/13/2021 16:26
Received By: Victoria Nguyen

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

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

Sample: C002088-01		Comments
Bubbles in ZHS/VOA containers	Yes	larger than pea sized bubble -VVN 10/13/2021 ✓



C002088 Sample Acceptance Report

Received: 10/13/2021 16:26
 Received By: Victoria Nguyen

Intent to chill

Cooler: 1

Comments

Corrected Temp (° C)	3.2	
IR Thermometer Number	IR #13 ✓	
Representative temperature taken from	-01	
Uncorrected Temp (° C)	3.3 ✓	
Visible ice formed inside sample container?	No	

Acceptance

Comments

PM notified?	Yes	PM contacted and ok to proceed -VVN 10/13/2021 ✓
Received client approval to proceed?	N/A	
Samples meet acceptance requirements?	Yes	



Sample Acceptance Preservation Report
Report Generated: 10/13/2021 4:36:16 PM
COC: C002088

Inventory Item	Inventory ID	Open Date	Prep Date	Expiration Date
Ammonium Hydroxide	ST031221-004	10/27/2020	N/A	10/27/2021
Ammonium Sulfate Buffer (ASB-03)	ST210817-015	N/A	08/17/2021	10/27/2021
Ethylenediamine 12.5 mg/mL (EDA-18)	ST210927-007	N/A	09/27/2021	10/27/2021
H2SO4 15 mL 1:1 LDPE dropper	ST210716-005	09/25/2020	N/A	09/25/2030
HCl 15 mL 1:1 LDPE dropper	ST210729-008	N/A	N/A	07/22/2022
Hydrochloric Acid (HCl) 1+1 (HCl-01)	ST210529-001	N/A	05/29/2021	05/29/2022
NaOH 15 mL 1:1 LDPE dropper	ST210716-007	07/01/2020	N/A	06/10/2030
Nitric Acid TMG	ST210819-002	08/19/2021	N/A	01/08/2023
pH Strip 0-14	ST210901-009	09/01/2021	N/A	09/30/2024
pH Strip 7.9-9.8	ST210901-011	N/A	N/A	06/30/2023
Sulfuric Acid Gr ACS	ST210729-010	04/13/2021	N/A	04/13/2025

Container Number	Container Name	Tests	Preservation Requirement	Result	Initial/Date
C002088-01A	PLSTL	EPA 200.7-NPW	HNO3 to pH <2. Preservation Time = 1645	PASS	WJ 10/13/21
C002088-01C	PLSTM	Hardness	HNO3 to pH <2	PASS	WJ 10/13/21
C002088-01F	PSQLT	Ammonia: Titr-AQ	Check Cl2R = 0 [PSQLT], then H2SO4 to pH <2	PASS	WJ 10/13/21
C002088-01G	A125N	EPA 552.2	Check Container	PASS	WJ 10/13/21
C002088-01H	A125N	EPA 552.2-FR	Check Container	↓	
C002088-01J	VOC4T	EPA 624.1 THM	Check Container	PASS	WJ 10/13/21
C002088-01K	VOC4T	EPA 624.1-FR	Check Container	↓	
C002088-01L	VOC4T	EPA 624.1-FR	Check Container	↓	



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

08 November 2021

EBMUD

Attn: K. Schwab

PO Box 24055

Oakland, CA 94607

RE: Bayside Ground Water Project WDR

Work Order: 21J2179

Enclosed are the results of analyses for samples received by the laboratory on 10/14/21 22:10. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink that reads 'Leslie M. Quinn'.

Leslie M. Quinn For 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 PO Box 24055 Oakland, CA 94607	Project Manager: K. Schwab Project: Bayside Ground Water Project WDR Project Number: C002088	Reported: 11/08/21 18:28
--	--	-----------------------------

Bay Area: 262 Rickenbacker Circle | Livermore, CA 94551 | T: 925-828-6226 | F: 925-828-6309 | ELAP# 2728
Central Valley: 9090 Union Park Way Suite 113 | Elk Grove, CA 95624 | T: 916-686-5190 | F: 916-686-5192 | ELAP# 2922
North Bay: 110 Liberty Street | Petaluma, CA 94952 | T: 707-769-3128 | F: 707-769-8093 | ELAP# 2303
San Diego: 2722 Loker Avenue West Suite A | Carlsbad, CA 92010 | T: 760-930-2555 | F: 760-930-2510 | ELAP# 3055

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
C002088-01	21J2179-01	Water	10/13/21 01:50	10/14/21 22:10

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



ISOTECH

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www.isotechlabs.com

Lab #: 806914 Job #: 49131 IS-69368 Co. Job#:
 Sample Name: 21J2179-01 Co. Lab#:
 Company: Alpha Analytical Laboratories, Inc.
 API/Well:
 Container: Plastic Bottle
 Field/Site Name: 21J2179
 Location:
 Formation/Depth:
 Sampling Point: C002088-01
 Date Sampled: 10/13/2021 1:50 Date Received: 10/20/2021 Date Reported: 11/03/2021

δ D of water ----- -41.8 ‰ relative to VSMOW

δ ¹⁸O of water ----- -6.33 ‰ relative to VSMOW

Tritium content of water ----- na

δ ¹³C of DIC ----- na

¹⁴C content of DIC ----- na

δ ¹⁵N of nitrate ----- na

δ ¹⁸O of nitrate ----- na

δ ³⁴S of sulfate ----- na

δ ¹⁸O 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



2152179 2.7c



East Bay Municipal Utility District Laboratory Services Subcontract Chain of Custody

COC #: C002088	Project Title: Bayside Ground Water Project	Lab PM: Kristi Schwab (510) 287-1696 Shipping Method: Alpha Courier	Sampled By: J. Marshak
	TAT: Standard	PO#: 934-37431-AX Expiration: 6/30/2021	Submitted Date: 10/14/21

Date	Time	Sample ID	Location/PS Code	Matrix	Container ID	Type	Tests Required	Method Reference
10/13/2021	01:50	C002088-01	GW BAYSIDE - BAY1-MW2I	Aqueous	-01I	PLSTM	Oxygen 18	D180
Comments:				Total containers received: 1				

	Signature	Print Name	Time	Date
Relinquished by:	<i>[Signature]</i>	<i>[Signature]</i>	1245	10/14/21
Received by:	<i>David R. U</i>	David R. U	1245	10/14/21
Relinquished by:	<i>[Signature]</i>	<i>[Signature]</i>	1815	10/14/21
Received by:	<i>J. Bix</i>	J. Bix	2216	10/14/21
Relinquished by:	<i>[Signature]</i>	<i>[Signature]</i>	2216	10/14/21
Received by:	<i>[Signature]</i>	J. Bix	2216	10/14/21

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



15 December 2021

David Behnken

MS 704

Re: Bayside Ground Water Project

COC# C002090

Report Generated: 12/15/2021 11:31

Login Performance Summary

- 1 samples received by the lab on: 10/13/2021 16:12
- 0 Lost Analyses
- 0 Hold Time Exceedances
- Turn-around-time not met

Report Notes

For questions concerning this report, please contact:

Reported By:

Jack Lim

Senior Chemist

Approved By:

Yuyun Shang

Lab Manager



Samples for C002090

Samples Included in the Report

Sample Number	Sample Type	Sampled Date	Location Name	Sample Name	Parent Sample
C002090-01	GRAB	Oct 13 2021 08:40	GW BAYSIDE - BAY1-MW4	-	



Samples Results for C002090

Sample ID: C002090-01
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 13 2021 08:40 **Sample Collector:** J. Marshak/Terraphase
Date Received: Oct 13 2021 16:12 **Sample Receiver:** V Nguyen
Sample Comments:

Analyte	Qualifier	Result	MDL	RL	Units	DF	Batch	Prepared	Analyzed
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Field data entry into LIMS

TARGET ANALYTES

CL2R **0.85** mg/L 10/13/2021 08:40

Field data entry into LIMS

TARGET ANALYTES

Depth **16.08** Feet 10/13/2021 08:40

Field data entry into LIMS

TARGET ANALYTES

pH **7.61** pH Units 10/13/2021 08:40

Field data entry into LIMS

TARGET ANALYTES

Temperature **17.7** C 10/13/2021 08:40

Total Dissolved Solids by SM 2540 C-2011

TARGET ANALYTES

Total Dissolved Solids **390** 10 55 mg/L 1.0 B211019-003 10/09/2021 09:10

Alkalinity by SM 2320 B-2011

TARGET ANALYTES

Alkalinity: Total as CaCO3 **230** 5 30 mg/L 1.0 B211018-008 10/18/2021 10:17
 Alkalinity: Carbonate U 5 5 30 mg/L 1.0 B211018-008 10/18/2021 10:17
Alkalinity: Bicarbonate **230** 5 30 mg/L 1.0 B211018-008 10/18/2021 10:17
 Alkalinity: Hydroxide U 5 5 30 mg/L 1.0 B211018-008 10/18/2021 10:17

Ammonia as N by SM 4500-NH3 C-2011

TARGET ANALYTES

Ammonia as N U 0.25 0.25 1.5 mg/L 1.0 B211021-012 10/21/2021 09:40

Hardness as CaCO3 by SM 2340 C-2011

TARGET ANALYTES

Hardness as CaCO3 **100** 4 7 mg/L 1.0 B211027-021 10/27/2021 15:00

Anions by EPA 300.1

TARGET ANALYTES

Chloride **50** 0.26 2.0 mg/L 10 B211013-013 10/14/2021 02:08
 Nitrate as N U 0.071 0.071 0.30 mg/L 10 B211013-013 10/14/2021 02:08
Sulfate **38** 0.49 2.0 mg/L 10 B211013-013 10/14/2021 02:08

SURROGATES

Dichloroacetate (%) 93 % 10 B211013-013 10/14/2021 02:08



Samples Results for C002090

Sample ID: C002090-01
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 13 2021 08:40 **Sample Collector:** J. Marshak/Terraphase
Date Received: Oct 13 2021 16:12 **Sample Receiver:** V Nguyen
Sample Comments:

Analyte	Qualifier	Result	MDL	RL	Units	DF	Batch	Prepared	Analyzed
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Metals by EPA 200.7 (1994 Rev 4.4)

TARGET ANALYTES

Calcium		25600	10.5	52.0	ug/L	1.0	B211103-006	11/04/2021 07:03	11/05/2021 11:13
Iron	E1	22.2	11.3	52.0	ug/L	1.0	B211103-006	11/04/2021 07:03	11/05/2021 11:13
Potassium		2300	19.9	260	ug/L	1.0	B211103-006	11/04/2021 07:03	11/05/2021 11:13
Magnesium		9840	5.72	52.0	ug/L	1.0	B211103-006	11/04/2021 07:03	11/05/2021 11:13
Manganese		189	0.25	20.8	ug/L	1.0	B211103-006	11/04/2021 07:03	11/05/2021 11:13
Sodium		102000	6.97	52.0	ug/L	1.0	B211103-006	11/04/2021 07:03	11/05/2021 11:13

INTERNAL STANDARD

Yttrium (%)		102			%	1.0	B211103-006	11/04/2021 07:03	11/05/2021 11:13
Yttrium Radial (%)		100			%	1.0	B211103-006	11/04/2021 07:03	11/05/2021 11:13

Purgeable Organic Compounds, GC/MS by EPA 624.1

TARGET ANALYTES

Bromodichloromethane	U	0.129	0.129	0.500	ug/L	1.0	B211014-005		10/14/2021 16:51
Bromoform	U	0.166	0.166	0.500	ug/L	1.0	B211014-005		10/14/2021 16:51
Chloroform	U	0.196	0.196	0.500	ug/L	1.0	B211014-005		10/14/2021 16:51
Dibromochloromethane	U	0.131	0.131	0.500	ug/L	1.0	B211014-005		10/14/2021 16:51
Total Trihalomethanes, Calculated		0.000			ug/L	1.0	B211014-005		10/14/2021 16:51

Comments: TTHM calculation uses a zero for any individual THM result less than the MDL for that THM

INTERNAL STANDARD

Fluorobenzene (%)		86			%	1.0	B211014-005		10/14/2021 16:51
d5-Chlorobenzene (%)		85			%	1.0	B211014-005		10/14/2021 16:51
d4-1,4-Dichlorobenzene (%)		78.2			%	1.0	B211014-005		10/14/2021 16:51

SURROGATES

d4-Dichloroethane (%)		98			%	1.0	B211014-005		10/14/2021 16:51
d8-Toluene (%)		92			%	1.0	B211014-005		10/14/2021 16:51
4-Bromofluorobenzene (%)		92			%	1.0	B211014-005		10/14/2021 16:51

Haloacetic Acids, GC/ECD by EPA 552.2

TARGET ANALYTES

Bromochloroacetic Acid	U	0.34	0.34	1.0	ug/L	1.0	B211020-002	10/19/2021 09:00	10/20/2021 17:27
Comments: Compound not available for certification by ELAP									
Bromodichloroacetic Acid	U	0.36	0.36	1.0	ug/L	1.0	B211020-002	10/19/2021 09:00	10/20/2021 17:27
Comments: Compound not available for certification by ELAP									
Chlorodibromoacetic Acid	U	0.36	0.36	1.0	ug/L	1.0	B211020-002	10/19/2021 09:00	10/20/2021 17:27
Comments: Compound not available for certification by ELAP									
Dibromoacetic Acid	U	0.36	0.36	1.0	ug/L	1.0	B211020-002	10/19/2021 09:00	10/20/2021 17:27
Dichloroacetic Acid	U	0.34	0.34	1.0	ug/L	1.0	B211020-002	10/19/2021 09:00	10/20/2021 17:27
Monobromoacetic Acid	U	0.29	0.29	1.0	ug/L	1.0	B211020-002	10/19/2021 09:00	10/20/2021 17:27
Monochloroacetic Acid	U	0.42	0.42	1.0	ug/L	1.0	B211020-002	10/19/2021 09:00	10/20/2021 17:27
Trichloroacetic Acid	U	0.35	0.35	1.0	ug/L	1.0	B211020-002	10/19/2021 09:00	10/20/2021 17:27
HAA(5), calculated		0.00			ug/L	1.0	B211020-002	10/19/2021 09:00	10/20/2021 17:27



Samples Results for C002090

Sample ID: C002090-01
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 13 2021 08:40 **Sample Collector:** J. Marshak/Terraphase
Date Received: Oct 13 2021 16:12 **Sample Receiver:** V Nguyen
Sample Comments:

Analyte	Qualifier	Result	MDL	RL	Units	DF	Batch	Prepared	Analyzed
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Haloacetic Acids, GC/ECD by EPA 552.2

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 (%)		98			%	1.0	B211020-002	10/19/2021 09:00	10/20/2021 17:27
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SURROGATES

2,3-Dibromopropionic Acid (%)		101			%	1.0	B211020-002	10/19/2021 09:00	10/20/2021 17:27
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Oxygen 18 Isotope Analysis

Subcontract data from: Alpha Analytical Laboratory

Test External Comments: For Oxygen 18 data: Original Report transmitted to client and accessible at end of this report

TARGET ANALYTES

Comment **SUB RPT**



Quality Control for C002090

Analyte	Qualifier	Result	MDL	RL	Units	Spike Level	Source Result	% REC	% REC Limits	RPD	RPD Limits
Total and Fixed Dissolved Solids MB by EPA 160.4, B211019-003											
Total Dissolved Solids	U	10	10	55	mg/L						
Fixed Dissolved Solids	U	10	10	69	mg/L						
Total Dissolved Solids LCS by SM 2540 C-2011, B211019-003											
Total Dissolved Solids		320	10	55	mg/L			97	85 - 115		
Total Dissolved Solids DUP by SM 2540 C-2011, B211019-003											
Total Dissolved Solids		76000	330	1800	mg/L		80000			4.7	10
Fixed Dissolved Solids DUP by EPA 160.4, B211019-003											
Fixed Dissolved Solids		73	10	69	mg/L		76			4.0	10
Alkalinity MB by SM 2320 B-2011, B211018-008											
Alkalinity: Total as CaCO3	U	5	5	30	mg/L						
Alkalinity LCS by SM 2320 B-2011, B211018-008											
Alkalinity: Total as CaCO3		200	5	30	mg/L			101	85 - 115		
Alkalinity DUP by SM 2320 B-2011, B211018-008											
Alkalinity: Total as CaCO3		7900	62	380	mg/L		8500			7.9	20
Alkalinity: Total as CaCO3		61	5	30	mg/L		60			1.4	20
Alkalinity MS by SM 2320 B-2011, B211018-008											
Alkalinity: Total as CaCO3		260	5	30	mg/L		60	101	80 - 120		
Alkalinity: Total as CaCO3		13000	62	380	mg/L		8500	91	80 - 120		
Alkalinity LOQ by SM 2320 B-2011, B211018-008											
Alkalinity: Total as CaCO3		33	5	30	mg/L			111	50 - 150		
Alkalinity QCS by SM 2320 B-2011, B211018-008											
Alkalinity: Total as CaCO3		110	5	30	mg/L			104	91 - 111		
Ammonia as N MB by SM 4500-NH3 C-2011, B211021-012											
Ammonia as N	U	0.25	0.25	1.5	mg/L						
Ammonia as N LCS by SM 4500-NH3 C-2011, B211021-012											
Ammonia as N		12	0.25	1.5	mg/L			103	85 - 115		
Ammonia as N DUP by SM 4500-NH3 C-2011, B211021-012											
Ammonia as N		55	1.2	7.5	mg/L		54			2.3	10
Ammonia as N MS by SM 4500-NH3 C-2011, B211021-012											
Ammonia as N		110	1.2	7.5	mg/L		54	95	80 - 120		



Quality Control for C002090

Analyte	Qualifier	Result	MDL	RL	Units	Spike Level	Source Result	% REC	% REC Limits	RPD	RPD Limits
Ammonia as N MSD by SM 4500-NH3 C-2011, B211021-012											
Ammonia as N		110	1.2	7.5	mg/L		54	96	80 - 120	0.5	15
Hardness as CaCO3 MB by SM 2340 C-2011, B211027-021											
Hardness as CaCO3	U	4	4	7	mg/L						
Hardness as CaCO3 LCS by SM 2340 C-2011, B211027-021											
Hardness as CaCO3		100	4	7	mg/L			100	85 - 115		
Hardness as CaCO3 DUP by SM 2340 C-2011, B211027-021											
Hardness as CaCO3		130	4	7	mg/L		130			1.2	10
Hardness as CaCO3 MS by SM 2340 C-2011, B211027-021											
Hardness as CaCO3		220	4	7	mg/L		130	88	85 - 115		
Hardness as CaCO3 QCS by SM 2340 C-2011, B211027-021											
Hardness as CaCO3		120	4	7	mg/L			92	91 - 107		
Anions MB by EPA 300.1, B211013-013											
Bromide	U	0.0034	0.0034	0.030	mg/L						
Chloride	U	0.026	0.026	0.20	mg/L						
Fluoride	U	0.0091	0.0091	0.075	mg/L						
Nitrate as N	U	0.0071	0.0071	0.030	mg/L						
Nitrite as N	U	0.0048	0.0048	0.030	mg/L						
Orthophosphate as P	U	0.0092	0.0092	0.030	mg/L						
Sulfate	U	0.049	0.049	0.20	mg/L						
Dichloroacetate (%)		96			%						
Anions LCS by EPA 300.1, B211013-013											
Bromide		0.048	0.0034	0.030	mg/L			95	85 - 115		
Chloride		0.96	0.026	0.20	mg/L			96	85 - 115		
Fluoride		0.48	0.0091	0.075	mg/L			97	85 - 115		
Nitrate as N		0.046	0.0071	0.030	mg/L			92	85 - 115		
Nitrite as N		0.044	0.0048	0.030	mg/L			88	85 - 115		
Orthophosphate as P		0.046	0.0092	0.030	mg/L			92	85 - 115		
Sulfate		0.92	0.049	0.20	mg/L			92	85 - 115		
Dichloroacetate (%)		97			%						
Anions DUP by EPA 300.1, B211013-013											
Bromide	U	0.0034	0.0034	0.030	mg/L		0.0034			NC	10
Bromide	U	0.0034	0.0034	0.030	mg/L		0.0034			NC	10
Chloride		7.7	0.026	0.20	mg/L		7.7			0.1	10
Chloride		2.2	0.026	0.20	mg/L		2.3			4.3	10
Fluoride	E1	0.014	0.0091	0.075	mg/L		0.014			1.7	10
Fluoride	E1	0.042	0.0091	0.075	mg/L		0.043			1.3	10
Nitrate as N	U	0.0071	0.0071	0.030	mg/L		0.0071			NC	10
Nitrate as N		0.054	0.0071	0.030	mg/L		0.053			2.3	10



Quality Control for C002090

Analyte	Qualifier	Result	MDL	RL	Units	Spike Level	Source Result	% REC	% REC Limits	RPD	RPD Limits
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Anions DUP by EPA 300.1, B211013-013

Nitrite as N	U	0.0048	0.0048	0.030	mg/L		0.0048			NC	10
Nitrite as N	E1	0.012	0.0048	0.030	mg/L		0.012			6.3	10
Orthophosphate as P	U	0.0092	0.0092	0.030	mg/L		0.0092			NC	10
Orthophosphate as P	U	0.0092	0.0092	0.030	mg/L		0.0092			NC	10
Sulfate	E1	0.062	0.049	0.20	mg/L		0.062			0.8	10
Sulfate		6.3	0.049	0.20	mg/L		6.4			0.2	10
Dichloroacetate (%)		96			%		93				
Dichloroacetate (%)		96			%		95				

Anions MS by EPA 300.1, B211013-013

Bromide		0.040	0.0034	0.030	mg/L		0.0034	79	75 - 125		
Bromide		0.049	0.0034	0.030	mg/L		0.0034	98	75 - 125		
Chloride		8.6	0.026	0.20	mg/L		7.7	88	75 - 125		
Chloride		3.4	0.026	0.20	mg/L		2.3	108	75 - 125		
Fluoride		0.51	0.0091	0.075	mg/L		0.043	94	75 - 125		
Fluoride		0.49	0.0091	0.075	mg/L		0.014	95	75 - 125		
Nitrate as N	M1	0.15	0.0071	0.030	mg/L		0.053	189	75 - 125		
Nitrate as N		0.045	0.0071	0.030	mg/L		0.0071	89	75 - 125		
Nitrite as N	E1, M1	0.012	0.0048	0.030	mg/L		0.012	0	75 - 125		
Nitrite as N		0.043	0.0048	0.030	mg/L		0.0048	87	75 - 125		
Orthophosphate as P		0.048	0.0092	0.030	mg/L		0.0092	97	75 - 125		
Orthophosphate as P		0.049	0.0092	0.030	mg/L		0.0092	98	75 - 125		
Sulfate		7.3	0.049	0.20	mg/L		6.4	96	75 - 125		
Sulfate		0.92	0.049	0.20	mg/L		0.062	86	75 - 125		
Dichloroacetate (%)		95			%		93				
Dichloroacetate (%)		96			%		95				

Anions LOQ by EPA 300.1, B211013-013

Bromide	E1	0.029	0.0034	0.030	mg/L			96	50 - 150		
Chloride	E1	0.20	0.026	0.20	mg/L			99	50 - 150		
Fluoride	E1	0.068	0.0091	0.075	mg/L			91	50 - 150		
Nitrate as N	E1	0.028	0.0071	0.030	mg/L			94	50 - 150		
Nitrite as N	E1	0.027	0.0048	0.030	mg/L			90	50 - 150		
Orthophosphate as P	E1	0.027	0.0092	0.030	mg/L			92	50 - 150		
Sulfate		0.20	0.049	0.20	mg/L			101	50 - 150		
Dichloroacetate (%)		97			%						

Metals MB by EPA 200.7, B211103-006

Aluminum	U	17.2	17.2	52.0	ug/L						
Boron	U	18.8	18.8	52.0	ug/L						
Barium	U	0.43	0.43	52.0	ug/L						
Beryllium	U	0.27	0.27	1.04	ug/L						
Calcium	U	10.5	10.5	52.0	ug/L						
Copper	U	5.10	5.10	52.0	ug/L						
Iron	U	11.3	11.3	52.0	ug/L						
Potassium	U	19.9	19.9	260	ug/L						
Magnesium	U	5.72	5.72	52.0	ug/L						
Manganese	U	0.25	0.25	20.8	ug/L						
Sodium	U	6.97	6.97	52.0	ug/L						
Silicon	U	27.9	27.9	260	ug/L						



Quality Control for C002090

Analyte	Qualifier	Result	MDL	RL	Units	Spike Level	Source Result	% REC	% REC Limits	RPD	RPD Limits
Metals MB by EPA 200.7, B211103-006											
Zinc	U	1.29	1.29	52.0	ug/L						
Yttrium (%)		103			%						
Yttrium Radial (%)		103			%						
Metals LCS by EPA 200.7, B211103-006											
Aluminum		2110	17.9	54.2	ug/L			95	85 - 115		
Aluminum		2070	17.9	54.2	ug/L			93	85 - 115		
Aluminum		2070	17.9	54.2	ug/L			93	85 - 115		
Boron		1110	19.6	54.2	ug/L			100	85 - 115		
Boron		1100	19.6	54.2	ug/L			99	85 - 115		
Boron		1110	19.6	54.2	ug/L			100	85 - 115		
Barium		543	0.44	54.2	ug/L			98	85 - 115		
Barium		549	0.44	54.2	ug/L			99	85 - 115		
Barium		543	0.44	54.2	ug/L			98	85 - 115		
Beryllium		10.5	0.28	1.08	ug/L			95	85 - 115		
Beryllium		10.6	0.28	1.08	ug/L			95	85 - 115		
Beryllium		10.7	0.28	1.08	ug/L			96	85 - 115		
Calcium		10700	11.0	54.2	ug/L			96	85 - 115		
Calcium		10700	11.0	54.2	ug/L			96	85 - 115		
Calcium		10800	11.0	54.2	ug/L			97	85 - 115		
Copper		527	5.31	54.2	ug/L			95	85 - 115		
Copper		524	5.31	54.2	ug/L			94	85 - 115		
Copper		528	5.31	54.2	ug/L			95	85 - 115		
Iron		1090	11.8	54.2	ug/L			98	85 - 115		
Iron		1100	11.8	54.2	ug/L			99	85 - 115		
Iron		1090	11.8	54.2	ug/L			98	85 - 115		
Potassium		11000	20.7	271	ug/L			99	85 - 115		
Potassium		11100	20.7	271	ug/L			100	85 - 115		
Potassium		11100	20.7	271	ug/L			100	85 - 115		
Magnesium		11400	5.96	54.2	ug/L			102	85 - 115		
Magnesium		11300	5.96	54.2	ug/L			102	85 - 115		
Magnesium		11300	5.96	54.2	ug/L			102	85 - 115		
Manganese		217	0.26	21.7	ug/L			98	85 - 115		
Manganese		215	0.26	21.7	ug/L			97	85 - 115		
Manganese		214	0.26	21.7	ug/L			96	85 - 115		
Sodium		10900	7.26	54.2	ug/L			98	85 - 115		
Sodium		10800	7.26	54.2	ug/L			97	85 - 115		
Sodium		11100	7.26	54.2	ug/L			100	85 - 115		
Silicon		2160	29.1	271	ug/L			97	85 - 115		
Silicon		2190	29.1	271	ug/L			98	85 - 115		
Silicon		2170	29.1	271	ug/L			97	85 - 115		
Zinc		548	1.34	54.2	ug/L			98	85 - 115		
Zinc		543	1.34	54.2	ug/L			98	85 - 115		
Zinc		544	1.34	54.2	ug/L			98	85 - 115		
Yttrium (%)		101			%						
Yttrium (%)		102			%						
Yttrium (%)		99			%						
Yttrium Radial (%)		99			%						
Yttrium Radial (%)		100			%						



Quality Control for C002090

Analyte	Qualifier	Result	MDL	RL	Units	Spike Level	Source Result	% REC	% REC Limits	RPD	RPD Limits
Metals LCS by EPA 200.7, B211103-006											
Yttrium Radial (%)		97			%						
Metals LCSD by EPA 200.7, B211103-006											
Aluminum		2070	17.9	54.2	ug/L			93	85 - 115	0.0	10
Boron		1100	19.6	54.2	ug/L			99	85 - 115	0.7	10
Barium		540	0.44	54.2	ug/L			97	85 - 115	0.6	10
Beryllium		10.5	0.28	1.08	ug/L			94	85 - 115	1.0	10
Calcium		10700	11.0	54.2	ug/L			96	85 - 115	0.2	10
Copper		524	5.31	54.2	ug/L			94	85 - 115	0.1	10
Iron		1080	11.8	54.2	ug/L			97	85 - 115	0.6	10
Potassium		10900	20.7	271	ug/L			98	85 - 115	1.1	10
Magnesium		11200	5.96	54.2	ug/L			101	85 - 115	0.4	10
Manganese		214	0.26	21.7	ug/L			96	85 - 115	0.1	10
Sodium		11000	7.26	54.2	ug/L			99	85 - 115	0.8	10
Silicon		2160	29.1	271	ug/L			97	85 - 115	0.2	15
Zinc		537	1.34	54.2	ug/L			97	85 - 115	1.2	10
Yttrium (%)		101			%						
Yttrium Radial (%)		100			%						
Metals MS by EPA 200.7, B211103-006											
Calcium		45500	11.0	54.2	ug/L		35100	94	70 - 130		
Iron		1110	11.8	54.2	ug/L		23.7	98	70 - 130		
Potassium		13600	20.7	271	ug/L		2020	104	70 - 130		
Magnesium		19800	5.96	54.2	ug/L		9090	96	70 - 130		
Manganese		433	0.26	21.7	ug/L		216	98	70 - 130		
Sodium		132000	7.26	54.2	ug/L		119000	113	70 - 130		
Yttrium (%)		100			%		103				
Yttrium Radial (%)		100			%		102				
Metals MSD by EPA 200.7, B211103-006											
Calcium		47200	11.0	54.2	ug/L		35100	109	70 - 130	3.6	20
Iron		1080	11.8	54.2	ug/L		23.7	95	70 - 130	2.6	20
Potassium		13300	20.7	271	ug/L		2020	102	70 - 130	1.8	20
Magnesium		20500	5.96	54.2	ug/L		9090	102	70 - 130	3.5	20
Manganese		427	0.26	21.7	ug/L		216	95	70 - 130	1.4	20
Sodium		130000	7.26	54.2	ug/L		119000	99	70 - 130	1.2	20
Yttrium (%)		100			%		103				
Yttrium Radial (%)		102			%		102				
Metals LOQ by EPA 200.7, B211103-006											
Aluminum		57.1	17.3	52.5	ug/L			114	50 - 150		
Boron		53.7	19.0	52.5	ug/L			107	50 - 150		
Barium	E1	51.1	0.43	52.5	ug/L			102	50 - 150		
Beryllium	E1	0.95	0.27	1.05	ug/L			95	50 - 150		
Calcium	E1	50.7	10.6	52.5	ug/L			101	50 - 150		
Copper	E1	50.6	5.14	52.5	ug/L			101	50 - 150		
Iron	E1	51.2	11.4	52.5	ug/L			102	50 - 150		
Potassium	E1	231	20.0	262	ug/L			92	50 - 150		



Quality Control for C002090

Analyte	Qualifier	Result	MDL	RL	Units	Spike Level	Source Result	% REC	% REC Limits	RPD	RPD Limits
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Metals LOQ by EPA 200.7, B211103-006

Magnesium	E1	50.0	5.78	52.5	ug/L			100	50 - 150		
Manganese	E1	20.7	0.25	21.0	ug/L			103	50 - 150		
Sodium	E1	44.0	7.04	52.5	ug/L			88	50 - 150		
Silicon	E1	257	28.1	262	ug/L			103	50 - 150		
Zinc	E1	49.9	1.30	52.5	ug/L			100	50 - 150		
Yttrium (%)		101			%						
Yttrium Radial (%)		104			%						

Purgeable Organic Compounds, GC/MS MB by EPA 624.1, B211014-005

1,1,1-Trichloroethane	U	0.259	0.259	0.500	ug/L						
1,1,2,2-Tetrachloroethane	U	0.125	0.125	0.500	ug/L						
1,1,2-Trichloroethane	U	0.108	0.108	0.500	ug/L						
1,1-Dichloroethane	U	0.279	0.279	0.500	ug/L						
1,1-Dichloroethene	U	0.187	0.187	0.500	ug/L						
1,2-Dichlorobenzene	U	0.112	0.112	0.500	ug/L						
1,2-Dichloroethane	U	0.122	0.122	0.500	ug/L						
1,2-Dichloropropane	U	0.129	0.129	0.500	ug/L						
1,3-Dichlorobenzene	U	0.131	0.131	0.500	ug/L						
1,4-Dichlorobenzene	U	0.115	0.115	0.500	ug/L						
2-Butanone	U	0.422	0.422	1.00	ug/L						
2-Chloroethylvinyl Ether	U	0.270	0.270	1.00	ug/L						
Benzene	U	0.143	0.143	0.500	ug/L						
Bromodichloromethane	U	0.129	0.129	0.500	ug/L						
Bromoform	U	0.166	0.166	0.500	ug/L						
Bromomethane	U	0.561	0.561	1.00	ug/L						
Carbon Tetrachloride	U	0.372	0.372	0.500	ug/L						
Chlorobenzene	U	0.114	0.114	0.500	ug/L						
Chloroethane	U	0.258	0.258	0.500	ug/L						
Chloroform	U	0.196	0.196	0.500	ug/L						
Chloromethane	U	0.316	0.316	0.500	ug/L						
cis-1,3-Dichloropropene	U	0.164	0.164	0.500	ug/L						
Dibromochloromethane	U	0.131	0.131	0.500	ug/L						
Ethyl Benzene	U	0.126	0.126	0.500	ug/L						
Fluorotrichloromethane	U	0.325	0.325	1.00	ug/L						
m+p Xylenes	U	0.287	0.287	1.00	ug/L						
Methylene Chloride	U	0.279	0.279	0.500	ug/L						
Methyl-t-butyl Ether	U	0.126	0.126	1.00	ug/L						
o-Xylene	U	0.150	0.150	0.500	ug/L						
Tetrachloroethene	U	0.167	0.167	0.500	ug/L						
Toluene	U	0.153	0.153	0.500	ug/L						
trans-1,2-Dichloroethene	U	0.230	0.230	0.500	ug/L						
trans-1,3-Dichloropropene	U	0.117	0.117	0.500	ug/L						
Trichloroethene	U	0.172	0.172	0.500	ug/L						
Vinyl Chloride	U	0.216	0.216	0.500	ug/L						
Fluorobenzene (%)		88			%						
d5-Chlorobenzene (%)		87			%						
d4-1,4-Dichlorobenzene (%)		78			%						
d4-Dichloroethane (%)		107			%						
d8-Toluene (%)		96			%						



Quality Control for C002090

Analyte	Qualifier	Result	MDL	RL	Units	Spike Level	Source Result	% REC	% REC Limits	RPD	RPD Limits
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Purgeable Organic Compounds, GC/MS MB by EPA 624.1, B211014-005

4-Bromofluorobenzene (%)		92			%						
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Purgeable Organic Compounds, GC/MS LCS by EPA 624.1, B211014-005

1,1,1-Trichloroethane		22.5	0.259	0.500	ug/L			113	70 - 130		
1,1,2,2-Tetrachloroethane		19.0	0.125	0.500	ug/L			96	60 - 140		
1,1,2-Trichloroethane		21.1	0.108	0.500	ug/L			106	70 - 130		
1,1-Dichloroethane		21.1	0.279	0.500	ug/L			106	70 - 130		
1,1-Dichloroethene		21.2	0.187	0.500	ug/L			107	50 - 150		
1,2-Dichlorobenzene		19.9	0.112	0.500	ug/L			100	65 - 135		
1,2-Dichloroethane		20.9	0.122	0.500	ug/L			105	70 - 130		
1,2-Dichloropropane		20.7	0.129	0.500	ug/L			104	35 - 165		
1,3-Dichlorobenzene		20.1	0.131	0.500	ug/L			101	70 - 130		
1,4-Dichlorobenzene		20.6	0.115	0.500	ug/L			104	65 - 135		
2-Butanone		17.7	0.422	1.00	ug/L			89	64 - 137		
2-Chloroethylvinyl Ether		17.1	0.270	1.00	ug/L			86	1 - 225		
Benzene		20.9	0.143	0.500	ug/L			105	65 - 135		
Bromodichloromethane		21.4	0.129	0.500	ug/L			108	65 - 135		
Bromoform		21.8	0.166	0.500	ug/L			110	70 - 130		
Bromomethane		20.5	0.561	1.00	ug/L			103	15 - 185		
Carbon Tetrachloride		22.9	0.372	0.500	ug/L			115	70 - 130		
Chlorobenzene		21.3	0.114	0.500	ug/L			107	65 - 135		
Chloroethane		21.4	0.258	0.500	ug/L			108	40 - 160		
Chloroform		21.4	0.196	0.500	ug/L			108	70 - 135		
Chloromethane		20.8	0.316	0.500	ug/L			105	1 - 205		
cis-1,3-Dichloropropene		21.4	0.164	0.500	ug/L			108	25 - 175		
Dibromochloromethane		21.4	0.131	0.500	ug/L			108	70 - 135		
Ethyl Benzene		21.0	0.126	0.500	ug/L			106	60 - 140		
Fluorotrichloromethane		23.4	0.325	1.00	ug/L			118	50 - 150		
m+p Xylenes		45.5	0.287	1.00	ug/L			114	78 - 123		
Methylene Chloride		20.7	0.279	0.500	ug/L			104	60 - 140		
Methyl-t-butyl Ether		20.0	0.126	1.00	ug/L			100	78 - 134		
o-Xylene		21.6	0.150	0.500	ug/L			109	80 - 123		
Tetrachloroethene		22.6	0.167	0.500	ug/L			114	70 - 130		
Toluene		20.9	0.153	0.500	ug/L			105	70 - 130		
trans-1,2-Dichloroethene		22.4	0.230	0.500	ug/L			113	70 - 130		
trans-1,3-Dichloropropene		21.2	0.117	0.500	ug/L			107	50 - 150		
Trichloroethene		21.4	0.172	0.500	ug/L			108	65 - 135		
Vinyl Chloride		19.9	0.216	0.500	ug/L			100	5 - 195		
Fluorobenzene (%)		110			%						
d5-Chlorobenzene (%)		107			%						
d4-1,4-Dichlorobenzene (%)		117			%						
d4-Dichloroethane (%)		103			%						
d8-Toluene (%)		102			%						
4-Bromofluorobenzene (%)		104			%						

Purgeable Organic Compounds, GC/MS MS by EPA 624.1, B211014-005

1,1,1-Trichloroethane		22.4	0.259	0.500	ug/L	0.259		113	52 - 162		
1,1,2,2-Tetrachloroethane		18.8	0.125	0.500	ug/L	0.125		95	46 - 157		
1,1,2-Trichloroethane		21.8	0.108	0.500	ug/L	0.108		110	52 - 150		



Quality Control for C002090

Analyte	Qualifier	Result	MDL	RL	Units	Spike Level	Source Result	% REC	% REC Limits	RPD	RPD Limits
Purgeable Organic Compounds, GC/MS MS by EPA 624.1, B211014-005											
1,1-Dichloroethane		21.4	0.279	0.500	ug/L		0.279	108	59 - 155		
1,1-Dichloroethene		21.3	0.187	0.500	ug/L		0.187	107	1 - 234		
1,2-Dichlorobenzene		20.3	0.112	0.500	ug/L		0.112	102	18 - 190		
1,2-Dichloroethane		21.4	0.122	0.500	ug/L		0.122	108	49 - 155		
1,2-Dichloropropane		20.8	0.129	0.500	ug/L		0.129	105	1 - 210		
1,3-Dichlorobenzene		20.1	0.131	0.500	ug/L		0.131	101	59 - 156		
1,4-Dichlorobenzene		20.7	0.115	0.500	ug/L		0.115	104	18 - 190		
2-Butanone		17.5	0.422	1.00	ug/L		0.422	88	56 - 150		
2-Chloroethylvinyl Ether		19.5	0.270	1.00	ug/L		0.270	98	1 - 305		
Benzene		20.8	0.143	0.500	ug/L		0.143	105	37 - 151		
Bromodichloromethane		21.6	0.129	0.500	ug/L		0.129	109	35 - 155		
Bromoform		22.6	0.166	0.500	ug/L		0.166	114	45 - 169		
Bromomethane		24.6	0.561	1.00	ug/L		0.561	124	1 - 242		
Carbon Tetrachloride		22.7	0.372	0.500	ug/L		0.372	114	70 - 140		
Chlorobenzene		21.6	0.114	0.500	ug/L		0.114	109	37 - 160		
Chloroethane		21.7	0.258	0.500	ug/L		0.258	109	14 - 230		
Chloroform		22.1	0.196	0.500	ug/L		0.196	111	51 - 138		
Chloromethane		20.9	0.316	0.500	ug/L		0.341	104	1 - 273		
cis-1,3-Dichloropropene		22.5	0.164	0.500	ug/L		0.164	113	1 - 227		
Dibromochloromethane		22.2	0.131	0.500	ug/L		0.131	112	53 - 149		
Ethyl Benzene		21.5	0.126	0.500	ug/L		0.126	108	37 - 162		
Fluorotrichloromethane		23.5	0.325	1.00	ug/L		0.325	118	17 - 181		
m+p Xylenes		45.6	0.287	1.00	ug/L		0.287	115	68 - 145		
Methylene Chloride		21.4	0.279	0.500	ug/L		0.279	108	1 - 221		
Methyl-t-butyl Ether		19.6	0.126	1.00	ug/L		0.126	99	71 - 133		
o-Xylene		21.9	0.150	0.500	ug/L		0.150	110	69 - 138		
Tetrachloroethene		23.1	0.167	0.500	ug/L		0.167	116	64 - 148		
Toluene		21.2	0.153	0.500	ug/L		0.153	107	47 - 150		
trans-1,2-Dichloroethene		21.5	0.230	0.500	ug/L		0.230	108	54 - 156		
trans-1,3-Dichloropropene		22.0	0.117	0.500	ug/L		0.117	111	17 - 183		
Trichloroethene		22.1	0.172	0.500	ug/L		0.172	112	70 - 157		
Vinyl Chloride		20.1	0.216	0.500	ug/L		0.216	101	1 - 251		
Fluorobenzene (%)		91			%		103				
d5-Chlorobenzene (%)		88			%		104				
d4-1,4-Dichlorobenzene (%)		99			%		90				
d4-Dichloroethane (%)		102			%		109				
d8-Toluene (%)		106			%		95				
4-Bromofluorobenzene (%)		108			%		95				

Purgeable Organic Compounds, GC/MS MS by EPA 624.1, B211014-005

Bromodichloromethane		20.6	0.129	0.500	ug/L		0.129	104	35 - 155		
Bromoform		22.1	0.166	0.500	ug/L		0.166	111	45 - 169		
Chloroform		20.8	0.196	0.500	ug/L		0.196	105	51 - 138		
Dibromochloromethane		21.0	0.131	0.500	ug/L		0.131	106	53 - 149		
Fluorobenzene (%)		91			%		94				
d5-Chlorobenzene (%)		89			%		90				
d4-1,4-Dichlorobenzene (%)		100			%		80.1				
d4-Dichloroethane (%)		97			%		105				
d8-Toluene (%)		100			%		93				



Quality Control for C002090

Analyte	Qualifier	Result	MDL	RL	Units	Spike Level	Source Result	% REC	% REC Limits	RPD	RPD Limits
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Purgeable Organic Compounds, GC/MS MS by EPA 624.1, B211014-005

4-Bromofluorobenzene (%)		103			%		93				
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Purgeable Organic Compounds, GC/MS MSD by EPA 624.1, B211014-005

1,1,1-Trichloroethane		21.7	0.259	0.500	ug/L		0.259	109	52 - 162	3.3	36
1,1,2,2-Tetrachloroethane		18.7	0.125	0.500	ug/L		0.125	94	46 - 157	0.6	61
1,1,2-Trichloroethane		21.3	0.108	0.500	ug/L		0.108	107	52 - 150	2.5	45
1,1-Dichloroethane		20.3	0.279	0.500	ug/L		0.279	102	59 - 155	5.0	40
1,1-Dichloroethene		21.2	0.187	0.500	ug/L		0.187	107	1 - 234	0.1	32
1,2-Dichlorobenzene		19.8	0.112	0.500	ug/L		0.112	100	18 - 190	2.6	57
1,2-Dichloroethane		19.9	0.122	0.500	ug/L		0.122	100	49 - 155	7.1	49
1,2-Dichloropropane		20.3	0.129	0.500	ug/L		0.129	102	1 - 210	2.5	55
1,3-Dichlorobenzene		20.5	0.131	0.500	ug/L		0.131	103	59 - 156	2.2	43
1,4-Dichlorobenzene		20.6	0.115	0.500	ug/L		0.115	104	18 - 190	0.6	57
2-Butanone		16.9	0.422	1.00	ug/L		0.422	85	56 - 150	3.4	24
2-Chloroethylvinyl Ether		17.5	0.270	1.00	ug/L		0.270	88	1 - 305	10.9	71
Benzene		20.1	0.143	0.500	ug/L		0.143	101	37 - 151	3.6	61
Bromodichloromethane		20.3	0.129	0.500	ug/L		0.129	102	35 - 155	6.2	56
Bromoform		21.8	0.166	0.500	ug/L		0.166	110	45 - 169	4.0	42
Bromomethane		20.3	0.561	1.00	ug/L		0.561	102	1 - 242	19.3	61
Carbon Tetrachloride		22.0	0.372	0.500	ug/L		0.372	111	70 - 140	3.0	41
Chlorobenzene		21.2	0.114	0.500	ug/L		0.114	107	37 - 160	1.8	53
Chloroethane		21.7	0.258	0.500	ug/L		0.258	109	14 - 230	0.0	78
Chloroform		20.7	0.196	0.500	ug/L		0.196	104	51 - 138	6.4	54
Chloromethane		19.4	0.316	0.500	ug/L		0.341	96	1 - 273	7.4	60
cis-1,3-Dichloropropene		21.0	0.164	0.500	ug/L		0.164	106	1 - 227	6.7	58
Dibromochloromethane		21.5	0.131	0.500	ug/L		0.131	108	53 - 149	3.2	50
Ethyl Benzene		21.1	0.126	0.500	ug/L		0.126	106	37 - 162	1.8	63
Fluorotrichloromethane		23.0	0.325	1.00	ug/L		0.325	116	17 - 181	2.0	84
m+p Xylenes		44.5	0.287	1.00	ug/L		0.287	112	68 - 145	2.3	26
Methylene Chloride		19.7	0.279	0.500	ug/L		0.279	99	1 - 221	8.2	28
Methyl-t-butyl Ether		19.3	0.126	1.00	ug/L		0.126	97	71 - 133	1.7	25
o-Xylene		21.2	0.150	0.500	ug/L		0.150	107	69 - 138	3.3	21
Tetrachloroethene		22.2	0.167	0.500	ug/L		0.167	112	64 - 148	4.3	39
Toluene		20.6	0.153	0.500	ug/L		0.153	104	47 - 150	2.8	41
trans-1,2-Dichloroethene		20.9	0.230	0.500	ug/L		0.230	105	54 - 156	2.8	45
trans-1,3-Dichloropropene		20.8	0.117	0.500	ug/L		0.117	104	17 - 183	5.6	86
Trichloroethene		21.1	0.172	0.500	ug/L		0.172	106	70 - 157	4.9	48
Vinyl Chloride		19.8	0.216	0.500	ug/L		0.216	100	1 - 251	1.5	66
Fluorobenzene (%)		91			%		103				
d5-Chlorobenzene (%)		89			%		104				
d4-1,4-Dichlorobenzene (%)		97			%		90				
d4-Dichloroethane (%)		96			%		109				
d8-Toluene (%)		100			%		95				
4-Bromofluorobenzene (%)		108			%		95				

Purgeable Organic Compounds, GC/MS MSD by EPA 624.1, B211014-005

Bromodichloromethane		20.8	0.129	0.500	ug/L		0.129	105	35 - 155	0.8	56
Bromoform		21.4	0.166	0.500	ug/L		0.166	108	45 - 169	3.1	42
Chloroform		20.6	0.196	0.500	ug/L		0.196	104	51 - 138	0.8	54



Quality Control for C002090

Analyte	Qualifier	Result	MDL	RL	Units	Spike Level	Source Result	% REC	% REC Limits	RPD	RPD Limits
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Purgeable Organic Compounds, GC/MS MSD by EPA 624.1, B211014-005

Dibromochloromethane		21.0	0.131	0.500	ug/L		0.131	106	53 - 149	0.1	50
Fluorobenzene (%)		92			%		94				
d5-Chlorobenzene (%)		92			%		90				
d4-1,4-Dichlorobenzene (%)		98			%		80.1				
d4-Dichloroethane (%)		96			%		105				
d8-Toluene (%)		99			%		93				
4-Bromofluorobenzene (%)		99			%		93				

Haloacetic Acids, GC/ECD MB by EPA 552.2, B211020-002

Bromochloroacetic Acid	U	0.34	0.34	1.0	ug/L						
Bromodichloroacetic Acid	U	0.36	0.36	1.0	ug/L						
Chlorodibromoacetic Acid	U	0.36	0.36	1.0	ug/L						
Dibromoacetic Acid	U	0.36	0.36	1.0	ug/L						
Dichloroacetic Acid	U	0.34	0.34	1.0	ug/L						
Monobromoacetic Acid	U	0.29	0.29	1.0	ug/L						
Monochloroacetic Acid	U	0.42	0.42	1.0	ug/L						
Trichloroacetic Acid	U	0.35	0.35	1.0	ug/L						
1,2,3-Trichloropropane (%)		97			%						
2,3-Dibromopropionic Acid (%)		105			%						

Haloacetic Acids, GC/ECD LCS by EPA 552.2, B211020-002

Bromochloroacetic Acid		15	0.34	1.0	ug/L			103	70 - 130		
Bromodichloroacetic Acid		16	0.36	1.0	ug/L			108	70 - 130		
Chlorodibromoacetic Acid		18	0.36	1.0	ug/L			119	70 - 130		
Dibromoacetic Acid		15	0.36	1.0	ug/L			103	70 - 130		
Dichloroacetic Acid		15	0.34	1.0	ug/L			100	70 - 130		
Monobromoacetic Acid		15	0.29	1.0	ug/L			102	70 - 130		
Monochloroacetic Acid		15	0.42	1.0	ug/L			100	70 - 130		
Trichloroacetic Acid		16	0.35	1.0	ug/L			106	70 - 130		
1,2,3-Trichloropropane (%)		98			%						
2,3-Dibromopropionic Acid (%)		103			%						

Haloacetic Acids, GC/ECD MS by EPA 552.2, B211020-002

Bromochloroacetic Acid		16	0.34	1.0	ug/L		0.59	105	70 - 130		
Bromochloroacetic Acid		16	0.34	1.0	ug/L		0.34	107	70 - 130		
Bromodichloroacetic Acid		17	0.36	1.0	ug/L		0.36	111	70 - 130		
Bromodichloroacetic Acid		17	0.36	1.0	ug/L		0.77	108	70 - 130		
Chlorodibromoacetic Acid		18	0.36	1.0	ug/L		0.36	123	70 - 130		
Chlorodibromoacetic Acid		18	0.36	1.0	ug/L		0.36	120	70 - 130		
Dibromoacetic Acid		16	0.36	1.0	ug/L		0.36	106	70 - 130		
Dibromoacetic Acid		16	0.36	1.0	ug/L		0.36	108	70 - 130		
Dichloroacetic Acid		26	0.34	1.0	ug/L		11	99	70 - 130		
Dichloroacetic Acid		16	0.34	1.0	ug/L		0.34	107	70 - 130		
Monobromoacetic Acid		16	0.29	1.0	ug/L		0.29	104	70 - 130		
Monobromoacetic Acid		16	0.29	1.0	ug/L		0.29	104	70 - 130		
Monochloroacetic Acid		15	0.42	1.0	ug/L		0.42	99	70 - 130		
Monochloroacetic Acid		15	0.42	1.0	ug/L		1.0	96	70 - 130		
Trichloroacetic Acid		27	0.35	1.0	ug/L		12	97	70 - 130		



Quality Control for C002090

Analyte	Qualifier	Result	MDL	RL	Units	Spike Level	Source Result	% REC	% REC Limits	RPD	RPD Limits
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Haloacetic Acids, GC/ECD MS by EPA 552.2, B211020-002

Trichloroacetic Acid		16	0.35	1.0	ug/L		0.35	111	70 - 130		
1,2,3-Trichloropropane (%)		94			%		94				
1,2,3-Trichloropropane (%)		86			%		96				
2,3-Dibromopropionic Acid (%)		110			%		106				
2,3-Dibromopropionic Acid (%)		105			%		110				

Haloacetic Acids, GC/ECD MSD by EPA 552.2, B211020-002

Bromochloroacetic Acid		16	0.34	1.0	ug/L		0.59	106	70 - 130	1.1	20
Bromochloroacetic Acid		16	0.34	1.0	ug/L		0.34	108	70 - 130	0.2	20
Bromodichloroacetic Acid		18	0.36	1.0	ug/L		0.77	113	70 - 130	4.1	20
Bromodichloroacetic Acid		17	0.36	1.0	ug/L		0.36	112	70 - 130	0.6	20
Chlorodibromoacetic Acid		18	0.36	1.0	ug/L		0.36	123	70 - 130	0.2	20
Chlorodibromoacetic Acid		19	0.36	1.0	ug/L		0.36	126	70 - 130	4.8	20
Dibromoacetic Acid		16	0.36	1.0	ug/L		0.36	107	70 - 130	1.4	20
Dibromoacetic Acid		16	0.36	1.0	ug/L		0.36	108	70 - 130	0.2	20
Dichloroacetic Acid		26	0.34	1.0	ug/L		11	99	70 - 130	0.4	20
Dichloroacetic Acid		16	0.34	1.0	ug/L		0.34	109	70 - 130	2.0	20
Monobromoacetic Acid		15	0.29	1.0	ug/L		0.29	103	70 - 130	0.8	20
Monobromoacetic Acid		16	0.29	1.0	ug/L		0.29	104	70 - 130	0.3	20
Monochloroacetic Acid		15	0.42	1.0	ug/L		1.0	94	70 - 130	1.4	20
Monochloroacetic Acid		15	0.42	1.0	ug/L		0.42	99	70 - 130	0.0	20
Trichloroacetic Acid		17	0.35	1.0	ug/L		0.35	111	70 - 130	0.0	20
Trichloroacetic Acid		28	0.35	1.0	ug/L		12	102	70 - 130	2.5	20
1,2,3-Trichloropropane (%)		92			%		94				
1,2,3-Trichloropropane (%)		86			%		96				
2,3-Dibromopropionic Acid (%)		109			%		110				
2,3-Dibromopropionic Acid (%)		111			%		106				

Haloacetic Acids, GC/ECD LOQ by EPA 552.2, B211020-002

Bromochloroacetic Acid	E1	0.94	0.34	1.0	ug/L			94	50 - 150		
Bromodichloroacetic Acid	E1	0.96	0.36	1.0	ug/L			96	50 - 150		
Chlorodibromoacetic Acid	E1	0.92	0.36	1.0	ug/L			92	50 - 150		
Dibromoacetic Acid	E1	0.98	0.36	1.0	ug/L			98	50 - 150		
Dichloroacetic Acid		1.0	0.34	1.0	ug/L			104	50 - 150		
Monobromoacetic Acid	E1	0.96	0.29	1.0	ug/L			96	50 - 150		
Monochloroacetic Acid	E1	0.94	0.42	1.0	ug/L			94	50 - 150		
Trichloroacetic Acid	E1	0.96	0.35	1.0	ug/L			96	50 - 150		
1,2,3-Trichloropropane (%)		94			%						
2,3-Dibromopropionic Acid (%)		106			%						



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.



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

	COC #: C002090	Project Title: Bayside Ground Water Project	Client PM: David Behnken Lab PM: Kristi Schwab	Expect Date: 10/12/2021
	TAT: Standard		Job #:	Sampled By: <i>Jon Marshak</i> <input checked="" type="checkbox"/> Samples transported on ice

Date	Time	Site/Locator	Sample ID	Type	Matrix	ID	Type	Tests Required
10/13/21	8:40	GW BAYSIDE - BAY1-MW4	C002090-01	GRAB	Aqueous	-01A	PLSTL	EPA 200.7-NPW (Ca,Fe,K,Mg,Mn,Na)
						-01B	PLSTL	TDS
						-01C	PLSTM	Hardness
						-01D	PLSTS	EPA 300.1 (Cl,NO3,SO4)
						-01F	PSQLT	Ammonia: Titr-AQ
						-01G	A125N	EPA 552.2
						-01H	A125N	EPA 552.2
						-01I	PLSTM	Oxygen 18
						-01J	VOC4T	EPA 8260B THM
						-01K	VOC4T	EPA 8260
						-01L	VOC4T	EPA 8260
						-01M	C500Z	Alkalinity: Species
						<i>larger than pen sized bubble in (50ml)</i> Field Test Parameters: <i>-VW 10/13/21</i>		
						CL2R =	0.85	mg/L
						Depth =	16.08	Feet
						pH =	7.61	pH Units
						Temperature =	17.7	C

Field Comments:

Field Instructions:

2.4°C #13



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

	COC #: C002090	Project Title: Bayside Ground Water Project	Client PM: David Behnken Lab PM: Kristi Schwab	Expect Date: 10/12/2021
	TAT: Standard		Job #:	Sampled By: <i>Jon Marshak</i> <input checked="" type="checkbox"/> Samples transported on ice

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

Total Containers for: C002090 | 12

	Signature	Print Name	Time	Date
Relinquished by:	<i>[Signature]</i>	Jon Marshak	10/13/21	16:00
Received by:	<i>[Signature]</i>	V. Nguyen	10/13/21	16:12

Container Legend:

A125N = Glass, amber, NM, septa top, 12.5 mg NH₄Cl, Amber, 125 mL
 CS00Z = Glass, clear, NM, septa top, Clear, 500 mL
 PLSTL = Plastic, WM, 1000 mL
 PLSTM = Plastic, WM, 500 mL
 PLSLS = 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



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



COC #: C002090	Project Title: Bayside Ground Water Project TAT: Standard	Client PM: David Behnken Lab PM: Kristi Schwab Job #:	Received Date/Time: 10/13/2021 16:12 Received By: Victoria Nguyen Sampled By: J. Marshak Due Date: 11/09/2021
----------------	--	---	--

Date	Time	Site/Locator	Sample ID	Type	Matrix	ID	Type	Tests Required															
10/13/2021	08:40	GW BAYSIDE - BAY1-MW4	C002090-01	GRAB	Aqueous			+SAMP KIT															
						-01A	PLSTL	EPA 200.7-NPW (Ca,Fe,K,Mg,Mn,Na)															
						-01B	PLSTL	TDS															
						-01C	PLSTM	Hardness															
						-01D	PLSTS	EPA 300.1 (Cl,NO3,SO4)															
						-01F	PSQLT	Ammonia: Titr-AQ															
						-01G	A125N	EPA 552.2															
						-01H	A125N	EPA 552.2															
						-01I	PLSTM	Oxygen 18															
						-01J	VOC4T	EPA 624.1 THM															
						-01K	VOC4T	EPA 624.1															
						-01L	VOC4T	EPA 624.1															
						-01M	C500Z	Alkalinity: Species															
<table border="1"> <thead> <tr> <th colspan="3">Field Test Parameters:</th> </tr> </thead> <tbody> <tr> <td>CL2R =</td> <td>0.85</td> <td>mg/L</td> </tr> <tr> <td>Depth =</td> <td>16.08</td> <td>Feet</td> </tr> <tr> <td>pH =</td> <td>7.61</td> <td>pH Units</td> </tr> <tr> <td>Temperature =</td> <td>17.7</td> <td>C</td> </tr> </tbody> </table>									Field Test Parameters:			CL2R =	0.85	mg/L	Depth =	16.08	Feet	pH =	7.61	pH Units	Temperature =	17.7	C
Field Test Parameters:																							
CL2R =	0.85	mg/L																					
Depth =	16.08	Feet																					
pH =	7.61	pH Units																					
Temperature =	17.7	C																					

Field Comments:
Field Instructions:
Sample External Comments:

Total Containers for: C002090 12



C002090 Sample Acceptance Report

Received: 10/13/2021 16:12
Received By: Victoria Nguyen

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

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

Sample: C002090-01		Comments
Bubbles in ZHS/VOA containers	Yes	Fill level below neck of C500Z container -VVN 10/13/2021



C002090 Sample Acceptance Report

Received: 10/13/2021 16:12
Received By: Victoria Nguyen

Intent to chill

Cooler: 1		Comments
Corrected Temp (° C)	2.3	
IR Thermometer Number	IR #13 ✓	
Representative temperature taken from	-01	
Uncorrected Temp (° C)	2.4 ✓	
Visible ice formed inside sample container?	No	

Acceptance

		Comments
PM notified?	N/A	Yes VN 10/13/2021 ✓
Received client approval to proceed?	N/A	
Samples meet acceptance requirements?	Yes	PM contacted and OA to proceed VN 10/13/2021 ✓



Sample Acceptance Preservation Report
 Report Generated: 10/13/2021 4:19:59 PM

Inventory Item	Inventory ID	Open Date	Prep Date	Expiration Date
Ammonium Hydroxide	ST031221-004	10/27/2020	N/A	10/27/2021
Ammonium Sulfate Buffer (ASB-03)	ST210817-015	N/A	08/17/2021	10/27/2021
Ethylenediamine 12.5 mg/mL (EDA-18)	ST210927-007	N/A	09/27/2021	10/27/2021
H2SO4 15 mL 1:1 LDPE dropper	ST210716-005	09/25/2020	N/A	09/25/2030
HCl 15 mL 1:1 LDPE dropper	ST210729-008	N/A	N/A	07/22/2022
Hydrochloric Acid (HCl) 1+1 (HCl-01)	ST210529-001	N/A	05/29/2021	05/29/2022
NaOH 15 mL 1:1 LDPE dropper	ST210716-007	07/01/2020	N/A	06/10/2030
Nitric Acid TMG	ST210819-002	08/19/2021	N/A	01/08/2023
pH Strip 0-14	ST210901-009	09/01/2021	N/A	09/30/2024
pH Strip 7.9-9.8	ST210901-011	N/A	N/A	06/30/2023
Sulfuric Acid Gr ACS	ST210729-010	04/13/2021	N/A	04/13/2025

Container Number	Container Name	Tests	Preservation Requirement	Result	Initial/Date
C002090-01A	PLSTL	EPA 200.7-NPW	HNO3 to pH <2. Preservation Time = 1645	Pass	WJ 10/13/21
C002090-01C	PLSTM	Hardness	HNO3 to pH <2	Pass	WJ 10/13/21
C002090-01F	PSQLT	Ammonia: Titr-AQ	Check Cl2R = 0 (PSQLT), then H2SO4 to pH <2	Pass	WJ 10/13/21
C002090-01G	A125N	EPA 552.2	Check Container	Pass	WJ 10/13/21
C002090-01H	A125N	EPA 552.2-FR	Check Container	↓	↓
C002090-01J	VOC4T	EPA 624.1 THM	Check Container	Pass	WJ 10/13/21
C002090-01K	VOC4T	EPA 624.1-FR	Check Container	↓	↓
C002090-01L	VOC4T	EPA 624.1-FR	Check Container	↓	↓



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

08 November 2021

EBMUD

Attn: K. Schwab

PO Box 24055

Oakland, CA 94607

RE: Bayside Ground Water Project WDR

Work Order: 21J2178

Enclosed are the results of analyses for samples received by the laboratory on 10/14/21 22:10. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink that reads 'Leslie M. Quinn'.

Leslie M. Quinn For 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 PO Box 24055 Oakland, CA 94607	Project Manager: K. Schwab Project: Bayside Ground Water Project WDR Project Number: C002090	Reported: 11/08/21 18:29
--	--	-----------------------------

Bay Area: 262 Rickenbacker Circle | Livermore, CA 94551 | T: 925-828-6226 | F: 925-828-6309 | ELAP# 2728
Central Valley: 9090 Union Park Way Suite 113 | Elk Grove, CA 95624 | T: 916-686-5190 | F: 916-686-5192 | ELAP# 2922
North Bay: 110 Liberty Street | Petaluma, CA 94952 | T: 707-769-3128 | F: 707-769-8093 | ELAP# 2303
San Diego: 2722 Loker Avenue West Suite A | Carlsbad, CA 92010 | T: 760-930-2555 | F: 760-930-2510 | ELAP# 3055

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
C002090-01	21J2178-01	Water	10/13/21 08:40	10/14/21 22:10

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



ISOTECH

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www.isotechlabs.com

Lab #: 806913 Job #: 49131 IS-69368 Co. Job#:
 Sample Name: 21J2178-01 Co. Lab#:
 Company: Alpha Analytical Laboratories, Inc.
 API/Well:
 Container: Plastic Bottle
 Field/Site Name: 21J2178
 Location:
 Formation/Depth:
 Sampling Point: C002090-01
 Date Sampled: 10/13/2021 8:40 Date Received: 10/20/2021 Date Reported: 11/03/2021

δ D of water ----- -51.9 ‰ relative to VSMOW
 δ ¹⁸O of water ----- -7.61 ‰ relative to VSMOW
 Tritium content of water ----- na
 δ ¹³C of DIC ----- na
¹⁴C content of DIC ----- na
 δ ¹⁵N of nitrate ----- na
 δ ¹⁸O of nitrate ----- na
 δ ³⁴S of sulfate ----- na
 δ ¹⁸O 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



2152178 2.7c



East Bay Municipal Utility District Laboratory Services Subcontract Chain of Custody:

COC #: C002090	Project Title: Bayside Ground Water Project	Lab PM: Kristi Schwab (510) 287-1696 Shipping Method: Alpha Courier	Sampled By: J. Marshak
	TAT: Standard	PO#: 934-37431-AX Expiration: 6/30/2021	Submitted Date: 10/14/21

Date	Time	Sample ID	Location/PS Code	Matrix	Container ID	Type	Tests Required	Method Reference
10/13/2021	08:40	C002090-01	GW BAYSIDE - BAY1-MW4	Aqueous	-01I	PLSTM	Oxygen 18	D180

Comments:

Total containers received:	1			
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	Signature	Print Name	Time	Date
Relinquished by:		Kristi Schwab	1245	10/14/21
Received by:		David Rehn	1245	10/14/21
Relinquished by:				
Received by:		J. Bixler	1855	10/14/21
Relinquished by:				
Received by:		J. Bixler	220	10/14/21
Relinquished by:				
Received by:		J. Bixler	220	10/14/21

Send results and invoice to:
Kristi Schwab (kristi.jorenson@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
Oakland, CA 95482
707-468-0401



07 December 2021

David Behnken

MS 704

Re: Bayside Ground Water Project

COC# C002091

Report Generated: 12/07/2021 14:26

Login Performance Summary

- 1 samples received by the lab on: 11/01/2021 16:25
- 0 Lost Analyses
- 0 Hold Time Exceedances
- Turn-around-time not met

Report Notes

For questions concerning this report, please contact:

Reported By:

Jack Lim

Senior Chemist

Approved By:

Yuyun Shang

Lab Manager



Samples for C002091

Samples Included in the Report

Sample Number	Sample Type	Sampled Date	Location Name	Sample Name	Parent Sample
C002091-01	GRAB	Nov 01 2021 15:05	GW BAYSIDE - BAY1-MW5D	-	



Samples Results for C002091

Sample ID: C002091-01
Site: GW BAYSIDE East Bay Ground Water Injection/Extraction Project Bayside Groundwater
Locator: BAY1-MW5D Q APN 411-0003-0083 Via Barrett, San Lorenzo; Formerly BAY-MW-BARETT
Client: Bayside Ground Water Project
Sample Type: GRAB
Date Collected: Nov 01 2021 15:05 **Sample Collector:** J. Marshak/Terraphase
Date Received: Nov 01 2021 16:25 **Sample Receiver:** L Brougham
Sample Comments:

Analyte	Qualifier	Result	MDL	RL	Units	DF	Batch	Prepared	Analyzed
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Field data entry into LIMS

TARGET ANALYTES

CL2R		0.01			mg/L				11/01/2021 15:05
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Field data entry into LIMS

TARGET ANALYTES

Depth		18.76			Feet				11/01/2021 15:05
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Field data entry into LIMS

TARGET ANALYTES

pH		7.42			pH Units				11/01/2021 15:05
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Field data entry into LIMS

TARGET ANALYTES

Temperature		21.6			C				11/01/2021 15:05
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Total Dissolved Solids by SM 2540 C-2011

TARGET ANALYTES

Total Dissolved Solids		470	10	55	mg/L	1.0	B211104-007		11/04/2021 09:28
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Alkalinity by SM 2320 B-2011

TARGET ANALYTES

Alkalinity: Total as CaCO3		230	5	30	mg/L	1.0	B211103-004		11/03/2021 09:43
Alkalinity: Carbonate	U	5	5	30	mg/L	1.0	B211103-004		11/03/2021 09:43
Alkalinity: Bicarbonate		230	5	30	mg/L	1.0	B211103-004		11/03/2021 09:43
Alkalinity: Hydroxide	U	5	5	30	mg/L	1.0	B211103-004		11/03/2021 09:43

Ammonia as N by SM 4500-NH3 C-2011

TARGET ANALYTES

Ammonia as N	E1	0.50	0.25	1.5	mg/L	1.0	B211117-003		11/17/2021 09:00
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Hardness as CaCO3 by SM 2340 C-2011

TARGET ANALYTES

Hardness as CaCO3		130	4	7	mg/L	1.0	B211115-006		11/15/2021 11:05
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Anions by EPA 300.1

TARGET ANALYTES

Chloride		85	0.26	2.0	mg/L	10	B211101-005		11/01/2021 17:58
Nitrate as N	U	0.071	0.071	0.30	mg/L	10	B211101-005		11/01/2021 17:58
Sulfate		50	0.49	2.0	mg/L	10	B211101-005		11/01/2021 17:58

SURROGATES

Dichloroacetate (%)		96			%	10	B211101-005		11/01/2021 17:58
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Samples Results for C002091

Sample ID: C002091-01
Site: GW BAYSIDE East Bay Ground Water Injection/Extraction Project Bayside Groundwater
Locator: BAY1-MW5D Q APN 411-0003-0083 Via Barrett, San Lorenzo; Formerly BAY-MW-BARETT
Client: Bayside Ground Water Project
Sample Type: GRAB
Date Collected: Nov 01 2021 15:05 **Sample Collector:** J. Marshak/Terraphase
Date Received: Nov 01 2021 16:25 **Sample Receiver:** L Brougham
Sample Comments:

Analyte	Qualifier	Result	MDL	RL	Units	DF	Batch	Prepared	Analyzed
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Metals by EPA 200.7 (1994 Rev 4.4)

TARGET ANALYTES

Calcium		35200	10.5	52.0	ug/L	1.0	B211112-007	11/10/2021 11:50	11/12/2021 12:20
Iron		163	11.3	52.0	ug/L	1.0	B211112-007	11/10/2021 11:50	11/12/2021 12:20
Potassium		1980	19.9	260	ug/L	1.0	B211112-007	11/10/2021 11:50	11/12/2021 12:20
Magnesium		8930	5.72	52.0	ug/L	1.0	B211112-007	11/10/2021 11:50	11/12/2021 12:20
Manganese		210	0.25	20.8	ug/L	1.0	B211112-007	11/10/2021 11:50	11/12/2021 12:20
Sodium		113000	6.97	52.0	ug/L	1.0	B211112-007	11/10/2021 11:50	11/12/2021 12:20

INTERNAL STANDARD

Yttrium (%)		104			%	1.0	B211112-007	11/10/2021 11:50	11/12/2021 12:20
Yttrium Radial (%)		99			%	1.0	B211112-007	11/10/2021 11:50	11/12/2021 12:20

Purgeable Organic Compounds, GC/MS by EPA 624.1

TARGET ANALYTES

Bromodichloromethane	U	0.129	0.129	0.500	ug/L	1.0	B211103-002		11/03/2021 12:37
Bromoform	U	0.166	0.166	0.500	ug/L	1.0	B211103-002		11/03/2021 12:37
Chloroform	U	0.196	0.196	0.500	ug/L	1.0	B211103-002		11/03/2021 12:37
Dibromochloromethane	U	0.131	0.131	0.500	ug/L	1.0	B211103-002		11/03/2021 12:37
Total Trihalomethanes, Calculated		0.000			ug/L	1.0	B211103-002		11/03/2021 12:37

Comments: TTHM calculation uses a zero for any individual THM result less than the MDL for that THM

INTERNAL STANDARD

Fluorobenzene (%)		110			%	1.0	B211103-002		11/03/2021 12:37
d5-Chlorobenzene (%)		101			%	1.0	B211103-002		11/03/2021 12:37
d4-1,4-Dichlorobenzene (%)		88.9			%	1.0	B211103-002		11/03/2021 12:37

SURROGATES

d4-Dichloroethane (%)		104			%	1.0	B211103-002		11/03/2021 12:37
d8-Toluene (%)		90			%	1.0	B211103-002		11/03/2021 12:37
4-Bromofluorobenzene (%)		89			%	1.0	B211103-002		11/03/2021 12:37

Haloacetic Acids, GC/ECD by EPA 552.2

TARGET ANALYTES

Bromochloroacetic Acid	U	0.34	0.34	1.0	ug/L	1.0	B211104-009	11/03/2021 09:00	11/04/2021 21:08
Comments: Compound not available for certification by ELAP									
Bromodichloroacetic Acid	U	0.36	0.36	1.0	ug/L	1.0	B211104-009	11/03/2021 09:00	11/04/2021 21:08
Comments: Compound not available for certification by ELAP									
Dibromoacetic Acid	U	0.36	0.36	1.0	ug/L	1.0	B211104-009	11/03/2021 09:00	11/04/2021 21:08
Dichloroacetic Acid	U	0.34	0.34	1.0	ug/L	1.0	B211104-009	11/03/2021 09:00	11/04/2021 21:08
Monobromoacetic Acid	U	0.29	0.29	1.0	ug/L	1.0	B211104-009	11/03/2021 09:00	11/04/2021 21:08
Monochloroacetic Acid	U	0.42	0.42	1.0	ug/L	1.0	B211104-009	11/03/2021 09:00	11/04/2021 21:08
Trichloroacetic Acid	U	0.35	0.35	1.0	ug/L	1.0	B211104-009	11/03/2021 09:00	11/04/2021 21:08
HAA(5), calculated		0.00			ug/L	1.0	B211104-009	11/03/2021 09:00	11/04/2021 21:08

Comments: HAA (5) calculation uses a zero for any individual HAA result less than the California DLR for that HAA



Samples Results for C002091

Sample ID: C002091-01
Site: GW BAYSIDE East Bay Ground Water Injection/Extraction Project Bayside Groundwater
Locator: BAY1-MW5D Q APN 411-0003-0083 Via Barrett, San Lorenzo; Formerly BAY-MW-BARETT
Client: Bayside Ground Water Project
Sample Type: GRAB
Date Collected: Nov 01 2021 15:05 **Sample Collector:** J. Marshak/Terraphase
Date Received: Nov 01 2021 16:25 **Sample Receiver:** L Brougham
Sample Comments:

Analyte	Qualifier	Result	MDL	RL	Units	DF	Batch	Prepared	Analyzed
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Haloacetic Acids, GC/ECD by EPA 552.2

INTERNAL STANDARD

1,2,3-Trichloropropane (%)		102			%	1.0	B211104-009	11/03/2021 09:00	11/04/2021 21:08
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SURROGATES

2,3-Dibromopropionic Acid (%)		106			%	1.0	B211104-009	11/03/2021 09:00	11/04/2021 21:08
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Oxygen 18 Isotope Analysis

Subcontract data from: Alpha Analytical Laboratory

TARGET ANALYTES

Comment	Original Report transmitted to client and accessible



Quality Control for C002091

Analyte	Qualifier	Result	MDL	RL	Units	Spike Level	Source Result	% REC	% REC Limits	RPD	RPD Limits
Total Dissolved Solids MB by SM 2540 C-2011, B211104-007											
Total Dissolved Solids	U	10	10	55	mg/L						
Total Dissolved Solids LCS by SM 2540 C-2011, B211104-007											
Total Dissolved Solids		290	10	55	mg/L			90	85 - 115		
Total Dissolved Solids DUP by SM 2540 C-2011, B211104-007											
Total Dissolved Solids		460	10	55	mg/L		470			1.3	10
Total Dissolved Solids		120	10	55	mg/L		110			6.2	10
Total Dissolved Solids LOQ by SM 2540 C-2011, B211104-007											
Total Dissolved Solids	E1	50	10	55	mg/L			91	50 - 150		
Alkalinity MB by SM 2320 B-2011, B211103-004											
Alkalinity: Total as CaCO3	U	5	5	30	mg/L						
Alkalinity LCS by SM 2320 B-2011, B211103-004											
Alkalinity: Total as CaCO3		300	5	30	mg/L			101	85 - 115		
Alkalinity DUP by SM 2320 B-2011, B211103-004											
Alkalinity: Total as CaCO3		56	5	30	mg/L		55			2.1	20
Alkalinity: Total as CaCO3		8300	62	380	mg/L		8600			3.2	20
Alkalinity MS by SM 2320 B-2011, B211103-004											
Alkalinity: Total as CaCO3		13000	62	380	mg/L		8600	92	80 - 120		
Alkalinity: Total as CaCO3		350	5	30	mg/L		55	99	80 - 120		
Alkalinity LOQ by SM 2320 B-2011, B211103-004											
Alkalinity: Total as CaCO3		34	5	30	mg/L			114	50 - 150		
Alkalinity QCS by SM 2320 B-2011, B211103-004											
Alkalinity: Total as CaCO3		110	5	30	mg/L			102	91 - 111		
Hardness as CaCO3 MB by SM 2340 C-2011, B211115-006											
Hardness as CaCO3	U	4	4	7	mg/L						
Hardness as CaCO3 LCS by SM 2340 C-2011, B211115-006											
Hardness as CaCO3		110	4	7	mg/L			114	85 - 115		
Hardness as CaCO3 DUP by SM 2340 C-2011, B211115-006											
Hardness as CaCO3		38	4	7	mg/L		40			5.1	10
Hardness as CaCO3		130	4	7	mg/L		140			1.5	10
Hardness as CaCO3 MS by SM 2340 C-2011, B211115-006											
Hardness as CaCO3		130	4	7	mg/L		40	92	85 - 115		



Quality Control for C002091

Analyte	Qualifier	Result	MDL	RL	Units	Spike Level	Source Result	% REC	% REC Limits	RPD	RPD Limits
Hardness as CaCO3 MS by SM 2340 C-2011, B211115-006											
Hardness as CaCO3		220	4	7	mg/L		140	88	85 - 115		
Hardness as CaCO3 LOQ by SM 2340 C-2011, B211115-006											
Hardness as CaCO3	E1	6	4	7	mg/L			86	50 - 150		
Hardness as CaCO3 QCS by SM 2340 C-2011, B211115-006											
Hardness as CaCO3		120	4	7	mg/L			95	91 - 107		
Ammonia as N MB by SM 4500-NH3 C-2011, B211117-003											
Ammonia as N	U	0.25	0.25	1.5	mg/L						
Ammonia as N LCS by SM 4500-NH3 C-2011, B211117-003											
Ammonia as N		11	0.25	1.5	mg/L			94	85 - 115		
Ammonia as N DUP by SM 4500-NH3 C-2011, B211117-003											
Ammonia as N	E1	0.50	0.25	1.5	mg/L		0.50			0.00	10
Ammonia as N DUP by SM 4500-NH3 C-2011, B211117-003											
Ammonia as N		2700	62	380	mg/kg		2700			1.0	10
Ammonia as N MS by SM 4500-NH3 C-2011, B211117-003											
Ammonia as N		12	0.25	1.5	mg/L		0.50	97	80 - 120		
Ammonia as N MSD by SM 4500-NH3 C-2011, B211117-003											
Ammonia as N		12	0.25	1.5	mg/L		0.50	99	80 - 120	1.8	15
Anions MB by EPA 300.1, B211101-005											
Chloride	U	0.026	0.026	0.20	mg/L						
Fluoride	U	0.0091	0.0091	0.075	mg/L						
Nitrate as N	U	0.0071	0.0071	0.030	mg/L						
Nitrite as N	U	0.0048	0.0048	0.030	mg/L						
Sulfate	U	0.049	0.049	0.20	mg/L						
Dichloroacetate (%)		104			%						
Anions LCS by EPA 300.1, B211101-005											
Chloride		0.96	0.026	0.20	mg/L			96	85 - 115		
Fluoride		0.48	0.0091	0.075	mg/L			96	85 - 115		
Nitrate as N		0.045	0.0071	0.030	mg/L			90	85 - 115		
Nitrite as N		0.045	0.0048	0.030	mg/L			90	85 - 115		
Sulfate		0.91	0.049	0.20	mg/L			91	85 - 115		
Dichloroacetate (%)		97			%						
Anions DUP by EPA 300.1, B211101-005											
Fluoride		0.72	0.0091	0.075	mg/L		0.72			0.6	10
Nitrate as N		0.031	0.0071	0.030	mg/L		0.031			0.9	10



Quality Control for C002091

Analyte	Qualifier	Result	MDL	RL	Units	Spike Level	Source Result	% REC	% REC Limits	RPD	RPD Limits
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Anions DUP by EPA 300.1, B211101-005

Nitrite as N	U	0.0048	0.0048	0.030	mg/L		0.0048			NC	10
Dichloroacetate (%)		101			%		97				

Anions MS by EPA 300.1, B211101-005

Fluoride		1.2	0.0091	0.075	mg/L		0.72	104	75 - 125		
Nitrate as N		0.076	0.0071	0.030	mg/L		0.031	90	75 - 125		
Nitrite as N		0.045	0.0048	0.030	mg/L		0.0048	91	75 - 125		
Dichloroacetate (%)		99			%		97				

Anions LOQ by EPA 300.1, B211101-005

Chloride		0.20	0.026	0.20	mg/L			101	50 - 150		
Fluoride	E1	0.070	0.0091	0.075	mg/L			93	50 - 150		
Nitrate as N	E1	0.029	0.0071	0.030	mg/L			98	50 - 150		
Nitrite as N	E1	0.028	0.0048	0.030	mg/L			93	50 - 150		
Sulfate		0.21	0.049	0.20	mg/L			103	50 - 150		
Dichloroacetate (%)		101			%						

Metals MB by EPA 200.7, B211112-007

Aluminum	U	17.2	17.2	52.0	ug/L						
Boron	U	18.8	18.8	52.0	ug/L						
Barium	U	0.43	0.43	52.0	ug/L						
Calcium	U	10.5	10.5	52.0	ug/L						
Copper	U	5.10	5.10	52.0	ug/L						
Iron	U	11.3	11.3	52.0	ug/L						
Potassium	U	19.9	19.9	260	ug/L						
Magnesium	U	5.72	5.72	52.0	ug/L						
Manganese	U	0.25	0.25	20.8	ug/L						
Sodium	U	6.97	6.97	52.0	ug/L						
Silicon	U	27.9	27.9	260	ug/L						
Zinc	U	1.29	1.29	52.0	ug/L						
Yttrium (%)		105			%						
Yttrium Radial (%)		102			%						

Metals LCS by EPA 200.7, B211112-007

Aluminum		2030	17.9	54.2	ug/L			91	85 - 115		
Boron		1070	19.6	54.2	ug/L			96	85 - 115		
Barium		530	0.44	54.2	ug/L			95	85 - 115		
Calcium		10500	11.0	54.2	ug/L			94	85 - 115		
Copper		511	5.31	54.2	ug/L			92	85 - 115		
Iron		1060	11.8	54.2	ug/L			96	85 - 115		
Potassium		10600	20.7	271	ug/L			95	85 - 115		
Magnesium		11000	5.96	54.2	ug/L			99	85 - 115		
Manganese		211	0.26	21.7	ug/L			95	85 - 115		
Sodium		10300	7.26	54.2	ug/L			93	85 - 115		
Silicon		2120	29.1	271	ug/L			95	85 - 115		
Zinc		532	1.34	54.2	ug/L			96	85 - 115		
Yttrium (%)		100			%						
Yttrium Radial (%)		98			%						



Quality Control for C002091

Analyte	Qualifier	Result	MDL	RL	Units	Spike Level	Source Result	% REC	% REC Limits	RPD	RPD Limits
Metals LCSD by EPA 200.7, B211112-007											
Aluminum		2040	17.9	54.2	ug/L			92	85 - 115	0.1	10
Boron		1070	19.6	54.2	ug/L			96	85 - 115	0.1	10
Barium		530	0.44	54.2	ug/L			95	85 - 115	0.1	10
Calcium		10400	11.0	54.2	ug/L			94	85 - 115	0.3	10
Copper		509	5.31	54.2	ug/L			92	85 - 115	0.4	10
Iron		1060	11.8	54.2	ug/L			96	85 - 115	0.2	10
Potassium		10600	20.7	271	ug/L			95	85 - 115	0.3	10
Magnesium		11000	5.96	54.2	ug/L			99	85 - 115	0.4	10
Manganese		210	0.26	21.7	ug/L			94	85 - 115	0.3	10
Sodium		10300	7.26	54.2	ug/L			92	85 - 115	0.5	10
Silicon		2100	29.1	271	ug/L			95	85 - 115	0.5	15
Zinc		530	1.34	54.2	ug/L			95	85 - 115	0.6	10
Yttrium (%)		100			%						
Yttrium Radial (%)		99			%						
Metals MS by EPA 200.7, B211112-007											
Iron		1030	11.8	54.2	ug/L		11.3	93	70 - 130		
Manganese		205	0.26	21.7	ug/L		3.10	91	70 - 130		
Yttrium (%)		103			%		103				
Yttrium Radial (%)		99			%		103				
Metals MSD by EPA 200.7, B211112-007											
Iron		1040	11.8	54.2	ug/L		11.3	94	70 - 130	0.8	20
Manganese		207	0.26	21.7	ug/L		3.10	92	70 - 130	0.9	20
Yttrium (%)		102			%		103				
Yttrium Radial (%)		97			%		103				
Metals LOQ by EPA 200.7, B211112-007											
Aluminum	E1	50.2	17.3	52.5	ug/L			100	50 - 150		
Boron	E1	50.9	19.0	52.5	ug/L			102	50 - 150		
Barium	E1	49.5	0.43	52.5	ug/L			99	50 - 150		
Calcium	E1	46.1	10.6	52.5	ug/L			92	50 - 150		
Copper	E1	47.6	5.14	52.5	ug/L			95	50 - 150		
Iron	E1	49.7	11.4	52.5	ug/L			99	50 - 150		
Potassium	E1	215	20.0	262	ug/L			86	50 - 150		
Magnesium	E1	48.3	5.78	52.5	ug/L			97	50 - 150		
Manganese	E1	19.9	0.25	21.0	ug/L			100	50 - 150		
Sodium	E1	44.3	7.04	52.5	ug/L			89	50 - 150		
Silicon	E1	248	28.1	262	ug/L			99	50 - 150		
Zinc	E1	48.3	1.30	52.5	ug/L			97	50 - 150		
Yttrium (%)		104			%						
Yttrium Radial (%)		103			%						
Purgeable Organic Compounds, GC/MS MB by EPA 624.1, B211103-002											
1,1,1-Trichloroethane	U	0.259	0.259	0.500	ug/L						
1,1,1,2,2-Tetrachloroethane	U	0.125	0.125	0.500	ug/L						
1,1,1,2-Trichloroethane	U	0.108	0.108	0.500	ug/L						
1,1-Dichloroethane	U	0.279	0.279	0.500	ug/L						
1,1-Dichloroethene	U	0.187	0.187	0.500	ug/L						



Quality Control for C002091

Analyte	Qualifier	Result	MDL	RL	Units	Spike Level	Source Result	% REC	% REC Limits	RPD	RPD Limits
Purgeable Organic Compounds, GC/MS MB by EPA 624.1, B211103-002											
1,2-Dichlorobenzene	U	0.112	0.112	0.500	ug/L						
1,2-Dichloroethane	U	0.122	0.122	0.500	ug/L						
1,2-Dichloropropane	U	0.129	0.129	0.500	ug/L						
1,3-Dichlorobenzene	U	0.131	0.131	0.500	ug/L						
1,4-Dichlorobenzene	U	0.115	0.115	0.500	ug/L						
2-Butanone	U	0.422	0.422	1.00	ug/L						
2-Chloroethylvinyl Ether	U	0.270	0.270	1.00	ug/L						
Benzene	U	0.143	0.143	0.500	ug/L						
Bromodichloromethane	U	0.129	0.129	0.500	ug/L						
Bromoform	U	0.166	0.166	0.500	ug/L						
Bromomethane	U	0.561	0.561	1.00	ug/L						
Carbon Tetrachloride	U	0.372	0.372	0.500	ug/L						
Chlorobenzene	U	0.114	0.114	0.500	ug/L						
Chloroethane	U	0.258	0.258	0.500	ug/L						
Chloroform	U	0.196	0.196	0.500	ug/L						
Chloromethane	U	0.316	0.316	0.500	ug/L						
cis-1,3-Dichloropropene	U	0.164	0.164	0.500	ug/L						
Dibromochloromethane	U	0.131	0.131	0.500	ug/L						
Ethyl Benzene	U	0.126	0.126	0.500	ug/L						
Fluorotrichloromethane	U	0.325	0.325	1.00	ug/L						
m+p Xylenes	U	0.287	0.287	1.00	ug/L						
Methylene Chloride	U	0.279	0.279	0.500	ug/L						
Methyl-t-butyl Ether	U	0.126	0.126	1.00	ug/L						
o-Xylene	U	0.150	0.150	0.500	ug/L						
Tetrachloroethene	U	0.167	0.167	0.500	ug/L						
Toluene	U	0.153	0.153	0.500	ug/L						
trans-1,2-Dichloroethene	U	0.230	0.230	0.500	ug/L						
trans-1,3-Dichloropropene	U	0.117	0.117	0.500	ug/L						
Trichloroethene	U	0.172	0.172	0.500	ug/L						
Vinyl Chloride	U	0.216	0.216	0.500	ug/L						
Fluorobenzene (%)		89									%
d5-Chlorobenzene (%)		83									%
d4-1,4-Dichlorobenzene (%)		78									%
d4-Dichloroethane (%)		104									%
d8-Toluene (%)		90									%
4-Bromofluorobenzene (%)		90									%

Purgeable Organic Compounds, GC/MS LCS by EPA 624.1, B211103-002

1,1,1-Trichloroethane	21.0	0.259	0.500	ug/L	106	70 - 130
1,1,2,2-Tetrachloroethane	19.5	0.125	0.500	ug/L	98	60 - 140
1,1,2-Trichloroethane	20.7	0.108	0.500	ug/L	104	70 - 130
1,1-Dichloroethane	19.4	0.279	0.500	ug/L	98	70 - 130
1,1-Dichloroethene	19.8	0.187	0.500	ug/L	99	50 - 150
1,2-Dichlorobenzene	20.6	0.112	0.500	ug/L	104	65 - 135
1,2-Dichloroethane	19.3	0.122	0.500	ug/L	97	70 - 130
1,2-Dichloropropane	19.0	0.129	0.500	ug/L	96	35 - 165
1,3-Dichlorobenzene	21.0	0.131	0.500	ug/L	106	70 - 130
1,4-Dichlorobenzene	21.3	0.115	0.500	ug/L	107	65 - 135
2-Butanone	16.5	0.422	1.00	ug/L	83	64 - 137
2-Chloroethylvinyl Ether	15.3	0.270	1.00	ug/L	77	1 - 225
Benzene	19.7	0.143	0.500	ug/L	99	65 - 135



Quality Control for C002091

Analyte	Qualifier	Result	MDL	RL	Units	Spike Level	Source Result	% REC Limits	RPD	RPD Limits
Purgeable Organic Compounds, GC/MS LCS by EPA 624.1, B211103-002										
Bromodichloromethane		20.2	0.129	0.500	ug/L			102		65 - 135
Bromoform		22.9	0.166	0.500	ug/L			115		70 - 130
Bromomethane		19.4	0.561	1.00	ug/L			98		15 - 185
Carbon Tetrachloride		21.6	0.372	0.500	ug/L			108		70 - 130
Chlorobenzene		21.5	0.114	0.500	ug/L			108		65 - 135
Chloroethane		20.0	0.258	0.500	ug/L			101		40 - 160
Chloroform		19.8	0.196	0.500	ug/L			100		70 - 135
Chloromethane		18.9	0.316	0.500	ug/L			95		1 - 205
cis-1,3-Dichloropropene		19.5	0.164	0.500	ug/L			98		25 - 175
Dibromochloromethane		21.6	0.131	0.500	ug/L			109		70 - 135
Ethyl Benzene		21.0	0.126	0.500	ug/L			106		60 - 140
Fluorotrichloromethane		22.8	0.325	1.00	ug/L			115		50 - 150
m+p Xylenes		44.6	0.287	1.00	ug/L			112		78 - 123
Methylene Chloride		18.9	0.279	0.500	ug/L			95		60 - 140
Methyl-t-butyl Ether		17.5	0.126	1.00	ug/L			88		78 - 134
o-Xylene		21.6	0.150	0.500	ug/L			109		80 - 123
Tetrachloroethene		22.7	0.167	0.500	ug/L			114		70 - 130
Toluene		19.8	0.153	0.500	ug/L			100		70 - 130
trans-1,2-Dichloroethene		19.7	0.230	0.500	ug/L			99		70 - 130
trans-1,3-Dichloropropene		21.1	0.117	0.500	ug/L			106		50 - 150
Trichloroethene		19.8	0.172	0.500	ug/L			100		65 - 135
Vinyl Chloride		18.1	0.216	0.500	ug/L			91		5 - 195
Fluorobenzene (%)		91			%					
d5-Chlorobenzene (%)		85			%					
d4-1,4-Dichlorobenzene (%)		92			%					
d4-Dichloroethane (%)		98			%					
d8-Toluene (%)		96			%					
4-Bromofluorobenzene (%)		100			%					
Purgeable Organic Compounds, GC/MS MS by EPA 624.1, B211103-002										
Bromodichloromethane		20.8	0.129	0.500	ug/L	0.129		105		35 - 155
Bromoform		24.6	0.166	0.500	ug/L	0.166		124		45 - 169
Chloroform		20.9	0.196	0.500	ug/L	0.196		105		51 - 138
Dibromochloromethane		23.3	0.131	0.500	ug/L	0.131		118		53 - 149
Fluorobenzene (%)		92			%	110				
d5-Chlorobenzene (%)		84			%	101				
d4-1,4-Dichlorobenzene (%)		100			%	88.9				
d4-Dichloroethane (%)		100			%	104				
d8-Toluene (%)		102			%	90				
4-Bromofluorobenzene (%)		106			%	89				
Purgeable Organic Compounds, GC/MS MSD by EPA 624.1, B211103-002										
Bromodichloromethane		20.5	0.129	0.500	ug/L	0.129		103	1.7	35 - 155
Bromoform		23.3	0.166	0.500	ug/L	0.166		117	5.6	45 - 169
Chloroform		20.1	0.196	0.500	ug/L	0.196		101	3.9	51 - 138
Dibromochloromethane		21.8	0.131	0.500	ug/L	0.131		110	7.0	53 - 149
Fluorobenzene (%)		93			%	110				
d5-Chlorobenzene (%)		87			%	101				
d4-1,4-Dichlorobenzene (%)		98			%	88.9				
d4-Dichloroethane (%)		96			%	104				



Quality Control for C002091

Analyte	Qualifier	Result	MDL	RL	Units	Spike Level	Source Result	% REC	% REC Limits	RPD	RPD Limits
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Purgeable Organic Compounds, GC/MS MSD by EPA 624.1, B211103-002

d8-Toluene (%)		98			%		90				
4-Bromofluorobenzene (%)		104			%		89				

Purgeable Organic Compounds, GC/MS LOQ by EPA 624.1, B211103-002

1,1,1-Trichloroethane	E1	0.496	0.259	0.500	ug/L			99	45 - 175		
1,1,2,2-Tetrachloroethane		0.587	0.125	0.500	ug/L			117	50 - 150		
1,1,2-Trichloroethane		0.648	0.108	0.500	ug/L			130	50 - 150		
1,1-Dichloroethane		0.536	0.279	0.500	ug/L			107	52 - 181		
1,1-Dichloroethene		0.513	0.187	0.500	ug/L			103	50 - 150		
1,2-Dichlorobenzene		0.539	0.112	0.500	ug/L			108	50 - 150		
1,2-Dichloroethane		0.530	0.122	0.500	ug/L			106	50 - 150		
1,2-Dichloropropane		0.511	0.129	0.500	ug/L			102	35 - 165		
1,3-Dichlorobenzene		0.530	0.131	0.500	ug/L			106	50 - 150		
1,4-Dichlorobenzene		0.563	0.115	0.500	ug/L			113	50 - 150		
Benzene	E1	0.483	0.143	0.500	ug/L			97	50 - 150		
Bromodichloromethane		0.519	0.129	0.500	ug/L			104	50 - 150		
Bromoform		0.554	0.166	0.500	ug/L			111	50 - 150		
Carbon Tetrachloride	E1	0.464	0.372	0.500	ug/L			93	23 - 198		
Chlorobenzene		0.522	0.114	0.500	ug/L			104	50 - 150		
Chloroethane	E1	0.328	0.258	0.500	ug/L			66	36 - 178		
Chloroform		0.536	0.196	0.500	ug/L			107	50 - 150		
Chloromethane		0.586	0.316	0.500	ug/L			117	1 - 205		
cis-1,3-Dichloropropene	E1	0.455	0.164	0.500	ug/L			91	25 - 175		
Dibromochloromethane		0.644	0.131	0.500	ug/L			129	50 - 150		
Ethyl Benzene	E1	0.472	0.126	0.500	ug/L			94	50 - 150		
m+p Xylenes	E1	0.923	0.287	1.00	ug/L			92	50 - 150		
Methylene Chloride		0.538	0.279	0.500	ug/L			108	35 - 182		
o-Xylene	E1	0.442	0.150	0.500	ug/L			88	50 - 150		
Tetrachloroethene		0.672	0.167	0.500	ug/L			134	50 - 150		
Toluene	E1	0.468	0.153	0.500	ug/L			94	50 - 150		
trans-1,2-Dichloroethene	E1	0.472	0.230	0.500	ug/L			94	54 - 168		
trans-1,3-Dichloropropene		0.517	0.117	0.500	ug/L			103	50 - 150		
Trichloroethene		0.525	0.172	0.500	ug/L			105	50 - 150		
Vinyl Chloride	E1	0.487	0.216	0.500	ug/L			97	5 - 195		
Fluorobenzene (%)		85			%						
d5-Chlorobenzene (%)		76			%						
d4-1,4-Dichlorobenzene (%)		72			%						
d4-Dichloroethane (%)		104			%						
d8-Toluene (%)		93			%						
4-Bromofluorobenzene (%)		102			%						

Haloacetic Acids, GC/ECD MB by EPA 552.2, B211104-009

Bromochloroacetic Acid	U	0.34	0.34	1.0	ug/L						
Bromodichloroacetic Acid	U	0.36	0.36	1.0	ug/L						
Dibromoacetic Acid	U	0.36	0.36	1.0	ug/L						
Dichloroacetic Acid	U	0.34	0.34	1.0	ug/L						
Monobromoacetic Acid	U	0.29	0.29	1.0	ug/L						
Monochloroacetic Acid	U	0.42	0.42	1.0	ug/L						
Trichloroacetic Acid	U	0.35	0.35	1.0	ug/L						
1,2,3-Trichloropropane (%)		100			%						



Quality Control for C002091

Analyte	Qualifier	Result	MDL	RL	Units	Spike Level	Source Result	% REC	% REC Limits	RPD	RPD Limits
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Haloacetic Acids, GC/ECD MB by EPA 552.2, B211104-009

2,3-Dibromopropionic Acid (%)		99			%						
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Haloacetic Acids, GC/ECD LCS by EPA 552.2, B211104-009

Bromochloroacetic Acid		15	0.34	1.0	ug/L			100	70 - 130		
Bromodichloroacetic Acid		15	0.36	1.0	ug/L			102	70 - 130		
Dibromoacetic Acid		15	0.36	1.0	ug/L			101	70 - 130		
Dichloroacetic Acid		15	0.34	1.0	ug/L			99	70 - 130		
Monobromoacetic Acid		14	0.29	1.0	ug/L			97	70 - 130		
Monochloroacetic Acid		15	0.42	1.0	ug/L			101	70 - 130		
Trichloroacetic Acid		15	0.35	1.0	ug/L			101	70 - 130		
1,2,3-Trichloropropane (%)		100			%						
2,3-Dibromopropionic Acid (%)		97			%						

Haloacetic Acids, GC/ECD MS by EPA 552.2, B211104-009

Bromochloroacetic Acid		16	0.34	1.0	ug/L		1.2	96	70 - 130		
Bromodichloroacetic Acid		15	0.36	1.0	ug/L		1.1	94	70 - 130		
Dibromoacetic Acid		14	0.36	1.0	ug/L		0.36	96	70 - 130		
Dichloroacetic Acid		29	0.34	1.0	ug/L		17	83	70 - 130		
Monobromoacetic Acid		14	0.29	1.0	ug/L		0.29	97	70 - 130		
Monochloroacetic Acid		16	0.42	1.0	ug/L		1.9	95	70 - 130		
Trichloroacetic Acid		22	0.35	1.0	ug/L		11	74	70 - 130		
1,2,3-Trichloropropane (%)		99			%		100				
2,3-Dibromopropionic Acid (%)		91			%		104				

Haloacetic Acids, GC/ECD MSD by EPA 552.2, B211104-009

Bromochloroacetic Acid		16	0.34	1.0	ug/L		1.2	99	70 - 130	2.2	20
Bromodichloroacetic Acid		16	0.36	1.0	ug/L		1.1	98	70 - 130	3.7	20
Dibromoacetic Acid		15	0.36	1.0	ug/L		0.36	98	70 - 130	2.8	20
Dichloroacetic Acid		30	0.34	1.0	ug/L		17	86	70 - 130	1.5	20
Monobromoacetic Acid		15	0.29	1.0	ug/L		0.29	98	70 - 130	0.3	20
Monochloroacetic Acid		16	0.42	1.0	ug/L		1.9	95	70 - 130	0.0	20
Trichloroacetic Acid		23	0.35	1.0	ug/L		11	79	70 - 130	3.3	20
1,2,3-Trichloropropane (%)		100			%		100				
2,3-Dibromopropionic Acid (%)		95			%		104				

Haloacetic Acids, GC/ECD LOQ by EPA 552.2, B211104-009

Bromochloroacetic Acid	E1	0.98	0.34	1.0	ug/L			98	50 - 150		
Bromodichloroacetic Acid	E1	0.81	0.36	1.0	ug/L			81	50 - 150		
Dibromoacetic Acid		1.0	0.36	1.0	ug/L			102	50 - 150		
Dichloroacetic Acid	E1	0.84	0.34	1.0	ug/L			84	50 - 150		
Monobromoacetic Acid		1.0	0.29	1.0	ug/L			104	50 - 150		
Monochloroacetic Acid		1.3	0.42	1.0	ug/L			130	50 - 150		
Trichloroacetic Acid	E1	0.94	0.35	1.0	ug/L			94	50 - 150		
1,2,3-Trichloropropane (%)		101			%						



Quality Control for C002091

Analyte	Qualifier	Result	MDL	RL	Units	Spike Level	Source Result	% REC	% REC Limits	RPD	RPD Limits
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Haloacetic Acids, GC/ECD LOQ by EPA 552.2, B211104-009

2,3-Dibromopropionic Acid (%)		108			%						
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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.



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



COC #: C002091	Project Title: Bayside Ground Water Project TAT: Standard	Client PM: David Behnken Lab PM: Kristi Schwab Job #:	Expect Date: 10/12/2021 Sampled By: <i>Jon Marshall</i> <input checked="" type="checkbox"/> Samples transported on ice
-------------------	--	---	--

Date	Time	Site/Locator	Sample ID	Type	Matrix	ID	Type	Tests Required												
11/1/21	1505	GW BAYSIDE - BAY1-MW5D	C002091-01	GRAB	Aqueous															
						-01A	PLSTL	EPA 200.7-NPW (Ca,Fe,K,Mg,Mn,Na)												
						-01B	PLSTL	TDS												
						-01C	PLSTM	Hardness												
						-01D	PLSTS	EPA 300.1 (Cl,NO3,SO4)												
						-01F	PSQLT	Ammonia: Titr-AQ												
						-01G	A125N	EPA 552.2												
						-01H	A125N	EPA 552.2												
						-01I	PLSTM	Oxygen 18 <i>5.3°C #12. WEB 11.21</i>												
						-01J	VOC4T	EPA 8260B THM												
						-01K	VOC4T	EPA 8260												
						-01L	VOC4T	EPA 8260												
						-01M	C500Z	Alkalinity: Species												
Field Test Parameters: <table border="1"> <tr> <td>CL2R =</td> <td><i>0.01</i></td> <td>mg/L</td> </tr> <tr> <td>Depth =</td> <td><i>18.76</i></td> <td>Feet</td> </tr> <tr> <td>pH =</td> <td><i>7.42</i></td> <td>pH Units</td> </tr> <tr> <td>Temperature =</td> <td><i>21.6</i></td> <td>C</td> </tr> </table>									CL2R =	<i>0.01</i>	mg/L	Depth =	<i>18.76</i>	Feet	pH =	<i>7.42</i>	pH Units	Temperature =	<i>21.6</i>	C
CL2R =	<i>0.01</i>	mg/L																		
Depth =	<i>18.76</i>	Feet																		
pH =	<i>7.42</i>	pH Units																		
Temperature =	<i>21.6</i>	C																		

Field Comments:

Field Instructions:



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

	COC #: C002091	Project Title: Bayside Ground Water Project	Client PM: David Behnken Lab PM: Kristi Schwab	Expect Date: 10/12/2021
	TAT: Standard		Job #:	Sampled By: Jon Marshak <input checked="" type="checkbox"/> Samples transported on ice

Date	Time	Site/Locator	Sample ID	Type	Matrix	ID	Type	Tests Required
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Total Containers for: C002091 12

	Signature	Print Name	Time	Date
Relinquished by:		Jon Marshak	1658	11/1/21
Received by:				
Relinquished by:				
Received by:	Lauren Brigham	Lauren Brigham	1625	11-1-21
Relinquished by:				
Received by:				

Container Legend:

A125N = Glass, amber, NM, septa top, 12.5 mg NH4Cl, Amber, 125 mL
 CS00Z = Glass, clear, NM, septa top, Clear, 500 ml
 PLSTL = Plastic, WM, 1000 mL
 PLSTM = Plastic, WM, 500 mL
 PLST5 = 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



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



COC #: C002091	Project Title: Bayside Ground Water Project TAT: Standard	Client PM: David Behrken Lab PM: Kristi Schwab Job #:	Received Date/Time: 11/01/2021 16:25 Received By: Lauren Brougham Sampled By: J. Marshak/Terraphase Due Date:
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Date	Time	Site/Locator	Sample ID	Type	Matrix	ID	Type	Tests Required															
11/01/2021	15:05	GW BAYSIDE - BAY1-MW5D	C002091-01	GRAB	Aqueous			+SAMP KIT															
						-01A	PLSTL	EPA 200.7-NPW (Ca,Fe,K,Mg,Mn,Na)															
						-01B	PLSTL	TDS															
						-01C	PLSTM	Hardness															
						-01D	PLSTS	EPA 300.1 (Cl,NO3,SO4)															
						-01F	PSQLT	Ammonia: Tit-AQ															
						-01G	A125N	EPA 552.2															
						-01H	A125N	EPA 552.2															
						-01I	PLSTM	Oxygen 18															
						-01J	VOC4T	EPA 624.1 THM															
						-01K	VOC4T	EPA 624.1															
						-01L	VOC4T	EPA 624.1															
						-01M	C500Z	Alkalinity: Species															
<table border="1"> <thead> <tr> <th colspan="3">Field Test Parameters:</th> </tr> </thead> <tbody> <tr> <td>CL2R =</td> <td>0.01</td> <td>mg/L</td> </tr> <tr> <td>Depth =</td> <td>18.76</td> <td>Feet</td> </tr> <tr> <td>pH =</td> <td>7.42</td> <td>pH Units</td> </tr> <tr> <td>Temperature =</td> <td>21.6</td> <td>C</td> </tr> </tbody> </table>									Field Test Parameters:			CL2R =	0.01	mg/L	Depth =	18.76	Feet	pH =	7.42	pH Units	Temperature =	21.6	C
Field Test Parameters:																							
CL2R =	0.01	mg/L																					
Depth =	18.76	Feet																					
pH =	7.42	pH Units																					
Temperature =	21.6	C																					

Field Comments:
 Field Instructions:
 Sample External Comments:

Total Containers for: C002091 12



C002091 Sample Acceptance Report

Received: 11/01/2021 16:25
Received By: Lauren Brougham

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

Containers		Comments
Container and label match CoC?	Yes	8260 THM had been changed to 624 THM in XLIMS. LAB 11/1/2021 ✓
Correct container?	Yes	
Correct field preservation?	Yes	
Damaged?	No	
Labels are legible?	Yes	
Possible contamination?	No	
Received within holding times?	Yes	
Sufficient volume?	Yes	

Sample: C002091-01		Comments
Bubbles in ZHS/VOA containers	No	



C002091 Sample Acceptance Report

Received: 11/01/2021 16:25
 Received By: Lauren Brougham

Intent to chill

Cooler: 1		Comments
Corrected Temp (° C)	6.1	
IR Thermometer Number	IR #12	
Representative temperature taken from	-01I	
Uncorrected Temp (° C)	5.9	
Visible ice formed inside sample container?	No	

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



COC: C002091

Sample Acceptance Preservation Report

Report Generated: 11/1/2021 4:30:56 PM

Inventory Item	Inventory ID	Open Date	Prep Date	Expiration Date
Ammonium Hydroxide	ST211101-003	11/01/2021	N/A	11/01/2022
Ammonium Sulfate Buffer (ASB-04)	ST211101-006	N/A	11/01/2021	05/01/2022
Ethylenediamine 12.5 mg/mL (EDA-19)	ST211025-003	N/A	10/25/2021	11/25/2021
H2SO4 15 mL 1:1 LDPE dropper	ST210716-005	09/25/2020	N/A	09/25/2030
HCl 15 mL 1:1 LDPE dropper	ST210729-008	N/A	N/A	07/22/2022
Hydrochloric Acid (HCl) 1+1 (HCl-01)	ST210529-001	N/A	05/29/2021	05/29/2022
NaOH 15 mL 1:1 LDPE dropper	ST210716-007	07/01/2020	N/A	06/10/2030
Nitric Acid TMG	ST210819-002	08/19/2021	N/A	01/08/2023
pH Strip 0-14	ST210901-009	09/01/2021	N/A	09/30/2024
pH Strip 7.9-9.8	ST210901-011	N/A	N/A	06/30/2023
Sulfuric Acid Gr ACS	ST210729-010	04/13/2021	N/A	04/13/2025

Container Number	Container Name	Tests	Preservation Requirement	Result	Initial/Date
C002091-01A	PLSTL	EPA 200.7-NPW	HNO3 to pH <2, Preservation Time = 1043 ✓	Pass ✓	11.1.21
C002091-01C	PLSTM	Hardness	HNO3 to pH <2 ✓		
C002091-01F	PSQLT	Ammonia: Titr-AQ	Check Cl2R = 0 [PSQLT], then H2SO4 to pH <2 ✓		
C002091-01G	A125N	EPA 552.2	Check Container ✓		
C002091-01H	A125N	EPA 552.2-FR	Check Container ✓		
C002091-01J	VOC4T	EPA 624.1 THM	Check Container ✓		
C002091-01K	VOC4T	EPA 624.1-FR	Check Container ✓		
C002091-01L	VOC4T	EPA 624.1-FR	Check Container ✓	Pass ✓	11.1.21



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

29 November 2021

EBMUD

Attn: K. Schwab

PO Box 24055

Oakland, CA 94607

RE: Bayside Ground Water Project WDR

Work Order: 21K0797

Enclosed are the results of analyses for samples received by the laboratory on 11/02/21 23:30. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink that reads 'Leslie M. Quinn'.

Leslie M. Quinn For Robbie C. Phillips
Project Manager



Alpha

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 PO Box 24055 Oakland, CA 94607	Project Manager: K. Schwab Project: Bayside Ground Water Project WDR Project Number: C002091	Reported: 11/29/21 16:33
--	--	-----------------------------

Bay Area: 262 Rickenbacker Circle | Livermore, CA 94551 | T: 925-828-6226 | F: 925-828-6309 | ELAP# 2728
Central Valley: 9090 Union Park Way Suite 113 | Elk Grove, CA 95624 | T: 916-686-5190 | F: 916-686-5192 | ELAP# 2922
North Bay: 110 Liberty Street | Petaluma, CA 94952 | T: 707-769-3128 | F: 707-769-8093 | ELAP# 2303
San Diego: 2722 Loker Avenue West Suite A | Carlsbad, CA 92010 | T: 760-930-2555 | F: 760-930-2510 | ELAP# 3055

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
C002091-01	21K0797-01	Water	11/01/21 15:05	11/02/21 23:30

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



ISOTECH

isotopium laboratory brand

www.isotechlabs.com

Lab #: 809152 Job #: 49311 IS-69368 Co. Job#:
 Sample Name: 21K0797-01 Co. Lab#:
 Company: Alpha Analytical Laboratories, Inc.
 API/Well:
 Container: Plastic Bottle
 Field/Site Name: 21K0797
 Location:
 Formation/Depth:
 Sampling Point: C002091-01
 Date Sampled: 11/01/2021 15:05 Date Received: 11/10/2021 Date Reported: 11/29/2021

δ D of water ----- -49.1 ‰ relative to VSMOW

δ ¹⁸O of water ----- -7.17 ‰ relative to VSMOW

Tritium content of water ----- na

δ ¹³C of DIC ----- na

¹⁴C content of DIC ----- na

δ ¹⁵N of nitrate ----- na

δ ¹⁸O of nitrate ----- na

δ ³⁴S of sulfate ----- na

δ ¹⁸O 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



21K0797



East Bay Municipal Utility District Laboratory Services Subcontract Chain of Custody

COC #: C002091	Project Title: Bayside Ground Water Project	Lab PM: Kristi Schwab (510) 287-1696 Shipping Method: Alpha Courier	Sampled By: J. Marshak/Terraphase
	TAT: Standard	PO#: 934-37431-AX Expiration: 6/30/2021	Submitted Date:

Date	Time	Sample ID	Location/PS Code	Matrix	Container ID	Type	Tests Required	Method Reference
11/01/2021	15:05	C002091-01	GW BAYSIDE - BAY1-MW5D	Aqueous	-011	PLSTM	Oxygen 18	D180
Comments:					Total containers received: 1			

	Signature	Print Name	Time	Date
Relinquished by:	<i>Lauren Brougham</i>	Lauren Brougham	1650	11-2-2021
Received by:	<i>James Eubanks</i>	James Eubanks	1700	11-2-21
Relinquished by:	<i>JE</i>		2330	11-2
Received by:	<i>JE</i>		2330	11-2
Relinquished by:				
Received by:				

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

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



16 December 2021

David Behnken

MS 704

Re: Bayside Ground Water Project

COC# C002092

Report Generated: 12/15/2021 16:12

Login Performance Summary

- 1 samples received by the lab on: 10/13/2021 07:50
- 0 Lost Analyses
- 0 Hold Time Exceedances
- Turn-around-time not met

Report Notes

For questions concerning this report, please contact:

Reported By:

Jack Lim

Senior Chemist

Approved By:

Yuyun Shang

Lab Manager



Samples for C002092

Samples Included in the Report

Sample Number	Sample Type	Sampled Date	Location Name	Sample Name	Parent Sample
C002092-01	GRAB	Oct 12 2021 16:30	GW BAYSIDE - BAY1-MW6	-	



Samples Results for C002092

Sample ID: C002092-01
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 12 2021 16:30 **Sample Collector:** JMarshak/Terraphase
Date Received: Oct 13 2021 07:50 **Sample Receiver:** C Soohoo
Sample Comments:

Analyte	Qualifier	Result	MDL	RL	Units	DF	Batch	Prepared	Analyzed
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Field data entry into LIMS

TARGET ANALYTES

CL2R		0.04			mg/L				10/12/2021 16:30
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Field data entry into LIMS

TARGET ANALYTES

Depth		15.54			Feet				10/12/2021 16:30
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Field data entry into LIMS

TARGET ANALYTES

pH		7.36			pH Units				10/12/2021 16:30
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Field data entry into LIMS

TARGET ANALYTES

Temperature		20.4			C				10/12/2021 16:30
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Total Dissolved Solids by SM 2540 C-2011

TARGET ANALYTES

Total Dissolved Solids		420	10	55	mg/L	1.0	B211019-003		10/09/2021 09:10
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Alkalinity by SM 2320 B-2011

TARGET ANALYTES

Alkalinity: Total as CaCO3		230	5	30	mg/L	1.0	B211018-008		10/18/2021 10:12
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Alkalinity: Carbonate	U	5	5	30	mg/L	1.0	B211018-008		10/18/2021 10:12
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Alkalinity: Bicarbonate		230	5	30	mg/L	1.0	B211018-008		10/18/2021 10:12
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Alkalinity: Hydroxide	U	5	5	30	mg/L	1.0	B211018-008		10/18/2021 10:12
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Ammonia as N by SM 4500-NH3 C-2011

TARGET ANALYTES

Ammonia as N	U	0.25	0.25	1.5	mg/L	1.0	B211014-008		10/14/2021 09:45
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Hardness as CaCO3 by SM 2340 C-2011

TARGET ANALYTES

Hardness as CaCO3		110	4	7	mg/L	1.0	B211027-021		10/27/2021 15:00
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Anions by EPA 300.1

TARGET ANALYTES

Chloride		56	0.26	2.0	mg/L	10	B211013-013		10/13/2021 18:30
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Nitrate as N	U	0.071	0.071	0.30	mg/L	10	B211013-013		10/13/2021 18:30
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Sulfate		47	0.49	2.0	mg/L	10	B211013-013		10/13/2021 18:30
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SURROGATES

Dichloroacetate (%)		96			%	10	B211013-013		10/13/2021 18:30
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Samples Results for C002092

Sample ID: C002092-01
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 12 2021 16:30 **Sample Collector:** JMarshak/Terraphase
Date Received: Oct 13 2021 07:50 **Sample Receiver:** C Soohoo
Sample Comments:

Analyte	Qualifier	Result	MDL	RL	Units	DF	Batch	Prepared	Analyzed
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Metals by EPA 200.7 (1994 Rev 4.4)

TARGET ANALYTES

Calcium		29000	10.5	52.0	ug/L	1.0	B211103-006	11/04/2021 07:03	11/05/2021 11:07
Iron	E1	16.7	11.3	52.0	ug/L	1.0	B211103-006	11/04/2021 07:03	11/05/2021 11:07
Potassium		2040	19.9	260	ug/L	1.0	B211103-006	11/04/2021 07:03	11/05/2021 11:07
Magnesium		7460	5.72	52.0	ug/L	1.0	B211103-006	11/04/2021 07:03	11/05/2021 11:07
Manganese		175	0.25	20.8	ug/L	1.0	B211103-006	11/04/2021 07:03	11/05/2021 11:07
Sodium		97300	6.97	52.0	ug/L	1.0	B211103-006	11/04/2021 07:03	11/05/2021 11:07

INTERNAL STANDARD

Yttrium (%)		104			%	1.0	B211103-006	11/04/2021 07:03	11/05/2021 11:07
Yttrium Radial (%)		105			%	1.0	B211103-006	11/04/2021 07:03	11/05/2021 11:07

Purgeable Organic Compounds, GC/MS by EPA 624.1

TARGET ANALYTES

Bromodichloromethane	U	0.129	0.129	0.500	ug/L	1.0	B211014-005		10/14/2021 17:14
Bromoform	U	0.166	0.166	0.500	ug/L	1.0	B211014-005		10/14/2021 17:14
Chloroform	U	0.196	0.196	0.500	ug/L	1.0	B211014-005		10/14/2021 17:14
Dibromochloromethane	U	0.131	0.131	0.500	ug/L	1.0	B211014-005		10/14/2021 17:14
Total Trihalomethanes, Calculated		0.000			ug/L	1.0	B211014-005		10/14/2021 17:14

Comments: TTHM calculation uses a zero for any individual THM result less than the MDL for that THM

INTERNAL STANDARD

Fluorobenzene (%)		84			%	1.0	B211014-005		10/14/2021 17:14
d5-Chlorobenzene (%)		85			%	1.0	B211014-005		10/14/2021 17:14
d4-1,4-Dichlorobenzene (%)		74.7			%	1.0	B211014-005		10/14/2021 17:14

SURROGATES

d4-Dichloroethane (%)		104			%	1.0	B211014-005		10/14/2021 17:14
d8-Toluene (%)		94			%	1.0	B211014-005		10/14/2021 17:14
4-Bromofluorobenzene (%)		90			%	1.0	B211014-005		10/14/2021 17:14

Haloacetic Acids, GC/ECD by EPA 552.2

TARGET ANALYTES

Bromochloroacetic Acid	U	0.34	0.34	1.0	ug/L	1.0	B211020-002	10/19/2021 09:00	10/20/2021 17:52
Comments: Compound not available for certification by ELAP									
Bromodichloroacetic Acid	U	0.36	0.36	1.0	ug/L	1.0	B211020-002	10/19/2021 09:00	10/20/2021 17:52
Comments: Compound not available for certification by ELAP									
Chlorodibromoacetic Acid	U	0.36	0.36	1.0	ug/L	1.0	B211020-002	10/19/2021 09:00	10/20/2021 17:52
Comments: Compound not available for certification by ELAP									
Dibromoacetic Acid	U	0.36	0.36	1.0	ug/L	1.0	B211020-002	10/19/2021 09:00	10/20/2021 17:52
Dichloroacetic Acid	U	0.34	0.34	1.0	ug/L	1.0	B211020-002	10/19/2021 09:00	10/20/2021 17:52
Monobromoacetic Acid	U	0.29	0.29	1.0	ug/L	1.0	B211020-002	10/19/2021 09:00	10/20/2021 17:52
Monochloroacetic Acid	U	0.42	0.42	1.0	ug/L	1.0	B211020-002	10/19/2021 09:00	10/20/2021 17:52
Trichloroacetic Acid	U	0.35	0.35	1.0	ug/L	1.0	B211020-002	10/19/2021 09:00	10/20/2021 17:52



Samples Results for C002092

Sample ID: C002092-01
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 12 2021 16:30 **Sample Collector:** JMarshak/Terraphase
Date Received: Oct 13 2021 07:50 **Sample Receiver:** C Soohoo
Sample Comments:

Analyte	Qualifier	Result	MDL	RL	Units	DF	Batch	Prepared	Analyzed
Haloacetic Acids, GC/ECD by EPA 552.2									
HAA(5), calculated		0.00			ug/L	1.0	B211020-002	10/19/2021 09:00	10/20/2021 17:52
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 (%)		93			%	1.0	B211020-002	10/19/2021 09:00	10/20/2021 17:52
SURROGATES									
2,3-Dibromopropionic Acid (%)		101			%	1.0	B211020-002	10/19/2021 09:00	10/20/2021 17:52

Oxygen 18 Isotope Analysis

Subcontract data from: Alpha Analytical Laboratory
Test External Comments: For Oxygen 18 data: Original Report transmitted to client and accessible at end of this report

TARGET ANALYTES

Comment **SUB RPT**



Quality Control for C002092

Analyte	Qualifier	Result	MDL	RL	Units	Spike Level	Source Result	% REC	% REC Limits	RPD	RPD Limits
Total and Fixed Dissolved Solids MB by EPA 160.4, B211019-003											
Total Dissolved Solids	U	10	10	55	mg/L						
Fixed Dissolved Solids	U	10	10	69	mg/L						
Total Dissolved Solids LCS by SM 2540 C-2011, B211019-003											
Total Dissolved Solids		320	10	55	mg/L			97	85 - 115		
Total Dissolved Solids DUP by SM 2540 C-2011, B211019-003											
Total Dissolved Solids		76000	330	1800	mg/L		80000			4.7	10
Fixed Dissolved Solids DUP by EPA 160.4, B211019-003											
Fixed Dissolved Solids		73	10	69	mg/L		76			4.0	10
Ammonia as N MB by SM 4500-NH3 C-2011, B211014-008											
Ammonia as N	U	0.25	0.25	1.5	mg/L						
Ammonia as N LCS by SM 4500-NH3 C-2011, B211014-008											
Ammonia as N		12	0.25	1.5	mg/L			97	85 - 115		
Ammonia as N DUP by SM 4500-NH3 C-2011, B211014-008											
Ammonia as N		1900	62	380	mg/L		1900			3.7	10
Ammonia as N MS by SM 4500-NH3 C-2011, B211014-008											
Ammonia as N		4800	62	380	mg/L		1900	94	80 - 120		
Ammonia as N MSD by SM 4500-NH3 C-2011, B211014-008											
Ammonia as N		4800	62	380	mg/L		1900	94	80 - 120	0.1	15
Alkalinity MB by SM 2320 B-2011, B211018-008											
Alkalinity: Total as CaCO3	U	5	5	30	mg/L						
Alkalinity LCS by SM 2320 B-2011, B211018-008											
Alkalinity: Total as CaCO3		200	5	30	mg/L			101	85 - 115		
Alkalinity DUP by SM 2320 B-2011, B211018-008											
Alkalinity: Total as CaCO3		7900	62	380	mg/L		8500			7.9	20
Alkalinity: Total as CaCO3		61	5	30	mg/L		60			1.4	20
Alkalinity MS by SM 2320 B-2011, B211018-008											
Alkalinity: Total as CaCO3		260	5	30	mg/L		60	101	80 - 120		
Alkalinity: Total as CaCO3		13000	62	380	mg/L		8500	91	80 - 120		
Alkalinity LOQ by SM 2320 B-2011, B211018-008											
Alkalinity: Total as CaCO3		33	5	30	mg/L			111	50 - 150		



Quality Control for C002092

Analyte	Qualifier	Result	MDL	RL	Units	Spike Level	Source Result	% REC	% REC Limits	RPD	RPD Limits
Alkalinity QCS by SM 2320 B-2011, B211018-008											
Alkalinity: Total as CaCO3		110	5	30	mg/L			104	91 - 111		
Hardness as CaCO3 MB by SM 2340 C-2011, B211027-021											
Hardness as CaCO3	U	4	4	7	mg/L						
Hardness as CaCO3 LCS by SM 2340 C-2011, B211027-021											
Hardness as CaCO3		100	4	7	mg/L			100	85 - 115		
Hardness as CaCO3 DUP by SM 2340 C-2011, B211027-021											
Hardness as CaCO3		130	4	7	mg/L		130			1.2	10
Hardness as CaCO3 MS by SM 2340 C-2011, B211027-021											
Hardness as CaCO3		220	4	7	mg/L		130	88	85 - 115		
Hardness as CaCO3 QCS by SM 2340 C-2011, B211027-021											
Hardness as CaCO3		120	4	7	mg/L			92	91 - 107		
Anions MB by EPA 300.1, B211013-013											
Bromide	U	0.0034	0.0034	0.030	mg/L						
Chloride	U	0.026	0.026	0.20	mg/L						
Fluoride	U	0.0091	0.0091	0.075	mg/L						
Nitrate as N	U	0.0071	0.0071	0.030	mg/L						
Nitrite as N	U	0.0048	0.0048	0.030	mg/L						
Orthophosphate as P	U	0.0092	0.0092	0.030	mg/L						
Sulfate	U	0.049	0.049	0.20	mg/L						
Dichloroacetate (%)		96			%						
Anions LCS by EPA 300.1, B211013-013											
Bromide		0.048	0.0034	0.030	mg/L			95	85 - 115		
Chloride		0.96	0.026	0.20	mg/L			96	85 - 115		
Fluoride		0.48	0.0091	0.075	mg/L			97	85 - 115		
Nitrate as N		0.046	0.0071	0.030	mg/L			92	85 - 115		
Nitrite as N		0.044	0.0048	0.030	mg/L			88	85 - 115		
Orthophosphate as P		0.046	0.0092	0.030	mg/L			92	85 - 115		
Sulfate		0.92	0.049	0.20	mg/L			92	85 - 115		
Dichloroacetate (%)		97			%						
Anions DUP by EPA 300.1, B211013-013											
Bromide	U	0.0034	0.0034	0.030	mg/L		0.0034			NC	10
Bromide	U	0.0034	0.0034	0.030	mg/L		0.0034			NC	10
Chloride		7.7	0.026	0.20	mg/L		7.7			0.1	10
Chloride		2.2	0.026	0.20	mg/L		2.3			4.3	10
Fluoride	E1	0.042	0.0091	0.075	mg/L		0.043			1.3	10
Fluoride	E1	0.014	0.0091	0.075	mg/L		0.014			1.7	10
Nitrate as N		0.054	0.0071	0.030	mg/L		0.053			2.3	10
Nitrate as N	U	0.0071	0.0071	0.030	mg/L		0.0071			NC	10



Quality Control for C002092

Analyte	Qualifier	Result	MDL	RL	Units	Spike Level	Source Result	% REC Limits	RPD	RPD Limits
Anions DUP by EPA 300.1, B211013-013										
Nitrite as N	E1	0.012	0.0048	0.030	mg/L		0.012		6.3	10
Nitrite as N	U	0.0048	0.0048	0.030	mg/L		0.0048		NC	10
Orthophosphate as P	U	0.0092	0.0092	0.030	mg/L		0.0092		NC	10
Orthophosphate as P	U	0.0092	0.0092	0.030	mg/L		0.0092		NC	10
Sulfate	E1	0.062	0.049	0.20	mg/L		0.062		0.8	10
Sulfate		6.3	0.049	0.20	mg/L		6.4		0.2	10
Dichloroacetate (%)		96			%		93			
Dichloroacetate (%)		96			%		95			
Anions MS by EPA 300.1, B211013-013										
Bromide		0.040	0.0034	0.030	mg/L		0.0034	79	75 - 125	
Bromide		0.049	0.0034	0.030	mg/L		0.0034	98	75 - 125	
Chloride		8.6	0.026	0.20	mg/L		7.7	88	75 - 125	
Chloride		3.4	0.026	0.20	mg/L		2.3	108	75 - 125	
Fluoride		0.51	0.0091	0.075	mg/L		0.043	94	75 - 125	
Fluoride		0.49	0.0091	0.075	mg/L		0.014	95	75 - 125	
Nitrate as N	M1	0.15	0.0071	0.030	mg/L		0.053	189	75 - 125	
Nitrate as N		0.045	0.0071	0.030	mg/L		0.0071	89	75 - 125	
Nitrite as N	E1, M1	0.012	0.0048	0.030	mg/L		0.012	0	75 - 125	
Nitrite as N		0.043	0.0048	0.030	mg/L		0.0048	87	75 - 125	
Orthophosphate as P		0.048	0.0092	0.030	mg/L		0.0092	97	75 - 125	
Orthophosphate as P		0.049	0.0092	0.030	mg/L		0.0092	98	75 - 125	
Sulfate		7.3	0.049	0.20	mg/L		6.4	96	75 - 125	
Sulfate		0.92	0.049	0.20	mg/L		0.062	86	75 - 125	
Dichloroacetate (%)		95			%		93			
Dichloroacetate (%)		96			%		95			
Anions LOQ by EPA 300.1, B211013-013										
Bromide	E1	0.029	0.0034	0.030	mg/L			96	50 - 150	
Chloride	E1	0.20	0.026	0.20	mg/L			99	50 - 150	
Fluoride	E1	0.068	0.0091	0.075	mg/L			91	50 - 150	
Nitrate as N	E1	0.028	0.0071	0.030	mg/L			94	50 - 150	
Nitrite as N	E1	0.027	0.0048	0.030	mg/L			90	50 - 150	
Orthophosphate as P	E1	0.027	0.0092	0.030	mg/L			92	50 - 150	
Sulfate		0.20	0.049	0.20	mg/L			101	50 - 150	
Dichloroacetate (%)		97			%					
Metals MB by EPA 200.7, B211103-006										
Aluminum	U	17.2	17.2	52.0	ug/L					
Boron	U	18.8	18.8	52.0	ug/L					
Barium	U	0.43	0.43	52.0	ug/L					
Beryllium	U	0.27	0.27	1.04	ug/L					
Calcium	U	10.5	10.5	52.0	ug/L					
Copper	U	5.10	5.10	52.0	ug/L					
Iron	U	11.3	11.3	52.0	ug/L					
Potassium	U	19.9	19.9	260	ug/L					
Magnesium	U	5.72	5.72	52.0	ug/L					
Manganese	U	0.25	0.25	20.8	ug/L					
Sodium	U	6.97	6.97	52.0	ug/L					
Silicon	U	27.9	27.9	260	ug/L					



Quality Control for C002092

Analyte	Qualifier	Result	MDL	RL	Units	Spike Level	Source Result	% REC	% REC Limits	RPD	RPD Limits
Metals MB by EPA 200.7, B211103-006											
Zinc	U	1.29	1.29	52.0	ug/L						
Yttrium (%)		103			%						
Yttrium Radial (%)		103			%						
Metals LCS by EPA 200.7, B211103-006											
Aluminum		2110	17.9	54.2	ug/L			95	85 - 115		
Aluminum		2070	17.9	54.2	ug/L			93	85 - 115		
Aluminum		2070	17.9	54.2	ug/L			93	85 - 115		
Boron		1110	19.6	54.2	ug/L			100	85 - 115		
Boron		1100	19.6	54.2	ug/L			99	85 - 115		
Boron		1110	19.6	54.2	ug/L			100	85 - 115		
Barium		543	0.44	54.2	ug/L			98	85 - 115		
Barium		549	0.44	54.2	ug/L			99	85 - 115		
Barium		543	0.44	54.2	ug/L			98	85 - 115		
Beryllium		10.6	0.28	1.08	ug/L			95	85 - 115		
Beryllium		10.5	0.28	1.08	ug/L			95	85 - 115		
Beryllium		10.7	0.28	1.08	ug/L			96	85 - 115		
Calcium		10700	11.0	54.2	ug/L			96	85 - 115		
Calcium		10700	11.0	54.2	ug/L			96	85 - 115		
Calcium		10800	11.0	54.2	ug/L			97	85 - 115		
Copper		527	5.31	54.2	ug/L			95	85 - 115		
Copper		524	5.31	54.2	ug/L			94	85 - 115		
Copper		528	5.31	54.2	ug/L			95	85 - 115		
Iron		1090	11.8	54.2	ug/L			98	85 - 115		
Iron		1100	11.8	54.2	ug/L			99	85 - 115		
Iron		1090	11.8	54.2	ug/L			98	85 - 115		
Potassium		11000	20.7	271	ug/L			99	85 - 115		
Potassium		11100	20.7	271	ug/L			100	85 - 115		
Potassium		11100	20.7	271	ug/L			100	85 - 115		
Magnesium		11400	5.96	54.2	ug/L			102	85 - 115		
Magnesium		11300	5.96	54.2	ug/L			102	85 - 115		
Magnesium		11300	5.96	54.2	ug/L			102	85 - 115		
Manganese		217	0.26	21.7	ug/L			98	85 - 115		
Manganese		215	0.26	21.7	ug/L			97	85 - 115		
Manganese		214	0.26	21.7	ug/L			96	85 - 115		
Sodium		10900	7.26	54.2	ug/L			98	85 - 115		
Sodium		10800	7.26	54.2	ug/L			97	85 - 115		
Sodium		11100	7.26	54.2	ug/L			100	85 - 115		
Silicon		2160	29.1	271	ug/L			97	85 - 115		
Silicon		2190	29.1	271	ug/L			98	85 - 115		
Silicon		2170	29.1	271	ug/L			97	85 - 115		
Zinc		548	1.34	54.2	ug/L			98	85 - 115		
Zinc		543	1.34	54.2	ug/L			98	85 - 115		
Zinc		544	1.34	54.2	ug/L			98	85 - 115		
Yttrium (%)		101			%						
Yttrium (%)		102			%						
Yttrium (%)		99			%						
Yttrium Radial (%)		99			%						
Yttrium Radial (%)		100			%						



Quality Control for C002092

Analyte	Qualifier	Result	MDL	RL	Units	Spike Level	Source Result	% REC	% REC Limits	RPD	RPD Limits
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Metals LCS by EPA 200.7, B211103-006

Yttrium Radial (%)		97			%						
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Metals LCSD by EPA 200.7, B211103-006

Aluminum		2070	17.9	54.2	ug/L			93	85 - 115	0.0	10
Boron		1100	19.6	54.2	ug/L			99	85 - 115	0.7	10
Barium		540	0.44	54.2	ug/L			97	85 - 115	0.6	10
Beryllium		10.5	0.28	1.08	ug/L			94	85 - 115	1.0	10
Calcium		10700	11.0	54.2	ug/L			96	85 - 115	0.2	10
Copper		524	5.31	54.2	ug/L			94	85 - 115	0.1	10
Iron		1080	11.8	54.2	ug/L			97	85 - 115	0.6	10
Potassium		10900	20.7	271	ug/L			98	85 - 115	1.1	10
Magnesium		11200	5.96	54.2	ug/L			101	85 - 115	0.4	10
Manganese		214	0.26	21.7	ug/L			96	85 - 115	0.1	10
Sodium		11000	7.26	54.2	ug/L			99	85 - 115	0.8	10
Silicon		2160	29.1	271	ug/L			97	85 - 115	0.2	15
Zinc		537	1.34	54.2	ug/L			97	85 - 115	1.2	10
Yttrium (%)		101			%						
Yttrium Radial (%)		100			%						

Metals MS by EPA 200.7, B211103-006

Calcium		45500	11.0	54.2	ug/L		35100	94	70 - 130		
Iron		1110	11.8	54.2	ug/L		23.7	98	70 - 130		
Potassium		13600	20.7	271	ug/L		2020	104	70 - 130		
Magnesium		19800	5.96	54.2	ug/L		9090	96	70 - 130		
Manganese		433	0.26	21.7	ug/L		216	98	70 - 130		
Sodium		132000	7.26	54.2	ug/L		119000	113	70 - 130		
Yttrium (%)		100			%		103				
Yttrium Radial (%)		100			%		102				

Metals MSD by EPA 200.7, B211103-006

Calcium		47200	11.0	54.2	ug/L		35100	109	70 - 130	3.6	20
Iron		1080	11.8	54.2	ug/L		23.7	95	70 - 130	2.6	20
Potassium		13300	20.7	271	ug/L		2020	102	70 - 130	1.8	20
Magnesium		20500	5.96	54.2	ug/L		9090	102	70 - 130	3.5	20
Manganese		427	0.26	21.7	ug/L		216	95	70 - 130	1.4	20
Sodium		130000	7.26	54.2	ug/L		119000	99	70 - 130	1.2	20
Yttrium (%)		100			%		103				
Yttrium Radial (%)		102			%		102				

Metals LOQ by EPA 200.7, B211103-006

Aluminum		57.1	17.3	52.5	ug/L			114	50 - 150		
Boron		53.7	19.0	52.5	ug/L			107	50 - 150		
Barium	E1	51.1	0.43	52.5	ug/L			102	50 - 150		
Beryllium	E1	0.95	0.27	1.05	ug/L			95	50 - 150		
Calcium	E1	50.7	10.6	52.5	ug/L			101	50 - 150		
Copper	E1	50.6	5.14	52.5	ug/L			101	50 - 150		
Iron	E1	51.2	11.4	52.5	ug/L			102	50 - 150		
Potassium	E1	231	20.0	262	ug/L			92	50 - 150		



Quality Control for C002092

Analyte	Qualifier	Result	MDL	RL	Units	Spike Level	Source Result	% REC	% REC Limits	RPD	RPD Limits
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Metals LOQ by EPA 200.7, B211103-006

Magnesium	E1	50.0	5.78	52.5	ug/L			100	50 - 150		
Manganese	E1	20.7	0.25	21.0	ug/L			103	50 - 150		
Sodium	E1	44.0	7.04	52.5	ug/L			88	50 - 150		
Silicon	E1	257	28.1	262	ug/L			103	50 - 150		
Zinc	E1	49.9	1.30	52.5	ug/L			100	50 - 150		
Yttrium (%)		101			%						
Yttrium Radial (%)		104			%						

Purgeable Organic Compounds, GC/MS MB by EPA 624.1, B211014-005

1,1,1-Trichloroethane	U	0.259	0.259	0.500	ug/L						
1,1,2,2-Tetrachloroethane	U	0.125	0.125	0.500	ug/L						
1,1,2-Trichloroethane	U	0.108	0.108	0.500	ug/L						
1,1-Dichloroethane	U	0.279	0.279	0.500	ug/L						
1,1-Dichloroethene	U	0.187	0.187	0.500	ug/L						
1,2-Dichlorobenzene	U	0.112	0.112	0.500	ug/L						
1,2-Dichloroethane	U	0.122	0.122	0.500	ug/L						
1,2-Dichloropropane	U	0.129	0.129	0.500	ug/L						
1,3-Dichlorobenzene	U	0.131	0.131	0.500	ug/L						
1,4-Dichlorobenzene	U	0.115	0.115	0.500	ug/L						
2-Butanone	U	0.422	0.422	1.00	ug/L						
2-Chloroethylvinyl Ether	U	0.270	0.270	1.00	ug/L						
Benzene	U	0.143	0.143	0.500	ug/L						
Bromodichloromethane	U	0.129	0.129	0.500	ug/L						
Bromoform	U	0.166	0.166	0.500	ug/L						
Bromomethane	U	0.561	0.561	1.00	ug/L						
Carbon Tetrachloride	U	0.372	0.372	0.500	ug/L						
Chlorobenzene	U	0.114	0.114	0.500	ug/L						
Chloroethane	U	0.258	0.258	0.500	ug/L						
Chloroform	U	0.196	0.196	0.500	ug/L						
Chloromethane	U	0.316	0.316	0.500	ug/L						
cis-1,3-Dichloropropene	U	0.164	0.164	0.500	ug/L						
Dibromochloromethane	U	0.131	0.131	0.500	ug/L						
Ethyl Benzene	U	0.126	0.126	0.500	ug/L						
Fluorotrichloromethane	U	0.325	0.325	1.00	ug/L						
m+p Xylenes	U	0.287	0.287	1.00	ug/L						
Methylene Chloride	U	0.279	0.279	0.500	ug/L						
Methyl-t-butyl Ether	U	0.126	0.126	1.00	ug/L						
o-Xylene	U	0.150	0.150	0.500	ug/L						
Tetrachloroethene	U	0.167	0.167	0.500	ug/L						
Toluene	U	0.153	0.153	0.500	ug/L						
trans-1,2-Dichloroethene	U	0.230	0.230	0.500	ug/L						
trans-1,3-Dichloropropene	U	0.117	0.117	0.500	ug/L						
Trichloroethene	U	0.172	0.172	0.500	ug/L						
Vinyl Chloride	U	0.216	0.216	0.500	ug/L						
Fluorobenzene (%)		88			%						
d5-Chlorobenzene (%)		87			%						
d4-1,4-Dichlorobenzene (%)		78			%						
d4-Dichloroethane (%)		107			%						
d8-Toluene (%)		96			%						



Quality Control for C002092

Analyte	Qualifier	Result	MDL	RL	Units	Spike Level	Source Result	% REC	% REC Limits	RPD	RPD Limits
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Purgeable Organic Compounds, GC/MS MB by EPA 624.1, B211014-005

4-Bromofluorobenzene (%)		92			%						
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Purgeable Organic Compounds, GC/MS LCS by EPA 624.1, B211014-005

1,1,1-Trichloroethane		22.5	0.259	0.500	ug/L			113	70 - 130		
1,1,2,2-Tetrachloroethane		19.0	0.125	0.500	ug/L			96	60 - 140		
1,1,2-Trichloroethane		21.1	0.108	0.500	ug/L			106	70 - 130		
1,1-Dichloroethane		21.1	0.279	0.500	ug/L			106	70 - 130		
1,1-Dichloroethene		21.2	0.187	0.500	ug/L			107	50 - 150		
1,2-Dichlorobenzene		19.9	0.112	0.500	ug/L			100	65 - 135		
1,2-Dichloroethane		20.9	0.122	0.500	ug/L			105	70 - 130		
1,2-Dichloropropane		20.7	0.129	0.500	ug/L			104	35 - 165		
1,3-Dichlorobenzene		20.1	0.131	0.500	ug/L			101	70 - 130		
1,4-Dichlorobenzene		20.6	0.115	0.500	ug/L			104	65 - 135		
2-Butanone		17.7	0.422	1.00	ug/L			89	64 - 137		
2-Chloroethylvinyl Ether		17.1	0.270	1.00	ug/L			86	1 - 225		
Benzene		20.9	0.143	0.500	ug/L			105	65 - 135		
Bromodichloromethane		21.4	0.129	0.500	ug/L			108	65 - 135		
Bromoform		21.8	0.166	0.500	ug/L			110	70 - 130		
Bromomethane		20.5	0.561	1.00	ug/L			103	15 - 185		
Carbon Tetrachloride		22.9	0.372	0.500	ug/L			115	70 - 130		
Chlorobenzene		21.3	0.114	0.500	ug/L			107	65 - 135		
Chloroethane		21.4	0.258	0.500	ug/L			108	40 - 160		
Chloroform		21.4	0.196	0.500	ug/L			108	70 - 135		
Chloromethane		20.8	0.316	0.500	ug/L			105	1 - 205		
cis-1,3-Dichloropropene		21.4	0.164	0.500	ug/L			108	25 - 175		
Dibromochloromethane		21.4	0.131	0.500	ug/L			108	70 - 135		
Ethyl Benzene		21.0	0.126	0.500	ug/L			106	60 - 140		
Fluorotrichloromethane		23.4	0.325	1.00	ug/L			118	50 - 150		
m+p Xylenes		45.5	0.287	1.00	ug/L			114	78 - 123		
Methylene Chloride		20.7	0.279	0.500	ug/L			104	60 - 140		
Methyl-t-butyl Ether		20.0	0.126	1.00	ug/L			100	78 - 134		
o-Xylene		21.6	0.150	0.500	ug/L			109	80 - 123		
Tetrachloroethene		22.6	0.167	0.500	ug/L			114	70 - 130		
Toluene		20.9	0.153	0.500	ug/L			105	70 - 130		
trans-1,2-Dichloroethene		22.4	0.230	0.500	ug/L			113	70 - 130		
trans-1,3-Dichloropropene		21.2	0.117	0.500	ug/L			107	50 - 150		
Trichloroethene		21.4	0.172	0.500	ug/L			108	65 - 135		
Vinyl Chloride		19.9	0.216	0.500	ug/L			100	5 - 195		
Fluorobenzene (%)		110			%						
d5-Chlorobenzene (%)		107			%						
d4-1,4-Dichlorobenzene (%)		117			%						
d4-Dichloroethane (%)		103			%						
d8-Toluene (%)		102			%						
4-Bromofluorobenzene (%)		104			%						

Purgeable Organic Compounds, GC/MS MS by EPA 624.1, B211014-005

1,1,1-Trichloroethane		22.4	0.259	0.500	ug/L	0.259		113	52 - 162		
1,1,2,2-Tetrachloroethane		18.8	0.125	0.500	ug/L	0.125		95	46 - 157		
1,1,2-Trichloroethane		21.8	0.108	0.500	ug/L	0.108		110	52 - 150		



Quality Control for C002092

Analyte	Qualifier	Result	MDL	RL	Units	Spike Level	Source Result	% REC	% REC Limits	RPD	RPD Limits
Purgeable Organic Compounds, GC/MS MS by EPA 624.1, B211014-005											
1,1-Dichloroethane		21.4	0.279	0.500	ug/L		0.279	108	59 - 155		
1,1-Dichloroethene		21.3	0.187	0.500	ug/L		0.187	107	1 - 234		
1,2-Dichlorobenzene		20.3	0.112	0.500	ug/L		0.112	102	18 - 190		
1,2-Dichloroethane		21.4	0.122	0.500	ug/L		0.122	108	49 - 155		
1,2-Dichloropropane		20.8	0.129	0.500	ug/L		0.129	105	1 - 210		
1,3-Dichlorobenzene		20.1	0.131	0.500	ug/L		0.131	101	59 - 156		
1,4-Dichlorobenzene		20.7	0.115	0.500	ug/L		0.115	104	18 - 190		
2-Butanone		17.5	0.422	1.00	ug/L		0.422	88	56 - 150		
2-Chloroethylvinyl Ether		19.5	0.270	1.00	ug/L		0.270	98	1 - 305		
Benzene		20.8	0.143	0.500	ug/L		0.143	105	37 - 151		
Bromodichloromethane		21.6	0.129	0.500	ug/L		0.129	109	35 - 155		
Bromoform		22.6	0.166	0.500	ug/L		0.166	114	45 - 169		
Bromomethane		24.6	0.561	1.00	ug/L		0.561	124	1 - 242		
Carbon Tetrachloride		22.7	0.372	0.500	ug/L		0.372	114	70 - 140		
Chlorobenzene		21.6	0.114	0.500	ug/L		0.114	109	37 - 160		
Chloroethane		21.7	0.258	0.500	ug/L		0.258	109	14 - 230		
Chloroform		22.1	0.196	0.500	ug/L		0.196	111	51 - 138		
Chloromethane		20.9	0.316	0.500	ug/L		0.341	104	1 - 273		
cis-1,3-Dichloropropene		22.5	0.164	0.500	ug/L		0.164	113	1 - 227		
Dibromochloromethane		22.2	0.131	0.500	ug/L		0.131	112	53 - 149		
Ethyl Benzene		21.5	0.126	0.500	ug/L		0.126	108	37 - 162		
Fluorotrichloromethane		23.5	0.325	1.00	ug/L		0.325	118	17 - 181		
m+p Xylenes		45.6	0.287	1.00	ug/L		0.287	115	68 - 145		
Methylene Chloride		21.4	0.279	0.500	ug/L		0.279	108	1 - 221		
Methyl-t-butyl Ether		19.6	0.126	1.00	ug/L		0.126	99	71 - 133		
o-Xylene		21.9	0.150	0.500	ug/L		0.150	110	69 - 138		
Tetrachloroethene		23.1	0.167	0.500	ug/L		0.167	116	64 - 148		
Toluene		21.2	0.153	0.500	ug/L		0.153	107	47 - 150		
trans-1,2-Dichloroethene		21.5	0.230	0.500	ug/L		0.230	108	54 - 156		
trans-1,3-Dichloropropene		22.0	0.117	0.500	ug/L		0.117	111	17 - 183		
Trichloroethene		22.1	0.172	0.500	ug/L		0.172	112	70 - 157		
Vinyl Chloride		20.1	0.216	0.500	ug/L		0.216	101	1 - 251		
Fluorobenzene (%)		91			%		103				
d5-Chlorobenzene (%)		88			%		104				
d4-1,4-Dichlorobenzene (%)		99			%		90				
d4-Dichloroethane (%)		102			%		109				
d8-Toluene (%)		106			%		95				
4-Bromofluorobenzene (%)		108			%		95				

Purgeable Organic Compounds, GC/MS MS by EPA 624.1, B211014-005

Bromodichloromethane		20.6	0.129	0.500	ug/L		0.129	104	35 - 155		
Bromoform		22.1	0.166	0.500	ug/L		0.166	111	45 - 169		
Chloroform		20.8	0.196	0.500	ug/L		0.196	105	51 - 138		
Dibromochloromethane		21.0	0.131	0.500	ug/L		0.131	106	53 - 149		
Fluorobenzene (%)		91			%		94				
d5-Chlorobenzene (%)		89			%		90				
d4-1,4-Dichlorobenzene (%)		100			%		80.1				
d4-Dichloroethane (%)		97			%		105				
d8-Toluene (%)		100			%		93				



Quality Control for C002092

Analyte	Qualifier	Result	MDL	RL	Units	Spike Level	Source Result	% REC	% REC Limits	RPD	RPD Limits
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Purgeable Organic Compounds, GC/MS MS by EPA 624.1, B211014-005

4-Bromofluorobenzene (%)		103			%		93				
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Purgeable Organic Compounds, GC/MS MSD by EPA 624.1, B211014-005

1,1,1-Trichloroethane		21.7	0.259	0.500	ug/L		0.259	109	52 - 162	3.3	36
1,1,2,2-Tetrachloroethane		18.7	0.125	0.500	ug/L		0.125	94	46 - 157	0.6	61
1,1,2-Trichloroethane		21.3	0.108	0.500	ug/L		0.108	107	52 - 150	2.5	45
1,1-Dichloroethane		20.3	0.279	0.500	ug/L		0.279	102	59 - 155	5.0	40
1,1-Dichloroethene		21.2	0.187	0.500	ug/L		0.187	107	1 - 234	0.1	32
1,2-Dichlorobenzene		19.8	0.112	0.500	ug/L		0.112	100	18 - 190	2.6	57
1,2-Dichloroethane		19.9	0.122	0.500	ug/L		0.122	100	49 - 155	7.1	49
1,2-Dichloropropane		20.3	0.129	0.500	ug/L		0.129	102	1 - 210	2.5	55
1,3-Dichlorobenzene		20.5	0.131	0.500	ug/L		0.131	103	59 - 156	2.2	43
1,4-Dichlorobenzene		20.6	0.115	0.500	ug/L		0.115	104	18 - 190	0.6	57
2-Butanone		16.9	0.422	1.00	ug/L		0.422	85	56 - 150	3.4	24
2-Chloroethylvinyl Ether		17.5	0.270	1.00	ug/L		0.270	88	1 - 305	10.9	71
Benzene		20.1	0.143	0.500	ug/L		0.143	101	37 - 151	3.6	61
Bromodichloromethane		20.3	0.129	0.500	ug/L		0.129	102	35 - 155	6.2	56
Bromoform		21.8	0.166	0.500	ug/L		0.166	110	45 - 169	4.0	42
Bromomethane		20.3	0.561	1.00	ug/L		0.561	102	1 - 242	19.3	61
Carbon Tetrachloride		22.0	0.372	0.500	ug/L		0.372	111	70 - 140	3.0	41
Chlorobenzene		21.2	0.114	0.500	ug/L		0.114	107	37 - 160	1.8	53
Chloroethane		21.7	0.258	0.500	ug/L		0.258	109	14 - 230	0.0	78
Chloroform		20.7	0.196	0.500	ug/L		0.196	104	51 - 138	6.4	54
Chloromethane		19.4	0.316	0.500	ug/L		0.341	96	1 - 273	7.4	60
cis-1,3-Dichloropropene		21.0	0.164	0.500	ug/L		0.164	106	1 - 227	6.7	58
Dibromochloromethane		21.5	0.131	0.500	ug/L		0.131	108	53 - 149	3.2	50
Ethyl Benzene		21.1	0.126	0.500	ug/L		0.126	106	37 - 162	1.8	63
Fluorotrichloromethane		23.0	0.325	1.00	ug/L		0.325	116	17 - 181	2.0	84
m+p Xylenes		44.5	0.287	1.00	ug/L		0.287	112	68 - 145	2.3	26
Methylene Chloride		19.7	0.279	0.500	ug/L		0.279	99	1 - 221	8.2	28
Methyl-t-butyl Ether		19.3	0.126	1.00	ug/L		0.126	97	71 - 133	1.7	25
o-Xylene		21.2	0.150	0.500	ug/L		0.150	107	69 - 138	3.3	21
Tetrachloroethene		22.2	0.167	0.500	ug/L		0.167	112	64 - 148	4.3	39
Toluene		20.6	0.153	0.500	ug/L		0.153	104	47 - 150	2.8	41
trans-1,2-Dichloroethene		20.9	0.230	0.500	ug/L		0.230	105	54 - 156	2.8	45
trans-1,3-Dichloropropene		20.8	0.117	0.500	ug/L		0.117	104	17 - 183	5.6	86
Trichloroethene		21.1	0.172	0.500	ug/L		0.172	106	70 - 157	4.9	48
Vinyl Chloride		19.8	0.216	0.500	ug/L		0.216	100	1 - 251	1.5	66
Fluorobenzene (%)		91			%		103				
d5-Chlorobenzene (%)		89			%		104				
d4-1,4-Dichlorobenzene (%)		97			%		90				
d4-Dichloroethane (%)		96			%		109				
d8-Toluene (%)		100			%		95				
4-Bromofluorobenzene (%)		108			%		95				

Purgeable Organic Compounds, GC/MS MSD by EPA 624.1, B211014-005

Bromodichloromethane		20.8	0.129	0.500	ug/L		0.129	105	35 - 155	0.8	56
Bromoform		21.4	0.166	0.500	ug/L		0.166	108	45 - 169	3.1	42
Chloroform		20.6	0.196	0.500	ug/L		0.196	104	51 - 138	0.8	54



Quality Control for C002092

Analyte	Qualifier	Result	MDL	RL	Units	Spike Level	Source Result	% REC	% REC Limits	RPD	RPD Limits
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Purgeable Organic Compounds, GC/MS MSD by EPA 624.1, B211014-005

Dibromochloromethane		21.0	0.131	0.500	ug/L		0.131	106	53 - 149	0.1	50
Fluorobenzene (%)		92			%		94				
d5-Chlorobenzene (%)		92			%		90				
d4-1,4-Dichlorobenzene (%)		98			%		80.1				
d4-Dichloroethane (%)		96			%		105				
d8-Toluene (%)		99			%		93				
4-Bromofluorobenzene (%)		99			%		93				

Haloacetic Acids, GC/ECD MB by EPA 552.2, B211020-002

Bromochloroacetic Acid	U	0.34	0.34	1.0	ug/L						
Bromodichloroacetic Acid	U	0.36	0.36	1.0	ug/L						
Chlorodibromoacetic Acid	U	0.36	0.36	1.0	ug/L						
Dibromoacetic Acid	U	0.36	0.36	1.0	ug/L						
Dichloroacetic Acid	U	0.34	0.34	1.0	ug/L						
Monobromoacetic Acid	U	0.29	0.29	1.0	ug/L						
Monochloroacetic Acid	U	0.42	0.42	1.0	ug/L						
Trichloroacetic Acid	U	0.35	0.35	1.0	ug/L						
1,2,3-Trichloropropane (%)		97			%						
2,3-Dibromopropionic Acid (%)		105			%						

Haloacetic Acids, GC/ECD LCS by EPA 552.2, B211020-002

Bromochloroacetic Acid		15	0.34	1.0	ug/L			103	70 - 130		
Bromodichloroacetic Acid		16	0.36	1.0	ug/L			108	70 - 130		
Chlorodibromoacetic Acid		18	0.36	1.0	ug/L			119	70 - 130		
Dibromoacetic Acid		15	0.36	1.0	ug/L			103	70 - 130		
Dichloroacetic Acid		15	0.34	1.0	ug/L			100	70 - 130		
Monobromoacetic Acid		15	0.29	1.0	ug/L			102	70 - 130		
Monochloroacetic Acid		15	0.42	1.0	ug/L			100	70 - 130		
Trichloroacetic Acid		16	0.35	1.0	ug/L			106	70 - 130		
1,2,3-Trichloropropane (%)		98			%						
2,3-Dibromopropionic Acid (%)		103			%						

Haloacetic Acids, GC/ECD MS by EPA 552.2, B211020-002

Bromochloroacetic Acid		16	0.34	1.0	ug/L		0.59	105	70 - 130		
Bromochloroacetic Acid		16	0.34	1.0	ug/L		0.34	107	70 - 130		
Bromodichloroacetic Acid		17	0.36	1.0	ug/L		0.36	111	70 - 130		
Bromodichloroacetic Acid		17	0.36	1.0	ug/L		0.77	108	70 - 130		
Chlorodibromoacetic Acid		18	0.36	1.0	ug/L		0.36	123	70 - 130		
Chlorodibromoacetic Acid		18	0.36	1.0	ug/L		0.36	120	70 - 130		
Dibromoacetic Acid		16	0.36	1.0	ug/L		0.36	106	70 - 130		
Dibromoacetic Acid		16	0.36	1.0	ug/L		0.36	108	70 - 130		
Dichloroacetic Acid		16	0.34	1.0	ug/L		0.34	107	70 - 130		
Dichloroacetic Acid		26	0.34	1.0	ug/L		11	99	70 - 130		
Monobromoacetic Acid		16	0.29	1.0	ug/L		0.29	104	70 - 130		
Monobromoacetic Acid		16	0.29	1.0	ug/L		0.29	104	70 - 130		
Monochloroacetic Acid		15	0.42	1.0	ug/L		0.42	99	70 - 130		
Monochloroacetic Acid		15	0.42	1.0	ug/L		1.0	96	70 - 130		
Trichloroacetic Acid		27	0.35	1.0	ug/L		12	97	70 - 130		



Quality Control for C002092

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, B211020-002

Trichloroacetic Acid		16	0.35	1.0	ug/L		0.35	111	70 - 130		
1,2,3-Trichloropropane (%)		94			%		94				
1,2,3-Trichloropropane (%)		86			%		96				
2,3-Dibromopropionic Acid (%)		110			%		106				
2,3-Dibromopropionic Acid (%)		105			%		110				

Haloacetic Acids, GC/ECD MSD by EPA 552.2, B211020-002

Bromochloroacetic Acid		16	0.34	1.0	ug/L		0.59	106	70 - 130	1.1	20
Bromochloroacetic Acid		16	0.34	1.0	ug/L		0.34	108	70 - 130	0.2	20
Bromodichloroacetic Acid		18	0.36	1.0	ug/L		0.77	113	70 - 130	4.1	20
Bromodichloroacetic Acid		17	0.36	1.0	ug/L		0.36	112	70 - 130	0.6	20
Chlorodibromoacetic Acid		18	0.36	1.0	ug/L		0.36	123	70 - 130	0.2	20
Chlorodibromoacetic Acid		19	0.36	1.0	ug/L		0.36	126	70 - 130	4.8	20
Dibromoacetic Acid		16	0.36	1.0	ug/L		0.36	107	70 - 130	1.4	20
Dibromoacetic Acid		16	0.36	1.0	ug/L		0.36	108	70 - 130	0.2	20
Dichloroacetic Acid		26	0.34	1.0	ug/L		11	99	70 - 130	0.4	20
Dichloroacetic Acid		16	0.34	1.0	ug/L		0.34	109	70 - 130	2.0	20
Monobromoacetic Acid		15	0.29	1.0	ug/L		0.29	103	70 - 130	0.8	20
Monobromoacetic Acid		16	0.29	1.0	ug/L		0.29	104	70 - 130	0.3	20
Monochloroacetic Acid		15	0.42	1.0	ug/L		1.0	94	70 - 130	1.4	20
Monochloroacetic Acid		15	0.42	1.0	ug/L		0.42	99	70 - 130	0.0	20
Trichloroacetic Acid		17	0.35	1.0	ug/L		0.35	111	70 - 130	0.0	20
Trichloroacetic Acid		28	0.35	1.0	ug/L		12	102	70 - 130	2.5	20
1,2,3-Trichloropropane (%)		92			%		94				
1,2,3-Trichloropropane (%)		86			%		96				
2,3-Dibromopropionic Acid (%)		109			%		110				
2,3-Dibromopropionic Acid (%)		111			%		106				

Haloacetic Acids, GC/ECD LOQ by EPA 552.2, B211020-002

Bromochloroacetic Acid	E1	0.94	0.34	1.0	ug/L			94	50 - 150		
Bromodichloroacetic Acid	E1	0.96	0.36	1.0	ug/L			96	50 - 150		
Chlorodibromoacetic Acid	E1	0.92	0.36	1.0	ug/L			92	50 - 150		
Dibromoacetic Acid	E1	0.98	0.36	1.0	ug/L			98	50 - 150		
Dichloroacetic Acid		1.0	0.34	1.0	ug/L			104	50 - 150		
Monobromoacetic Acid	E1	0.96	0.29	1.0	ug/L			96	50 - 150		
Monochloroacetic Acid	E1	0.94	0.42	1.0	ug/L			94	50 - 150		
Trichloroacetic Acid	E1	0.96	0.35	1.0	ug/L			96	50 - 150		
1,2,3-Trichloropropane (%)		94			%						
2,3-Dibromopropionic Acid (%)		106			%						



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.



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



COC #: C002092	Project Title: Bayside Ground Water Project TAT: Standard	Client PM: David Behnken Lab PM: Kristi Schwab Job #:	Expect Date: 10/12/2021 Sampled By: <i>Don Marshak</i> <input checked="" type="checkbox"/> Samples transported on ice <i>6.6 #13</i>
-------------------	--	---	--

Date	Time	Site/Locator	Sample ID	Type	Matrix	ID	Type	Tests Required																				
<i>10/12/21</i>	<i>16:30</i>	GW BAYSIDE - BAY1-MW6	C002092-01	GRAB	Aqueous	-01A	PLSTL	EPA 200.7-NPW (Ca,Fe,K,Mg,Mn,Na)																				
						-01B	PLSTL	TDS																				
						-01C	PLSTM	Hardness																				
						-01D	PLSTS	EPA 300.1 (Cl,NO3,SO4)																				
						-01F	PSQLT	Ammonia: Titr-AQ																				
						-01G	A125N	EPA 552.2																				
						-01H	A125N	EPA 552.2																				
						-01I	PLSTM	Oxygen 18																				
						-01J	VOC4T	EPA 8260B THM																				
						-01K	VOC4T	EPA 8260																				
						-01L	VOC4T	EPA 8260																				
						-01M	C500Z	Alkalinity: Species																				
<table border="1"> <thead> <tr> <th colspan="4">Field Test Parameters:</th> </tr> </thead> <tbody> <tr> <td>CL2R =</td> <td><i>0.04</i></td> <td>mg/L</td> <td></td> </tr> <tr> <td>Depth =</td> <td><i>15.54</i></td> <td>Feet</td> <td></td> </tr> <tr> <td>pH =</td> <td><i>7.36</i></td> <td>pH Units</td> <td></td> </tr> <tr> <td>Temperature =</td> <td><i>20.4</i></td> <td>C</td> <td></td> </tr> </tbody> </table>									Field Test Parameters:				CL2R =	<i>0.04</i>	mg/L		Depth =	<i>15.54</i>	Feet		pH =	<i>7.36</i>	pH Units		Temperature =	<i>20.4</i>	C	
Field Test Parameters:																												
CL2R =	<i>0.04</i>	mg/L																										
Depth =	<i>15.54</i>	Feet																										
pH =	<i>7.36</i>	pH Units																										
Temperature =	<i>20.4</i>	C																										

Field Comments:

Field Instructions:



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

	COC #: C002092	Project Title: Bayside Ground Water Project	Client PM: David Behnken Lab PM: Kristi Schwab	Expect Date: 10/12/2021
	TAT: Standard		Job #	Sampled By: <i>Jon Marshall</i> <input checked="" type="checkbox"/> Samples transported on ice

Date	Time	Site/Locator	Sample ID	Type	Matrix	ID	Type	Tests Required
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Total Containers for: C002092 | 12

	Signature	Print Name	Time	Date
Relinquished by:	<i>[Signature]</i>	Jon Marshall	1730	10/12/21
Received by:	<i>[Signature]</i>			
Relinquished by:	<i>[Signature]</i>			
Received by:	<i>[Signature]</i>			
Relinquished by:	<i>[Signature]</i>	Myra H. Sisto	0750	10/13/21
Received by:	<i>[Signature]</i>			

Container Legend:

A125N = Glass, amber, NM, septa top, 12.5 mg NH4Cl, Amber, 125 mL
 CS00Z = Glass, clear, NM, septa top, Clear, 500 mL
 PLSTL = Plastic, WM, 1000 mL
 PLSM = 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



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



COC #: C002092	Project Title: Bayside Ground Water Project TAT: Standard	Client PM: David Behnken Lab PM: Kristi Schwab Job #:	Received Date/Time: 10/13/2021 07:50 ✓ Received By: Cynthia Soohoo ✓ Sampled By: JMarshak/Terraphase ✓ Due Date: 11/09/2021
----------------	--	---	--

Date	Time	Site/Locator	Sample ID	Type	Matrix	.ID	Type	Tests Required
10/12/2021	16:30	GW BAYSIDE - BAY1-MW6	C002092-01	GRAB	Aqueous			+SAMP KIT
						-01A	PLSTL	EPA 200.7-NPW (Ca,Fe,K,Mg,Mn,Na)
						-01B	PLSTL	TDS
						-01C	PLSTM	Hardness
						-01D	PLSTS	EPA 300.1 (Cl,NO3,SO4)
						-01F	PSQLT	Ammonia: Titr-AQ
						-01G	A125N	EPA 552.2
						-01H	A125N	EPA 552.2
						-01I	PLSTM	Oxygen 18
						-01J	VOC4T	EPA 624.1 THM
						-01K	VOC4T	EPA 624.1
						-01L	VOC4T	EPA 624.1
						-01M	C500Z	Alkalinity: Species
								Field Test Parameters:
								CL2R = 0.04 mg/L ✓
								Depth = 15.54 Feet ✓
								pH = 7.36 pH Units ✓
								Temperature = 20.4 C ✓

Field Comments:
 Field Instructions:
 Sample External Comments:

Total Containers for: C002092 12



C002092 Sample Acceptance Report

Received: 10/13/2021 07:50
Received By: Cynthia Soohoo

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

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

Sample: C002092-01		Comments
Bubbles in ZHS/VOA containers	Yes	-01M >6mm bubble ✓ <i>ALL OKAY RUN 10/18/2021</i>



C002092 Sample Acceptance Report

Received: 10/13/2021 07:50
 Received By: Cynthia Soohoo

Intent to chill

Cooler: 1 **Comments**

Corrected Temp (° C)	6.5	
IR Thermometer Number	IR #13 ✓	
Representative temperature taken from	-01	
Uncorrected Temp (° C)	6.6 ✓	
Visible ice formed inside sample container?	No	

Acceptance **Comments**

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



Sample Acceptance Preservation Report

Report Generated: 10/13/2021 8:20:00 AM

Inventory Item	Inventory ID	Open Date	Prep Date	Expiration Date
Ammonium Hydroxide	ST031221-004	10/27/2020	N/A	10/27/2021
Ammonium Sulfate Buffer (ASB-03)	ST210817-015	N/A	08/17/2021	10/27/2021
Ethylenediamine 12.5 mg/mL (EDA-18)	ST210927-007	N/A	09/27/2021	10/27/2021
H2SO4 15 mL 1:1 LDPE dropper	ST210716-005	09/25/2020	N/A	09/25/2030
HCl 15 mL 1:1 LDPE dropper	ST210729-008	N/A	N/A	07/22/2022
Hydrochloric Acid (HCl) 1+1 (HCl-01)	ST210529-001	N/A	05/29/2021	05/29/2022
NaOH 15 mL 1:1 LDPE dropper	ST210716-007	07/01/2020	N/A	06/10/2030
Nitric Acid TMG	ST210819-002	08/19/2021	N/A	01/08/2023
pH Strip 0-14	ST210901-009	09/01/2021	N/A	09/30/2024
pH Strip 7.9-9.8	ST210901-011	N/A	N/A	06/30/2023
Sulfuric Acid Gr ACS	ST210729-010	04/13/2021	N/A	04/13/2025

Container Number	Container Name	Tests	Preservation Requirement	Result	Initial/Date
C002092-01A	PLSTL	EPA 200.7-NPW	HNO3 to pH <2. Preservation Time = <u>0825</u>	Pass	C 10/13/21
C002092-01C	PLSTM	Hardness	HNO3 to pH <2		
C002092-01F	PSQLT	Ammonia: Titr-AQ	Check Cl2R = 0 [PSQLT], then H2SO4 to pH <2		
C002092-01G	A125N	EPA 552.2	Check Container		
C002092-01H	A125N	EPA 552.2-FR	Check Container		
C002092-01J	VOC4T	EPA 624.1 THM	Check Container		
C002092-01K	VOC4T	EPA 624.1-FR	Check Container		
C002092-01L	VOC4T	EPA 624.1-FR	Check Container		



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

08 November 2021

EBMUD

Attn: K. Schwab

PO Box 24055

Oakland, CA 94607

RE: Bayside Ground Water Project WDR

Work Order: 21J2176

Enclosed are the results of analyses for samples received by the laboratory on 10/14/21 22:10. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink that reads 'Leslie M. Quinn'.

Leslie M. Quinn For 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 PO Box 24055 Oakland, CA 94607	Project Manager: K. Schwab Project: Bayside Ground Water Project WDR Project Number: C002092	Reported: 11/08/21 18:31
--	--	-----------------------------

Bay Area: 262 Rickenbacker Circle | Livermore, CA 94551 | T: 925-828-6226 | F: 925-828-6309 | ELAP# 2728
Central Valley: 9090 Union Park Way Suite 113 | Elk Grove, CA 95624 | T: 916-686-5190 | F: 916-686-5192 | ELAP# 2922
North Bay: 110 Liberty Street | Petaluma, CA 94952 | T: 707-769-3128 | F: 707-769-8093 | ELAP# 2303
San Diego: 2722 Loker Avenue West Suite A | Carlsbad, CA 92010 | T: 760-930-2555 | F: 760-930-2510 | ELAP# 3055

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
C002092-01	21J2176-01	Water	10/12/21 04:30	10/14/21 22:10

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



ISOTECH

a Stratium (Beaverton) brand

www.isotechlabs.com

Lab #: 806911 Job #: 49131 IS-69368 Co. Job#:
 Sample Name: 21J2176-01 Co. Lab#:
 Company: Alpha Analytical Laboratories, Inc.
 API/Well:
 Container: Plastic Bottle
 Field/Site Name: 21J2176
 Location:
 Formation/Depth:
 Sampling Point: C002092-01
 Date Sampled: 10/12/2021 4:30 Date Received: 10/20/2021 Date Reported: 11/03/2021

δ D of water ----- -49.0 ‰ relative to VSMOW
 δ ¹⁸O of water ----- -7.18 ‰ relative to VSMOW
 Tritium content of water ----- na
 δ ¹³C of DIC ----- na
¹⁴C content of DIC ----- na
 δ ¹⁵N of nitrate ----- na
 δ ¹⁸O of nitrate ----- na
 δ ³⁴S of sulfate ----- na
 δ ¹⁸O 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



2152176 2.7°C



East Bay Municipal Utility District Laboratory Services Subcontract Chain of Custody

COC #: C002092	Project Title: Bayside Ground Water Project	Lab PM: Kristi Schwab (510) 287-1696 Shipping Method: Alpha Courier	Sampled By: J.Marshak/Terraphase
	TAT: Standard	PO#: 934-37431-AX Expiration: 6/30/2021	Submitted Date: 10/14/21

Date	Time	Sample ID	Location/PS Code	Matrix	Container ID	Type	Tests Required	Method Reference
10/12/2021	04:30	C002092-01	GW BAYSIDE - BAY1-MW6	Aqueous	-011	PLSTM	Oxygen 18	D18O

Comments:								
Total containers received:					1			

	Signature	Print Name	Time	Date
Relinquished by:	<i>[Signature]</i>	Crystal Sigala	1245	10/14/21
Received by:	<i>[Signature]</i>	David Rich	1245	10/14/21
Relinquished by:	<i>[Signature]</i>	J. Bixler	1845	10/14/21
Received by:	<i>[Signature]</i>	J. Bix	2210	10/14/21
Relinquished by:	<i>[Signature]</i>	J. Bix	2210	10/14/21
Received by:	<i>[Signature]</i>	J. Bix	2210	10/14/21

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
Oakland, CA 94612
707-468-0401



16 December 2021

David Behnken

MS 704

Re: Bayside Ground Water Project

COC# C002093

Report Generated: 12/15/2021 16:11

Login Performance Summary

- 1 samples received by the lab on: 10/13/2021 07:50
- 0 Lost Analyses
- 0 Hold Time Exceedances
- Turn-around-time not met

Report Notes

For questions concerning this report, please contact:

Reported By:

Jack Lim

Senior Chemist

Approved By:

Yuyun Shang

Lab Manager



Samples for C002093

Samples Included in the Report

Sample Number	Sample Type	Sampled Date	Location Name	Sample Name	Parent Sample
C002093-01	GRAB	Oct 12 2021 11:15	GW BAYSIDE - BAY1-MW7	-	



Samples Results for C002093

Sample ID: C002093-01
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 12 2021 11:15 **Sample Collector:** JMarshak/Terraphase
Date Received: Oct 13 2021 07:50 **Sample Receiver:** C Soohoo
Sample Comments:

Analyte	Qualifier	Result	MDL	RL	Units	DF	Batch	Prepared	Analyzed
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Field data entry into LIMS

TARGET ANALYTES

CL2R		0.28			mg/L				10/12/2021 11:15
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Field data entry into LIMS

TARGET ANALYTES

Depth		14.5			Feet				10/12/2021 11:15
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Field data entry into LIMS

TARGET ANALYTES

pH		7.17			pH Units				10/12/2021 11:15
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Field data entry into LIMS

TARGET ANALYTES

Temperature		23.9			C				10/12/2021 11:15
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Total Dissolved Solids by SM 2540 C-2011

TARGET ANALYTES

Total Dissolved Solids		480	10	55	mg/L	1.0	B211013-008		10/13/2021 09:59
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Alkalinity by SM 2320 B-2011

TARGET ANALYTES

Alkalinity: Total as CaCO3		230	5	30	mg/L	1.0	B211018-008		10/18/2021 10:07
Alkalinity: Carbonate	U	5	5	30	mg/L	1.0	B211018-008		10/18/2021 10:07
Alkalinity: Bicarbonate		230	5	30	mg/L	1.0	B211018-008		10/18/2021 10:07
Alkalinity: Hydroxide	U	5	5	30	mg/L	1.0	B211018-008		10/18/2021 10:07

Ammonia as N by SM 4500-NH3 C-2011

TARGET ANALYTES

Ammonia as N	U	0.25	0.25	1.5	mg/L	1.0	B211014-008		10/14/2021 09:45
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Hardness as CaCO3 by SM 2340 C-2011

TARGET ANALYTES

Hardness as CaCO3		130	4	7	mg/L	1.0	B211027-021		10/27/2021 15:00
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Anions by EPA 300.1

TARGET ANALYTES

Chloride		90	0.65	5.0	mg/L	25	B211013-013		10/13/2021 19:02
Nitrate as N	U	0.18	0.18	0.75	mg/L	25	B211013-013		10/13/2021 19:02
Sulfate		51	1.2	5.0	mg/L	25	B211013-013		10/13/2021 19:02

SURROGATES

Dichloroacetate (%)		95			%	25	B211013-013		10/13/2021 19:02
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Samples Results for C002093

Sample ID: C002093-01
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 12 2021 11:15 **Sample Collector:** JMarshak/Terraphase
Date Received: Oct 13 2021 07:50 **Sample Receiver:** C Soohoo
Sample Comments:

Analyte	Qualifier	Result	MDL	RL	Units	DF	Batch	Prepared	Analyzed
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Metals by EPA 200.7 (1994 Rev 4.4)

TARGET ANALYTES

Calcium		35100	10.5	52.0	ug/L	1.0	B211103-006	11/04/2021 07:03	11/05/2021 10:41
Iron	E1	23.7	11.3	52.0	ug/L	1.0	B211103-006	11/04/2021 07:03	11/05/2021 10:41
Potassium		2020	19.9	260	ug/L	1.0	B211103-006	11/04/2021 07:03	11/05/2021 10:41
Magnesium		9090	5.72	52.0	ug/L	1.0	B211103-006	11/04/2021 07:03	11/05/2021 10:41
Manganese		216	0.25	20.8	ug/L	1.0	B211103-006	11/04/2021 07:03	11/05/2021 10:41
Sodium		119000	6.97	52.0	ug/L	1.0	B211103-006	11/04/2021 07:03	11/05/2021 10:41

INTERNAL STANDARD

Yttrium (%)		103			%	1.0	B211103-006	11/04/2021 07:03	11/05/2021 10:41
Yttrium Radial (%)		102			%	1.0	B211103-006	11/04/2021 07:03	11/05/2021 10:41

Purgeable Organic Compounds, GC/MS by EPA 624.1

TARGET ANALYTES

Bromodichloromethane	U	0.129	0.129	0.500	ug/L	1.0	B211014-005		10/14/2021 17:36
Bromoform	U	0.166	0.166	0.500	ug/L	1.0	B211014-005		10/14/2021 17:36
Chloroform	U	0.196	0.196	0.500	ug/L	1.0	B211014-005		10/14/2021 17:36
Dibromochloromethane	U	0.131	0.131	0.500	ug/L	1.0	B211014-005		10/14/2021 17:36
Total Trihalomethanes, Calculated		0.000			ug/L	1.0	B211014-005		10/14/2021 17:36

Comments: TTHM calculation uses a zero for any individual THM result less than the MDL for that THM

INTERNAL STANDARD

Fluorobenzene (%)		81			%	1.0	B211014-005		10/14/2021 17:36
d5-Chlorobenzene (%)		84			%	1.0	B211014-005		10/14/2021 17:36
d4-1,4-Dichlorobenzene (%)		75.8			%	1.0	B211014-005		10/14/2021 17:36

SURROGATES

d4-Dichloroethane (%)		108			%	1.0	B211014-005		10/14/2021 17:36
d8-Toluene (%)		93			%	1.0	B211014-005		10/14/2021 17:36
4-Bromofluorobenzene (%)		91			%	1.0	B211014-005		10/14/2021 17:36

Haloacetic Acids, GC/ECD by EPA 552.2

TARGET ANALYTES

Bromochloroacetic Acid	U	0.34	0.34	1.0	ug/L	1.0	B211020-002	10/19/2021 09:00	10/20/2021 18:17
Comments: Compound not available for certification by ELAP									
Bromodichloroacetic Acid	U	0.36	0.36	1.0	ug/L	1.0	B211020-002	10/19/2021 09:00	10/20/2021 18:17
Comments: Compound not available for certification by ELAP									
Chlorodibromoacetic Acid	U	0.36	0.36	1.0	ug/L	1.0	B211020-002	10/19/2021 09:00	10/20/2021 18:17
Comments: Compound not available for certification by ELAP									
Dibromoacetic Acid	U	0.36	0.36	1.0	ug/L	1.0	B211020-002	10/19/2021 09:00	10/20/2021 18:17
Dichloroacetic Acid	U	0.34	0.34	1.0	ug/L	1.0	B211020-002	10/19/2021 09:00	10/20/2021 18:17
Monobromoacetic Acid	U	0.29	0.29	1.0	ug/L	1.0	B211020-002	10/19/2021 09:00	10/20/2021 18:17
Monochloroacetic Acid	U	0.42	0.42	1.0	ug/L	1.0	B211020-002	10/19/2021 09:00	10/20/2021 18:17
Trichloroacetic Acid	U	0.35	0.35	1.0	ug/L	1.0	B211020-002	10/19/2021 09:00	10/20/2021 18:17
HAA(5), calculated		0.00			ug/L	1.0	B211020-002	10/19/2021 09:00	10/20/2021 18:17



Samples Results for C002093

Sample ID: C002093-01
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 12 2021 11:15 **Sample Collector:** JMarshak/Terraphase
Date Received: Oct 13 2021 07:50 **Sample Receiver:** C Soohoo
Sample Comments:

Analyte	Qualifier	Result	MDL	RL	Units	DF	Batch	Prepared	Analyzed
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Haloacetic Acids, GC/ECD by EPA 552.2

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 (%)		91			%	1.0	B211020-002	10/19/2021 09:00	10/20/2021 18:17
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SURROGATES

2,3-Dibromopropionic Acid (%)		107			%	1.0	B211020-002	10/19/2021 09:00	10/20/2021 18:17
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Oxygen 18 Isotope Analysis

Subcontract data from: Alpha Analytical Laboratory

Test External Comments: For Oxygen 18 data: Original Report transmitted to client and accessible at end of this report

TARGET ANALYTES

Comment **SUB RPT**



Quality Control for C002093

Analyte	Qualifier	Result	MDL	RL	Units	Spike Level	Source Result	% REC	% REC Limits	RPD	RPD Limits
Total Dissolved Solids MB by SM 2540 C-2011, B211013-008											
Total Dissolved Solids	U	10	10	55	mg/L						
Total Dissolved Solids LCS by SM 2540 C-2011, B211013-008											
Total Dissolved Solids		310	10	55	mg/L			95	85 - 115		
Total Dissolved Solids DUP by SM 2540 C-2011, B211013-008											
Total Dissolved Solids		57	10	55	mg/L		60			5.1	10
Total Dissolved Solids		430	10	55	mg/L		430			1.9	10
Total Dissolved Solids LOQ by SM 2540 C-2011, B211013-008											
Total Dissolved Solids	E1	53	10	55	mg/L			96	50 - 150		
Ammonia as N MB by SM 4500-NH3 C-2011, B211014-008											
Ammonia as N	U	0.25	0.25	1.5	mg/L						
Ammonia as N LCS by SM 4500-NH3 C-2011, B211014-008											
Ammonia as N		12	0.25	1.5	mg/L			97	85 - 115		
Ammonia as N DUP by SM 4500-NH3 C-2011, B211014-008											
Ammonia as N		1900	62	380	mg/L		1900			3.7	10
Ammonia as N MS by SM 4500-NH3 C-2011, B211014-008											
Ammonia as N		4800	62	380	mg/L		1900	94	80 - 120		
Ammonia as N MSD by SM 4500-NH3 C-2011, B211014-008											
Ammonia as N		4800	62	380	mg/L		1900	94	80 - 120	0.1	15
Alkalinity MB by SM 2320 B-2011, B211018-008											
Alkalinity: Total as CaCO3	U	5	5	30	mg/L						
Alkalinity LCS by SM 2320 B-2011, B211018-008											
Alkalinity: Total as CaCO3		200	5	30	mg/L			101	85 - 115		
Alkalinity DUP by SM 2320 B-2011, B211018-008											
Alkalinity: Total as CaCO3		61	5	30	mg/L		60			1.4	20
Alkalinity: Total as CaCO3		7900	62	380	mg/L		8500			7.9	20
Alkalinity MS by SM 2320 B-2011, B211018-008											
Alkalinity: Total as CaCO3		260	5	30	mg/L		60	101	80 - 120		
Alkalinity: Total as CaCO3		13000	62	380	mg/L		8500	91	80 - 120		
Alkalinity LOQ by SM 2320 B-2011, B211018-008											
Alkalinity: Total as CaCO3		33	5	30	mg/L			111	50 - 150		



Quality Control for C002093

Analyte	Qualifier	Result	MDL	RL	Units	Spike Level	Source Result	% REC	% REC Limits	RPD	RPD Limits
Alkalinity QCS by SM 2320 B-2011, B211018-008											
Alkalinity: Total as CaCO3		110	5	30	mg/L			104	91 - 111		
Hardness as CaCO3 MB by SM 2340 C-2011, B211027-021											
Hardness as CaCO3	U	4	4	7	mg/L						
Hardness as CaCO3 LCS by SM 2340 C-2011, B211027-021											
Hardness as CaCO3		100	4	7	mg/L			100	85 - 115		
Hardness as CaCO3 DUP by SM 2340 C-2011, B211027-021											
Hardness as CaCO3		130	4	7	mg/L		130			1.2	10
Hardness as CaCO3 MS by SM 2340 C-2011, B211027-021											
Hardness as CaCO3		220	4	7	mg/L		130	88	85 - 115		
Hardness as CaCO3 QCS by SM 2340 C-2011, B211027-021											
Hardness as CaCO3		120	4	7	mg/L			92	91 - 107		
Anions MB by EPA 300.1, B211013-013											
Bromide	U	0.0034	0.0034	0.030	mg/L						
Chloride	U	0.026	0.026	0.20	mg/L						
Fluoride	U	0.0091	0.0091	0.075	mg/L						
Nitrate as N	U	0.0071	0.0071	0.030	mg/L						
Nitrite as N	U	0.0048	0.0048	0.030	mg/L						
Orthophosphate as P	U	0.0092	0.0092	0.030	mg/L						
Sulfate	U	0.049	0.049	0.20	mg/L						
Dichloroacetate (%)		96			%						
Anions LCS by EPA 300.1, B211013-013											
Bromide		0.048	0.0034	0.030	mg/L			95	85 - 115		
Chloride		0.96	0.026	0.20	mg/L			96	85 - 115		
Fluoride		0.48	0.0091	0.075	mg/L			97	85 - 115		
Nitrate as N		0.046	0.0071	0.030	mg/L			92	85 - 115		
Nitrite as N		0.044	0.0048	0.030	mg/L			88	85 - 115		
Orthophosphate as P		0.046	0.0092	0.030	mg/L			92	85 - 115		
Sulfate		0.92	0.049	0.20	mg/L			92	85 - 115		
Dichloroacetate (%)		97			%						
Anions DUP by EPA 300.1, B211013-013											
Bromide	U	0.0034	0.0034	0.030	mg/L		0.0034			NC	10
Bromide	U	0.0034	0.0034	0.030	mg/L		0.0034			NC	10
Chloride		2.2	0.026	0.20	mg/L		2.3			4.3	10
Chloride		7.7	0.026	0.20	mg/L		7.7			0.1	10
Fluoride	E1	0.014	0.0091	0.075	mg/L		0.014			1.7	10
Fluoride	E1	0.042	0.0091	0.075	mg/L		0.043			1.3	10
Nitrate as N	U	0.0071	0.0071	0.030	mg/L		0.0071			NC	10
Nitrate as N		0.054	0.0071	0.030	mg/L		0.053			2.3	10



Quality Control for C002093

Analyte	Qualifier	Result	MDL	RL	Units	Spike Level	Source Result	% REC	% REC Limits	RPD	RPD Limits
Anions DUP by EPA 300.1, B211013-013											
Nitrite as N	U	0.0048	0.0048	0.030	mg/L		0.0048			NC	10
Nitrite as N	E1	0.012	0.0048	0.030	mg/L		0.012			6.3	10
Orthophosphate as P	U	0.0092	0.0092	0.030	mg/L		0.0092			NC	10
Orthophosphate as P	U	0.0092	0.0092	0.030	mg/L		0.0092			NC	10
Sulfate	E1	0.062	0.049	0.20	mg/L		0.062			0.8	10
Sulfate		6.3	0.049	0.20	mg/L		6.4			0.2	10
Dichloroacetate (%)		96			%		93				
Dichloroacetate (%)		96			%		95				
Anions MS by EPA 300.1, B211013-013											
Bromide		0.040	0.0034	0.030	mg/L		0.0034	79	75 - 125		
Bromide		0.049	0.0034	0.030	mg/L		0.0034	98	75 - 125		
Chloride		8.6	0.026	0.20	mg/L		7.7	88	75 - 125		
Chloride		3.4	0.026	0.20	mg/L		2.3	108	75 - 125		
Fluoride		0.51	0.0091	0.075	mg/L		0.043	94	75 - 125		
Fluoride		0.49	0.0091	0.075	mg/L		0.014	95	75 - 125		
Nitrate as N	M1	0.15	0.0071	0.030	mg/L		0.053	189	75 - 125		
Nitrate as N		0.045	0.0071	0.030	mg/L		0.0071	89	75 - 125		
Nitrite as N	E1, M1	0.012	0.0048	0.030	mg/L		0.012	0	75 - 125		
Nitrite as N		0.043	0.0048	0.030	mg/L		0.0048	87	75 - 125		
Orthophosphate as P		0.048	0.0092	0.030	mg/L		0.0092	97	75 - 125		
Orthophosphate as P		0.049	0.0092	0.030	mg/L		0.0092	98	75 - 125		
Sulfate		7.3	0.049	0.20	mg/L		6.4	96	75 - 125		
Sulfate		0.92	0.049	0.20	mg/L		0.062	86	75 - 125		
Dichloroacetate (%)		95			%		93				
Dichloroacetate (%)		96			%		95				
Anions LOQ by EPA 300.1, B211013-013											
Bromide	E1	0.029	0.0034	0.030	mg/L			96	50 - 150		
Chloride	E1	0.20	0.026	0.20	mg/L			99	50 - 150		
Fluoride	E1	0.068	0.0091	0.075	mg/L			91	50 - 150		
Nitrate as N	E1	0.028	0.0071	0.030	mg/L			94	50 - 150		
Nitrite as N	E1	0.027	0.0048	0.030	mg/L			90	50 - 150		
Orthophosphate as P	E1	0.027	0.0092	0.030	mg/L			92	50 - 150		
Sulfate		0.20	0.049	0.20	mg/L			101	50 - 150		
Dichloroacetate (%)		97			%						
Metals MB by EPA 200.7, B211103-006											
Aluminum	U	17.2	17.2	52.0	ug/L						
Boron	U	18.8	18.8	52.0	ug/L						
Barium	U	0.43	0.43	52.0	ug/L						
Beryllium	U	0.27	0.27	1.04	ug/L						
Calcium	U	10.5	10.5	52.0	ug/L						
Copper	U	5.10	5.10	52.0	ug/L						
Iron	U	11.3	11.3	52.0	ug/L						
Potassium	U	19.9	19.9	260	ug/L						
Magnesium	U	5.72	5.72	52.0	ug/L						
Manganese	U	0.25	0.25	20.8	ug/L						
Sodium	U	6.97	6.97	52.0	ug/L						
Silicon	U	27.9	27.9	260	ug/L						



Quality Control for C002093

Analyte	Qualifier	Result	MDL	RL	Units	Spike Level	Source Result	% REC	% REC Limits	RPD	RPD Limits
Metals MB by EPA 200.7, B211103-006											
Zinc	U	1.29	1.29	52.0	ug/L						
Yttrium (%)		103			%						
Yttrium Radial (%)		103			%						
Metals LCS by EPA 200.7, B211103-006											
Aluminum		2110	17.9	54.2	ug/L			95	85 - 115		
Aluminum		2070	17.9	54.2	ug/L			93	85 - 115		
Aluminum		2070	17.9	54.2	ug/L			93	85 - 115		
Boron		1110	19.6	54.2	ug/L			100	85 - 115		
Boron		1100	19.6	54.2	ug/L			99	85 - 115		
Boron		1110	19.6	54.2	ug/L			100	85 - 115		
Barium		543	0.44	54.2	ug/L			98	85 - 115		
Barium		549	0.44	54.2	ug/L			99	85 - 115		
Barium		543	0.44	54.2	ug/L			98	85 - 115		
Beryllium		10.5	0.28	1.08	ug/L			95	85 - 115		
Beryllium		10.6	0.28	1.08	ug/L			95	85 - 115		
Beryllium		10.7	0.28	1.08	ug/L			96	85 - 115		
Calcium		10700	11.0	54.2	ug/L			96	85 - 115		
Calcium		10700	11.0	54.2	ug/L			96	85 - 115		
Calcium		10800	11.0	54.2	ug/L			97	85 - 115		
Copper		527	5.31	54.2	ug/L			95	85 - 115		
Copper		524	5.31	54.2	ug/L			94	85 - 115		
Copper		528	5.31	54.2	ug/L			95	85 - 115		
Iron		1090	11.8	54.2	ug/L			98	85 - 115		
Iron		1100	11.8	54.2	ug/L			99	85 - 115		
Iron		1090	11.8	54.2	ug/L			98	85 - 115		
Potassium		11000	20.7	271	ug/L			99	85 - 115		
Potassium		11100	20.7	271	ug/L			100	85 - 115		
Potassium		11100	20.7	271	ug/L			100	85 - 115		
Magnesium		11400	5.96	54.2	ug/L			102	85 - 115		
Magnesium		11300	5.96	54.2	ug/L			102	85 - 115		
Magnesium		11300	5.96	54.2	ug/L			102	85 - 115		
Manganese		217	0.26	21.7	ug/L			98	85 - 115		
Manganese		215	0.26	21.7	ug/L			97	85 - 115		
Manganese		214	0.26	21.7	ug/L			96	85 - 115		
Sodium		10900	7.26	54.2	ug/L			98	85 - 115		
Sodium		10800	7.26	54.2	ug/L			97	85 - 115		
Sodium		11100	7.26	54.2	ug/L			100	85 - 115		
Silicon		2160	29.1	271	ug/L			97	85 - 115		
Silicon		2190	29.1	271	ug/L			98	85 - 115		
Silicon		2170	29.1	271	ug/L			97	85 - 115		
Zinc		548	1.34	54.2	ug/L			98	85 - 115		
Zinc		543	1.34	54.2	ug/L			98	85 - 115		
Zinc		544	1.34	54.2	ug/L			98	85 - 115		
Yttrium (%)		101			%						
Yttrium (%)		102			%						
Yttrium (%)		99			%						
Yttrium Radial (%)		99			%						
Yttrium Radial (%)		100			%						



Quality Control for C002093

Analyte	Qualifier	Result	MDL	RL	Units	Spike Level	Source Result	% REC	% REC Limits	RPD	RPD Limits
Metals LCS by EPA 200.7, B211103-006											
Yttrium Radial (%)		97			%						
Metals LCSD by EPA 200.7, B211103-006											
Aluminum		2070	17.9	54.2	ug/L			93	85 - 115	0.0	10
Boron		1100	19.6	54.2	ug/L			99	85 - 115	0.7	10
Barium		540	0.44	54.2	ug/L			97	85 - 115	0.6	10
Beryllium		10.5	0.28	1.08	ug/L			94	85 - 115	1.0	10
Calcium		10700	11.0	54.2	ug/L			96	85 - 115	0.2	10
Copper		524	5.31	54.2	ug/L			94	85 - 115	0.1	10
Iron		1080	11.8	54.2	ug/L			97	85 - 115	0.6	10
Potassium		10900	20.7	271	ug/L			98	85 - 115	1.1	10
Magnesium		11200	5.96	54.2	ug/L			101	85 - 115	0.4	10
Manganese		214	0.26	21.7	ug/L			96	85 - 115	0.1	10
Sodium		11000	7.26	54.2	ug/L			99	85 - 115	0.8	10
Silicon		2160	29.1	271	ug/L			97	85 - 115	0.2	15
Zinc		537	1.34	54.2	ug/L			97	85 - 115	1.2	10
Yttrium (%)		101			%						
Yttrium Radial (%)		100			%						
Metals MS by EPA 200.7, B211103-006											
Calcium		45500	11.0	54.2	ug/L		35100	94	70 - 130		
Iron		1110	11.8	54.2	ug/L		23.7	98	70 - 130		
Potassium		13600	20.7	271	ug/L		2020	104	70 - 130		
Magnesium		19800	5.96	54.2	ug/L		9090	96	70 - 130		
Manganese		433	0.26	21.7	ug/L		216	98	70 - 130		
Sodium		132000	7.26	54.2	ug/L		119000	113	70 - 130		
Yttrium (%)		100			%		103				
Yttrium Radial (%)		100			%		102				
Metals MSD by EPA 200.7, B211103-006											
Calcium		47200	11.0	54.2	ug/L		35100	109	70 - 130	3.6	20
Iron		1080	11.8	54.2	ug/L		23.7	95	70 - 130	2.6	20
Potassium		13300	20.7	271	ug/L		2020	102	70 - 130	1.8	20
Magnesium		20500	5.96	54.2	ug/L		9090	102	70 - 130	3.5	20
Manganese		427	0.26	21.7	ug/L		216	95	70 - 130	1.4	20
Sodium		130000	7.26	54.2	ug/L		119000	99	70 - 130	1.2	20
Yttrium (%)		100			%		103				
Yttrium Radial (%)		102			%		102				
Metals LOQ by EPA 200.7, B211103-006											
Aluminum		57.1	17.3	52.5	ug/L			114	50 - 150		
Boron		53.7	19.0	52.5	ug/L			107	50 - 150		
Barium	E1	51.1	0.43	52.5	ug/L			102	50 - 150		
Beryllium	E1	0.95	0.27	1.05	ug/L			95	50 - 150		
Calcium	E1	50.7	10.6	52.5	ug/L			101	50 - 150		
Copper	E1	50.6	5.14	52.5	ug/L			101	50 - 150		
Iron	E1	51.2	11.4	52.5	ug/L			102	50 - 150		
Potassium	E1	231	20.0	262	ug/L			92	50 - 150		



Quality Control for C002093

Analyte	Qualifier	Result	MDL	RL	Units	Spike Level	Source Result	% REC	% REC Limits	RPD	RPD Limits
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Metals LOQ by EPA 200.7, B211103-006

Magnesium	E1	50.0	5.78	52.5	ug/L			100	50 - 150		
Manganese	E1	20.7	0.25	21.0	ug/L			103	50 - 150		
Sodium	E1	44.0	7.04	52.5	ug/L			88	50 - 150		
Silicon	E1	257	28.1	262	ug/L			103	50 - 150		
Zinc	E1	49.9	1.30	52.5	ug/L			100	50 - 150		
Yttrium (%)		101			%						
Yttrium Radial (%)		104			%						

Purgeable Organic Compounds, GC/MS MB by EPA 624.1, B211014-005

1,1,1-Trichloroethane	U	0.259	0.259	0.500	ug/L						
1,1,2,2-Tetrachloroethane	U	0.125	0.125	0.500	ug/L						
1,1,2-Trichloroethane	U	0.108	0.108	0.500	ug/L						
1,1-Dichloroethane	U	0.279	0.279	0.500	ug/L						
1,1-Dichloroethene	U	0.187	0.187	0.500	ug/L						
1,2-Dichlorobenzene	U	0.112	0.112	0.500	ug/L						
1,2-Dichloroethane	U	0.122	0.122	0.500	ug/L						
1,2-Dichloropropane	U	0.129	0.129	0.500	ug/L						
1,3-Dichlorobenzene	U	0.131	0.131	0.500	ug/L						
1,4-Dichlorobenzene	U	0.115	0.115	0.500	ug/L						
2-Butanone	U	0.422	0.422	1.00	ug/L						
2-Chloroethylvinyl Ether	U	0.270	0.270	1.00	ug/L						
Benzene	U	0.143	0.143	0.500	ug/L						
Bromodichloromethane	U	0.129	0.129	0.500	ug/L						
Bromoform	U	0.166	0.166	0.500	ug/L						
Bromomethane	U	0.561	0.561	1.00	ug/L						
Carbon Tetrachloride	U	0.372	0.372	0.500	ug/L						
Chlorobenzene	U	0.114	0.114	0.500	ug/L						
Chloroethane	U	0.258	0.258	0.500	ug/L						
Chloroform	U	0.196	0.196	0.500	ug/L						
Chloromethane	U	0.316	0.316	0.500	ug/L						
cis-1,3-Dichloropropene	U	0.164	0.164	0.500	ug/L						
Dibromochloromethane	U	0.131	0.131	0.500	ug/L						
Ethyl Benzene	U	0.126	0.126	0.500	ug/L						
Fluorotrichloromethane	U	0.325	0.325	1.00	ug/L						
m+p Xylenes	U	0.287	0.287	1.00	ug/L						
Methylene Chloride	U	0.279	0.279	0.500	ug/L						
Methyl-t-butyl Ether	U	0.126	0.126	1.00	ug/L						
o-Xylene	U	0.150	0.150	0.500	ug/L						
Tetrachloroethene	U	0.167	0.167	0.500	ug/L						
Toluene	U	0.153	0.153	0.500	ug/L						
trans-1,2-Dichloroethene	U	0.230	0.230	0.500	ug/L						
trans-1,3-Dichloropropene	U	0.117	0.117	0.500	ug/L						
Trichloroethene	U	0.172	0.172	0.500	ug/L						
Vinyl Chloride	U	0.216	0.216	0.500	ug/L						
Fluorobenzene (%)		88			%						
d5-Chlorobenzene (%)		87			%						
d4-1,4-Dichlorobenzene (%)		78			%						
d4-Dichloroethane (%)		107			%						
d8-Toluene (%)		96			%						



Quality Control for C002093

Analyte	Qualifier	Result	MDL	RL	Units	Spike Level	Source Result	% REC	% REC Limits	RPD	RPD Limits
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Purgeable Organic Compounds, GC/MS MB by EPA 624.1, B211014-005

4-Bromofluorobenzene (%)		92			%						
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Purgeable Organic Compounds, GC/MS LCS by EPA 624.1, B211014-005

1,1,1-Trichloroethane		22.5	0.259	0.500	ug/L			113	70 - 130		
1,1,2,2-Tetrachloroethane		19.0	0.125	0.500	ug/L			96	60 - 140		
1,1,2-Trichloroethane		21.1	0.108	0.500	ug/L			106	70 - 130		
1,1-Dichloroethane		21.1	0.279	0.500	ug/L			106	70 - 130		
1,1-Dichloroethene		21.2	0.187	0.500	ug/L			107	50 - 150		
1,2-Dichlorobenzene		19.9	0.112	0.500	ug/L			100	65 - 135		
1,2-Dichloroethane		20.9	0.122	0.500	ug/L			105	70 - 130		
1,2-Dichloropropane		20.7	0.129	0.500	ug/L			104	35 - 165		
1,3-Dichlorobenzene		20.1	0.131	0.500	ug/L			101	70 - 130		
1,4-Dichlorobenzene		20.6	0.115	0.500	ug/L			104	65 - 135		
2-Butanone		17.7	0.422	1.00	ug/L			89	64 - 137		
2-Chloroethylvinyl Ether		17.1	0.270	1.00	ug/L			86	1 - 225		
Benzene		20.9	0.143	0.500	ug/L			105	65 - 135		
Bromodichloromethane		21.4	0.129	0.500	ug/L			108	65 - 135		
Bromoform		21.8	0.166	0.500	ug/L			110	70 - 130		
Bromomethane		20.5	0.561	1.00	ug/L			103	15 - 185		
Carbon Tetrachloride		22.9	0.372	0.500	ug/L			115	70 - 130		
Chlorobenzene		21.3	0.114	0.500	ug/L			107	65 - 135		
Chloroethane		21.4	0.258	0.500	ug/L			108	40 - 160		
Chloroform		21.4	0.196	0.500	ug/L			108	70 - 135		
Chloromethane		20.8	0.316	0.500	ug/L			105	1 - 205		
cis-1,3-Dichloropropene		21.4	0.164	0.500	ug/L			108	25 - 175		
Dibromochloromethane		21.4	0.131	0.500	ug/L			108	70 - 135		
Ethyl Benzene		21.0	0.126	0.500	ug/L			106	60 - 140		
Fluorotrichloromethane		23.4	0.325	1.00	ug/L			118	50 - 150		
m+p Xylenes		45.5	0.287	1.00	ug/L			114	78 - 123		
Methylene Chloride		20.7	0.279	0.500	ug/L			104	60 - 140		
Methyl-t-butyl Ether		20.0	0.126	1.00	ug/L			100	78 - 134		
o-Xylene		21.6	0.150	0.500	ug/L			109	80 - 123		
Tetrachloroethene		22.6	0.167	0.500	ug/L			114	70 - 130		
Toluene		20.9	0.153	0.500	ug/L			105	70 - 130		
trans-1,2-Dichloroethene		22.4	0.230	0.500	ug/L			113	70 - 130		
trans-1,3-Dichloropropene		21.2	0.117	0.500	ug/L			107	50 - 150		
Trichloroethene		21.4	0.172	0.500	ug/L			108	65 - 135		
Vinyl Chloride		19.9	0.216	0.500	ug/L			100	5 - 195		
Fluorobenzene (%)		110			%						
d5-Chlorobenzene (%)		107			%						
d4-1,4-Dichlorobenzene (%)		117			%						
d4-Dichloroethane (%)		103			%						
d8-Toluene (%)		102			%						
4-Bromofluorobenzene (%)		104			%						

Purgeable Organic Compounds, GC/MS MS by EPA 624.1, B211014-005

1,1,1-Trichloroethane		22.4	0.259	0.500	ug/L	0.259		113	52 - 162		
1,1,2,2-Tetrachloroethane		18.8	0.125	0.500	ug/L	0.125		95	46 - 157		
1,1,2-Trichloroethane		21.8	0.108	0.500	ug/L	0.108		110	52 - 150		



Quality Control for C002093

Analyte	Qualifier	Result	MDL	RL	Units	Spike Level	Source Result	% REC	% REC Limits	RPD	RPD Limits
Purgeable Organic Compounds, GC/MS MS by EPA 624.1, B211014-005											
1,1-Dichloroethane		21.4	0.279	0.500	ug/L		0.279	108	59 - 155		
1,1-Dichloroethene		21.3	0.187	0.500	ug/L		0.187	107	1 - 234		
1,2-Dichlorobenzene		20.3	0.112	0.500	ug/L		0.112	102	18 - 190		
1,2-Dichloroethane		21.4	0.122	0.500	ug/L		0.122	108	49 - 155		
1,2-Dichloropropane		20.8	0.129	0.500	ug/L		0.129	105	1 - 210		
1,3-Dichlorobenzene		20.1	0.131	0.500	ug/L		0.131	101	59 - 156		
1,4-Dichlorobenzene		20.7	0.115	0.500	ug/L		0.115	104	18 - 190		
2-Butanone		17.5	0.422	1.00	ug/L		0.422	88	56 - 150		
2-Chloroethylvinyl Ether		19.5	0.270	1.00	ug/L		0.270	98	1 - 305		
Benzene		20.8	0.143	0.500	ug/L		0.143	105	37 - 151		
Bromodichloromethane		21.6	0.129	0.500	ug/L		0.129	109	35 - 155		
Bromoform		22.6	0.166	0.500	ug/L		0.166	114	45 - 169		
Bromomethane		24.6	0.561	1.00	ug/L		0.561	124	1 - 242		
Carbon Tetrachloride		22.7	0.372	0.500	ug/L		0.372	114	70 - 140		
Chlorobenzene		21.6	0.114	0.500	ug/L		0.114	109	37 - 160		
Chloroethane		21.7	0.258	0.500	ug/L		0.258	109	14 - 230		
Chloroform		22.1	0.196	0.500	ug/L		0.196	111	51 - 138		
Chloromethane		20.9	0.316	0.500	ug/L		0.341	104	1 - 273		
cis-1,3-Dichloropropene		22.5	0.164	0.500	ug/L		0.164	113	1 - 227		
Dibromochloromethane		22.2	0.131	0.500	ug/L		0.131	112	53 - 149		
Ethyl Benzene		21.5	0.126	0.500	ug/L		0.126	108	37 - 162		
Fluorotrichloromethane		23.5	0.325	1.00	ug/L		0.325	118	17 - 181		
m+p Xylenes		45.6	0.287	1.00	ug/L		0.287	115	68 - 145		
Methylene Chloride		21.4	0.279	0.500	ug/L		0.279	108	1 - 221		
Methyl-t-butyl Ether		19.6	0.126	1.00	ug/L		0.126	99	71 - 133		
o-Xylene		21.9	0.150	0.500	ug/L		0.150	110	69 - 138		
Tetrachloroethene		23.1	0.167	0.500	ug/L		0.167	116	64 - 148		
Toluene		21.2	0.153	0.500	ug/L		0.153	107	47 - 150		
trans-1,2-Dichloroethene		21.5	0.230	0.500	ug/L		0.230	108	54 - 156		
trans-1,3-Dichloropropene		22.0	0.117	0.500	ug/L		0.117	111	17 - 183		
Trichloroethene		22.1	0.172	0.500	ug/L		0.172	112	70 - 157		
Vinyl Chloride		20.1	0.216	0.500	ug/L		0.216	101	1 - 251		
Fluorobenzene (%)		91			%		103				
d5-Chlorobenzene (%)		88			%		104				
d4-1,4-Dichlorobenzene (%)		99			%		90				
d4-Dichloroethane (%)		102			%		109				
d8-Toluene (%)		106			%		95				
4-Bromofluorobenzene (%)		108			%		95				

Purgeable Organic Compounds, GC/MS MS by EPA 624.1, B211014-005

Bromodichloromethane	20.6	0.129	0.500	ug/L		0.129	104	35 - 155
Bromoform	22.1	0.166	0.500	ug/L		0.166	111	45 - 169
Chloroform	20.8	0.196	0.500	ug/L		0.196	105	51 - 138
Dibromochloromethane	21.0	0.131	0.500	ug/L		0.131	106	53 - 149
Fluorobenzene (%)	91			%		94		
d5-Chlorobenzene (%)	89			%		90		
d4-1,4-Dichlorobenzene (%)	100			%		80.1		
d4-Dichloroethane (%)	97			%		105		
d8-Toluene (%)	100			%		93		



Quality Control for C002093

Analyte	Qualifier	Result	MDL	RL	Units	Spike Level	Source Result	% REC	% REC Limits	RPD	RPD Limits
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Purgeable Organic Compounds, GC/MS MS by EPA 624.1, B211014-005

4-Bromofluorobenzene (%)		103			%		93				
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Purgeable Organic Compounds, GC/MS MSD by EPA 624.1, B211014-005

1,1,1-Trichloroethane		21.7	0.259	0.500	ug/L		0.259	109	52 - 162	3.3	36
1,1,2,2-Tetrachloroethane		18.7	0.125	0.500	ug/L		0.125	94	46 - 157	0.6	61
1,1,2-Trichloroethane		21.3	0.108	0.500	ug/L		0.108	107	52 - 150	2.5	45
1,1-Dichloroethane		20.3	0.279	0.500	ug/L		0.279	102	59 - 155	5.0	40
1,1-Dichloroethene		21.2	0.187	0.500	ug/L		0.187	107	1 - 234	0.1	32
1,2-Dichlorobenzene		19.8	0.112	0.500	ug/L		0.112	100	18 - 190	2.6	57
1,2-Dichloroethane		19.9	0.122	0.500	ug/L		0.122	100	49 - 155	7.1	49
1,2-Dichloropropane		20.3	0.129	0.500	ug/L		0.129	102	1 - 210	2.5	55
1,3-Dichlorobenzene		20.5	0.131	0.500	ug/L		0.131	103	59 - 156	2.2	43
1,4-Dichlorobenzene		20.6	0.115	0.500	ug/L		0.115	104	18 - 190	0.6	57
2-Butanone		16.9	0.422	1.00	ug/L		0.422	85	56 - 150	3.4	24
2-Chloroethylvinyl Ether		17.5	0.270	1.00	ug/L		0.270	88	1 - 305	10.9	71
Benzene		20.1	0.143	0.500	ug/L		0.143	101	37 - 151	3.6	61
Bromodichloromethane		20.3	0.129	0.500	ug/L		0.129	102	35 - 155	6.2	56
Bromoform		21.8	0.166	0.500	ug/L		0.166	110	45 - 169	4.0	42
Bromomethane		20.3	0.561	1.00	ug/L		0.561	102	1 - 242	19.3	61
Carbon Tetrachloride		22.0	0.372	0.500	ug/L		0.372	111	70 - 140	3.0	41
Chlorobenzene		21.2	0.114	0.500	ug/L		0.114	107	37 - 160	1.8	53
Chloroethane		21.7	0.258	0.500	ug/L		0.258	109	14 - 230	0.0	78
Chloroform		20.7	0.196	0.500	ug/L		0.196	104	51 - 138	6.4	54
Chloromethane		19.4	0.316	0.500	ug/L		0.341	96	1 - 273	7.4	60
cis-1,3-Dichloropropene		21.0	0.164	0.500	ug/L		0.164	106	1 - 227	6.7	58
Dibromochloromethane		21.5	0.131	0.500	ug/L		0.131	108	53 - 149	3.2	50
Ethyl Benzene		21.1	0.126	0.500	ug/L		0.126	106	37 - 162	1.8	63
Fluorotrichloromethane		23.0	0.325	1.00	ug/L		0.325	116	17 - 181	2.0	84
m+p Xylenes		44.5	0.287	1.00	ug/L		0.287	112	68 - 145	2.3	26
Methylene Chloride		19.7	0.279	0.500	ug/L		0.279	99	1 - 221	8.2	28
Methyl-t-butyl Ether		19.3	0.126	1.00	ug/L		0.126	97	71 - 133	1.7	25
o-Xylene		21.2	0.150	0.500	ug/L		0.150	107	69 - 138	3.3	21
Tetrachloroethene		22.2	0.167	0.500	ug/L		0.167	112	64 - 148	4.3	39
Toluene		20.6	0.153	0.500	ug/L		0.153	104	47 - 150	2.8	41
trans-1,2-Dichloroethene		20.9	0.230	0.500	ug/L		0.230	105	54 - 156	2.8	45
trans-1,3-Dichloropropene		20.8	0.117	0.500	ug/L		0.117	104	17 - 183	5.6	86
Trichloroethene		21.1	0.172	0.500	ug/L		0.172	106	70 - 157	4.9	48
Vinyl Chloride		19.8	0.216	0.500	ug/L		0.216	100	1 - 251	1.5	66
Fluorobenzene (%)		91			%		103				
d5-Chlorobenzene (%)		89			%		104				
d4-1,4-Dichlorobenzene (%)		97			%		90				
d4-Dichloroethane (%)		96			%		109				
d8-Toluene (%)		100			%		95				
4-Bromofluorobenzene (%)		108			%		95				

Purgeable Organic Compounds, GC/MS MSD by EPA 624.1, B211014-005

Bromodichloromethane		20.8	0.129	0.500	ug/L		0.129	105	35 - 155	0.8	56
Bromoform		21.4	0.166	0.500	ug/L		0.166	108	45 - 169	3.1	42
Chloroform		20.6	0.196	0.500	ug/L		0.196	104	51 - 138	0.8	54



Quality Control for C002093

Analyte	Qualifier	Result	MDL	RL	Units	Spike Level	Source Result	% REC	% REC Limits	RPD	RPD Limits
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Purgeable Organic Compounds, GC/MS MSD by EPA 624.1, B211014-005

Dibromochloromethane		21.0	0.131	0.500	ug/L		0.131	106	53 - 149	0.1	50
Fluorobenzene (%)		92			%		94				
d5-Chlorobenzene (%)		92			%		90				
d4-1,4-Dichlorobenzene (%)		98			%		80.1				
d4-Dichloroethane (%)		96			%		105				
d8-Toluene (%)		99			%		93				
4-Bromofluorobenzene (%)		99			%		93				

Haloacetic Acids, GC/ECD MB by EPA 552.2, B211020-002

Bromochloroacetic Acid	U	0.34	0.34	1.0	ug/L						
Bromodichloroacetic Acid	U	0.36	0.36	1.0	ug/L						
Chlorodibromoacetic Acid	U	0.36	0.36	1.0	ug/L						
Dibromoacetic Acid	U	0.36	0.36	1.0	ug/L						
Dichloroacetic Acid	U	0.34	0.34	1.0	ug/L						
Monobromoacetic Acid	U	0.29	0.29	1.0	ug/L						
Monochloroacetic Acid	U	0.42	0.42	1.0	ug/L						
Trichloroacetic Acid	U	0.35	0.35	1.0	ug/L						
1,2,3-Trichloropropane (%)		97			%						
2,3-Dibromopropionic Acid (%)		105			%						

Haloacetic Acids, GC/ECD LCS by EPA 552.2, B211020-002

Bromochloroacetic Acid		15	0.34	1.0	ug/L			103	70 - 130		
Bromodichloroacetic Acid		16	0.36	1.0	ug/L			108	70 - 130		
Chlorodibromoacetic Acid		18	0.36	1.0	ug/L			119	70 - 130		
Dibromoacetic Acid		15	0.36	1.0	ug/L			103	70 - 130		
Dichloroacetic Acid		15	0.34	1.0	ug/L			100	70 - 130		
Monobromoacetic Acid		15	0.29	1.0	ug/L			102	70 - 130		
Monochloroacetic Acid		15	0.42	1.0	ug/L			100	70 - 130		
Trichloroacetic Acid		16	0.35	1.0	ug/L			106	70 - 130		
1,2,3-Trichloropropane (%)		98			%						
2,3-Dibromopropionic Acid (%)		103			%						

Haloacetic Acids, GC/ECD MS by EPA 552.2, B211020-002

Bromochloroacetic Acid		16	0.34	1.0	ug/L		0.59	105	70 - 130		
Bromochloroacetic Acid		16	0.34	1.0	ug/L		0.34	107	70 - 130		
Bromodichloroacetic Acid		17	0.36	1.0	ug/L		0.36	111	70 - 130		
Bromodichloroacetic Acid		17	0.36	1.0	ug/L		0.77	108	70 - 130		
Chlorodibromoacetic Acid		18	0.36	1.0	ug/L		0.36	123	70 - 130		
Chlorodibromoacetic Acid		18	0.36	1.0	ug/L		0.36	120	70 - 130		
Dibromoacetic Acid		16	0.36	1.0	ug/L		0.36	108	70 - 130		
Dibromoacetic Acid		16	0.36	1.0	ug/L		0.36	106	70 - 130		
Dichloroacetic Acid		16	0.34	1.0	ug/L		0.34	107	70 - 130		
Dichloroacetic Acid		26	0.34	1.0	ug/L		11	99	70 - 130		
Monobromoacetic Acid		16	0.29	1.0	ug/L		0.29	104	70 - 130		
Monobromoacetic Acid		16	0.29	1.0	ug/L		0.29	104	70 - 130		
Monochloroacetic Acid		15	0.42	1.0	ug/L		0.42	99	70 - 130		
Monochloroacetic Acid		15	0.42	1.0	ug/L		1.0	96	70 - 130		
Trichloroacetic Acid		27	0.35	1.0	ug/L		12	97	70 - 130		



Quality Control for C002093

Analyte	Qualifier	Result	MDL	RL	Units	Spike Level	Source Result	% REC	% REC Limits	RPD	RPD Limits
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Haloacetic Acids, GC/ECD MS by EPA 552.2, B211020-002

Trichloroacetic Acid		16	0.35	1.0	ug/L		0.35	111	70 - 130		
1,2,3-Trichloropropane (%)		94			%		94				
1,2,3-Trichloropropane (%)		86			%		96				
2,3-Dibromopropionic Acid (%)		110			%		106				
2,3-Dibromopropionic Acid (%)		105			%		110				

Haloacetic Acids, GC/ECD MSD by EPA 552.2, B211020-002

Bromochloroacetic Acid		16	0.34	1.0	ug/L		0.59	106	70 - 130	1.1	20
Bromochloroacetic Acid		16	0.34	1.0	ug/L		0.34	108	70 - 130	0.2	20
Bromodichloroacetic Acid		18	0.36	1.0	ug/L		0.77	113	70 - 130	4.1	20
Bromodichloroacetic Acid		17	0.36	1.0	ug/L		0.36	112	70 - 130	0.6	20
Chlorodibromoacetic Acid		18	0.36	1.0	ug/L		0.36	123	70 - 130	0.2	20
Chlorodibromoacetic Acid		19	0.36	1.0	ug/L		0.36	126	70 - 130	4.8	20
Dibromoacetic Acid		16	0.36	1.0	ug/L		0.36	107	70 - 130	1.4	20
Dibromoacetic Acid		16	0.36	1.0	ug/L		0.36	108	70 - 130	0.2	20
Dichloroacetic Acid		26	0.34	1.0	ug/L		11	99	70 - 130	0.4	20
Dichloroacetic Acid		16	0.34	1.0	ug/L		0.34	109	70 - 130	2.0	20
Monobromoacetic Acid		15	0.29	1.0	ug/L		0.29	103	70 - 130	0.8	20
Monobromoacetic Acid		16	0.29	1.0	ug/L		0.29	104	70 - 130	0.3	20
Monochloroacetic Acid		15	0.42	1.0	ug/L		1.0	94	70 - 130	1.4	20
Monochloroacetic Acid		15	0.42	1.0	ug/L		0.42	99	70 - 130	0.0	20
Trichloroacetic Acid		17	0.35	1.0	ug/L		0.35	111	70 - 130	0.0	20
Trichloroacetic Acid		28	0.35	1.0	ug/L		12	102	70 - 130	2.5	20
1,2,3-Trichloropropane (%)		92			%		94				
1,2,3-Trichloropropane (%)		86			%		96				
2,3-Dibromopropionic Acid (%)		109			%		110				
2,3-Dibromopropionic Acid (%)		111			%		106				

Haloacetic Acids, GC/ECD LOQ by EPA 552.2, B211020-002

Bromochloroacetic Acid	E1	0.94	0.34	1.0	ug/L			94	50 - 150		
Bromodichloroacetic Acid	E1	0.96	0.36	1.0	ug/L			96	50 - 150		
Chlorodibromoacetic Acid	E1	0.92	0.36	1.0	ug/L			92	50 - 150		
Dibromoacetic Acid	E1	0.98	0.36	1.0	ug/L			98	50 - 150		
Dichloroacetic Acid		1.0	0.34	1.0	ug/L			104	50 - 150		
Monobromoacetic Acid	E1	0.96	0.29	1.0	ug/L			96	50 - 150		
Monochloroacetic Acid	E1	0.94	0.42	1.0	ug/L			94	50 - 150		
Trichloroacetic Acid	E1	0.96	0.35	1.0	ug/L			96	50 - 150		
1,2,3-Trichloropropane (%)		94			%						
2,3-Dibromopropionic Acid (%)		106			%						



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.



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

	COC #: C002093	Project Title: Bayside Ground Water Project TAT: Standard	Client PM: David Behnken Lab PM: Kristi Schwab Job #:	Expect Date: 10/12/2021 Sampled By: <i>Jon Marshak</i> <input checked="" type="checkbox"/> Samples transported on ice <i>6-6 #13</i>

Date	Time	Site/Locator	Sample ID	Type	Matrix	ID	Type	Tests Required
<i>10/12/21</i>	<i>11:15</i>	GW BAYSIDE - BAY1-MW7	C002093-01	GRAB	Aqueous	-01A	PLSTL	EPA 200.7-NPW (Ca,Fe,K,Mg,Mn,Na)
						-01B	PLSTL	TDS
						-01C	PLSTM	Hardness
						-01D	PLSTS	EPA 300.1 (Cl,NO3,SO4)
						-01F	PSQLT	Ammonia: Titr-AQ
						-01G	A125N	EPA 552.2
						-01H	A125N	EPA 552.2
						-01I	PLSTM	Oxygen 18
						-01J	VOC4T	EPA 8260B THM
						-01K	VOC4T	EPA 8260
						-01L	VOC4T	EPA 8260
						-01M	C500Z	Alkalinity: Species
						Field Test Parameters:		
						CL2R =	<i>0.23</i>	mg/L
Depth =	<i>14.50</i>	Feet						
pH = <i>7.17</i>	<i>7.17</i>	pH Units						
Temperature =	<i>23.9</i>	C						

Field Comments:

Field Instructions:



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

	COC #: C002093	Project Title: Bayside Ground Water Project	Client PM: David Behnken Lab PM: Kristi Schwab	Expect Date: 10/12/2021
	TAT: Standard		Job #:	Sampled By: <i>Jon Marshak</i> <input checked="" type="checkbox"/> Samples transported on ice

Date	Time	Site/Locator	Sample ID	Type	Matrix	ID	Type	Tests Required
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Total Containers for: C002093 | 12

	Signature	Print Name	Time	Date
Relinquished by:	<i>[Signature]</i>	Jon Marshak	17:30	10/12/21
Received by:	<i>[Signature]</i>			
Relinquished by:	<i>[Signature]</i>			
Received by:	<i>[Signature]</i>			
Relinquished by:	<i>[Signature]</i>			
Received by:	<i>[Signature]</i>			

Container Legend:

A125N = Glass, amber, NM, septa top, 12.5 mg NH4Cl, Amber, 125 mL
 C500Z = Glass, clear, 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



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



COC #: C002093	Project Title: Bayside Ground Water Project TAT: Standard	Client PM: David Behnken Lab PM: Kristi Schwab Job #:	Received Date/Time: 10/13/2021 07:50 ✓ Received By: Cynthia Soohoo ✓ Sampled By: JMarshak/Terraphase ✓ Due Date: 11/09/2021
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Date	Time	Site/Locator	Sample ID	Type	Matrix	ID	Type	Tests Required
10/12/2021	11:15	GW BAYSIDE - BAY1-MW7	C002093-01	GRAB	Aqueous			+SAMP KIT
						-01A	PLSTL	EPA 200.7-NPW (Ca,Fe,K,Mg,Mn,Na)
						-01B	PLSTL	TDS
						-01C	PLSTM	Hardness
						-01D	PLSTS	EPA 300.1 (Cl,NO3,SO4)
						-01F	PSQLT	Ammonia: Titr-AQ
						-01G	A125N	EPA 552.2
						-01H	A125N	EPA 552.2
						-01I	PLSTM	Oxygen 18
						-01J	VOC4T	EPA 624.1 THM
						-01K	VOC4T	EPA 624.1
						-01L	VOC4T	EPA 624.1
						-01M	C500Z	Alkalinity: Species
								Field Test Parameters:
						CL2R =	0.28	mg/L
						Depth =	14.5	Feet
						pH =	7.17	pH Units
						Temperature =	23.9	C

Field Comments:

Field Instructions:

Sample External Comments:

Total Containers for: C002093 12



C002093 Sample Acceptance Report

Received: 10/13/2021 07:50
Received By: Cynthia Soohoo

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

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

Sample: C002093-01		Comments
Bubbles in ZHS/VOA containers	Yes ✓	-01M >6mm bubble (OKay. ATR. RMM 10/18/2021)



C002093 Sample Acceptance Report

Received: 10/13/2021 07:50
 Received By: Cynthia Soohoo

Intent to chill

Cooler: 1		Comments
Corrected Temp (° C)	6.5	
IR Thermometer Number	IR #13 ✓	
Representative temperature taken from	-01	
Uncorrected Temp (° C)	6.6 ✓	
Visible ice formed inside sample container?	No	

Acceptance

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



COC: C002093

Sample Acceptance Preservation Report

Report Generated: 10/13/2021 8:16:30 AM

Inventory Item	Inventory ID	Open Date	Prep Date	Expiration Date
Ammonium Hydroxide	ST031221-004	10/27/2020	N/A	10/27/2021
Ammonium Sulfate Buffer (ASB-03)	ST210817-015	N/A	08/17/2021	10/27/2021
Ethylenediamine 12.5 mg/mL (EDA-18)	ST210927-007	N/A	09/27/2021	10/27/2021
H2SO4 15 mL 1:1 LDPE dropper	ST210716-005	09/25/2020	N/A	09/25/2030
HCl 15 mL 1:1 LDPE dropper	ST210729-008	N/A	N/A	07/22/2022
Hydrochloric Acid (HCl) 1+1 (HCl-01)	ST210529-001	N/A	05/29/2021	05/29/2022
NaOH 15 mL 1:1 LDPE dropper	ST210716-007	07/01/2020	N/A	06/10/2030
Nitric Acid TMG	ST210819-002	08/19/2021	N/A	01/08/2023
pH Strip 0-14	ST210901-009	09/01/2021	N/A	09/30/2024
pH Strip 7.9-9.8	ST210901-011	N/A	N/A	06/30/2023
Sulfuric Acid Gr ACS	ST210729-010	04/13/2021	N/A	04/13/2025

Container Number	Container Name	Tests	Preservation Requirement	Result	Initial/Date
C002093-01A	PLSTL	EPA 200.7-NPW	HNO3 to pH <2. Preservation Time = <u>0825</u>	<u>PASS</u>	<u>10/13/21</u>
C002093-01C	PLSTM	Hardness	HNO3 to pH <2		
C002093-01F	PSQLT	Ammonia: Titr-AQ	Check Cl2R = 0 [PSQLT], then H2SO4 to pH <2		
C002093-01G	A125N	EPA 552.2	Check Container		
C002093-01H	A125N	EPA 552.2-FR	Check Container		
C002093-01J	VOC4T	EPA 624.1 THM	Check Container		
C002093-01K	VOC4T	EPA 624.1-FR	Check Container		
C002093-01L	VOC4T	EPA 624.1-FR	Check Container		



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

08 November 2021

EBMUD

Attn: K. Schwab

PO Box 24055

Oakland, CA 94607

RE: Bayside Ground Water Project WDR

Work Order: 21J2177

Enclosed are the results of analyses for samples received by the laboratory on 10/14/21 22:10. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink that reads 'Leslie M. Quinn'.

Leslie M. Quinn For 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 PO Box 24055 Oakland, CA 94607	Project Manager: K. Schwab Project: Bayside Ground Water Project WDR Project Number: C002093	Reported: 11/08/21 18:30
--	--	-----------------------------

Bay Area: 262 Rickenbacker Circle | Livermore, CA 94551 | T: 925-828-6226 | F: 925-828-6309 | ELAP# 2728
Central Valley: 9090 Union Park Way Suite 113 | Elk Grove, CA 95624 | T: 916-686-5190 | F: 916-686-5192 | ELAP# 2922
North Bay: 110 Liberty Street | Petaluma, CA 94952 | T: 707-769-3128 | F: 707-769-8093 | ELAP# 2303
San Diego: 2722 Loker Avenue West Suite A | Carlsbad, CA 92010 | T: 760-930-2555 | F: 760-930-2510 | ELAP# 3055

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
C002093-01	21J2177-01	Water	10/12/21 11:15	10/14/21 22:10

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



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Lab #: 806912 Job #: 49131 IS-69368 Co. Job#:
 Sample Name: 21J2177-01 Co. Lab#:
 Company: Alpha Analytical Laboratories, Inc.
 API/Well:
 Container: Plastic Bottle
 Field/Site Name: 21J2177
 Location:
 Formation/Depth:
 Sampling Point: C002093-01
 Date Sampled: 10/12/2021 11:15 Date Received: 10/20/2021 Date Reported: 11/03/2021

δ D of water ----- -49.9 ‰ relative to VSMOW

δ ¹⁸O of water ----- -7.31 ‰ relative to VSMOW

Tritium content of water ----- na

δ ¹³C of DIC ----- na

¹⁴C content of DIC ----- na

δ ¹⁵N of nitrate ----- na

δ ¹⁸O of nitrate ----- na

δ ³⁴S of sulfate ----- na

δ ¹⁸O 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



21J2177 2-72



East Bay Municipal Utility District Laboratory Services Subcontract Chain of Custody

COC #: C002093	Project Title: Bayside Ground Water Project	Lab PM: Kristi Schwab (510) 287-1696 Shipping Method: Alpha Courier	Sampled By: JMarshak/Terraphase
	TAT: Standard	PO#: 934-37431-AX Expiration: 6/30/2021	Submitted Date: 10/14/21

Date	Time	Sample ID	Location/PS Code	Matrix	Container ID	Type	Tests Required	Method Reference
10/12/2021	11:15	C002093-01	GW BAYSIDE - BAY1-MW7	Aqueous	-01I	PLSTM	Oxygen 18	D18O

Comments:								
Total containers received:				1				

	Signature	Print Name	Time	Date
Relinquished by:	<i>[Signature]</i>	<i>[Signature]</i>	1245	10/14/21
Received by:	<i>[Signature]</i>	David Rich	1245	10/14/21
Relinquished by:	<i>[Signature]</i>	<i>[Signature]</i>	1845	10/14/21
Received by:	<i>[Signature]</i>	J. Bixler	2210	10/14/21
Relinquished by:	<i>[Signature]</i>	<i>[Signature]</i>	2210	10/14/21
Received by:	<i>[Signature]</i>	<i>[Signature]</i>	2210	10/14/21

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



20 January 2022

David Behnken

MS 704

Re: Bayside Ground Water Project

COC# C002420

Report Generated: 01/20/2022 10:22

Login Performance Summary

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

Report Notes

For questions concerning this report, please contact:

Reported By:

Jack Lim

Senior Chemist

Approved By:

Yuyun Shang

Lab Manager



Samples for C002420

Samples Included in the Report

Sample Number	Sample Type	Sampled Date	Location Name	Sample Name
C002420-01	GRAB	Nov 02 2021 09:30	WTP BAYSIDE - BAY WELL HEAD	-
C002420-02	GRAB	Nov 02 2021 09:45	WTP BAYSIDE - BAY WELL HEAD	-
C002420-03	GRAB	Nov 02 2021 09:55	WTP BAYSIDE - BAY WELL HEAD	-
C002420-04	GRAB	Nov 02 2021 10:15	WTP BAYSIDE - BAY WELL HEAD	-
C002420-05	GRAB	Nov 02 2021 10:20	WTP BAYSIDE - BAY WELL HEAD	-
C002420-06	GRAB	Nov 02 2021 10:25	WTP BAYSIDE - BAY WELL HEAD	-
C002420-07	GRAB	Nov 02 2021 10:30	WTP BAYSIDE - BAY WELL HEAD	-
C002420-08	QCFB	Nov 02 2021 09:50	FIELD QC - COLLECTION QC	-
C002420-09	QCTB	Nov 02 2021 10:00	FIELD QC - COLLECTION QC	-
C002420-10	QCFB	Nov 02 2021 10:02	FIELD QC - COLLECTION QC	-



Samples Results for C002420

Sample ID: C002420-01
Site: WTP BAYSIDE Bayside GW Project Extraction Wells at 2540 Grant Avenue, San Lorenzo
Locator: BAY WELL HEAD Sample tap at the well, as shown in Drawing No. 2097-C-002
Client: Bayside Ground Water Project
Sample Type: GRAB
Date Collected: Nov 02 2021 09:30 **Sample Collector:** J. Marshak/Terraphase
Date Received: Nov 02 2021 12:23 **Sample Receiver:** A Ng
Sample Comments: Field Comments: WDR Requirements

Analyte	Qualifier	Result	MDL	RL	Units	DF	Batch	Prepared	Analyzed
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Field data entry into LIMS

TARGET ANALYTES

CL2R		0.09	.02		mg/L				11/02/2021 09:30
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Field data entry into LIMS

TARGET ANALYTES

pH		8.13			pH Units				11/02/2021 09:30
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Total Dissolved Solids by SM 2540 C-2011

TARGET ANALYTES

Total Dissolved Solids		150	10	55	mg/L	1.0	B211104-007		11/04/2021 09:28
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Alkalinity by SM 2320 B-2011

TARGET ANALYTES

Alkalinity: Total as CaCO3		92	5	30	mg/L	1.0	B211103-004		11/03/2021 09:48
Alkalinity: Carbonate	U	5	5	30	mg/L	1.0	B211103-004		11/03/2021 09:48
Alkalinity: Bicarbonate		92	5	30	mg/L	1.0	B211103-004		11/03/2021 09:48
Alkalinity: Hydroxide	U	5	5	30	mg/L	1.0	B211103-004		11/03/2021 09:48

Ammonia as N by SM 4500-NH3 C-2011

TARGET ANALYTES

Ammonia as N	E1	0.90	0.25	1.5	mg/L	1.0	B211117-003		11/17/2021 09:00
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Hardness as CaCO3 by SM 2340 C-2011

TARGET ANALYTES

Hardness as CaCO3		78	4	7	mg/L	1.0	B211115-006		11/15/2021 11:05
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Anions by EPA 300.1

TARGET ANALYTES

Chloride		15	0.13	1.0	mg/L	5.0	B211102-014		11/03/2021 04:23
Nitrate as N	U	0.036	0.036	0.15	mg/L	5.0	B211102-014		11/03/2021 04:23
Sulfate		25	0.24	1.0	mg/L	5.0	B211102-014		11/03/2021 04:23

SURROGATES

Dichloroacetate (%)		99			%	5.0	B211102-014		11/03/2021 04:23
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Metals by EPA 200.7 (1994 Rev 4.4)

TARGET ANALYTES

Calcium		22100	10.5	52.0	ug/L	1.0	B211119-010	11/16/2021 15:30	11/19/2021 14:32
Iron		113	11.3	52.0	ug/L	1.0	B211119-010	11/16/2021 15:30	11/19/2021 14:32
Potassium		1350	19.9	260	ug/L	1.0	B211119-010	11/16/2021 15:30	11/19/2021 14:32
Magnesium		6830	5.72	52.0	ug/L	1.0	B211119-010	11/16/2021 15:30	11/19/2021 14:32
Manganese	E1	17.8	0.25	20.8	ug/L	1.0	B211119-010	11/16/2021 15:30	11/19/2021 14:32
Sodium		24200	6.97	52.0	ug/L	1.0	B211119-010	11/16/2021 15:30	11/19/2021 14:32

INTERNAL STANDARD

Yttrium (%)		97			%	1.0	B211119-010	11/16/2021 15:30	11/19/2021 14:32
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Samples Results for C002420

Sample ID: C002420-01
Site: WTP BAYSIDE Bayside GW Project Extraction Wells at 2540 Grant Avenue, San Lorenzo
Locator: BAY WELL HEAD Sample tap at the well, as shown in Drawing No. 2097-C-002
Client: Bayside Ground Water Project
Sample Type: GRAB
Date Collected: Nov 02 2021 09:30 **Sample Collector:** J. Marshak/Terraphase
Date Received: Nov 02 2021 12:23 **Sample Receiver:** A Ng
Sample Comments: Field Comments: WDR Requirements

Analyte	Qualifier	Result	MDL	RL	Units	DF	Batch	Prepared	Analyzed
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Metals by EPA 200.7 (1994 Rev 4.4)

Yttrium Radial (%)		98			%	1.0	B211119-010	11/16/2021 15:30	11/19/2021 14:32
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Purgeable Organic Compounds, GC/MS by EPA 624.1

TARGET ANALYTES

Bromodichloromethane	U	0.129	0.129	0.500	ug/L	1.0	B211103-002		11/03/2021 13:00
Bromoform	U	0.166	0.166	0.500	ug/L	1.0	B211103-002		11/03/2021 13:00
Chloroform		0.848	0.196	0.500	ug/L	1.0	B211103-002		11/03/2021 13:00
Dibromochloromethane	U	0.131	0.131	0.500	ug/L	1.0	B211103-002		11/03/2021 13:00
Total Trihalomethanes, Calculated		0.848			ug/L	1.0	B211103-002		11/03/2021 13:00

Comments: TTHM calculation uses a zero for any individual THM result less than the MDL for that THM

INTERNAL STANDARD

Fluorobenzene (%)		92			%	1.0	B211103-002		11/03/2021 13:00
d5-Chlorobenzene (%)		85			%	1.0	B211103-002		11/03/2021 13:00
d4-1,4-Dichlorobenzene (%)		79.5			%	1.0	B211103-002		11/03/2021 13:00

SURROGATES

d4-Dichloroethane (%)		106			%	1.0	B211103-002		11/03/2021 13:00
d8-Toluene (%)		92			%	1.0	B211103-002		11/03/2021 13:00
4-Bromofluorobenzene (%)		93			%	1.0	B211103-002		11/03/2021 13:00

Haloacetic Acids, GC/ECD by EPA 552.2

TARGET ANALYTES

Bromochloroacetic Acid	U	0.34	0.34	1.0	ug/L	1.0	B211104-009	11/03/2021 09:00	11/04/2021 22:22
Comments: Compound not available for certification by ELAP									
Bromodichloroacetic Acid	U	0.36	0.36	1.0	ug/L	1.0	B211104-009	11/03/2021 09:00	11/04/2021 22:22
Comments: Compound not available for certification by ELAP									
Dibromoacetic Acid	U	0.36	0.36	1.0	ug/L	1.0	B211104-009	11/03/2021 09:00	11/04/2021 22:22
Dichloroacetic Acid	U	0.34	0.34	1.0	ug/L	1.0	B211104-009	11/03/2021 09:00	11/04/2021 22:22
Monobromoacetic Acid	U	0.29	0.29	1.0	ug/L	1.0	B211104-009	11/03/2021 09:00	11/04/2021 22:22
Monochloroacetic Acid	U	0.42	0.42	1.0	ug/L	1.0	B211104-009	11/03/2021 09:00	11/04/2021 22:22
Trichloroacetic Acid	U	0.35	0.35	1.0	ug/L	1.0	B211104-009	11/03/2021 09:00	11/04/2021 22:22
HAA(5), calculated		0.00			ug/L	1.0	B211104-009	11/03/2021 09:00	11/04/2021 22:22

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	B211104-009	11/03/2021 09:00	11/04/2021 22:22
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SURROGATES

2,3-Dibromopropionic Acid (%)		94			%	1.0	B211104-009	11/03/2021 09:00	11/04/2021 22:22
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Samples Results for C002420

Sample ID: C002420-02
Site: WTP BAYSIDE Bayside GW Project Extraction Wells at 2540 Grant Avenue, San Lorenzo
Locator: BAY WELL HEAD Sample tap at the well, as shown in Drawing No. 2097-C-002
Client: Bayside Ground Water Project
Sample Type: GRAB
Date Collected: Nov 02 2021 09:45 **Sample Collector:** J. Marshak/Terraphase
Date Received: Nov 02 2021 12:23 **Sample Receiver:** A Ng
Sample Comments: Field Comments: T22 Requirements

Analyte	Qualifier	Result	MDL	RL	Units	DF	Batch	Prepared	Analyzed
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Colilert 18 QT by SM 9223 B Colilert 18

TARGET ANALYTES

Total Coliform	<	1.0		1.0	MPN/100 mL	1.0	B211102-024		11/02/2021 15:01
E. coli	<	1.0		1.0	MPN/100 mL	1.0	B211102-024		11/02/2021 15:01

Total Dissolved Solids by SM 2540 C-2011

TARGET ANALYTES

Total Dissolved Solids		160	10	55	mg/L	1.0	B211104-007		11/04/2021 09:28
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Alkalinity by SM 2320 B-2011

TARGET ANALYTES

Alkalinity: Total as CaCO3		92	5	30	mg/L	1.0	B211103-004		11/03/2021 09:54
Alkalinity: Carbonate	U	5	5	30	mg/L	1.0	B211103-004		11/03/2021 09:54
Alkalinity: Bicarbonate		92	5	30	mg/L	1.0	B211103-004		11/03/2021 09:54
Alkalinity: Hydroxide	U	5	5	30	mg/L	1.0	B211103-004		11/03/2021 09:54

Color by SM 2120 B-2011

TARGET ANALYTES

Color	U	3	3	3	Color Unit	1.0	B211104-005		11/04/2021 08:10
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Conductivity by SM 2510 B-2011

TARGET ANALYTES

Conductivity		250	0.64	1.0	umhos/cm	1.0	B211105-007		11/05/2021 10:05
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Cyanide by SM 4500-CN E-2011

TARGET ANALYTES

Cyanide	U	1.8	1.8	5.0	ug/L	1.0	B211112-005		11/12/2021 15:24
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Hardness as CaCO3 by SM 2340 C-2011

TARGET ANALYTES

Hardness as CaCO3		76	4	7	mg/L	1.0	B211115-006		11/15/2021 11:05
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Turbidity by SM 2130 B-2011

TARGET ANALYTES

Turbidity		0.45	0.1	0.11	NTU	1.0	B211102-018		11/02/2021 13:40
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Anions by EPA 300.1

TARGET ANALYTES

Chloride		15	0.13	1.0	mg/L	5.0	B211102-014		11/03/2021 04:56
Fluoride		0.51	0.046	0.38	mg/L	5.0	B211102-014		11/03/2021 04:56
Nitrate as N	U	0.036	0.036	0.15	mg/L	5.0	B211102-014		11/03/2021 04:56
Nitrite as N	U	0.024	0.024	0.15	mg/L	5.0	B211102-014		11/03/2021 04:56
Sulfate		24	0.24	1.0	mg/L	5.0	B211102-014		11/03/2021 04:56

SURROGATES

Dichloroacetate (%)		98			%	5.0	B211102-014		11/03/2021 04:56
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Samples Results for C002420

Sample ID: C002420-02
Site: WTP BAYSIDE Bayside GW Project Extraction Wells at 2540 Grant Avenue, San Lorenzo
Locator: BAY WELL HEAD Sample tap at the well, as shown in Drawing No. 2097-C-002
Client: Bayside Ground Water Project
Sample Type: GRAB
Date Collected: Nov 02 2021 09:45 **Sample Collector:** J. Marshak/Terraphase
Date Received: Nov 02 2021 12:23 **Sample Receiver:** A Ng
Sample Comments: Field Comments: T22 Requirements

Analyte	Qualifier	Result	MDL	RL	Units	DF	Batch	Prepared	Analyzed
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Total Organic Carbon by SM 5310 C-2011

TARGET ANALYTES

Total Organic Carbon		1.2	0.13	0.20	mg/L	1.0	B211102-002		11/02/2021 22:21
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Mercury by EPA 245.1

TARGET ANALYTES

Mercury	U	0.025	0.025	0.050	ug/L	1.0	B211122-001		11/23/2021 11:28
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Metals by EPA 200.7

TARGET ANALYTES

Aluminum	U	17.2	17.2	52.0	ug/L	1.0	B211119-010	11/16/2021 15:30	11/19/2021 14:38
Calcium		21800	10.5	52.0	ug/L	1.0	B211119-010	11/16/2021 15:30	11/19/2021 14:38
Copper	U	5.10	5.10	52.0	ug/L	1.0	B211119-010	11/16/2021 15:30	11/19/2021 14:38
Iron		138	11.3	52.0	ug/L	1.0	B211119-010	11/16/2021 15:30	11/19/2021 14:38
Potassium		1340	19.9	260	ug/L	1.0	B211119-010	11/16/2021 15:30	11/19/2021 14:38
Magnesium		6740	5.72	52.0	ug/L	1.0	B211119-010	11/16/2021 15:30	11/19/2021 14:38
Manganese	E1	17.9	0.25	20.8	ug/L	1.0	B211119-010	11/16/2021 15:30	11/19/2021 14:38
Sodium		24500	6.97	52.0	ug/L	1.0	B211119-010	11/16/2021 15:30	11/19/2021 14:38
Zinc	U	1.29	1.29	52.0	ug/L	1.0	B211119-010	11/16/2021 15:30	11/19/2021 14:38

INTERNAL STANDARD

Yttrium (%)		97			%	1.0	B211119-010	11/16/2021 15:30	11/19/2021 14:38
Yttrium Radial (%)		95			%	1.0	B211119-010	11/16/2021 15:30	11/19/2021 14:38

Metals by EPA 200.8

TARGET ANALYTES

Silver	U	0.019	0.019	0.102	ug/L	1.0	B211217-007	11/30/2021 10:29	12/17/2021 11:04
Arsenic	E1	0.369	0.215	0.812	ug/L	1.0	B211217-007	11/30/2021 10:29	12/17/2021 11:04
Barium		37.9	0.030	0.203	ug/L	1.0	B211217-007	11/30/2021 10:29	12/17/2021 11:04
Beryllium	U	0.011	0.011	0.102	ug/L	1.0	B211217-007	11/30/2021 10:29	12/17/2021 11:04
Cadmium	U	0.014	0.014	0.102	ug/L	1.0	B211217-007	11/30/2021 10:29	12/17/2021 11:04
Chromium	U	0.120	0.120	0.406	ug/L	1.0	B211217-007	11/30/2021 10:29	12/17/2021 11:04
Nickel	E1	0.193	0.045	0.812	ug/L	1.0	B211217-007	11/30/2021 10:29	12/17/2021 11:04
Lead	U	0.030	0.030	0.406	ug/L	1.0	B211217-007	11/30/2021 10:29	12/17/2021 11:04
Antimony	E1	0.052	0.042	0.406	ug/L	1.0	B211217-007	11/30/2021 10:29	12/17/2021 11:04
Selenium	U	0.600	0.600	0.812	ug/L	1.0	B211217-007	11/30/2021 10:29	12/17/2021 11:04
Thallium	U	0.014	0.014	0.102	ug/L	1.0	B211217-007	11/30/2021 10:29	12/17/2021 11:04

INTERNAL STANDARD

Scandium (%)		105			%	1.0	B211217-007	11/30/2021 10:29	12/17/2021 11:04
Germanium (%)		98			%	1.0	B211217-007	11/30/2021 10:29	12/17/2021 11:04
Rhodium (%)		93			%	1.0	B211217-007	11/30/2021 10:29	12/17/2021 11:04
Indium (%)		98			%	1.0	B211217-007	11/30/2021 10:29	12/17/2021 11:04
Terbium (%)		99			%	1.0	B211217-007	11/30/2021 10:29	12/17/2021 11:04

1,2,3-Trichloropropane, GC/MS by SRL 524M-TCP

TARGET ANALYTES

1,2,3-Trichloropropane	U	1.2	1.2	5.0	ng/L	1.0	B211105-006		11/05/2021 14:56
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Samples Results for C002420

Sample ID: C002420-02
Site: WTP BAYSIDE Bayside GW Project Extraction Wells at 2540 Grant Avenue, San Lorenzo
Locator: BAY WELL HEAD Sample tap at the well, as shown in Drawing No. 2097-C-002
Client: Bayside Ground Water Project
Sample Type: GRAB
Date Collected: Nov 02 2021 09:45 **Sample Collector:** J. Marshak/Terraphase
Date Received: Nov 02 2021 12:23 **Sample Receiver:** A Ng
Sample Comments: Field Comments: T22 Requirements

Analyte	Qualifier	Result	MDL	RL	Units	DF	Batch	Prepared	Analyzed
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1,2,3-Trichloropropane, GC/MS by SRL 524M-TCP

INTERNAL STANDARD

d5-1,2,3-Trichloropropane (%)		84			%	1.0	B211105-006		11/05/2021 14:56
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Semivolatile Organic Compounds (BNA), GC/MS by EPA 525.2

TARGET ANALYTES

2,4-Dinitrotoluene	U	0.024	0.024	0.096	ug/L	0.96	B211130-017	11/08/2021 08:45	12/01/2021 18:11
Comments: Compound not available for certification by ELAP									
2,6-Dinitrotoluene	U	0.018	0.018	0.096	ug/L	0.96	B211130-017	11/08/2021 08:45	12/01/2021 18:11
Comments: Compound not available for certification by ELAP									
4,4'-DDD	U	0.021	0.021	0.096	ug/L	0.96	B211130-017	11/08/2021 08:45	12/01/2021 18:11
Comments: Compound not available for certification by ELAP									
4,4'-DDE	U	0.024	0.024	0.096	ug/L	0.96	B211130-017	11/08/2021 08:45	12/01/2021 18:11
Comments: Compound not available for certification by ELAP									
4,4'-DDT	U	0.022	0.022	0.096	ug/L	0.96	B211130-017	11/08/2021 08:45	12/01/2021 18:11
Comments: Compound not available for certification by ELAP									
Acenaphthylene	U	0.035	0.035	0.096	ug/L	0.96	B211130-017	11/08/2021 08:45	12/01/2021 18:11
Comments: Compound not available for certification by ELAP									
Alachlor	U	0.020	0.020	0.096	ug/L	0.96	B211130-017	11/08/2021 08:45	12/01/2021 18:11
Aldrin	U	0.010	0.010	0.096	ug/L	0.96	B211130-017	11/08/2021 08:45	12/01/2021 18:11
alpha BHC	U	0.012	0.012	0.096	ug/L	0.96	B211130-017	11/08/2021 08:45	12/01/2021 18:11
Comments: Compound not available for certification by ELAP									
alpha Endosulfan	U	0.012	0.012	0.096	ug/L	0.96	B211130-017	11/08/2021 08:45	12/01/2021 18:11
Comments: Compound not available for certification by ELAP									
Anthracene	U	0.040	0.040	0.096	ug/L	0.96	B211130-017	11/08/2021 08:45	12/01/2021 18:11
Comments: Compound not available for certification by ELAP									
Atrazine	U	0.025	0.025	0.096	ug/L	0.96	B211130-017	11/08/2021 08:45	12/01/2021 18:11
Benzo(a)anthracene	U	0.016	0.016	0.096	ug/L	0.96	B211130-017	11/08/2021 08:45	12/01/2021 18:11
Comments: Compound not available for certification by ELAP									
Benzo(a)pyrene	U	0.010	0.010	0.096	ug/L	0.96	B211130-017	11/08/2021 08:45	12/01/2021 18:11
Benzo(b)fluoranthene	U	0.013	0.013	0.096	ug/L	0.96	B211130-017	11/08/2021 08:45	12/01/2021 18:11
Comments: Compound not available for certification by ELAP									
Benzo(ghi)perylene	U	0.015	0.015	0.096	ug/L	0.96	B211130-017	11/08/2021 08:45	12/01/2021 18:11
Comments: Compound not available for certification by ELAP									
Benzo(k)fluoranthene	U	0.012	0.012	0.096	ug/L	0.96	B211130-017	11/08/2021 08:45	12/01/2021 18:11
Comments: Compound not available for certification by ELAP									
beta BHC	U	0.019	0.019	0.096	ug/L	0.96	B211130-017	11/08/2021 08:45	12/01/2021 18:11
Comments: Compound not available for certification by ELAP									
beta Endosulfan	U	0.018	0.018	0.096	ug/L	0.96	B211130-017	11/08/2021 08:45	12/01/2021 18:11
Comments: Compound not available for certification by ELAP									
bis(2-Ethylhexyl)adipate	U	0.028	0.028	0.096	ug/L	0.96	B211130-017	11/08/2021 08:45	12/01/2021 18:11
bis(2-Ethylhexyl)phthalate	E1	0.088	0.057	0.096	ug/L	0.96	B211130-017	11/08/2021 08:45	12/01/2021 18:11
Bromacil	U	0.017	0.017	0.096	ug/L	0.96	B211130-017	11/08/2021 08:45	12/01/2021 18:11
Comments: Compound not available for certification by ELAP									
Butachlor	U	0.025	0.025	0.096	ug/L	0.96	B211130-017	11/08/2021 08:45	12/01/2021 18:11
Butylbenzyl Phthalate	U	0.025	0.025	0.096	ug/L	0.96	B211130-017	11/08/2021 08:45	12/01/2021 18:11
Comments: Compound not available for certification by ELAP									
Chlordane	U	0.038	0.038	0.096	ug/L	0.96	B211130-017	11/08/2021 08:45	12/01/2021 18:11



Samples Results for C002420

Sample ID: C002420-02
Site: WTP BAYSIDE Bayside GW Project Extraction Wells at 2540 Grant Avenue, San Lorenzo
Locator: BAY WELL HEAD Sample tap at the well, as shown in Drawing No. 2097-C-002
Client: Bayside Ground Water Project
Sample Type: GRAB
Date Collected: Nov 02 2021 09:45 **Sample Collector:** J. Marshak/Terraphase
Date Received: Nov 02 2021 12:23 **Sample Receiver:** A Ng
Sample Comments: Field Comments: T22 Requirements

Analyte	Qualifier	Result	MDL	RL	Units	DF	Batch	Prepared	Analyzed
Semivolatile Organic Compounds (BNA), GC/MS by EPA 525.2									
Chlordane-alpha	U	0.017	0.017	0.096	ug/L	0.96	B211130-017	11/08/2021 08:45	12/01/2021 18:11
		Comments: Compound not available for certification by ELAP							
Chlordane-gamma	U	0.017	0.017	0.096	ug/L	0.96	B211130-017	11/08/2021 08:45	12/01/2021 18:11
		Comments: Compound not available for certification by ELAP							
Chlorobenzilate	U	0.045	0.045	0.096	ug/L	0.96	B211130-017	11/08/2021 08:45	12/01/2021 18:11
		Comments: Compound not available for certification by ELAP							
Chloroneb	U	0.050	0.050	0.096	ug/L	0.96	B211130-017	11/08/2021 08:45	12/01/2021 18:11
		Comments: Compound not available for certification by ELAP							
Chlorothalonil	U	0.031	0.031	0.096	ug/L	0.96	B211130-017	11/08/2021 08:45	12/01/2021 18:11
		Comments: Compound not available for certification by ELAP							
Chrysene	U	0.012	0.012	0.096	ug/L	0.96	B211130-017	11/08/2021 08:45	12/01/2021 18:11
		Comments: Compound not available for certification by ELAP							
cis-Permethrin	U	0.045	0.045	0.096	ug/L	0.96	B211130-017	11/08/2021 08:45	12/01/2021 18:11
		Comments: Compound not available for certification by ELAP							
DCPA	U	0.027	0.027	0.096	ug/L	0.96	B211130-017	11/08/2021 08:45	12/01/2021 18:11
		Comments: Compound not available for certification by ELAP							
delta BHC	U	0.012	0.012	0.096	ug/L	0.96	B211130-017	11/08/2021 08:45	12/01/2021 18:11
		Comments: Compound not available for certification by ELAP							
Dibenzo(a,h)anthracene	U	0.013	0.013	0.096	ug/L	0.96	B211130-017	11/08/2021 08:45	12/01/2021 18:11
		Comments: Compound not available for certification by ELAP							
Dieldrin	U	0.022	0.022	0.096	ug/L	0.96	B211130-017	11/08/2021 08:45	12/01/2021 18:11
Diethyl Phthalate	U	0.013	0.013	0.096	ug/L	0.96	B211130-017	11/08/2021 08:45	12/01/2021 18:11
		Comments: Compound not available for certification by ELAP							
Dimethyl Phthalate	U	0.0096	0.0096	0.096	ug/L	0.96	B211130-017	11/08/2021 08:45	12/01/2021 18:11
		Comments: Compound not available for certification by ELAP							
Di-n-butyl phthalate	U	0.027	0.027	0.096	ug/L	0.96	B211130-017	11/08/2021 08:45	12/01/2021 18:11
		Comments: Compound not available for certification by ELAP							
Endosulfan Sulfate	U	0.034	0.034	0.096	ug/L	0.96	B211130-017	11/08/2021 08:45	12/01/2021 18:11
		Comments: Compound not available for certification by ELAP							
Endrin	U	0.030	0.030	0.096	ug/L	0.96	B211130-017	11/08/2021 08:45	12/01/2021 18:11
Endrin Aldehyde	U	0.028	0.028	0.096	ug/L	0.96	B211130-017	11/08/2021 08:45	12/01/2021 18:11
		Comments: Compound not available for certification by ELAP							
EPTC	U	0.0096	0.0096	0.096	ug/L	0.96	B211130-017	11/08/2021 08:45	12/01/2021 18:11
		Comments: Compound not available for certification by ELAP							
Etridiazole	U	0.0096	0.0096	0.096	ug/L	0.96	B211130-017	11/08/2021 08:45	12/01/2021 18:11
		Comments: Compound not available for certification by ELAP							
Fluorene	U	0.021	0.021	0.096	ug/L	0.96	B211130-017	11/08/2021 08:45	12/01/2021 18:11
		Comments: Compound not available for certification by ELAP							
gamma BHC	U	0.016	0.016	0.096	ug/L	0.96	B211130-017	11/08/2021 08:45	12/01/2021 18:11
Heptachlor	U	0.0058	0.0058	0.0096	ug/L	0.96	B211130-017	11/08/2021 08:45	12/01/2021 18:11
Heptachlor Epoxide	U	0.0058	0.0058	0.0096	ug/L	0.96	B211130-017	11/08/2021 08:45	12/01/2021 18:11
Hexachlorobenzene	U	0.017	0.017	0.096	ug/L	0.96	B211130-017	11/08/2021 08:45	12/01/2021 18:11
Hexachlorocyclopentadiene	U	0.018	0.018	0.096	ug/L	0.96	B211130-017	11/08/2021 08:45	12/01/2021 18:11
Hexazinone	U	0.034	0.034	0.096	ug/L	0.96	B211130-017	11/08/2021 08:45	12/01/2021 18:11
		Comments: Compound not available for certification by ELAP							
Indeno(1,2,3-cd)pyrene	U	0.012	0.012	0.096	ug/L	0.96	B211130-017	11/08/2021 08:45	12/01/2021 18:11
		Comments: Compound not available for certification by ELAP							
Isophorone	U	0.010	0.010	0.096	ug/L	0.96	B211130-017	11/08/2021 08:45	12/01/2021 18:11



Samples Results for C002420

Sample ID: C002420-02
Site: WTP BAYSIDE Bayside GW Project Extraction Wells at 2540 Grant Avenue, San Lorenzo
Locator: BAY WELL HEAD Sample tap at the well, as shown in Drawing No. 2097-C-002
Client: Bayside Ground Water Project
Sample Type: GRAB
Date Collected: Nov 02 2021 09:45 **Sample Collector:** J. Marshak/Terraphase
Date Received: Nov 02 2021 12:23 **Sample Receiver:** A Ng
Sample Comments: Field Comments: T22 Requirements

Analyte	Qualifier	Result	MDL	RL	Units	DF	Batch	Prepared	Analyzed
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Semivolatile Organic Compounds (BNA), GC/MS by EPA 525.2

								Comments: Compound not available for certification by ELAP	
Methoxychlor	U	0.010	0.010	0.096	ug/L	0.96	B211130-017	11/08/2021 08:45	12/01/2021 18:11
Metolachlor	U	0.022	0.022	0.096	ug/L	0.96	B211130-017	11/08/2021 08:45	12/01/2021 18:11
								Comments: Compound not available for certification by ELAP	
Metribuzin	U	0.024	0.024	0.096	ug/L	0.96	B211130-017	11/08/2021 08:45	12/01/2021 18:11
								Comments: Compound not available for certification by ELAP	
Molinate	U	0.025	0.025	0.096	ug/L	0.96	B211130-017	11/08/2021 08:45	12/01/2021 18:11
Phenanthrene	U	0.014	0.014	0.096	ug/L	0.96	B211130-017	11/08/2021 08:45	12/01/2021 18:11
								Comments: Compound not available for certification by ELAP	
Prometryn	U	0.021	0.021	0.096	ug/L	0.96	B211130-017	11/08/2021 08:45	12/01/2021 18:11
								Comments: Compound not available for certification by ELAP	
Propachlor	U	0.013	0.013	0.096	ug/L	0.96	B211130-017	11/08/2021 08:45	12/01/2021 18:11
								Comments: Compound not available for certification by ELAP	
Pyrene	U	0.029	0.029	0.096	ug/L	0.96	B211130-017	11/08/2021 08:45	12/01/2021 18:11
								Comments: Compound not available for certification by ELAP	
Simazine	U	0.027	0.027	0.096	ug/L	0.96	B211130-017	11/08/2021 08:45	12/01/2021 18:11
Terbacil	U	0.031	0.031	0.096	ug/L	0.96	B211130-017	11/08/2021 08:45	12/01/2021 18:11
								Comments: Compound not available for certification by ELAP	
Thiobencarb	U	0.017	0.017	0.096	ug/L	0.96	B211130-017	11/08/2021 08:45	12/01/2021 18:11
Toxaphene	U	0.48	0.48	0.96	ug/L	0.96	B211130-017	11/08/2021 08:45	12/01/2021 18:11
trans-Permethrin	U	0.019	0.019	0.096	ug/L	0.96	B211130-017	11/08/2021 08:45	12/01/2021 18:11
								Comments: Compound not available for certification by ELAP	
Trifluralin	U	0.0096	0.0096	0.096	ug/L	0.96	B211130-017	11/08/2021 08:45	12/01/2021 18:11
								Comments: Compound not available for certification by ELAP	

INTERNAL STANDARD

d10-Acenaphthene (%)	88	%	0.96	B211130-017	11/08/2021 08:45	12/01/2021 18:11
d10-Phenanthrene (%)	90	%	0.96	B211130-017	11/08/2021 08:45	12/01/2021 18:11
d12-Chrysene (%)	90	%	0.96	B211130-017	11/08/2021 08:45	12/01/2021 18:11

SURROGATES

1,3-Dimethyl-2-nitrobenzene (%)	101	%	0.96	B211130-017	11/08/2021 08:45	12/01/2021 18:11
d10-Pyrene (%)	103	%	0.96	B211130-017	11/08/2021 08:45	12/01/2021 18:11
d12-Perylene (%)	90	%	0.96	B211130-017	11/08/2021 08:45	12/01/2021 18:11
Triphenyl phosphate (%)	107	%	0.96	B211130-017	11/08/2021 08:45	12/01/2021 18:11



Samples Results for C002420

Sample ID: C002420-03
Site: WTP BAYSIDE Bayside GW Project Extraction Wells at 2540 Grant Avenue, San Lorenzo
Locator: BAY WELL HEAD Sample tap at the well, as shown in Drawing No. 2097-C-002
Client: Bayside Ground Water Project
Sample Type: GRAB
Date Collected: Nov 02 2021 09:55 **Sample Collector:** J. Marshak/Terraphase
Date Received: Nov 02 2021 12:23 **Sample Receiver:** A Ng
Sample Comments:

Analyte	Qualifier	Result	MDL	RL	Units	DF	Batch	Prepared	Analyzed
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Carbamates by EPA 531.1

Subcontract data from: Alpha Analytical Laboratory ELAP#: 1551

TARGET ANALYTES

3-Hydroxycarbofuran	U	0.60	0.60	3.0	ug/L	1		11/03/2021 11:00	11/03/2021 18:41
Comments: SUB: Analyte included in analysis but not detected at or above MDL									
Aldicarb	U	0.60	0.60	3.0	ug/L	1		11/03/2021 11:00	11/03/2021 18:41
Comments: SUB: Analyte included in analysis but not detected at or above MDL									
Aldicarb sulfone	U	0.50	0.50	4.0	ug/L	1		11/03/2021 11:00	11/03/2021 18:41
Comments: SUB: Analyte included in analysis but not detected at or above MDL									
Carbaryl	U	0.80	0.80	5.0	ug/L	1		11/03/2021 11:00	11/03/2021 18:41
Comments: SUB: Analyte included in analysis but not detected at or above MDL									
Carbofuran	U	0.40	0.40	5.0	ug/L	1		11/03/2021 11:00	11/03/2021 18:41
Comments: SUB: Analyte included in analysis but not detected at or above MDL									
Methiocarb	U	0.90	0.90	5.0	ug/L	1		11/03/2021 11:00	11/03/2021 18:41
Comments: SUB: Analyte included in analysis but not detected at or above MDL									
Methomyl	U	0.90	0.90	2.0	ug/L	1		11/03/2021 11:00	11/03/2021 18:41
Comments: SUB: Analyte included in analysis but not detected at or above MDL									
Oxamyl	U	0.90	0.90	20	ug/L	1		11/03/2021 11:00	11/03/2021 18:41
Comments: SUB: Analyte included in analysis but not detected at or above MDL									

DBCP and EDB by EPA 504.1

Subcontract data from: Alpha Analytical Laboratory ELAP#: 1551

TARGET ANALYTES

Dibromochloropropane	U	0.0080	0.0080	0.010	ug/L	1		11/09/2021 06:36	11/10/2021 09:44
Comments: SUB: Analyte included in analysis but not detected at or above MDL									
Ethylene Dibromide	U	0.010	0.010	0.020	ug/L	1		11/09/2021 06:36	11/10/2021 09:44
Comments: SUB: Analyte included in analysis but not detected at or above MDL									

Diquat by EPA 549.2

Subcontract data from: Alpha Analytical Laboratory ELAP#: 1551

TARGET ANALYTES

Diquat	U	0.60	0.60	4.0	ug/L	1		11/09/2021 08:57	11/17/2021 18:54
Comments: SUB: Analyte included in analysis but not detected at or above MDL									

Glyphosate by EPA 547

Subcontract data from: Alpha Analytical Laboratory ELAP#: 1551

TARGET ANALYTES

Glyphosate	U	10	10	25	ug/L	1		11/10/2021 07:00	11/10/2021 15:36
Comments: SUB: Analyte included in analysis but not detected at or above MDL									

Herbicide, Endothall, GC/MS by EPA 548.1

Subcontract data from: Alpha Analytical Laboratory ELAP#: 1551

TARGET ANALYTES

Endothall	U	20	20	45	ug/L	1		11/08/2021 08:00	11/11/2021 01:29
Comments: SUB: Analyte included in analysis but not detected at or above MDL									



Samples Results for C002420

Sample ID: C002420-03
Site: WTP BAYSIDE Bayside GW Project Extraction Wells at 2540 Grant Avenue, San Lorenzo
Locator: BAY WELL HEAD Sample tap at the well, as shown in Drawing No. 2097-C-002
Client: Bayside Ground Water Project
Sample Type: GRAB
Date Collected: Nov 02 2021 09:55 **Sample Collector:** J. Marshak/Terraphase
Date Received: Nov 02 2021 12:23 **Sample Receiver:** A Ng
Sample Comments:

Analyte	Qualifier	Result	MDL	RL	Units	DF	Batch	Prepared	Analyzed
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Herbicides, Chlorinated Acids, GC/ECD by EPA 515.3

Subcontract data from: Alpha Analytical Laboratory ELAP#: 1551

TARGET ANALYTES

(2,4-Dichlorophenoxy)Acetic Acid	U	1.0	1.0	10	ug/L	1		11/15/2021 09:46	11/16/2021 20:40
Comments: SUB: Analyte included in analysis but not detected at or above MDL									
2-(2,4,5-Trichlorophenoxy)Propionic Acid	U	0.20	0.20	1.0	ug/L	1		11/15/2021 09:46	11/16/2021 20:40
Comments: SUB: Analyte included in analysis but not detected at or above MDL									
Bentazon	U	0.20	0.20	2.0	ug/L	1		11/15/2021 09:46	11/16/2021 20:40
Comments: SUB: Analyte included in analysis but not detected at or above MDL									
Dalapon	U	2.0	2.0	10	ug/L	1		11/15/2021 09:46	11/16/2021 20:40
Comments: SUB: Analyte included in analysis but not detected at or above MDL									
Dinoseb	U	0.20	0.20	2.0	ug/L	1		11/15/2021 09:46	11/16/2021 20:40
Comments: SUB: Analyte included in analysis but not detected at or above MDL									
Pentachlorophenol	U	0.20	0.20	0.20	ug/L	1		11/15/2021 09:46	11/16/2021 20:40
Comments: SUB: Analyte included in analysis but not detected at or above MDL									
Picloram	U	0.10	0.10	1.0	ug/L	1		11/15/2021 09:46	11/16/2021 20:40
Comments: SUB: Analyte included in analysis but not detected at or above MDL									

Hexavalent Chromium by EPA 218.6

Subcontract data from: Alpha Analytical Laboratory ELAP#: 1551

TARGET ANALYTES

Hexavalent Chromium	U	0.50	0.50	1.0	ug/L	1		11/04/2021 22:49	11/04/2021 22:49
Comments: SUB: Analyte included in analysis but not detected at or above MDL									

MBAS by SM5540C

Subcontract data from: Alpha Analytical Laboratory ELAP#: 1551

TARGET ANALYTES

MBAS	U	0.030	0.030	0.050	mg/L	1			11/04/2021 15:45
Comments: SUB: Analyte included in analysis but not detected at or above MDL									

PCBs, GC/ECD by EPA 508

Subcontract data from: Alpha Analytical Laboratory ELAP#: 1551

TARGET ANALYTES

Aroclor 1016	U	0.30	0.30	0.50	ug/L	1		11/09/2021 07:00	11/15/2021 23:06
Comments: SUB: Analyte included in analysis but not detected at or above MDL									
Aroclor 1221	U	0.30	0.30	0.50	ug/L	1		11/09/2021 07:00	11/15/2021 23:06
Comments: SUB: Analyte included in analysis but not detected at or above MDL									
Aroclor 1232	U	0.30	0.30	0.50	ug/L	1		11/09/2021 07:00	11/15/2021 23:06
Comments: SUB: Analyte included in analysis but not detected at or above MDL									
Aroclor 1242	U	0.30	0.30	0.50	ug/L	1		11/09/2021 07:00	11/15/2021 23:06
Comments: SUB: Analyte included in analysis but not detected at or above MDL									
Aroclor 1248	U	0.30	0.30	0.50	ug/L	1		11/09/2021 07:00	11/15/2021 23:06
Comments: SUB: Analyte included in analysis but not detected at or above MDL									
Aroclor 1254	U	0.30	0.30	0.50	ug/L	1		11/09/2021 07:00	11/15/2021 23:06
Comments: SUB: Analyte included in analysis but not detected at or above MDL									



Samples Results for C002420

Sample ID: C002420-03
Site: WTP BAYSIDE Bayside GW Project Extraction Wells at 2540 Grant Avenue, San Lorenzo
Locator: BAY WELL HEAD Sample tap at the well, as shown in Drawing No. 2097-C-002
Client: Bayside Ground Water Project
Sample Type: GRAB
Date Collected: Nov 02 2021 09:55 **Sample Collector:** J. Marshak/Terraphase
Date Received: Nov 02 2021 12:23 **Sample Receiver:** A Ng
Sample Comments:

Analyte	Qualifier	Result	MDL	RL	Units	DF	Batch	Prepared	Analyzed
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PCBs, GC/ECD by EPA 508

Subcontract data from: Alpha Analytical Laboratory ELAP#: 1551

Aroclor 1260	U	0.20	0.20	0.50	ug/L	1		11/09/2021 07:00	11/15/2021 23:06
Comments: SUB: Analyte included in analysis but not detected at or above MDL									
Total PCBs	U	0.30	0.30	0.50	ug/L	1		11/09/2021 07:00	11/15/2021 23:06
Comments: SUB: Analyte included in analysis but not detected at or above MDL									

Perchlorate in Drinking Water Using IC by EPA 314.0

Subcontract data from: Alpha Analytical Laboratory ELAP#: 1551

TARGET ANALYTES

Perchlorate	U	0.40	0.40	2.0	ug/L	1		11/05/2021 08:00	11/05/2021 21:16
Comments: SUB: Analyte included in analysis but not detected at or above MDL									

Purgeable Organic Compounds, GC/MS by EPA 524.2

Subcontract data from: Alpha Analytical Laboratory ELAP#: 1551

TARGET ANALYTES

1,1,1,2-Tetrachloroethane	U	0.40	0.40	0.50	ug/L	1			11/05/2021 14:44
Comments: SUB: Analyte included in analysis but not detected at or above MDL									
1,1,1-Trichloroethane	U	0.40	0.40	0.50	ug/L	1			11/05/2021 14:44
Comments: SUB: Analyte included in analysis but not detected at or above MDL									
1,1,2,2-Tetrachloroethane	U	0.20	0.20	0.50	ug/L	1			11/05/2021 14:44
Comments: SUB: Analyte included in analysis but not detected at or above MDL									
1,1,2-Trichloro-1,2,2-trifluoroethane	U	0.40	0.40	10	ug/L	1			11/05/2021 14:44
Comments: SUB: Analyte included in analysis but not detected at or above MDL									
1,1,2-Trichloroethane	U	0.20	0.20	0.50	ug/L	1			11/05/2021 14:44
Comments: SUB: Analyte included in analysis but not detected at or above MDL									
1,1-Dichloroethane	U	0.20	0.20	0.50	ug/L	1			11/05/2021 14:44
Comments: SUB: Analyte included in analysis but not detected at or above MDL									
1,1-Dichloroethene	U	0.30	0.30	0.50	ug/L	1			11/05/2021 14:44
Comments: SUB: Analyte included in analysis but not detected at or above MDL									
1,1-Dichloropropene	U	0.20	0.20	0.50	ug/L	1			11/05/2021 14:44
Comments: SUB: Analyte included in analysis but not detected at or above MDL									
1,2,3-Trichlorobenzene	U	0.40	0.40	0.50	ug/L	1			11/05/2021 14:44
Comments: SUB: Analyte included in analysis but not detected at or above MDL									
1,2,4-Trichlorobenzene	U	0.40	0.40	0.50	ug/L	1			11/05/2021 14:44
Comments: SUB: Analyte included in analysis but not detected at or above MDL									
1,2,4-Trimethylbenzene	U	0.50	0.50	0.50	ug/L	1			11/05/2021 14:44
Comments: SUB: Analyte included in analysis but not detected at or above MDL									
1,2-Dichlorobenzene	U	0.20	0.20	0.50	ug/L	1			11/05/2021 14:44
Comments: SUB: Analyte included in analysis but not detected at or above MDL									
1,2-Dichloroethane	U	0.10	0.10	0.50	ug/L	1			11/05/2021 14:44
Comments: SUB: Analyte included in analysis but not detected at or above MDL									
1,2-Dichloropropane	U	0.20	0.20	0.50	ug/L	1			11/05/2021 14:44
Comments: SUB: Analyte included in analysis but not detected at or above MDL									
1,3,5-Trimethylbenzene	U	0.50	0.50	0.50	ug/L	1			11/05/2021 14:44
Comments: SUB: Analyte included in analysis but not detected at or above MDL									
1,3-Dichlorobenzene	U	0.20	0.20	0.50	ug/L	1			11/05/2021 14:44



Samples Results for C002420

Sample ID: C002420-03
Site: WTP BAYSIDE Bayside GW Project Extraction Wells at 2540 Grant Avenue, San Lorenzo
Locator: BAY WELL HEAD Sample tap at the well, as shown in Drawing No. 2097-C-002
Client: Bayside Ground Water Project
Sample Type: GRAB
Date Collected: Nov 02 2021 09:55 **Sample Collector:** J. Marshak/Terraphase
Date Received: Nov 02 2021 12:23 **Sample Receiver:** A Ng
Sample Comments:

Analyte	Qualifier	Result	MDL	RL	Units	DF	Batch	Prepared	Analyzed
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Purgeable Organic Compounds, GC/MS by EPA 524.2

Subcontract data from:

Alpha Analytical Laboratory ELAP#: 1551

1,3-Dichloropropane	U	0.10	0.10	0.50	ug/L	1			11/05/2021 14:44
		Comments: SUB: Analyte included in analysis but not detected at or above MDL							
1,4-Dichlorobenzene	U	0.20	0.20	0.50	ug/L	1			11/05/2021 14:44
		Comments: SUB: Analyte included in analysis but not detected at or above MDL							
2-Butanone	U	0.20	0.20	5.0	ug/L	1			11/05/2021 14:44
		Comments: SUB: Analyte included in analysis but not detected at or above MDL							
4-Methyl-2-pentanone	U	0.90	0.90	5.0	ug/L	1			11/05/2021 14:44
		Comments: SUB: Analyte included in analysis but not detected at or above MDL							
Acrylonitrile	U	0.40	0.40	5.0	ug/L	1			11/05/2021 14:44
		Comments: SUB: Analyte included in analysis but not detected at or above MDL							
Benzene	U	0.10	0.10	0.50	ug/L	1			11/05/2021 14:44
		Comments: SUB: Analyte included in analysis but not detected at or above MDL							
Bromobenzene	U	0.20	0.20	0.50	ug/L	1			11/05/2021 14:44
		Comments: SUB: Analyte included in analysis but not detected at or above MDL							
Bromochloromethane	U	0.40	0.40	0.50	ug/L	1			11/05/2021 14:44
		Comments: SUB: Analyte included in analysis but not detected at or above MDL							
Bromodichloromethane	U	0.20	0.20	1.0	ug/L	1			11/05/2021 14:44
		Comments: SUB: Analyte included in analysis but not detected at or above MDL							
Bromoform	U	0.30	0.30	1.0	ug/L	1			11/05/2021 14:44
		Comments: SUB: Analyte included in analysis but not detected at or above MDL							
Bromomethane	U	0.40	0.40	0.50	ug/L	1			11/05/2021 14:44
		Comments: SUB: Analyte included in analysis but not detected at or above MDL							
Carbon Disulfide	U	0.40	0.40	0.50	ug/L	1			11/05/2021 14:44
		Comments: SUB: Analyte included in analysis but not detected at or above MDL							
Carbon Tetrachloride	U	0.30	0.30	0.50	ug/L	1			11/05/2021 14:44
		Comments: SUB: Analyte included in analysis but not detected at or above MDL							
Chlorobenzene	U	0.20	0.20	0.50	ug/L	1			11/05/2021 14:44
		Comments: SUB: Analyte included in analysis but not detected at or above MDL							
Chloroethane	U	0.30	0.30	0.50	ug/L	1			11/05/2021 14:44
		Comments: SUB: Analyte included in analysis but not detected at or above MDL							
Chloroform	U	0.30	0.30	1.0	ug/L	1			11/05/2021 14:44
		Comments: SUB: Analyte included in analysis but not detected at or above MDL							
Chloromethane	U	0.40	0.40	0.50	ug/L	1			11/05/2021 14:44
		Comments: SUB: Analyte included in analysis but not detected at or above MDL							
cis-1,2-Dichloroethene	U	0.10	0.10	0.50	ug/L	1			11/05/2021 14:44
		Comments: SUB: Analyte included in analysis but not detected at or above MDL							
cis-1,3-Dichloropropene	U	0.30	0.30	0.50	ug/L	1			11/05/2021 14:44
		Comments: SUB: Analyte included in analysis but not detected at or above MDL							
Dibromochloromethane	U	0.30	0.30	1.0	ug/L	1			11/05/2021 14:44
		Comments: SUB: Analyte included in analysis but not detected at or above MDL							
Dibromomethane	U	0.20	0.20	0.50	ug/L	1			11/05/2021 14:44
		Comments: SUB: Analyte included in analysis but not detected at or above MDL							
Dichlorodifluoromethane	U	0.50	0.50	0.50	ug/L	1			11/05/2021 14:44
		Comments: SUB: Analyte included in analysis but not detected at or above MDL							
Ethyl Benzene	U	0.20	0.20	0.50	ug/L	1			11/05/2021 14:44
		Comments: SUB: Analyte included in analysis but not detected at or above MDL							



Samples Results for C002420

Sample ID: C002420-03
Site: WTP BAYSIDE Bayside GW Project Extraction Wells at 2540 Grant Avenue, San Lorenzo
Locator: BAY WELL HEAD Sample tap at the well, as shown in Drawing No. 2097-C-002
Client: Bayside Ground Water Project
Sample Type: GRAB
Date Collected: Nov 02 2021 09:55 **Sample Collector:** J. Marshak/Terraphase
Date Received: Nov 02 2021 12:23 **Sample Receiver:** A Ng
Sample Comments:

Analyte	Qualifier	Result	MDL	RL	Units	DF	Batch	Prepared	Analyzed
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Purgeable Organic Compounds, GC/MS by EPA 524.2

Subcontract data from:

Alpha Analytical Laboratory ELAP#: 1551

Ethyl-t-butyl Ether	U	0.40	0.40	0.50	ug/L	1			11/05/2021 14:44
		Comments: SUB: Analyte included in analysis but not detected at or above MDL							
Fluorotrichloromethane	U	0.50	0.50	5.0	ug/L	1			11/05/2021 14:44
		Comments: SUB: Analyte included in analysis but not detected at or above MDL							
Hexachlorobutadiene	U	0.40	0.40	0.50	ug/L	1			11/05/2021 14:44
		Comments: SUB: Analyte included in analysis but not detected at or above MDL							
Isopropylbenzene	U	0.20	0.20	0.50	ug/L	1			11/05/2021 14:44
		Comments: SUB: Analyte included in analysis but not detected at or above MDL							
m+p Xylenes	U	0.20	0.20	0.50	ug/L	1			11/05/2021 14:44
		Comments: SUB: Analyte included in analysis but not detected at or above MDL							
Methylene Chloride	U	0.40	0.40	0.50	ug/L	1			11/05/2021 14:44
		Comments: SUB: Analyte included in analysis but not detected at or above MDL							
Methyl-t-butyl Ether	U	0.50	0.50	3.0	ug/L	1			11/05/2021 14:44
		Comments: SUB: Analyte included in analysis but not detected at or above MDL							
Naphthalene	U	0.50	0.50	0.50	ug/L	1			11/05/2021 14:44
		Comments: SUB: Analyte included in analysis but not detected at or above MDL							
n-Butylbenzene	U	0.50	0.50	0.50	ug/L	1			11/05/2021 14:44
		Comments: SUB: Analyte included in analysis but not detected at or above MDL							
n-Propylbenzene	U	0.50	0.50	0.50	ug/L	1			11/05/2021 14:44
		Comments: SUB: Analyte included in analysis but not detected at or above MDL							
o-Chlorotoluene	U	0.20	0.20	0.50	ug/L	1			11/05/2021 14:44
		Comments: SUB: Analyte included in analysis but not detected at or above MDL							
o-Xylene	U	0.20	0.20	0.50	ug/L	1			11/05/2021 14:44
		Comments: SUB: Analyte included in analysis but not detected at or above MDL							
p-Chlorotoluene	U	0.20	0.20	0.50	ug/L	1			11/05/2021 14:44
		Comments: SUB: Analyte included in analysis but not detected at or above MDL							
p-Isopropyltoluene	U	0.50	0.50	0.50	ug/L	1			11/05/2021 14:44
		Comments: SUB: Analyte included in analysis but not detected at or above MDL							
sec-Butylbenzene	U	0.20	0.20	0.50	ug/L	1			11/05/2021 14:44
		Comments: SUB: Analyte included in analysis but not detected at or above MDL							
sec-Dichloropropane	U	0.30	0.30	0.50	ug/L	1			11/05/2021 14:44
		Comments: SUB: Analyte included in analysis but not detected at or above MDL							
Styrene	U	0.50	0.50	0.50	ug/L	1			11/05/2021 14:44
		Comments: SUB: Analyte included in analysis but not detected at or above MDL							
tert-Amyl Methyl Ether	U	0.30	0.30	0.50	ug/L	1			11/05/2021 14:44
		Comments: SUB: Analyte included in analysis but not detected at or above MDL							
tert-Butyl Alcohol	U	6.0	6.0	10	ug/L	1			11/05/2021 14:44
		Comments: SUB: Analyte included in analysis but not detected at or above MDL							
tert-Butylbenzene	U	0.50	0.50	0.50	ug/L	1			11/05/2021 14:44
		Comments: SUB: Analyte included in analysis but not detected at or above MDL							
Tetrachloroethene	U	0.20	0.20	0.50	ug/L	1			11/05/2021 14:44
		Comments: SUB: Analyte included in analysis but not detected at or above MDL							
Toluene	U	0.30	0.30	0.50	ug/L	1			11/05/2021 14:44
		Comments: SUB: Analyte included in analysis but not detected at or above MDL							
Total 1,3-Dichloropropenes, Calculated	U	0.30	0.30	0.50	ug/L	1			11/05/2021 14:44
		Comments: SUB: Analyte included in analysis but not detected at or above MDL							



Samples Results for C002420

Sample ID: C002420-03
Site: WTP BAYSIDE Bayside GW Project Extraction Wells at 2540 Grant Avenue, San Lorenzo
Locator: BAY WELL HEAD Sample tap at the well, as shown in Drawing No. 2097-C-002
Client: Bayside Ground Water Project
Sample Type: GRAB
Date Collected: Nov 02 2021 09:55 **Sample Collector:** J. Marshak/Terraphase
Date Received: Nov 02 2021 12:23 **Sample Receiver:** A Ng
Sample Comments:

Analyte	Qualifier	Result	MDL	RL	Units	DF	Batch	Prepared	Analyzed
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Purgeable Organic Compounds, GC/MS by EPA 524.2

Analyte	Qualifier	Result	MDL	RL	Units	DF	Batch	Prepared	Analyzed
Subcontract data from: Alpha Analytical Laboratory ELAP#: 1551									
Total Trihalomethanes, Calculated	U	0.30	0.30	0.50	ug/L	1			11/05/2021 14:44
Comments: SUB: Analyte included in analysis but not detected at or above MDL									
Total Xylenes, Calculated	U	0.20	0.20	0.50	ug/L	1			11/05/2021 14:44
Comments: SUB: Analyte included in analysis but not detected at or above MDL									
trans-1,2-Dichloroethene	U	0.30	0.30	0.50	ug/L	1			11/05/2021 14:44
Comments: SUB: Analyte included in analysis but not detected at or above MDL									
trans-1,3-Dichloropropene	U	0.50	0.50	0.50	ug/L	1			11/05/2021 14:44
Comments: SUB: Analyte included in analysis but not detected at or above MDL									
Trichloroethene	U	0.30	0.30	0.50	ug/L	1			11/05/2021 14:44
Comments: SUB: Analyte included in analysis but not detected at or above MDL									
Vinyl Chloride	U	0.50	0.50	0.50	ug/L	1			11/05/2021 14:44
Comments: SUB: Analyte included in analysis but not detected at or above MDL									



Samples Results for C002420

Sample ID: C002420-04
Site: WTP BAYSIDE Bayside GW Project Extraction Wells at 2540 Grant Avenue, San Lorenzo
Locator: BAY WELL HEAD Sample tap at the well, as shown in Drawing No. 2097-C-002
Client: Bayside Ground Water Project
Sample Type: GRAB
Date Collected: Nov 02 2021 10:15 **Sample Collector:** J. Marshak/Terraphase
Date Received: Nov 02 2021 12:23 **Sample Receiver:** A Ng
Sample Comments:

Analyte	Qualifier	Result	MDL	RL	Units	DF	Batch	Prepared	Analyzed
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Dioxins and Furans by EPA 1613 TCDD

Subcontract data from: Frontier Analytical Laboratory ELAP#: 2934

TARGET ANALYTES

2,3,7,8-Tetrachlorodibenzo Dioxin	ND	1.37	1.37	5	pg/L	1		12/02/2021 00:00	12/06/2021 21:06
Comments: SUB: ND-Analyte Not Detected at Detection Limit Level									



Samples Results for C002420

Sample ID: C002420-05
Site: WTP BAYSIDE Bayside GW Project Extraction Wells at 2540 Grant Avenue, San Lorenzo
Locator: BAY WELL HEAD Sample tap at the well, as shown in Drawing No. 2097-C-002
Client: Bayside Ground Water Project
Sample Type: GRAB
Date Collected: Nov 02 2021 10:20 **Sample Collector:** J. Marshak/Terraphase
Date Received: Nov 02 2021 12:23 **Sample Receiver:** A Ng
Sample Comments:

Analyte	Qualifier	Result	MDL	RL	Units	DF	Batch	Prepared	Analyzed
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Asbestos, Transmission Electron Micr by EPA 100.2

Subcontract data from: Forensic Analytical laboratories ELAP#: 1366

TARGET ANALYTES

Asbestos	U	0.2	0.2		MFL			11/02/2021 00:00	11/09/2021 00:00
Comments: SUB: Analyte not detected									



Samples Results for C002420

Sample ID: C002420-06
Site: WTP BAYSIDE Bayside GW Project Extraction Wells at 2540 Grant Avenue, San Lorenzo
Locator: BAY WELL HEAD Sample tap at the well, as shown in Drawing No. 2097-C-002
Client: Bayside Ground Water Project
Sample Type: GRAB
Date Collected: Nov 02 2021 10:25 **Sample Collector:** J. Marshak/Terraphase
Date Received: Nov 02 2021 12:23 **Sample Receiver:** A Ng
Sample Comments:

Analyte	Qualifier	Result	MDL	RL	Units	DF	Batch	Prepared	Analyzed
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TON Ambient Temperature, One Panelist by SM 2150 B-97

Subcontract data from: CalTest Analytical ELAP#: 1664

TARGET ANALYTES

Threshold Odor Number	1	ND	1	1	TON				11/02/2021 15:41
		Comments: SUB: ND indicates analytical result has not been detected above the Reporting Limit (RL). 1 Per client request, the sample was tested at ambient conditions (21. degrees C) and was not dechlorinated.							
No Odor Observed		1				Panelists			11/02/2021 15:41
		Comments: SUB							
Odor Characterization		0				Panelists			11/02/2021 15:41
		Comments: SUB							
Number Analyzing Sample		1				Panelists			11/02/2021 15:41
		Comments: SUB							
Temperature		21			C				11/02/2021 15:41
		Comments: SUB							



Samples Results for C002420

Sample ID: C002420-07
Site: WTP BAYSIDE Bayside GW Project Extraction Wells at 2540 Grant Avenue, San Lorenzo
Locator: BAY WELL HEAD Sample tap at the well, as shown in Drawing No. 2097-C-002
Client: Bayside Ground Water Project
Sample Type: GRAB
Date Collected: Nov 02 2021 10:30 **Sample Collector:** J. Marshak/Terraphase
Date Received: Nov 02 2021 12:23 **Sample Receiver:** A Ng
Sample Comments: Radon test was cancelled - instrument malfunction on 11/5/21; no resample necessary per Client (D. Behnken) on 11/8/21 16:10 email

Analyte	Qualifier	Result	MDL	RL	Units	DF	Batch	Prepared	Analyzed
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Radionuclides, Gross Alpha and Beta Particles by EPA 900.0

Subcontract data from: FGL Enviromental Agricultural ELAP#: 1573

TARGET ANALYTES

Gross Alpha		0.545	0.941		pCi/L	1		11/08/2021 08:00	11/12/2021 14:57
	Comments: SUB								
Gross Beta		0.377	0.788		pCi/L	1		11/08/2021 08:00	11/12/2021 14:57
	Comments: SUB								
Gross Alpha Counting Error	+/-	0.603			pCi/L	1		11/08/2021 08:00	11/12/2021 14:57
	Comments: SUB								
Gross Beta Counting Error	+/-	0.55			pCi/L	1		11/08/2021 08:00	11/12/2021 14:57
	Comments: SUB								
Gross Alpha MDA95		0.941			pCi/L	1		11/08/2021 08:00	11/12/2021 14:57
	Comments: SUB: MDL value is the MDA.								
Gross Beta MDA95		0.788			pCi/L	1		11/08/2021 08:00	11/12/2021 14:57
	Comments: SUB: MDL value is the MDA.								

Radionuclides, Radium 226 by EPA 903.0

Subcontract data from: FGL Enviromental Agricultural ELAP#: 1573

TARGET ANALYTES

Radium 226		0.224	0.369		pCi/L	1		11/16/2021 17:40	11/24/2021 10:55
	Comments: SUB								
Radium 226 Counting Error	+/-	0.147			pCi/L	1		11/16/2021 17:40	11/24/2021 10:55
	Comments: SUB								
Radium 226 MDA95		0.369			pCi/L	1		11/16/2021 17:40	11/24/2021 10:55
	Comments: SUB: MDL value is the MDA.								

Radionuclides, Radium 228 by Ra-05

Subcontract data from: FGL Enviromental Agricultural ELAP#: 1573

TARGET ANALYTES

Radium 228		0.083	0.624		pCi/L	1		11/22/2021 16:30	11/28/2021 15:10
	Comments: SUB								
Radium 228 Counting Error	+/-	0.591			pCi/L	1		11/22/2021 16:30	11/28/2021 15:10
	Comments: SUB								
Radium 228 MDA95		0.624			pCi/L	1		11/22/2021 16:30	11/28/2021 15:10
	Comments: SUB: MDL value is the MDA.								

Radionuclides, Strontium-90 by EPA 905.0

Subcontract data from: FGL Enviromental Agricultural ELAP#: 1573

TARGET ANALYTES

Strontium 90		0.184	0.319	2	pCi/L	1		01/14/2022 00:00	01/14/2022 06:29
	Comments: SUB								
Strontium 90 Counting Error	+/-	0.156			pCi/L	1		01/14/2022 00:00	01/14/2022 06:29
	Comments: SUB								
Strontium 90 MDA95		0.319			pCi/L	1		01/14/2022 00:00	01/14/2022 06:29
	Comments: SUB: MDL value is the MDC.								



Samples Results for C002420

Sample ID: C002420-07
Site: WTP BAYSIDE Bayside GW Project Extraction Wells at 2540 Grant Avenue, San Lorenzo
Locator: BAY WELL HEAD Sample tap at the well, as shown in Drawing No. 2097-C-002
Client: Bayside Ground Water Project
Sample Type: GRAB
Date Collected: Nov 02 2021 10:30 **Sample Collector:** J. Marshak/Terraphase
Date Received: Nov 02 2021 12:23 **Sample Receiver:** A Ng
Sample Comments: Radon test was cancelled - instrument malfunction on 11/5/21; no resample necessary per Client (D. Behnken) on 11/8/21 16:10 email

Analyte	Qualifier	Result	MDL	RL	Units	DF	Batch	Prepared	Analyzed
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Radionuclides, Tritium by EPA 903.0

Subcontract data from: FGL Enviromental Agricultural ELAP#: 1573

TARGET ANALYTES

Tritium		272	434		pCi/L	1		11/29/2021 10:30	12/01/2021 08:55
	Comments: SUB								
Tritium Counting Error	+/-	274			pCi/L	1		11/29/2021 10:30	12/01/2021 08:55
	Comments: SUB								
Tritium MDA95		434			pCi/L	1		11/29/2021 10:30	12/01/2021 08:55
	Comments: SUB: MDL value is the MDA.								

Radionuclides, Uranium by EPA 200.8

Subcontract data from: FGL Enviromental Agricultural ELAP#: 1573

TARGET ANALYTES

Uranium	ND	0.67	0.67		pCi/L	1		11/04/2021 00:00	11/04/2021 00:00
	Comments: SUB: Non-Detected								
Uranium Counting Error					pCi/L	1		11/04/2021 00:00	11/04/2021 00:00
Uranium MDA95					pCi/L	1		11/04/2021 00:00	11/04/2021 00:00



Samples Results for C002420

Sample ID: C002420-08
Site: FIELD QC **Sample collection QC**
Locator: COLLECTION QC **Field QC Sample submitted for analysis**
Client: Bayside Ground Water Project
Sample Type: QCFB
Date Collected: Nov 02 2021 09:50 **Sample Collector:** J. Marshak/Terraphase
Date Received: Nov 02 2021 12:23 **Sample Receiver:** A Ng
Sample Comments: Field Comments: Field Blank for 524M-TCP; Expires 10/22/21

Analyte	Qualifier	Result	MDL	RL	Units	DF	Batch	Prepared	Analyzed
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1,2,3-Trichloropropane, GC/MS by SRL 524M-TCP

TARGET ANALYTES

1,2,3-Trichloropropane	U	1.2	1.2	5.0	ng/L	1.0	B211105-006		11/05/2021 15:22
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INTERNAL STANDARD

d5-1,2,3-Trichloropropane (%)		81			%	1.0	B211105-006		11/05/2021 15:22
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Samples Results for C002420

Sample ID: C002420-09
Site: FIELD QC **Sample collection QC**
Locator: COLLECTION QC **Field QC Sample submitted for analysis**
Client: Bayside Ground Water Project
Sample Type: QCTB
Date Collected: Nov 02 2021 10:00 **Sample Collector:** J. Marshak/Terraphase
Date Received: Nov 02 2021 12:23 **Sample Receiver:** A Ng
Sample Comments: Field Comments: Trip Blank 504.1

Analyte	Qualifier	Result	MDL	RL	Units	DF	Batch	Prepared	Analyzed
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DBCP and EDB by EPA 504.1

Subcontract data from: Alpha Analytical Laboratory ELAP#: 1551

TARGET ANALYTES

Dibromochloropropane	U	0.0080	0.0080	0.010	ug/L	1		11/09/2021 06:36	11/10/2021 10:19
Comments: SUB: Analyte included in analysis but not detected at or above MDL									
Ethylene Dibromide	U	0.010	0.010	0.020	ug/L	1		11/09/2021 06:36	11/10/2021 10:19
Comments: SUB: Analyte included in analysis but not detected at or above MDL									



Samples Results for C002420

Sample ID: C002420-10
Site: FIELD QC **Sample collection QC**
Locator: COLLECTION QC **Field QC Sample submitted for analysis**
Client: Bayside Ground Water Project
Sample Type: QCFB
Date Collected: Nov 02 2021 10:02 **Sample Collector:** J. Marshak/Terraphase
Date Received: Nov 02 2021 12:23 **Sample Receiver:** A Ng
Sample Comments: Field Comments: Field Blank 524.2

Analyte	Qualifier	Result	MDL	RL	Units	DF	Batch	Prepared	Analyzed
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Purgeable Organic Compounds, GC/MS by EPA 524.2

Subcontract data from: Alpha Analytical Laboratory ELAP#: 1551

TARGET ANALYTES

1,1,1,2-Tetrachloroethane	U	0.40	0.40	0.50	ug/L	1			11/05/2021 15:17
Comments: SUB: Analyte included in analysis but not detected at or above MDL									
1,1,1-Trichloroethane	U	0.40	0.40	0.50	ug/L	1			11/05/2021 15:17
Comments: SUB: Analyte included in analysis but not detected at or above MDL									
1,1,2,2-Tetrachloroethane	U	0.20	0.20	0.50	ug/L	1			11/05/2021 15:17
Comments: SUB: Analyte included in analysis but not detected at or above MDL									
1,1,2-Trichloro-1,2,2-trifluoroethane	U	0.40	0.40	10	ug/L	1			11/05/2021 15:17
Comments: SUB: Analyte included in analysis but not detected at or above MDL									
1,1,2-Trichloroethane	U	0.20	0.20	0.50	ug/L	1			11/05/2021 15:17
Comments: SUB: Analyte included in analysis but not detected at or above MDL									
1,1-Dichloroethane	U	0.20	0.20	0.50	ug/L	1			11/05/2021 15:17
Comments: SUB: Analyte included in analysis but not detected at or above MDL									
1,1-Dichloroethene	U	0.30	0.30	0.50	ug/L	1			11/05/2021 15:17
Comments: SUB: Analyte included in analysis but not detected at or above MDL									
1,1-Dichloropropene	U	0.20	0.20	0.50	ug/L	1			11/05/2021 15:17
Comments: SUB: Analyte included in analysis but not detected at or above MDL									
1,2,3-Trichlorobenzene	U	0.40	0.40	0.50	ug/L	1			11/05/2021 15:17
Comments: SUB: Analyte included in analysis but not detected at or above MDL									
1,2,4-Trichlorobenzene	U	0.40	0.40	0.50	ug/L	1			11/05/2021 15:17
Comments: SUB: Analyte included in analysis but not detected at or above MDL									
1,2,4-Trimethylbenzene	U	0.50	0.50	0.50	ug/L	1			11/05/2021 15:17
Comments: SUB: Analyte included in analysis but not detected at or above MDL									
1,2-Dichlorobenzene	U	0.20	0.20	0.50	ug/L	1			11/05/2021 15:17
Comments: SUB: Analyte included in analysis but not detected at or above MDL									
1,2-Dichloroethane	U	0.10	0.10	0.50	ug/L	1			11/05/2021 15:17
Comments: SUB: Analyte included in analysis but not detected at or above MDL									
1,2-Dichloropropane	U	0.20	0.20	0.50	ug/L	1			11/05/2021 15:17
Comments: SUB: Analyte included in analysis but not detected at or above MDL									
1,3,5-Trimethylbenzene	U	0.50	0.50	0.50	ug/L	1			11/05/2021 15:17
Comments: SUB: Analyte included in analysis but not detected at or above MDL									
1,3-Dichlorobenzene	U	0.20	0.20	0.50	ug/L	1			11/05/2021 15:17
Comments: SUB: Analyte included in analysis but not detected at or above MDL									
1,3-Dichloropropane	U	0.10	0.10	0.50	ug/L	1			11/05/2021 15:17
Comments: SUB: Analyte included in analysis but not detected at or above MDL									
1,4-Dichlorobenzene	U	0.20	0.20	0.50	ug/L	1			11/05/2021 15:17
Comments: SUB: Analyte included in analysis but not detected at or above MDL									
2-Butanone	U	0.20	0.20	5.0	ug/L	1			11/05/2021 15:17
Comments: SUB: Analyte included in analysis but not detected at or above MDL									
4-Methyl-2-pentanone	U	0.90	0.90	5.0	ug/L	1			11/05/2021 15:17
Comments: SUB: Analyte included in analysis but not detected at or above MDL									
Acrylonitrile	U	0.40	0.40	5.0	ug/L	1			11/05/2021 15:17
Comments: SUB: Analyte included in analysis but not detected at or above MDL									
Benzene	U	0.10	0.10	0.50	ug/L	1			11/05/2021 15:17
Comments: SUB: Analyte included in analysis but not detected at or above MDL									
Bromobenzene	U	0.20	0.20	0.50	ug/L	1			11/05/2021 15:17



Samples Results for C002420

Sample ID: C002420-10
Site: FIELD QC **Sample collection QC**
Locator: COLLECTION QC **Field QC Sample submitted for analysis**
Client: Bayside Ground Water Project
Sample Type: QCFB
Date Collected: Nov 02 2021 10:02 **Sample Collector:** J. Marshak/Terraphase
Date Received: Nov 02 2021 12:23 **Sample Receiver:** A Ng
Sample Comments: Field Comments: Field Blank 524.2

Analyte	Qualifier	Result	MDL	RL	Units	DF	Batch	Prepared	Analyzed
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Purgeable Organic Compounds, GC/MS by EPA 524.2

Subcontract data from:

Alpha Analytical Laboratory ELAP#: 1551
 Comments: SUB: Analyte included in analysis but not detected at or above MDL

Bromochloromethane	U	0.40	0.40	0.50	ug/L	1			11/05/2021 15:17
Bromodichloromethane	U	0.20	0.20	1.0	ug/L	1			11/05/2021 15:17
Bromoform	U	0.30	0.30	1.0	ug/L	1			11/05/2021 15:17
Bromomethane	U	0.40	0.40	0.50	ug/L	1			11/05/2021 15:17
Carbon Disulfide	U	0.40	0.40	0.50	ug/L	1			11/05/2021 15:17
Carbon Tetrachloride	U	0.30	0.30	0.50	ug/L	1			11/05/2021 15:17
Chlorobenzene	U	0.20	0.20	0.50	ug/L	1			11/05/2021 15:17
Chloroethane	U	0.30	0.30	0.50	ug/L	1			11/05/2021 15:17
Chloroform	U	0.30	0.30	1.0	ug/L	1			11/05/2021 15:17
Chloromethane	U	0.40	0.40	0.50	ug/L	1			11/05/2021 15:17
cis-1,2-Dichloroethene	U	0.10	0.10	0.50	ug/L	1			11/05/2021 15:17
cis-1,3-Dichloropropene	U	0.30	0.30	0.50	ug/L	1			11/05/2021 15:17
Dibromochloromethane	U	0.30	0.30	1.0	ug/L	1			11/05/2021 15:17
Dibromomethane	U	0.20	0.20	0.50	ug/L	1			11/05/2021 15:17
Dichlorodifluoromethane	U	0.50	0.50	0.50	ug/L	1			11/05/2021 15:17
Ethyl Benzene	U	0.20	0.20	0.50	ug/L	1			11/05/2021 15:17
Ethyl-t-butyl Ether	U	0.40	0.40	0.50	ug/L	1			11/05/2021 15:17
Fluorotrichloromethane	U	0.50	0.50	5.0	ug/L	1			11/05/2021 15:17
Hexachlorobutadiene	U	0.40	0.40	0.50	ug/L	1			11/05/2021 15:17
Isopropylbenzene	U	0.20	0.20	0.50	ug/L	1			11/05/2021 15:17
m-p Xylenes	U	0.20	0.20	0.50	ug/L	1			11/05/2021 15:17
Methylene Chloride	U	0.40	0.40	0.50	ug/L	1			11/05/2021 15:17
Methyl-t-butyl Ether	U	0.50	0.50	3.0	ug/L	1			11/05/2021 15:17

Comments: SUB: Analyte included in analysis but not detected at or above MDL



Samples Results for C002420

Sample ID: C002420-10
Site: FIELD QC **Sample collection QC**
Locator: COLLECTION QC **Field QC Sample submitted for analysis**
Client: Bayside Ground Water Project
Sample Type: QCFB
Date Collected: Nov 02 2021 10:02 **Sample Collector:** J. Marshak/Terraphase
Date Received: Nov 02 2021 12:23 **Sample Receiver:** A Ng
Sample Comments: Field Comments: Field Blank 524.2

Analyte	Qualifier	Result	MDL	RL	Units	DF	Batch	Prepared	Analyzed
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Purgeable Organic Compounds, GC/MS by EPA 524.2

Subcontract data from:

Alpha Analytical Laboratory ELAP#: 1551

Naphthalene	U	0.50	0.50	0.50	ug/L	1			11/05/2021 15:17
		Comments: SUB: Analyte included in analysis but not detected at or above MDL							
n-Butylbenzene	U	0.50	0.50	0.50	ug/L	1			11/05/2021 15:17
		Comments: SUB: Analyte included in analysis but not detected at or above MDL							
n-Propylbenzene	U	0.50	0.50	0.50	ug/L	1			11/05/2021 15:17
		Comments: SUB: Analyte included in analysis but not detected at or above MDL							
o-Chlorotoluene	U	0.20	0.20	0.50	ug/L	1			11/05/2021 15:17
		Comments: SUB: Analyte included in analysis but not detected at or above MDL							
o-Xylene	U	0.20	0.20	0.50	ug/L	1			11/05/2021 15:17
		Comments: SUB: Analyte included in analysis but not detected at or above MDL							
p-Chlorotoluene	U	0.20	0.20	0.50	ug/L	1			11/05/2021 15:17
		Comments: SUB: Analyte included in analysis but not detected at or above MDL							
p-Isopropyltoluene	U	0.50	0.50	0.50	ug/L	1			11/05/2021 15:17
		Comments: SUB: Analyte included in analysis but not detected at or above MDL							
sec-Butylbenzene	U	0.20	0.20	0.50	ug/L	1			11/05/2021 15:17
		Comments: SUB: Analyte included in analysis but not detected at or above MDL							
sec-Dichloropropane	U	0.30	0.30	0.50	ug/L	1			11/05/2021 15:17
		Comments: SUB: Analyte included in analysis but not detected at or above MDL							
Styrene	U	0.50	0.50	0.50	ug/L	1			11/05/2021 15:17
		Comments: SUB: Analyte included in analysis but not detected at or above MDL							
tert-Amyl Methyl Ether	U	0.30	0.30	0.50	ug/L	1			11/05/2021 15:17
		Comments: SUB: Analyte included in analysis but not detected at or above MDL							
tert-Butyl Alcohol	U	6.0	6.0	10	ug/L	1			11/05/2021 15:17
		Comments: SUB: Analyte included in analysis but not detected at or above MDL							
tert-Butylbenzene	U	0.50	0.50	0.50	ug/L	1			11/05/2021 15:17
		Comments: SUB: Analyte included in analysis but not detected at or above MDL							
Tetrachloroethene	U	0.20	0.20	0.50	ug/L	1			11/05/2021 15:17
		Comments: SUB: Analyte included in analysis but not detected at or above MDL							
Toluene	U	0.30	0.30	0.50	ug/L	1			11/05/2021 15:17
		Comments: SUB: Analyte included in analysis but not detected at or above MDL							
Total 1,3-Dichloropropenes, Calculated	U	0.30	0.30	0.50	ug/L	1			11/05/2021 15:17
		Comments: SUB: Analyte included in analysis but not detected at or above MDL							
Total Trihalomethanes, Calculated	U	0.30	0.30	0.50	ug/L	1			11/05/2021 15:17
		Comments: SUB: Analyte included in analysis but not detected at or above MDL							
Total Xylenes, Calculated	U	0.20	0.20	0.50	ug/L	1			11/05/2021 15:17
		Comments: SUB: Analyte included in analysis but not detected at or above MDL							
trans-1,2-Dichloroethene	U	0.30	0.30	0.50	ug/L	1			11/05/2021 15:17
		Comments: SUB: Analyte included in analysis but not detected at or above MDL							
trans-1,3-Dichloropropene	U	0.50	0.50	0.50	ug/L	1			11/05/2021 15:17
		Comments: SUB: Analyte included in analysis but not detected at or above MDL							
Trichloroethene	U	0.30	0.30	0.50	ug/L	1			11/05/2021 15:17
		Comments: SUB: Analyte included in analysis but not detected at or above MDL							
Vinyl Chloride	U	0.50	0.50	0.50	ug/L	1			11/05/2021 15:17
		Comments: SUB: Analyte included in analysis but not detected at or above MDL							



Quality Control for C002420

Analyte	Qualifier	Result	MDL	RL	Units	Spike Level	Source Result	% REC	% REC Limits	RPD	RPD Limits
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Colilert 18 QT CC by SM 9223 B Colilert 18, B211102-024

B211102-024 analyzed on 11/12/2021 23:54

Total Coliform		Pass									
E. coli		Pass									

Colilert 18 QT MB by SM 9223 B Colilert 18, B211102-024

B211102-024 analyzed on 11/12/2021 23:54

Total Coliform	<	1		1	MPN/100 mL						
E. coli	<	1		1	MPN/100 mL						

Colilert 18 QT NCC by SM 9223 B Colilert 18, B211102-024

B211102-024 analyzed on 11/12/2021 23:54

Total Coliform		Pass									
E. coli		Pass									

Colilert 18 QT PCC by SM 9223 B Colilert 18, B211102-024

B211102-024 analyzed on 11/12/2021 23:54

Total Coliform		Pass									
E. coli		Pass									

Colilert 18 QT DUP by SM 9223 B Colilert 18, B211102-024

B211102-024 analyzed on 11/12/2021 23:54; Source = C003829-01

Total Coliform	<	1.0		1.0	MPN/100 mL		1.0			0.000	0.594
Comment: ELAP provided certification for the analysis of recycled water samples for total coliforms by SM9223 B COLILERT 18 for all labs certified for this method under 40 CFR Part 141 as per letter from the SWRCB dated 5/20/2016.											
E. coli	<	1.0		1.0	MPN/100 mL		1.0			0.000	0.328

Colilert 18 QT DUP by SM 9223 B Colilert 18, B211102-024

B211102-024 analyzed on 11/12/2021 23:54; Source = C002420-02

Total Coliform	<	1.0		1.0	MPN/100 mL		1.0			0.000	0.489
E. coli	<	1.0		1.0	MPN/100 mL		1.0			0.000	10

Total Dissolved Solids DUP by SM 2540 C-2011, B211104-007

B211104-007 analyzed on 11/09/2021 20:14; Source = C002091-01

Total Dissolved Solids		460	10	55	mg/L		470			1.3	10
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Total Dissolved Solids DUP by SM 2540 C-2011, B211104-007

B211104-007 analyzed on 11/09/2021 20:14; Source = C003838-02

Total Dissolved Solids		120	10	55	mg/L		110			6.2	10
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Total Dissolved Solids LCS by SM 2540 C-2011, B211104-007

B211104-007 analyzed on 11/09/2021 20:14

Total Dissolved Solids		290	10	55	mg/L	320		90		85 - 115	
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Quality Control for C002420

Analyte	Qualifier	Result	MDL	RL	Units	Spike Level	Source Result	% REC	% REC Limits	RPD	RPD Limits
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Total Dissolved Solids LOQ by SM 2540 C-2011, B211104-007

B211104-007 analyzed on 11/09/2021 20:14

Total Dissolved Solids	E1	50	10	55	mg/L	55		91	50 - 150		
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Total Dissolved Solids MB by SM 2540 C-2011, B211104-007

B211104-007 analyzed on 11/09/2021 20:14

Total Dissolved Solids	U	10	10	55	mg/L						
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Turbidity DUP by SM 2130 B-2011, B211102-018

B211102-018 analyzed on 11/02/2021 23:07; Source = C002420-02

Turbidity		0.45	0.1	0.11	NTU		0.45			5.2	10
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Turbidity MB by SM 2130 B-2011, B211102-018

B211102-018 analyzed on 11/02/2021 23:06

Turbidity	U	0.1	0.1	0.11	NTU						
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Turbidity MB by SM 2130 B-2011, B211102-018

B211102-018 analyzed on 11/02/2021 23:07

Turbidity	U	0.1	0.1	0.11	NTU						
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Alkalinity DUP by SM 2320 B-2011, B211103-004

B211103-004 analyzed on 11/03/2021 19:00; Source = C003869-04

Alkalinity: Total as CaCO3		8300	62	380	mg/L		8600			3.2	20
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Alkalinity DUP by SM 2320 B-2011, B211103-004

B211103-004 analyzed on 11/03/2021 19:00; Source = C004590-01

Alkalinity: Total as CaCO3		56	5	30	mg/L		55			2.1	20
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Alkalinity LCS by SM 2320 B-2011, B211103-004

B211103-004 analyzed on 11/03/2021 19:00

Alkalinity: Total as CaCO3		300	5	30	mg/L	300		101	85 - 115		
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Alkalinity LOQ by SM 2320 B-2011, B211103-004

B211103-004 analyzed on 11/03/2021 19:00

Alkalinity: Total as CaCO3		34	5	30	mg/L	30		114	50 - 150		
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Alkalinity MB by SM 2320 B-2011, B211103-004

B211103-004 analyzed on 11/03/2021 19:00

Alkalinity: Total as CaCO3	U	5	5	30	mg/L						
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Quality Control for C002420

Analyte	Qualifier	Result	MDL	RL	Units	Spike Level	Source Result	% REC	% REC Limits	RPD	RPD Limits
Alkalinity MS by SM 2320 B-2011, B211103-004											
B211103-004 analyzed on 11/03/2021 19:00; Source = C003869-04											
Alkalinity: Total as CaCO3		13000	62	380	mg/L	5000	8600	92	80 - 120		
Alkalinity MS by SM 2320 B-2011, B211103-004											
B211103-004 analyzed on 11/03/2021 19:00; Source = C004590-01											
Alkalinity: Total as CaCO3		350	5	30	mg/L	300	55	99	80 - 120		
Alkalinity QCS by SM 2320 B-2011, B211103-004											
B211103-004 analyzed on 11/03/2021 19:00											
Alkalinity: Total as CaCO3		110	5	30	mg/L	110		102	91 - 111		
Color DUP by SM 2120 B-2011, B211104-005											
B211104-005 analyzed on 11/08/2021 16:40; Source = C002420-02											
Color	U	3	3	3	Color Unit		3			NC	20
Color DUP by SM 2120 B-2011, B211104-005											
B211104-005 analyzed on 11/08/2021 16:40; Source = C003879-01											
Color		32	6	6	Color Unit		32			0.00	20
Color LCS by SM 2120 B-2011, B211104-005											
B211104-005 analyzed on 11/08/2021 16:40											
Color		10	3	3	Color Unit	10		100	80 - 120		
Conductivity DUP by SM 2510 B-2011, B211105-007											
B211105-007 analyzed on 11/08/2021 20:38; Source = C003873-01											
Conductivity	E1	0.74	0.64	1.0	umhos/cm		0.79			6.5	10
Conductivity DUP by SM 2510 B-2011, B211105-007											
B211105-007 analyzed on 11/08/2021 20:38; Source = C003879-01											
Conductivity		1800	0.64	1.0	umhos/cm		1600			5.8	10
Conductivity LOQ by SM 2510 B-2011, B211105-007											
B211105-007 analyzed on 11/08/2021 20:38											
Conductivity		5.5	0.64	1.0	umhos/cm	5.0		110	50 - 150		
Conductivity MB by SM 2510 B-2011, B211105-007											
B211105-007 analyzed on 11/08/2021 20:38											
Conductivity	U	0.64	0.64	1.0	umhos/cm						
Conductivity	U	0.64	0.64	1.0	umhos/cm						
Conductivity	U	0.64	0.64	1.0	umhos/cm						



Quality Control for C002420

Analyte	Qualifier	Result	MDL	RL	Units	Spike Level	Source Result	% REC	% REC Limits	RPD	RPD Limits
Conductivity QCS by SM 2510 B-2011, B211105-007											
B211105-007 analyzed on 11/08/2021 20:38											
Conductivity		11	0.64	1.0	umhos/cm	10		109	90 - 110		
Cyanide DUP by SM 4500-CN E-2011, B211112-005											
B211112-005 analyzed on 11/15/2021 18:04; Source = C002420-02											
Cyanide	U	1.8	1.8	5.0	ug/L		1.8			NC	20
Cyanide DUP by SM 4500-CN E-2011, B211112-005											
B211112-005 analyzed on 11/15/2021 18:04; Source = C004580-01											
Cyanide	E1	2.4	1.8	5.0	ug/L		2.3			4.3	20
Cyanide LCS by SM 4500-CN E-2011, B211112-005											
B211112-005 analyzed on 11/15/2021 18:04											
Cyanide		78	1.8	5.0	ug/L	75		104	85 - 115		
Cyanide LCSD by SM 4500-CN E-2011, B211112-005											
B211112-005 analyzed on 11/15/2021 18:04											
Cyanide		78	1.8	5.0	ug/L	75		104	85 - 115	1.0	15
Cyanide LOQ by SM 4500-CN E-2011, B211112-005											
B211112-005 analyzed on 11/15/2021 18:04											
Cyanide		5.4	1.8	5.0	ug/L	5.0		107	50 - 150		
Cyanide MB by SM 4500-CN E-2011, B211112-005											
B211112-005 analyzed on 11/15/2021 18:04											
Cyanide	U	1.8	1.8	5.0	ug/L						
Cyanide MS by SM 4500-CN E-2011, B211112-005											
B211112-005 analyzed on 11/15/2021 18:04; Source = C004580-01											
Cyanide		78	1.8	5.0	ug/L	75	2.3	101	75 - 125		
Cyanide MSD by SM 4500-CN E-2011, B211112-005											
B211112-005 analyzed on 11/15/2021 18:04; Source = C004580-01											
Cyanide		79	1.8	5.0	ug/L	75	2.3	102	75 - 125	1.2	20
Hardness as CaCO3 DUP by SM 2340 C-2011, B211115-006											
B211115-006 analyzed on 11/15/2021 22:23; Source = C002301-01											
Hardness as CaCO3		130	4	7	mg/L		140			1.5	10



Quality Control for C002420

Analyte	Qualifier	Result	MDL	RL	Units	Spike Level	Source Result	% REC	% REC Limits	RPD	RPD Limits
Hardness as CaCO3 DUP by SM 2340 C-2011, B211115-006											
B211115-006 analyzed on 11/15/2021 22:23; Source = C002406-01											
Hardness as CaCO3		38	4	7	mg/L		40			5.1	10
Hardness as CaCO3 LCS by SM 2340 C-2011, B211115-006											
B211115-006 analyzed on 11/15/2021 22:23											
Hardness as CaCO3		110	4	7	mg/L	100		114	85 - 115		
Hardness as CaCO3 LOQ by SM 2340 C-2011, B211115-006											
B211115-006 analyzed on 11/15/2021 22:23											
Hardness as CaCO3	E1	6	4	7	mg/L	7.0		86	50 - 150		
Hardness as CaCO3 MB by SM 2340 C-2011, B211115-006											
B211115-006 analyzed on 11/15/2021 22:23											
Hardness as CaCO3	U	4	4	7	mg/L						
Hardness as CaCO3 MS by SM 2340 C-2011, B211115-006											
B211115-006 analyzed on 11/15/2021 22:23; Source = C002301-01											
Hardness as CaCO3		220	4	7	mg/L	100	140	88	85 - 115		
Hardness as CaCO3 MS by SM 2340 C-2011, B211115-006											
B211115-006 analyzed on 11/15/2021 22:23; Source = C002406-01											
Hardness as CaCO3		130	4	7	mg/L	100	40	92	85 - 115		
Hardness as CaCO3 QCS by SM 2340 C-2011, B211115-006											
B211115-006 analyzed on 11/15/2021 22:23											
Hardness as CaCO3		120	4	7	mg/L	130		95	91 - 107		
Ammonia as N DUP by SM 4500-NH3 C-2011, B211117-003											
B211117-003 analyzed on 11/22/2021 17:33; Source = C002091-01											
Ammonia as N	E1	0.50	0.25	1.5	mg/L		0.50			0.00	10
Ammonia as N LCS by SM 4500-NH3 C-2011, B211117-003											
B211117-003 analyzed on 11/22/2021 17:33											
Ammonia as N		11	0.25	1.5	mg/L	12		94	85 - 115		
Ammonia as N MB by SM 4500-NH3 C-2011, B211117-003											
B211117-003 analyzed on 11/22/2021 17:33											
Ammonia as N	U	0.25	0.25	1.5	mg/L						



Quality Control for C002420

Analyte	Qualifier	Result	MDL	RL	Units	Spike Level	Source Result	% REC	% REC Limits	RPD	RPD Limits
Ammonia as N MS by SM 4500-NH3 C-2011, B211117-003											
B211117-003 analyzed on 11/22/2021 17:33; Source = C002091-01											
Ammonia as N		12	0.25	1.5	mg/L	12	0.50	97	80 - 120		
Ammonia as N MSD by SM 4500-NH3 C-2011, B211117-003											
B211117-003 analyzed on 11/22/2021 17:33; Source = C002091-01											
Ammonia as N		12	0.25	1.5	mg/L	12	0.50	99	80 - 120	1.8	15
Ammonia as N DUP by SM 4500-NH3 C-2011, B211117-003											
B211117-003 analyzed on 11/22/2021 17:33; Source = C003760-01											
Ammonia as N		2700	62	380	mg/kg		2700			1.0	10
Total Organic Carbon DUP by SM 5310 C-2011, B211102-002											
B211102-002 analyzed on 11/04/2021 18:59; Source = C002523-01											
Total Organic Carbon		2.0	0.13	0.20	mg/L		2.0			1.8	10
Total Organic Carbon DUP by SM 5310 C-2011, B211102-002											
B211102-002 analyzed on 11/04/2021 18:59; Source = C003744-01											
Total Organic Carbon		14	0.65	1.0	mg/L		14			1.0	10
Total Organic Carbon LCS by SM 5310 C-2011, B211102-002											
B211102-002 analyzed on 11/04/2021 18:59											
Total Organic Carbon		2.0	0.13	0.20	mg/L	2.0		102	90 - 110		
Total Organic Carbon LOQ by SM 5310 C-2011, B211102-002											
B211102-002 analyzed on 11/04/2021 18:59											
Total Organic Carbon		0.21	0.13	0.20	mg/L	0.20		107	50 - 150		
Total Organic Carbon MB by SM 5310 C-2011, B211102-002											
B211102-002 analyzed on 11/04/2021 18:59											
Total Organic Carbon	U	0.13	0.13	0.20	mg/L						
Total Organic Carbon	U	0.13	0.13	0.20	mg/L						
Total Organic Carbon	U	0.13	0.13	0.20	mg/L						
Total Organic Carbon	U	0.13	0.13	0.20	mg/L						
Total Organic Carbon MS by SM 5310 C-2011, B211102-002											
B211102-002 analyzed on 11/04/2021 18:59; Source = C003744-01											
Total Organic Carbon		23	0.65	1.0	mg/L	9.9	14	96	78 - 120		
Total Organic Carbon MS by SM 5310 C-2011, B211102-002											
B211102-002 analyzed on 11/04/2021 18:59; Source = C004131-01											
Total Organic Carbon		3.3	0.13	0.20	mg/L	2.0	1.3	104	78 - 120		



Quality Control for C002420

Analyte	Qualifier	Result	MDL	RL	Units	Spike Level	Source Result	% REC	% REC Limits	RPD	RPD Limits
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Anions DUP by EPA 300.1, B211102-014

B211102-014 analyzed on 11/03/2021 20:43; Source = C003835-01

Chloride		5.4	0.026	0.20	mg/L		5.6			3.1	10
Fluoride		0.74	0.0091	0.075	mg/L		0.74			0.1	10
Nitrate as N		0.037	0.0071	0.030	mg/L		0.037			0.7	10
Nitrite as N	E1	0.0048	0.0048	0.030	mg/L		0.0048			0.2	10
Sulfate		1.2	0.049	0.20	mg/L		1.2			0.7	10
Dichloroacetate (%)		102			%		100				

Anions DUP by EPA 300.1, B211102-014

B211102-014 analyzed on 11/03/2021 20:43; Source = C004590-01

Chloride		9.4	0.026	0.20	mg/L		9.4			0.1	10
Fluoride	E1	0.042	0.0091	0.075	mg/L		0.042			0.2	10
Nitrate as N		0.092	0.0071	0.030	mg/L		0.092			0.4	10
Nitrite as N	U	0.0048	0.0048	0.030	mg/L		0.0048			NC	10
Sulfate		9.9	0.049	0.20	mg/L		9.9			0.1	10
Dichloroacetate (%)		96			%		97				

Anions LCS by EPA 300.1, B211102-014

B211102-014 analyzed on 11/03/2021 20:43

Chloride		0.98	0.026	0.20	mg/L	1.0		98	85 - 115		
Fluoride		0.50	0.0091	0.075	mg/L	0.50		100	85 - 115		
Nitrate as N		0.046	0.0071	0.030	mg/L	0.05		92	85 - 115		
Nitrite as N		0.045	0.0048	0.030	mg/L	0.05		90	85 - 115		
Sulfate		0.93	0.049	0.20	mg/L	1.0		93	85 - 115		
Dichloroacetate (%)		101			%						

Anions LOQ by EPA 300.1, B211102-014

B211102-014 analyzed on 11/03/2021 20:43

Chloride		0.20	0.026	0.20	mg/L	0.20		102	50 - 150		
Fluoride	E1	0.071	0.0091	0.075	mg/L	0.08		95	50 - 150		
Nitrate as N	E1	0.029	0.0071	0.030	mg/L	0.03		96	50 - 150		
Nitrite as N	E1	0.028	0.0048	0.030	mg/L	0.03		95	50 - 150		
Sulfate		0.20	0.049	0.20	mg/L	0.20		102	50 - 150		
Dichloroacetate (%)		102			%						

Anions MB by EPA 300.1, B211102-014

B211102-014 analyzed on 11/03/2021 20:43

Chloride	U	0.026	0.026	0.20	mg/L						
Fluoride	U	0.0091	0.0091	0.075	mg/L						
Nitrate as N	U	0.0071	0.0071	0.030	mg/L						
Nitrite as N	U	0.0048	0.0048	0.030	mg/L						
Sulfate	U	0.049	0.049	0.20	mg/L						
Dichloroacetate (%)		99			%						

Anions MS by EPA 300.1, B211102-014

B211102-014 analyzed on 11/03/2021 20:43; Source = C003835-01

Chloride		6.4	0.026	0.20	mg/L	1.0	5.6	77	75 - 125		
Fluoride		1.3	0.0091	0.075	mg/L	0.50	0.74	105	75 - 125		
Nitrate as N		0.086	0.0071	0.030	mg/L	0.05	0.037	98	75 - 125		



Quality Control for C002420

Analyte	Qualifier	Result	MDL	RL	Units	Spike Level	Source Result	% REC	% REC Limits	RPD	RPD Limits
Nitrite as N		0.046	0.0048	0.030	mg/L	0.05	0.0048	82	75 - 125		
Sulfate		2.2	0.049	0.20	mg/L	1.0	1.2	99	75 - 125		
Dichloroacetate (%)		101			%		100				

Anions MS by EPA 300.1, B211102-014

B211102-014 analyzed on 11/03/2021 20:43; Source = C004590-01

Chloride		10	0.026	0.20	mg/L	1.0	9.4	97	75 - 125		
Fluoride		0.53	0.0091	0.075	mg/L	0.50	0.042	97	75 - 125		
Nitrate as N		0.14	0.0071	0.030	mg/L	0.05	0.092	97	75 - 125		
Nitrite as N		0.046	0.0048	0.030	mg/L	0.05	0.0048	92	75 - 125		
Sulfate		11	0.049	0.20	mg/L	1.0	9.9	104	75 - 125		
Dichloroacetate (%)		99			%		97				

Metals LCS by EPA 200.7, B211119-010

B211119-010 analyzed on 11/30/2021 00:22; B211116-022 prepared on 11/17/2021 17:07

Silver		57.0	3.96	10.8	ug/L	56		102	85 - 115		
Aluminum		2170	17.9	54.2	ug/L	2200		98	85 - 115		
Barium		552	0.44	54.2	ug/L	560		99	85 - 115		
Calcium		11000	11.0	54.2	ug/L	11000		99	85 - 115		
Cadmium		10.9	0.43	1.08	ug/L	11		98	85 - 115		
Chromium		109	2.49	10.8	ug/L	110		98	85 - 115		
Copper		530	5.31	54.2	ug/L	560		95	85 - 115		
Iron		1090	11.8	54.2	ug/L	1100		98	85 - 115		
Potassium		11500	20.7	271	ug/L	11000		103	85 - 115		
Magnesium		11400	5.96	54.2	ug/L	11000		103	85 - 115		
Manganese		220	0.26	21.7	ug/L	220		99	85 - 115		
Sodium		11000	7.26	54.2	ug/L	11000		99	85 - 115		
Nickel		110	1.95	10.8	ug/L	110		99	85 - 115		
Lead		557	2.94	54.2	ug/L	560		100	85 - 115		
Zinc		545	1.34	54.2	ug/L	560		98	85 - 115		
Yttrium (%)		95			%						
Yttrium Radial (%)		93			%						

Metals LCSD by EPA 200.7, B211119-010

B211119-010 analyzed on 11/30/2021 00:22; B211116-022 prepared on 11/17/2021 17:07

Silver		57.2	3.96	10.8	ug/L	56		103	85 - 115	0.4	15
Aluminum		2170	17.9	54.2	ug/L	2200		97	85 - 115	0.3	10
Barium		555	0.44	54.2	ug/L	560		100	85 - 115	0.4	10
Calcium		11000	11.0	54.2	ug/L	11000		98	85 - 115	0.3	10
Cadmium		11.0	0.43	1.08	ug/L	11		99	85 - 115	0.7	15
Chromium		108	2.49	10.8	ug/L	110		97	85 - 115	0.6	10
Copper		528	5.31	54.2	ug/L	560		95	85 - 115	0.4	10
Iron		1090	11.8	54.2	ug/L	1100		98	85 - 115	0.00	10
Potassium		11500	20.7	271	ug/L	11000		104	85 - 115	0.4	10
Magnesium		11400	5.96	54.2	ug/L	11000		103	85 - 115	0.1	10
Manganese		220	0.26	21.7	ug/L	220		99	85 - 115	0.00	10
Sodium		11100	7.26	54.2	ug/L	11000		100	85 - 115	0.5	10
Nickel		111	1.95	10.8	ug/L	110		100	85 - 115	0.7	10
Lead		559	2.94	54.2	ug/L	560		100	85 - 115	0.4	10
Zinc		544	1.34	54.2	ug/L	560		98	85 - 115	0.0	10
Yttrium (%)		95			%						
Yttrium Radial (%)		98			%						



Quality Control for C002420

Analyte	Qualifier	Result	MDL	RL	Units	Spike Level	Source Result	% REC Limits	% REC Limits	RPD	RPD Limits
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Metals LOQ by EPA 200.7, B211119-010

B211119-010 analyzed on 11/30/2021 00:22; B211116-022 prepared on 11/17/2021 17:07

Silver		13.8	3.83	10.5	ug/L	10		138	50 - 150		
Aluminum		52.7	17.3	52.5	ug/L	50		105	50 - 150		
Barium	E1	52.3	0.43	52.5	ug/L	50		104	50 - 150		
Calcium	E1	51.0	10.6	52.5	ug/L	50		102	50 - 150		
Cadmium	E1	0.98	0.42	1.05	ug/L	1.0		98	50 - 150		
Chromium		10.9	2.42	10.5	ug/L	10		109	50 - 150		
Copper	E1	50.4	5.14	52.5	ug/L	50		101	50 - 150		
Iron	E1	51.7	11.4	52.5	ug/L	50		103	50 - 150		
Potassium	E1	223	20.0	262	ug/L	250		89	50 - 150		
Magnesium	E1	50.7	5.78	52.5	ug/L	50		101	50 - 150		
Manganese		21.3	0.25	21.0	ug/L	20		106	50 - 150		
Sodium	E1	45.8	7.04	52.5	ug/L	50		92	50 - 150		
Nickel	E1	10.3	1.89	10.5	ug/L	10		103	50 - 150		
Lead	E1	50.3	2.84	52.5	ug/L	50		101	50 - 150		
Zinc	E1	50.5	1.30	52.5	ug/L	50		101	50 - 150		
Yttrium (%)		98			%						
Yttrium Radial (%)		99			%						

Metals MB by EPA 200.7, B211119-010

B211119-010 analyzed on 11/30/2021 00:22; B211116-022 prepared on 11/17/2021 17:07

Silver	U	3.80	3.80	10.4	ug/L						
Aluminum	U	17.2	17.2	52.0	ug/L						
Barium	U	0.43	0.43	52.0	ug/L						
Calcium	E1	21.9	10.5	52.0	ug/L						
Cadmium	U	0.42	0.42	1.04	ug/L						
Chromium	U	2.39	2.39	10.4	ug/L						
Copper	U	5.10	5.10	52.0	ug/L						
Iron	U	11.3	11.3	52.0	ug/L						
Potassium	U	19.9	19.9	260	ug/L						
Magnesium	U	5.72	5.72	52.0	ug/L						
Manganese	U	0.25	0.25	20.8	ug/L						
Sodium	U	6.97	6.97	52.0	ug/L						
Nickel	U	1.87	1.87	10.4	ug/L						
Lead	U	2.82	2.82	52.0	ug/L						
Zinc	U	1.29	1.29	52.0	ug/L						
Yttrium (%)		104			%						
Yttrium Radial (%)		100			%						

Metals MS by EPA 200.7, B211119-010

B211119-010 analyzed on 11/30/2021 00:22; B211116-022 prepared on 11/17/2021 17:07; Source = C003836-01

Silver		57.6	3.96	10.8	ug/L	56	3.80	104	70 - 130		
Aluminum		2080	17.9	54.2	ug/L	2200	17.2	94	70 - 130		
Calcium		16000	11.0	54.2	ug/L	11000	5050	99	70 - 130		
Cadmium		10.6	0.43	1.08	ug/L	11	0.42	95	70 - 130		
Chromium		107	2.49	10.8	ug/L	110	2.39	96	70 - 130		
Copper		524	5.31	54.2	ug/L	560	5.10	94	70 - 130		
Iron		1080	11.8	54.2	ug/L	1100	11.3	97	70 - 130		
Potassium		11800	20.7	271	ug/L	11000	606	101	70 - 130		
Magnesium		12200	5.96	54.2	ug/L	11000	976	101	70 - 130		
Manganese		214	0.26	21.7	ug/L	220	0.25	96	70 - 130		
Sodium		17700	7.26	54.2	ug/L	11000	6660	100	70 - 130		
Nickel		108	1.95	10.8	ug/L	110	1.87	97	70 - 130		



Quality Control for C002420

Analyte	Qualifier	Result	MDL	RL	Units	Spike Level	Source Result	% REC	% REC Limits	RPD	RPD Limits
Lead		541	2.94	54.2	ug/L	560	2.82	97	70 - 130		
Zinc		536	1.34	54.2	ug/L	560	1.29	96	70 - 130		
Yttrium (%)		98			%		103				
Yttrium Radial (%)		95			%		97				

Metals MS by EPA 200.7, B211119-010

B211119-010 analyzed on 11/30/2021 00:22; B211116-022 prepared on 11/17/2021 17:07; Source = C004590-03

Aluminum		2140	17.9	54.2	ug/L	2200	23.1	95	70 - 130		
Barium		557	0.44	54.2	ug/L	560	9.86	98	70 - 130		
Calcium		16700	11.0	54.2	ug/L	11000	5680	99	70 - 130		
Copper		574	5.31	54.2	ug/L	560	51.8	94	70 - 130		
Iron		1130	11.8	54.2	ug/L	1100	43.4	97	70 - 130		
Potassium		12200	20.7	271	ug/L	11000	644	104	70 - 130		
Magnesium		12400	5.96	54.2	ug/L	11000	1080	102	70 - 130		
Manganese		221	0.26	21.7	ug/L	220	4.78	97	70 - 130		
Sodium		13500	7.26	54.2	ug/L	11000	2260	101	70 - 130		
Zinc		542	1.34	54.2	ug/L	560	1.88	97	70 - 130		
Yttrium (%)		95			%		99				
Yttrium Radial (%)		94			%		101				

Metals MSD by EPA 200.7, B211119-010

B211119-010 analyzed on 11/30/2021 00:22; B211116-022 prepared on 11/17/2021 17:07; Source = C003836-01

Silver		51.9	3.96	10.8	ug/L	56	3.80	93	70 - 130	10.5	20
Aluminum		2100	17.9	54.2	ug/L	2200	17.2	94	70 - 130	0.7	20
Calcium		15400	11.0	54.2	ug/L	11000	5050	93	70 - 130	3.7	20
Cadmium		10.5	0.43	1.08	ug/L	11	0.42	95	70 - 130	0.3	20
Chromium		109	2.49	10.8	ug/L	110	2.39	98	70 - 130	1.8	20
Copper		520	5.31	54.2	ug/L	560	5.10	94	70 - 130	0.7	20
Iron		1070	11.8	54.2	ug/L	1100	11.3	96	70 - 130	0.6	20
Potassium		11900	20.7	271	ug/L	11000	606	102	70 - 130	0.6	20
Magnesium		11800	5.96	54.2	ug/L	11000	976	97	70 - 130	3.6	20
Manganese		213	0.26	21.7	ug/L	220	0.25	96	70 - 130	0.8	20
Sodium		17600	7.26	54.2	ug/L	11000	6660	99	70 - 130	0.5	20
Nickel		106	1.95	10.8	ug/L	110	1.87	96	70 - 130	1.4	20
Lead		539	2.94	54.2	ug/L	560	2.82	97	70 - 130	0.3	20
Zinc		536	1.34	54.2	ug/L	560	1.29	96	70 - 130	0.1	20
Yttrium (%)		100			%		103				
Yttrium Radial (%)		96			%		97				

Metals MSD by EPA 200.7, B211119-010

B211119-010 analyzed on 11/30/2021 00:22; B211116-022 prepared on 11/17/2021 17:07; Source = C004590-03

Aluminum		2160	17.9	54.2	ug/L	2200	23.1	96	70 - 130	0.6	20
Barium		568	0.44	54.2	ug/L	560	9.86	100	70 - 130	2.1	20
Calcium		17000	11.0	54.2	ug/L	11000	5680	102	70 - 130	1.8	20
Copper		587	5.31	54.2	ug/L	560	51.8	96	70 - 130	2.3	20
Iron		1160	11.8	54.2	ug/L	1100	43.4	100	70 - 130	2.5	20
Potassium		12200	20.7	271	ug/L	11000	644	104	70 - 130	0.1	20
Magnesium		12600	5.96	54.2	ug/L	11000	1080	104	70 - 130	2.0	20
Manganese		226	0.26	21.7	ug/L	220	4.78	100	70 - 130	2.4	20
Sodium		13600	7.26	54.2	ug/L	11000	2260	102	70 - 130	0.4	20
Zinc		558	1.34	54.2	ug/L	560	1.88	100	70 - 130	2.8	20
Yttrium (%)		97			%		99				
Yttrium Radial (%)		94			%		101				



Quality Control for C002420

Analyte	Qualifier	Result	MDL	RL	Units	Spike Level	Source Result	% REC	% REC Limits	RPD	RPD Limits
Mercury LCS by EPA 245.1, B211122-001											
B211122-001 analyzed on 12/02/2021 23:20											
Mercury		0.962	0.025	0.050	ug/L	1.0		96	85 - 115		
Mercury LCSD by EPA 245.1, B211122-001											
B211122-001 analyzed on 12/02/2021 23:20											
Mercury		0.955	0.025	0.050	ug/L	1.0		95	85 - 115	0.7	10
Mercury LOQ by EPA 245.1, B211122-001											
B211122-001 analyzed on 12/02/2021 23:20											
Mercury	E1	0.033	0.025	0.050	ug/L	0.050		67	50 - 150		
Mercury MB by EPA 245.1, B211122-001											
B211122-001 analyzed on 12/02/2021 23:20											
Mercury	U	0.025	0.025	0.050	ug/L						
Mercury MS by EPA 245.1, B211122-001											
B211122-001 analyzed on 12/02/2021 23:20; Source = C002420-02											
Mercury		0.991	0.025	0.050	ug/L	1.0	0.025	99	70 - 130		
Mercury MSD by EPA 245.1, B211122-001											
B211122-001 analyzed on 12/02/2021 23:20; Source = C002420-02											
Mercury		1.00	0.025	0.050	ug/L	1.0	0.025	100	70 - 130	0.9	20
Metals LCS by EPA 200.8, B211217-007											
B211217-007 analyzed on 12/20/2021 15:13; B211130-014 prepared on 12/01/2021 00:06											
Silver		9.59	0.019	0.102	ug/L	10		96	85 - 115		
Arsenic		24.4	0.216	0.816	ug/L	25		98	85 - 115		
Barium		73.7	0.031	0.204	ug/L	75		98	85 - 115		
Beryllium		9.71	0.011	0.102	ug/L	10		97	85 - 115		
Cadmium		9.93	0.014	0.102	ug/L	10		99	85 - 115		
Chromium		24.6	0.120	0.408	ug/L	25		98	85 - 115		
Copper		25.2	0.255	0.816	ug/L	25		101	85 - 115		
Nickel		25.0	0.045	0.816	ug/L	25		100	85 - 115		
Lead		24.0	0.031	0.408	ug/L	25		96	85 - 115		
Antimony		9.95	0.042	0.408	ug/L	10		99	85 - 115		
Selenium		24.8	0.603	0.816	ug/L	25		99	85 - 115		
Thallium		9.83	0.014	0.102	ug/L	10		98	85 - 115		
Zinc		73.8	1.30	3.06	ug/L	75		98	85 - 115		
Scandium (%)		98			%						
Germanium (%)		98			%						
Rhodium (%)		99			%						
Indium (%)		99			%						
Terbium (%)		101			%						



Quality Control for C002420

Analyte	Qualifier	Result	MDL	RL	Units	Spike Level	Source Result	% REC	% REC Limits	RPD	RPD Limits
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Metals LCSD by EPA 200.8, B211217-007

B211217-007 analyzed on 12/20/2021 15:13; B211130-014 prepared on 12/01/2021 00:06

Silver		9.61	0.019	0.102	ug/L	10		96	85 - 115	0.2	10
Arsenic		24.6	0.216	0.816	ug/L	25		98	85 - 115	0.6	10
Barium		74.0	0.031	0.204	ug/L	75		99	85 - 115	0.4	10
Beryllium		9.60	0.011	0.102	ug/L	10		96	85 - 115	1.1	10
Cadmium		9.94	0.014	0.102	ug/L	10		99	85 - 115	0.0	10
Chromium		24.6	0.120	0.408	ug/L	25		98	85 - 115	0.1	10
Copper		25.3	0.255	0.816	ug/L	25		101	85 - 115	0.3	10
Nickel		25.0	0.045	0.816	ug/L	25		100	85 - 115	0.2	10
Lead		23.9	0.031	0.408	ug/L	25		96	85 - 115	0.4	10
Antimony		9.91	0.042	0.408	ug/L	10		99	85 - 115	0.3	10
Selenium		25.0	0.603	0.816	ug/L	25		100	85 - 115	0.7	10
Thallium		9.80	0.014	0.102	ug/L	10		98	85 - 115	0.3	10
Zinc		73.8	1.30	3.06	ug/L	75		98	85 - 115	0.0	10
Scandium (%)		99			%						
Germanium (%)		99			%						
Rhodium (%)		99			%						
Indium (%)		100			%						
Terbium (%)		101			%						

Metals LOQ by EPA 200.8, B211217-007

B211217-007 analyzed on 12/20/2021 15:13; B211130-014 prepared on 12/01/2021 00:06

Silver	E1	0.098	0.019	0.102	ug/L	0.10		98	50 - 150		
Arsenic	E1	0.790	0.215	0.813	ug/L	0.80		99	50 - 150		
Barium	E1	0.196	0.030	0.203	ug/L	0.20		98	50 - 150		
Beryllium	E1	0.090	0.011	0.102	ug/L	0.10		90	50 - 150		
Cadmium	E1	0.097	0.014	0.102	ug/L	0.10		97	50 - 150		
Chromium	E1	0.383	0.120	0.406	ug/L	0.40		96	50 - 150		
Copper	E1	0.761	0.254	0.813	ug/L	0.80		95	50 - 150		
Nickel	E1	0.808	0.045	0.813	ug/L	0.80		101	50 - 150		
Lead	E1	0.385	0.030	0.406	ug/L	0.40		96	50 - 150		
Antimony	E1	0.393	0.042	0.406	ug/L	0.40		98	50 - 150		
Selenium	U	0.600	0.600	0.813	ug/L	0.80		70	50 - 150		
Thallium		0.103	0.014	0.102	ug/L	0.10		103	50 - 150		
Zinc	E1	2.85	1.29	3.05	ug/L	3.0		95	50 - 150		
Scandium (%)		98			%						
Germanium (%)		99			%						
Rhodium (%)		98			%						
Indium (%)		99			%						
Terbium (%)		100			%						

Metals MB by EPA 200.8, B211217-007

B211217-007 analyzed on 12/20/2021 15:13; B211130-014 prepared on 12/01/2021 00:06

Silver	U	0.019	0.019	0.102	ug/L						
Arsenic	U	0.215	0.215	0.812	ug/L						
Barium	U	0.030	0.030	0.203	ug/L						
Beryllium	U	0.011	0.011	0.102	ug/L						
Cadmium	U	0.014	0.014	0.102	ug/L						
Chromium	U	0.120	0.120	0.406	ug/L						
Copper	U	0.254	0.254	0.812	ug/L						
Nickel	U	0.045	0.045	0.812	ug/L						
Lead	U	0.030	0.030	0.406	ug/L						
Antimony	U	0.042	0.042	0.406	ug/L						



Quality Control for C002420

Analyte	Qualifier	Result	MDL	RL	Units	Spike Level	Source Result	% REC Limits	RPD	RPD Limits
Selenium	U	0.600	0.600	0.812	ug/L					
Thallium	U	0.014	0.014	0.102	ug/L					
Zinc	U	1.29	1.29	3.04	ug/L					
Scandium (%)		98			%					
Germanium (%)		99			%					
Rhodium (%)		99			%					
Indium (%)		99			%					
Terbium (%)		100			%					

Metals MS by EPA 200.8, B211217-007

B211217-007 analyzed on 12/20/2021 15:13; B211130-014 prepared on 12/01/2021 00:06; Source = C004032-01

Cadmium		9.93	0.014	0.102	ug/L	10	0.082	98	70 - 130		
Copper		29.0	0.255	0.816	ug/L	25	3.98	100	70 - 130		
Zinc		108	1.30	3.06	ug/L	75	33.6	99	70 - 130		
Scandium (%)		102			%		102				
Germanium (%)		98			%		98				
Rhodium (%)		95			%		95				
Indium (%)		99			%		99				
Terbium (%)		100			%		100				

Metals MSD by EPA 200.8, B211217-007

B211217-007 analyzed on 12/20/2021 15:13; B211130-014 prepared on 12/01/2021 00:06; Source = C004032-01

Cadmium		9.81	0.014	0.102	ug/L	10	0.082	97	70 - 130	1.2	20
Copper		28.6	0.255	0.816	ug/L	25	3.98	98	70 - 130	1.5	20
Zinc		106	1.30	3.06	ug/L	75	33.6	97	70 - 130	1.1	20
Scandium (%)		102			%		102				
Germanium (%)		99			%		98				
Rhodium (%)		95			%		95				
Indium (%)		99			%		99				
Terbium (%)		100			%		100				

Purgeable Organic Compounds, GC/MS LCS by EPA 624.1, B211103-002

B211103-002 analyzed on 11/10/2021 20:36

1,1,1-Trichloroethane		21.0	0.259	0.500	ug/L	20		106	70 - 130		
1,1,2,2-Tetrachloroethane		19.5	0.125	0.500	ug/L	20		98	60 - 140		
1,1,2-Trichloroethane		20.7	0.108	0.500	ug/L	20		104	70 - 130		
1,1-Dichloroethane		19.4	0.279	0.500	ug/L	20		98	70 - 130		
1,1-Dichloroethene		19.8	0.187	0.500	ug/L	20		99	50 - 150		
1,2-Dichlorobenzene		20.6	0.112	0.500	ug/L	20		104	65 - 135		
1,2-Dichloroethane		19.3	0.122	0.500	ug/L	20		97	70 - 130		
1,2-Dichloropropane		19.0	0.129	0.500	ug/L	20		96	35 - 165		
1,3-Dichlorobenzene		21.0	0.131	0.500	ug/L	20		106	70 - 130		
1,4-Dichlorobenzene		21.3	0.115	0.500	ug/L	20		107	65 - 135		
2-Butanone		16.5	0.422	1.00	ug/L	20		83	64 - 137		
Benzene		19.7	0.143	0.500	ug/L	20		99	65 - 135		
Bromodichloromethane		20.2	0.129	0.500	ug/L	20		102	65 - 135		
Bromoform		22.9	0.166	0.500	ug/L	20		115	70 - 130		
Bromomethane		19.4	0.561	1.00	ug/L	20		98	15 - 185		
Carbon Tetrachloride		21.6	0.372	0.500	ug/L	20		108	70 - 130		
Chlorobenzene		21.5	0.114	0.500	ug/L	20		108	65 - 135		
Chloroethane		20.0	0.258	0.500	ug/L	20		101	40 - 160		
Chloroform		19.8	0.196	0.500	ug/L	20		100	70 - 135		
Chloromethane		18.9	0.316	0.500	ug/L	20		95	1 - 205		
cis-1,3-Dichloropropene		19.5	0.164	0.500	ug/L	20		98	25 - 175		



Quality Control for C002420

Analyte	Qualifier	Result	MDL	RL	Units	Spike Level	Source Result	% REC	% REC Limits	RPD	RPD Limits
Dibromochloromethane		21.6	0.131	0.500	ug/L	20		109	70 - 135		
Ethyl Benzene		21.0	0.126	0.500	ug/L	20		106	60 - 140		
Fluorotrichloromethane		22.8	0.325	1.00	ug/L	20		115	50 - 150		
m+p Xylenes		44.6	0.287	1.00	ug/L	40		112	78 - 123		
Methylene Chloride		18.9	0.279	0.500	ug/L	20		95	60 - 140		
Methyl-t-butyl Ether		17.5	0.126	1.00	ug/L	20		88	78 - 134		
o-Xylene		21.6	0.150	0.500	ug/L	20		109	80 - 123		
Tetrachloroethene		22.7	0.167	0.500	ug/L	20		114	70 - 130		
Toluene		19.8	0.153	0.500	ug/L	20		100	70 - 130		
trans-1,2-Dichloroethene		19.7	0.230	0.500	ug/L	20		99	70 - 130		
trans-1,3-Dichloropropene		21.1	0.117	0.500	ug/L	20		106	50 - 150		
Trichloroethene		19.8	0.172	0.500	ug/L	20		100	65 - 135		
Vinyl Chloride		18.1	0.216	0.500	ug/L	20		91	5 - 195		
Fluorobenzene (%)		91			%						
d5-Chlorobenzene (%)		85			%						
d4-1,4-Dichlorobenzene (%)		92			%						
d4-Dichloroethane (%)		98			%						
d8-Toluene (%)		96			%						
4-Bromofluorobenzene (%)		100			%						

Purgeable Organic Compounds, GC/MS LOQ by EPA 624.1, B211103-002

B211103-002 analyzed on 11/10/2021 20:36

1,1,1-Trichloroethane	E1	0.496	0.259	0.500	ug/L	0.50		99	45 - 175		
1,1,2,2-Tetrachloroethane		0.587	0.125	0.500	ug/L	0.50		117	50 - 150		
1,1,2-Trichloroethane		0.648	0.108	0.500	ug/L	0.50		130	50 - 150		
1,1-Dichloroethane		0.536	0.279	0.500	ug/L	0.50		107	52 - 181		
1,1-Dichloroethene		0.513	0.187	0.500	ug/L	0.50		103	50 - 150		
1,2-Dichlorobenzene		0.539	0.112	0.500	ug/L	0.50		108	50 - 150		
1,2-Dichloroethane		0.530	0.122	0.500	ug/L	0.50		106	50 - 150		
1,2-Dichloropropane		0.511	0.129	0.500	ug/L	0.50		102	35 - 165		
1,3-Dichlorobenzene		0.530	0.131	0.500	ug/L	0.50		106	50 - 150		
1,4-Dichlorobenzene		0.563	0.115	0.500	ug/L	0.50		113	50 - 150		
Benzene	E1	0.483	0.143	0.500	ug/L	0.50		97	50 - 150		
Bromodichloromethane		0.519	0.129	0.500	ug/L	0.50		104	50 - 150		
Bromoform		0.554	0.166	0.500	ug/L	0.50		111	50 - 150		
Carbon Tetrachloride	E1	0.464	0.372	0.500	ug/L	0.50		93	23 - 198		
Chlorobenzene		0.522	0.114	0.500	ug/L	0.50		104	50 - 150		
Chloroethane	E1	0.328	0.258	0.500	ug/L	0.50		66	36 - 178		
Chloroform		0.536	0.196	0.500	ug/L	0.50		107	50 - 150		
Chloromethane		0.586	0.316	0.500	ug/L	0.50		117	1 - 205		
cis-1,3-Dichloropropene	E1	0.455	0.164	0.500	ug/L	0.50		91	25 - 175		
Dibromochloromethane		0.644	0.131	0.500	ug/L	0.50		129	50 - 150		
Ethyl Benzene	E1	0.472	0.126	0.500	ug/L	0.50		94	50 - 150		
m+p Xylenes	E1	0.923	0.287	1.00	ug/L	1.0		92	50 - 150		
Methylene Chloride		0.538	0.279	0.500	ug/L	0.50		108	35 - 182		
o-Xylene	E1	0.442	0.150	0.500	ug/L	0.50		88	50 - 150		
Tetrachloroethene		0.672	0.167	0.500	ug/L	0.50		134	50 - 150		
Toluene	E1	0.468	0.153	0.500	ug/L	0.50		94	50 - 150		
trans-1,2-Dichloroethene	E1	0.472	0.230	0.500	ug/L	0.50		94	54 - 168		
trans-1,3-Dichloropropene		0.517	0.117	0.500	ug/L	0.50		103	50 - 150		
Trichloroethene		0.525	0.172	0.500	ug/L	0.50		105	50 - 150		
Vinyl Chloride	E1	0.487	0.216	0.500	ug/L	0.50		97	5 - 195		
Fluorobenzene (%)		85			%						
d5-Chlorobenzene (%)		76			%						
d4-1,4-Dichlorobenzene (%)		72			%						
d4-Dichloroethane (%)		104			%						



Quality Control for C002420

Analyte	Qualifier	Result	MDL	RL	Units	Spike Level	Source Result	% REC Limits	% REC Limits	RPD	RPD Limits
d8-Toluene (%)		93			%						
4-Bromofluorobenzene (%)		102			%						

Purgeable Organic Compounds, GC/MS MB by EPA 624.1, B211103-002

B211103-002 analyzed on 11/10/2021 20:36

1,1,1-Trichloroethane	U	0.259	0.259	0.500	ug/L						
1,1,2,2-Tetrachloroethane	U	0.125	0.125	0.500	ug/L						
1,1,2-Trichloroethane	U	0.108	0.108	0.500	ug/L						
1,1-Dichloroethane	U	0.279	0.279	0.500	ug/L						
1,1-Dichloroethene	U	0.187	0.187	0.500	ug/L						
1,2-Dichlorobenzene	U	0.112	0.112	0.500	ug/L						
1,2-Dichloroethane	U	0.122	0.122	0.500	ug/L						
1,2-Dichloropropane	U	0.129	0.129	0.500	ug/L						
1,3-Dichlorobenzene	U	0.131	0.131	0.500	ug/L						
1,4-Dichlorobenzene	U	0.115	0.115	0.500	ug/L						
2-Butanone	U	0.422	0.422	1.00	ug/L						
Benzene	U	0.143	0.143	0.500	ug/L						
Bromodichloromethane	U	0.129	0.129	0.500	ug/L						
Bromoform	U	0.166	0.166	0.500	ug/L						
Bromomethane	U	0.561	0.561	1.00	ug/L						
Carbon Tetrachloride	U	0.372	0.372	0.500	ug/L						
Chlorobenzene	U	0.114	0.114	0.500	ug/L						
Chloroethane	U	0.258	0.258	0.500	ug/L						
Chloroform	U	0.196	0.196	0.500	ug/L						
Chloromethane	U	0.316	0.316	0.500	ug/L						
cis-1,3-Dichloropropene	U	0.164	0.164	0.500	ug/L						
Dibromochloromethane	U	0.131	0.131	0.500	ug/L						
Ethyl Benzene	U	0.126	0.126	0.500	ug/L						
Fluorotrichloromethane	U	0.325	0.325	1.00	ug/L						
m+p Xylenes	U	0.287	0.287	1.00	ug/L						
Methylene Chloride	U	0.279	0.279	0.500	ug/L						
Methyl-t-butyl Ether	U	0.126	0.126	1.00	ug/L						
o-Xylene	U	0.150	0.150	0.500	ug/L						
Tetrachloroethene	U	0.167	0.167	0.500	ug/L						
Toluene	U	0.153	0.153	0.500	ug/L						
trans-1,2-Dichloroethene	U	0.230	0.230	0.500	ug/L						
trans-1,3-Dichloropropene	U	0.117	0.117	0.500	ug/L						
Trichloroethene	U	0.172	0.172	0.500	ug/L						
Vinyl Chloride	U	0.216	0.216	0.500	ug/L						
Fluorobenzene (%)		89			%						
d5-Chlorobenzene (%)		83			%						
d4-1,4-Dichlorobenzene (%)		78			%						
d4-Dichloroethane (%)		104			%						
d8-Toluene (%)		90			%						
4-Bromofluorobenzene (%)		90			%						

Purgeable Organic Compounds, GC/MS MS by EPA 624.1, B211103-002

B211103-002 analyzed on 11/10/2021 20:36; Source = C002091-01

Bromodichloromethane	20.8	0.129	0.500	ug/L	20	0.129	105	35 - 155
Bromoform	24.6	0.166	0.500	ug/L	20	0.166	124	45 - 169
Chloroform	20.9	0.196	0.500	ug/L	20	0.196	105	51 - 138
Dibromochloromethane	23.3	0.131	0.500	ug/L	20	0.131	118	53 - 149
Fluorobenzene (%)	92			%		110		
d5-Chlorobenzene (%)	84			%		101		
d4-1,4-Dichlorobenzene (%)	100			%		88.9		



Quality Control for C002420

Analyte	Qualifier	Result	MDL	RL	Units	Spike Level	Source Result	% REC	% REC Limits	RPD	RPD Limits
d4-Dichloroethane (%)		100			%		104				
d8-Toluene (%)		102			%		90				
4-Bromofluorobenzene (%)		106			%		89				

Purgeable Organic Compounds, GC/MS MSD by EPA 624.1, B211103-002

B211103-002 analyzed on 11/10/2021 20:36; Source = C002091-01

Bromodichloromethane		20.5	0.129	0.500	ug/L	20	0.129	103	35 - 155	1.7	56
Bromoform		23.3	0.166	0.500	ug/L	20	0.166	117	45 - 169	5.6	42
Chloroform		20.1	0.196	0.500	ug/L	20	0.196	101	51 - 138	3.9	54
Dibromochloromethane		21.8	0.131	0.500	ug/L	20	0.131	110	53 - 149	7.0	50
Fluorobenzene (%)		93			%		110				
d5-Chlorobenzene (%)		87			%		101				
d4-1,4-Dichlorobenzene (%)		98			%		88.9				
d4-Dichloroethane (%)		96			%		104				
d8-Toluene (%)		98			%		90				
4-Bromofluorobenzene (%)		104			%		89				

1,2,3-Trichloropropane, GC/MS DUP by SRL 524M-TCP, B211105-006

B211105-006 analyzed on 11/17/2021 23:33; Source = C002063-01

1,2,3-Trichloropropane	U	1.2	1.2	5.0	ng/L		1.2			NC	30
d5-1,2,3-Trichloropropane (%)		87			%		87				

1,2,3-Trichloropropane, GC/MS LCS by SRL 524M-TCP, B211105-006

B211105-006 analyzed on 11/17/2021 23:33

1,2,3-Trichloropropane		56	1.2	5.0	ng/L	50		111	80 - 120		
d5-1,2,3-Trichloropropane (%)		93			%						

1,2,3-Trichloropropane, GC/MS LOQ by SRL 524M-TCP, B211105-006

B211105-006 analyzed on 11/17/2021 23:33

1,2,3-Trichloropropane	E1	5.0	1.2	5.0	ng/L	5.0		99	80 - 120		
d5-1,2,3-Trichloropropane (%)		89			%						

1,2,3-Trichloropropane, GC/MS MB by SRL 524M-TCP, B211105-006

B211105-006 analyzed on 11/17/2021 23:33

1,2,3-Trichloropropane	U	1.2	1.2	5.0	ng/L						
d5-1,2,3-Trichloropropane (%)		88			%						

Haloacetic Acids, GC/ECD LCS by EPA 552.2, B211104-009

B211104-009 analyzed on 11/16/2021 23:51; B211103-001 prepared on 11/03/2021 21:11

Bromochloroacetic Acid		15	0.34	1.0	ug/L	15		100	70 - 130		
Bromodichloroacetic Acid		15	0.36	1.0	ug/L	15		102	70 - 130		
Dibromoacetic Acid		15	0.36	1.0	ug/L	15		101	70 - 130		
Dichloroacetic Acid		15	0.34	1.0	ug/L	15		99	70 - 130		
Monobromoacetic Acid		14	0.29	1.0	ug/L	15		97	70 - 130		
Monochloroacetic Acid		15	0.42	1.0	ug/L	15		101	70 - 130		
Trichloroacetic Acid		15	0.35	1.0	ug/L	15		101	70 - 130		
1,2,3-Trichloropropane (%)		100			%						
2,3-Dibromopropionic Acid (%)		97			%						



Quality Control for C002420

Analyte	Qualifier	Result	MDL	RL	Units	Spike Level	Source Result	% REC	% REC Limits	RPD	RPD Limits
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Haloacetic Acids, GC/ECD LOQ by EPA 552.2, B211104-009

B211104-009 analyzed on 11/16/2021 23:51; B211103-001 prepared on 11/03/2021 21:11

Bromochloroacetic Acid	E1	0.98	0.34	1.0	ug/L	1.0		98	50 - 150		
Bromodichloroacetic Acid	E1	0.81	0.36	1.0	ug/L	1.0		81	50 - 150		
Dibromoacetic Acid		1.0	0.36	1.0	ug/L	1.0		102	50 - 150		
Dichloroacetic Acid	E1	0.84	0.34	1.0	ug/L	1.0		84	50 - 150		
Monobromoacetic Acid		1.0	0.29	1.0	ug/L	1.0		104	50 - 150		
Monochloroacetic Acid		1.3	0.42	1.0	ug/L	1.0		130	50 - 150		
Trichloroacetic Acid	E1	0.94	0.35	1.0	ug/L	1.0		94	50 - 150		
1,2,3-Trichloropropane (%)		101			%						
2,3-Dibromopropionic Acid (%)		108			%						

Haloacetic Acids, GC/ECD MB by EPA 552.2, B211104-009

B211104-009 analyzed on 11/16/2021 23:51; B211103-001 prepared on 11/03/2021 21:11

Bromochloroacetic Acid	U	0.34	0.34	1.0	ug/L						
Bromodichloroacetic Acid	U	0.36	0.36	1.0	ug/L						
Dibromoacetic Acid	U	0.36	0.36	1.0	ug/L						
Dichloroacetic Acid	U	0.34	0.34	1.0	ug/L						
Monobromoacetic Acid	U	0.29	0.29	1.0	ug/L						
Monochloroacetic Acid	U	0.42	0.42	1.0	ug/L						
Trichloroacetic Acid	U	0.35	0.35	1.0	ug/L						
1,2,3-Trichloropropane (%)		100			%						
2,3-Dibromopropionic Acid (%)		99			%						

Haloacetic Acids, GC/ECD MS by EPA 552.2, B211104-009

B211104-009 analyzed on 11/16/2021 23:51; B211103-001 prepared on 11/03/2021 21:11; Source = C002519-01

Bromochloroacetic Acid		16	0.34	1.0	ug/L	15	1.2	96	70 - 130		
Bromodichloroacetic Acid		15	0.36	1.0	ug/L	15	1.1	94	70 - 130		
Dibromoacetic Acid		14	0.36	1.0	ug/L	15	0.36	96	70 - 130		
Dichloroacetic Acid		29	0.34	1.0	ug/L	15	17	83	70 - 130		
Monobromoacetic Acid		14	0.29	1.0	ug/L	15	0.29	97	70 - 130		
Monochloroacetic Acid		16	0.42	1.0	ug/L	15	1.9	95	70 - 130		
Trichloroacetic Acid		22	0.35	1.0	ug/L	15	11	74	70 - 130		
1,2,3-Trichloropropane (%)		99			%		100				
2,3-Dibromopropionic Acid (%)		91			%		104				

Haloacetic Acids, GC/ECD MSD by EPA 552.2, B211104-009

B211104-009 analyzed on 11/16/2021 23:51; B211103-001 prepared on 11/03/2021 21:11; Source = C002519-01

Bromochloroacetic Acid		16	0.34	1.0	ug/L	15	1.2	99	70 - 130	2.2	20
Bromodichloroacetic Acid		16	0.36	1.0	ug/L	15	1.1	98	70 - 130	3.7	20
Dibromoacetic Acid		15	0.36	1.0	ug/L	15	0.36	98	70 - 130	2.8	20
Dichloroacetic Acid		30	0.34	1.0	ug/L	15	17	86	70 - 130	1.5	20
Monobromoacetic Acid		15	0.29	1.0	ug/L	15	0.29	98	70 - 130	0.3	20
Monochloroacetic Acid		16	0.42	1.0	ug/L	15	1.9	95	70 - 130	0.0	20
Trichloroacetic Acid		23	0.35	1.0	ug/L	15	11	79	70 - 130	3.3	20
1,2,3-Trichloropropane (%)		100			%		100				
2,3-Dibromopropionic Acid (%)		95			%		104				

Semivolatile Organic Compounds (BNA), GC/MS LCS by EPA 525.2, B211130-017

B211130-017 analyzed on 12/20/2021 17:44; B211108-005 prepared on 11/24/2021 00:15

2,4-Dinitrotoluene		0.91	0.025	0.10	ug/L	1.0		91	70 - 130		
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Quality Control for C002420

Analyte	Qualifier	Result	MDL	RL	Units	Spike Level	Source Result	% REC	% REC Limits	RPD	RPD Limits
2,6-Dinitrotoluene		0.96	0.019	0.10	ug/L	1.0		96	70 - 130		
4,4'-DDD		0.91	0.022	0.10	ug/L	1.0		91	70 - 130		
4,4'-DDE		0.83	0.025	0.10	ug/L	1.0		83	70 - 130		
4,4'-DDT		0.86	0.023	0.10	ug/L	1.0		86	70 - 130		
Acenaphthylene		0.97	0.036	0.10	ug/L	1.0		97	70 - 130		
Alachlor		1.0	0.021	0.10	ug/L	1.0		105	70 - 130		
Aldrin		1.0	0.011	0.10	ug/L	1.0		100	70 - 130		
alpha BHC		1.1	0.012	0.10	ug/L	1.0		106	70 - 130		
alpha Endosulfan		1.0	0.012	0.10	ug/L	1.0		104	70 - 130		
Anthracene		0.96	0.042	0.10	ug/L	1.0		96	70 - 130		
Atrazine		1.0	0.026	0.10	ug/L	1.0		104	70 - 130		
Benzo(a)anthracene		0.93	0.017	0.10	ug/L	1.0		93	70 - 130		
Benzo(a)pyrene		0.76	0.011	0.10	ug/L	1.0		76	70 - 130		
Benzo(b)fluoranthene		0.86	0.014	0.10	ug/L	1.0		86	70 - 130		
Benzo(ghi)perylene		0.89	0.016	0.10	ug/L	1.0		89	70 - 130		
Benzo(k)fluoranthene		0.91	0.013	0.10	ug/L	1.0		91	70 - 130		
beta BHC		1.0	0.020	0.10	ug/L	1.0		105	70 - 130		
beta Endosulfan		1.0	0.019	0.10	ug/L	1.0		103	70 - 130		
bis(2-Ethylhexyl)adipate		0.73	0.029	0.10	ug/L	1.0		73	70 - 130		
bis(2-Ethylhexyl)phthalate		0.79	0.059	0.10	ug/L	1.0		79	70 - 130		
Bromacil		1.0	0.018	0.10	ug/L	1.0		105	70 - 130		
Butachlor		0.94	0.026	0.10	ug/L	1.0		94	70 - 130		
Butylbenzyl Phthalate		0.90	0.026	0.10	ug/L	1.0		90	70 - 130		
Chlordane		0.92	0.040	0.10	ug/L	1.0		92	70 - 130		
Chlordane-alpha		0.94	0.018	0.10	ug/L	1.0		94	70 - 130		
Chlordane-gamma		0.91	0.018	0.10	ug/L	1.0		91	70 - 130		
Chlorobenzilate		0.79	0.047	0.10	ug/L	1.0		79	70 - 130		
Chloroneb		1.0	0.052	0.10	ug/L	1.0		102	70 - 130		
Chlorothalonil		1.0	0.032	0.10	ug/L	1.0		104	70 - 130		
Chrysene		1.0	0.012	0.10	ug/L	1.0		100	70 - 130		
cis-Permethrin		0.72	0.047	0.10	ug/L	1.0		72	70 - 130		
DCPA		1.1	0.028	0.10	ug/L	1.0		106	70 - 130		
delta BHC		1.1	0.012	0.10	ug/L	1.0		108	70 - 130		
Dibenzo(a,h)anthracene		0.84	0.014	0.10	ug/L	1.0		84	70 - 130		
Dieldrin		1.1	0.023	0.10	ug/L	1.0		113	70 - 130		
Diethyl Phthalate		1.1	0.014	0.10	ug/L	1.0		110	70 - 130		
Dimethyl Phthalate		1.1	0.010	0.10	ug/L	1.0		106	70 - 130		
Di-n-butyl phthalate		1.1	0.028	0.10	ug/L	1.0		110	70 - 130		
Endosulfan Sulfate		0.98	0.035	0.10	ug/L	1.0		98	70 - 130		
Endrin		0.85	0.031	0.10	ug/L	1.0		85	70 - 130		
Endrin Aldehyde		0.97	0.029	0.10	ug/L	1.0		97	70 - 130		
EPTC		1.0	0.010	0.10	ug/L	1.0		101	70 - 130		
Etridiazole		0.97	0.010	0.10	ug/L	1.0		97	70 - 130		
Fluorene		1.0	0.022	0.10	ug/L	1.0		104	70 - 130		
gamma BHC		1.1	0.017	0.10	ug/L	1.0		110	70 - 130		
Heptachlor		1.0	0.0060	0.01	ug/L	1.0		101	70 - 130		
Heptachlor Epoxide		1.0	0.0060	0.01	ug/L	1.0		105	70 - 130		
Hexachlorobenzene		0.86	0.018	0.10	ug/L	1.0		86	70 - 130		
Hexachlorocyclopentadiene		0.84	0.019	0.10	ug/L	1.0		84	70 - 130		
Hexazinone		0.75	0.035	0.10	ug/L	1.0		75	70 - 130		
Indeno(1,2,3-cd)pyrene		0.73	0.013	0.10	ug/L	1.0		73	70 - 130		
Isophorone		1.0	0.011	0.10	ug/L	1.0		104	70 - 130		
Methoxychlor		0.89	0.011	0.10	ug/L	1.0		89	70 - 130		
Metolachlor		1.0	0.023	0.10	ug/L	1.0		105	70 - 130		
Metribuzin		0.83	0.025	0.10	ug/L	1.0		83	70 - 130		
Molinate		1.0	0.026	0.10	ug/L	1.0		105	70 - 130		
Phenanthrene		1.0	0.015	0.10	ug/L	1.0		101	70 - 130		
Prometryn		0.84	0.022	0.10	ug/L	1.0		84	70 - 130		



Quality Control for C002420

Analyte	Qualifier	Result	MDL	RL	Units	Spike Level	Source Result	% REC	% REC Limits	RPD	RPD Limits
Propachlor		1.0	0.014	0.10	ug/L	1.0		102	70 - 130		
Pyrene		1.0	0.030	0.10	ug/L	1.0		101	70 - 130		
Simazine		1.1	0.028	0.10	ug/L	1.0		107	70 - 130		
Terbacil		0.88	0.032	0.10	ug/L	1.0		88	70 - 130		
Thiobencarb		1.1	0.018	0.10	ug/L	1.0		112	70 - 130		
trans-Permethrin		0.71	0.020	0.10	ug/L	1.0		71	70 - 130		
Trifluralin		0.81	0.010	0.10	ug/L	1.0		81	70 - 130		
d10-Acenaphthene (%)		93			%						
d10-Phenanthrene (%)		95			%						
d12-Chrysene (%)		90			%						
1,3-Dimethyl-2-nitrobenzene (%)		100			%						
d10-Pyrene (%)		100			%						
d12-Perylene (%)		85			%						
Triphenyl phosphate (%)		101			%						

Semivolatile Organic Compounds (BNA), GC/MS LOQ by EPA 525.2, B211130-017

B211130-017 analyzed on 12/20/2021 17:44

Benzo(a)pyrene	E1	0.058	0.011	0.10	ug/L	0.10		58	50 - 150		
d10-Acenaphthene (%)		91			%						
d10-Phenanthrene (%)		96			%						
d12-Chrysene (%)		86			%						
1,3-Dimethyl-2-nitrobenzene (%)		106			%						
d10-Pyrene (%)		96			%						
d12-Perylene (%)		81			%						
Triphenyl phosphate (%)		102			%						

Semivolatile Organic Compounds (BNA), GC/MS LOQ by EPA 525.2, B211130-017

B211130-017 analyzed on 12/20/2021 17:44; B211108-005 prepared on 11/24/2021 00:15

2,4-Dinitrotoluene		0.13	0.025	0.10	ug/L	0.10		126	50 - 150		
2,6-Dinitrotoluene		0.12	0.019	0.10	ug/L	0.10		118	50 - 150		
4,4'-DDD	E1	0.099	0.022	0.10	ug/L	0.10		99	50 - 150		
4,4'-DDE	E1	0.071	0.025	0.10	ug/L	0.10		71	50 - 150		
4,4'-DDT	E1	0.061	0.023	0.10	ug/L	0.10		61	50 - 150		
Acenaphthylene	E1	0.082	0.036	0.10	ug/L	0.10		82	50 - 150		
Alachlor	E1	0.080	0.021	0.10	ug/L	0.10		80	50 - 150		
Aldrin	E1	0.090	0.011	0.10	ug/L	0.10		90	50 - 150		
alpha BHC		0.10	0.012	0.10	ug/L	0.10		102	50 - 150		
alpha Endosulfan	E1	0.093	0.012	0.10	ug/L	0.10		93	50 - 150		
Anthracene	E1	0.076	0.042	0.10	ug/L	0.10		76	50 - 150		
Atrazine	E1	0.088	0.026	0.10	ug/L	0.10		88	50 - 150		
Benzo(a)anthracene	E1	0.082	0.017	0.10	ug/L	0.10		82	50 - 150		
Benzo(b)fluoranthene	E1	0.071	0.014	0.10	ug/L	0.10		71	50 - 150		
Benzo(ghi)perylene	E1	0.063	0.016	0.10	ug/L	0.10		63	50 - 150		
Benzo(k)fluoranthene	E1	0.078	0.013	0.10	ug/L	0.10		78	50 - 150		
beta BHC	E1	0.096	0.020	0.10	ug/L	0.10		96	50 - 150		
beta Endosulfan	E1	0.091	0.019	0.10	ug/L	0.10		91	50 - 150		
bis(2-Ethylhexyl)adipate		0.10	0.029	0.10	ug/L	0.10		105	50 - 150		
bis(2-Ethylhexyl)phthalate		0.15	0.059	0.10	ug/L	0.10		150	50 - 150		
Bromacil		0.13	0.018	0.10	ug/L	0.10		134	50 - 150		
Butachlor		0.12	0.026	0.10	ug/L	0.10		119	50 - 150		
Butylbenzyl Phthalate		0.12	0.026	0.10	ug/L	0.10		123	50 - 150		
Chlordane	E1	0.092	0.040	0.10	ug/L	0.10		92	50 - 150		
Chlordane-alpha	E1	0.085	0.018	0.10	ug/L	0.10		85	50 - 150		
Chlordane-gamma	E1	0.093	0.018	0.10	ug/L	0.10		93	50 - 150		
Chlorobenzilate		0.12	0.047	0.10	ug/L	0.10		118	50 - 150		



Quality Control for C002420

Analyte	Qualifier	Result	MDL	RL	Units	Spike Level	Source Result	% REC	% REC Limits	RPD	RPD Limits
Chloroneb		0.11	0.052	0.10	ug/L	0.10		110	50 - 150		
Chlorothalonil		0.13	0.032	0.10	ug/L	0.10		128	50 - 150		
Chrysene	E1	0.096	0.012	0.10	ug/L	0.10		96	50 - 150		
cis-Permethrin	E1	0.069	0.047	0.10	ug/L	0.10		69	50 - 150		
DCPA	E1	0.095	0.028	0.10	ug/L	0.10		95	50 - 150		
delta BHC	E1	0.096	0.012	0.10	ug/L	0.10		96	50 - 150		
Dibenzo(a,h)anthracene	E1	0.090	0.014	0.10	ug/L	0.10		90	50 - 150		
Dieldrin		0.11	0.023	0.10	ug/L	0.10		107	50 - 150		
Diethyl Phthalate		0.10	0.014	0.10	ug/L	0.10		103	50 - 150		
Dimethyl Phthalate		0.10	0.010	0.10	ug/L	0.10		100	50 - 150		
Di-n-butyl phthalate		0.10	0.028	0.10	ug/L	0.10		102	50 - 150		
Endosulfan Sulfate		0.11	0.035	0.10	ug/L	0.10		108	50 - 150		
Endrin		0.10	0.031	0.10	ug/L	0.10		102	50 - 150		
Endrin Aldehyde	E1	0.082	0.029	0.10	ug/L	0.10		82	50 - 150		
EPTC	E1	0.093	0.010	0.10	ug/L	0.10		93	50 - 150		
Etridiazole		0.11	0.010	0.10	ug/L	0.10		108	50 - 150		
Fluorene	E1	0.097	0.022	0.10	ug/L	0.10		97	50 - 150		
gamma BHC	E1	0.099	0.017	0.10	ug/L	0.10		99	50 - 150		
Heptachlor	E1	0.0090	0.0060	0.01	ug/L	0.01		90	50 - 150		
Heptachlor Epoxide	E1	0.0090	0.0060	0.01	ug/L	0.01		90	50 - 150		
Hexachlorobenzene	E1	0.078	0.018	0.10	ug/L	0.10		78	50 - 150		
Hexachlorocyclopentadiene	E1	0.082	0.019	0.10	ug/L	0.10		82	50 - 150		
Hexazinone		0.10	0.035	0.10	ug/L	0.10		100	50 - 150		
Indeno(1,2,3-cd)pyrene	E1	0.096	0.013	0.10	ug/L	0.10		96	50 - 150		
Isophorone		0.10	0.011	0.10	ug/L	0.10		101	50 - 150		
Methoxychlor		0.12	0.011	0.10	ug/L	0.10		122	50 - 150		
Metolachlor		0.11	0.023	0.10	ug/L	0.10		111	50 - 150		
Metribuzin		0.10	0.025	0.10	ug/L	0.10		105	50 - 150		
Molinate	E1	0.099	0.026	0.10	ug/L	0.10		99	50 - 150		
Phenanthrene		0.10	0.015	0.10	ug/L	0.10		100	50 - 150		
Prometryn		0.12	0.022	0.10	ug/L	0.10		121	50 - 150		
Propachlor		0.11	0.014	0.10	ug/L	0.10		107	50 - 150		
Pyrene	E1	0.095	0.030	0.10	ug/L	0.10		95	50 - 150		
Simazine	E1	0.083	0.028	0.10	ug/L	0.10		83	50 - 150		
Terbacil		0.12	0.032	0.10	ug/L	0.10		117	50 - 150		
Thiobencarb	E1	0.092	0.018	0.10	ug/L	0.10		92	50 - 150		
trans-Permethrin	E1	0.067	0.020	0.10	ug/L	0.10		67	50 - 150		
Trifluralin		0.12	0.010	0.10	ug/L	0.10		121	50 - 150		
d10-Acenaphthene (%)		94			%						
d10-Acenaphthene (%)		90			%						
d10-Phenanthrene (%)		95			%						
d10-Phenanthrene (%)		99			%						
d12-Chrysene (%)		86			%						
d12-Chrysene (%)		85			%						
1,3-Dimethyl-2-nitrobenzene (%)		103			%						
1,3-Dimethyl-2-nitrobenzene (%)		99			%						
d10-Pyrene (%)		95			%						
d10-Pyrene (%)		99			%						
d12-Perylene (%)		76			%						
d12-Perylene (%)		76			%						
Triphenyl phosphate (%)		99			%						
Triphenyl phosphate (%)		99			%						

Semivolatile Organic Compounds (BNA), GC/MS MB by EPA 525.2, B211130-017

B211130-017 analyzed on 12/20/2021 17:44; B211108-005 prepared on 11/24/2021 00:15

2,4-Dinitrotoluene	U	0.025	0.025	0.10	ug/L
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Quality Control for C002420

Analyte	Qualifier	Result	MDL	RL	Units	Spike Level	Source Result	% REC	% REC Limits	RPD	RPD Limits
2,6-Dinitrotoluene	U	0.019	0.019	0.10	ug/L						
4,4'-DDD	U	0.022	0.022	0.10	ug/L						
4,4'-DDE	U	0.025	0.025	0.10	ug/L						
4,4'-DDT	U	0.023	0.023	0.10	ug/L						
Acenaphthylene	U	0.036	0.036	0.10	ug/L						
Alachlor	U	0.021	0.021	0.10	ug/L						
Aldrin	U	0.011	0.011	0.10	ug/L						
alpha BHC	U	0.012	0.012	0.10	ug/L						
alpha Endosulfan	U	0.012	0.012	0.10	ug/L						
Anthracene	U	0.042	0.042	0.10	ug/L						
Atrazine	U	0.026	0.026	0.10	ug/L						
Benzo(a)anthracene	U	0.017	0.017	0.10	ug/L						
Benzo(a)pyrene	U	0.011	0.011	0.10	ug/L						
Benzo(b)fluoranthene	U	0.014	0.014	0.10	ug/L						
Benzo(ghi)perylene	U	0.016	0.016	0.10	ug/L						
Benzo(k)fluoranthene	U	0.013	0.013	0.10	ug/L						
beta BHC	U	0.020	0.020	0.10	ug/L						
beta Endosulfan	U	0.019	0.019	0.10	ug/L						
bis(2-Ethylhexyl)adipate	U	0.029	0.029	0.10	ug/L						
bis(2-Ethylhexyl)phthalate	U	0.059	0.059	0.10	ug/L						
Bromacil	U	0.018	0.018	0.10	ug/L						
Butachlor	U	0.026	0.026	0.10	ug/L						
Butylbenzyl Phthalate	U	0.026	0.026	0.10	ug/L						
Chlordane	U	0.040	0.040	0.10	ug/L						
Chlordane-alpha	U	0.018	0.018	0.10	ug/L						
Chlordane-gamma	U	0.018	0.018	0.10	ug/L						
Chlorobenzilate	U	0.047	0.047	0.10	ug/L						
Chloroneb	U	0.052	0.052	0.10	ug/L						
Chlorothalonil	U	0.032	0.032	0.10	ug/L						
Chrysene	U	0.012	0.012	0.10	ug/L						
cis-Permethrin	U	0.047	0.047	0.10	ug/L						
DCPA	U	0.028	0.028	0.10	ug/L						
delta BHC	U	0.012	0.012	0.10	ug/L						
Dibenzo(a,h)anthracene	U	0.014	0.014	0.10	ug/L						
Dieldrin	U	0.023	0.023	0.10	ug/L						
Diethyl Phthalate	U	0.014	0.014	0.10	ug/L						
Dimethyl Phthalate	U	0.010	0.010	0.10	ug/L						
Di-n-butyl phthalate	U	0.028	0.028	0.10	ug/L						
Endosulfan Sulfate	U	0.035	0.035	0.10	ug/L						
Endrin	U	0.031	0.031	0.10	ug/L						
Endrin Aldehyde	U	0.029	0.029	0.10	ug/L						
EPTC	U	0.010	0.010	0.10	ug/L						
Etridiazole	U	0.010	0.010	0.10	ug/L						
Fluorene	U	0.022	0.022	0.10	ug/L						
gamma BHC	U	0.017	0.017	0.10	ug/L						
Heptachlor	U	0.0060	0.0060	0.01	ug/L						
Heptachlor Epoxide	U	0.0060	0.0060	0.01	ug/L						
Hexachlorobenzene	U	0.018	0.018	0.10	ug/L						
Hexachlorocyclopentadiene	U	0.019	0.019	0.10	ug/L						
Hexazinone	U	0.035	0.035	0.10	ug/L						
Indeno(1,2,3-cd)pyrene	U	0.013	0.013	0.10	ug/L						
Isophorone	U	0.011	0.011	0.10	ug/L						
Methoxychlor	U	0.011	0.011	0.10	ug/L						
Metolachlor	U	0.023	0.023	0.10	ug/L						
Metribuzin	U	0.025	0.025	0.10	ug/L						
Molinate	U	0.026	0.026	0.10	ug/L						
Phenanthrene	U	0.015	0.015	0.10	ug/L						
Prometryn	U	0.022	0.022	0.10	ug/L						



Quality Control for C002420

Analyte	Qualifier	Result	MDL	RL	Units	Spike Level	Source Result	% REC Limits	% REC Limits	RPD	RPD Limits
Propachlor	U	0.014	0.014	0.10	ug/L						
Pyrene	U	0.030	0.030	0.10	ug/L						
Simazine	U	0.028	0.028	0.10	ug/L						
Terbacil	U	0.032	0.032	0.10	ug/L						
Thiobencarb	U	0.018	0.018	0.10	ug/L						
Toxaphene	U	0.50	0.50	1.0	ug/L						
trans-Permethrin	U	0.020	0.020	0.10	ug/L						
Trifluralin	U	0.010	0.010	0.10	ug/L						
d10-Acenaphthene (%)		94			%						
d10-Phenanthrene (%)		97			%						
d12-Chrysene (%)		83			%						
1,3-Dimethyl-2-nitrobenzene (%)		100			%						
d10-Pyrene (%)		96			%						
d12-Perylene (%)		81			%						
Triphenyl phosphate (%)		97			%						

Semivolatile Organic Compounds (BNA), GC/MS MS by EPA 525.2, B211130-017

B211130-017 analyzed on 12/20/2021 17:44; B211108-005 prepared on 11/24/2021 00:15; Source = C002063-01

2,4-Dinitrotoluene	0.95	0.024	0.098	ug/L	0.98	0.024	97	70 - 130
2,6-Dinitrotoluene	1.0	0.019	0.098	ug/L	0.98	0.018	106	70 - 130
4,4'-DDD	0.91	0.022	0.098	ug/L	0.98	0.021	93	70 - 130
4,4'-DDE	0.85	0.024	0.098	ug/L	0.98	0.024	86	70 - 130
4,4'-DDT	0.85	0.022	0.098	ug/L	0.98	0.022	86	70 - 130
Acenaphthylene	0.96	0.035	0.098	ug/L	0.98	0.035	98	70 - 130
Alachlor	1.1	0.020	0.098	ug/L	0.98	0.020	109	70 - 130
Aldrin	0.96	0.011	0.098	ug/L	0.98	0.011	98	70 - 130
alpha BHC	1.0	0.012	0.098	ug/L	0.98	0.012	106	70 - 130
alpha Endosulfan	1.0	0.012	0.098	ug/L	0.98	0.012	107	70 - 130
Anthracene	0.93	0.041	0.098	ug/L	0.98	0.041	95	70 - 130
Atrazine	0.99	0.025	0.098	ug/L	0.98	0.025	101	70 - 130
Benzo(a)anthracene	0.94	0.017	0.098	ug/L	0.98	0.016	96	70 - 130
Benzo(a)pyrene	0.89	0.011	0.098	ug/L	0.98	0.011	91	70 - 130
Benzo(b)fluoranthene	0.85	0.014	0.098	ug/L	0.98	0.014	86	70 - 130
Benzo(ghi)perylene	0.81	0.016	0.098	ug/L	0.98	0.015	82	70 - 130
Benzo(k)fluoranthene	0.91	0.013	0.098	ug/L	0.98	0.012	92	70 - 130
beta BHC	1.0	0.020	0.098	ug/L	0.98	0.019	104	70 - 130
beta Endosulfan	1.0	0.019	0.098	ug/L	0.98	0.018	105	70 - 130
bis(2-Ethylhexyl)adipate	0.84	0.028	0.098	ug/L	0.98	0.028	85	70 - 130
bis(2-Ethylhexyl)phthalate	1.2	0.058	0.098	ug/L	0.98	0.25	91	70 - 130
Bromacil	1.1	0.018	0.098	ug/L	0.98	0.017	110	70 - 130
Butachlor	1.0	0.025	0.098	ug/L	0.98	0.025	104	70 - 130
Butylbenzyl Phthalate	1.0	0.025	0.098	ug/L	0.98	0.025	105	70 - 130
Chlordane	0.86	0.039	0.098	ug/L	0.98	0.039	88	70 - 130
Chlordane-alpha	0.90	0.018	0.098	ug/L	0.98	0.017	92	70 - 130
Chlordane-gamma	0.87	0.018	0.098	ug/L	0.98	0.017	88	70 - 130
Chlorobenzilate	1.0	0.046	0.098	ug/L	0.98	0.045	105	70 - 130
Chloroneb	1.0	0.051	0.098	ug/L	0.98	0.050	107	70 - 130
Chlorothalonil	1.0	0.031	0.098	ug/L	0.98	0.031	105	70 - 130
Chrysene	0.96	0.012	0.098	ug/L	0.98	0.012	98	70 - 130
cis-Permethrin	0.96	0.046	0.098	ug/L	0.98	0.045	98	70 - 130
DCPA	1.0	0.027	0.098	ug/L	0.98	0.027	102	70 - 130
delta BHC	1.0	0.012	0.098	ug/L	0.98	0.012	104	70 - 130
Dibenzo(a,h)anthracene	0.80	0.014	0.098	ug/L	0.98	0.014	82	70 - 130
Dieldrin	1.1	0.022	0.098	ug/L	0.98	0.022	112	70 - 130
Diethyl Phthalate	1.1	0.014	0.098	ug/L	0.98	0.014	113	70 - 130
Dimethyl Phthalate	1.1	0.0098	0.098	ug/L	0.98	0.0097	109	70 - 130



Quality Control for C002420

Analyte	Qualifier	Result	MDL	RL	Units	Spike Level	Source Result	% REC	% REC Limits	RPD	RPD Limits
Di-n-butyl phthalate		1.1	0.027	0.098	ug/L	0.98	0.027	116	70 - 130		
Endosulfan Sulfate		0.94	0.034	0.098	ug/L	0.98	0.034	96	70 - 130		
Endrin		0.93	0.030	0.098	ug/L	0.98	0.030	95	70 - 130		
Endrin Aldehyde		1.1	0.028	0.098	ug/L	0.98	0.028	115	70 - 130		
EPTC		1.0	0.0098	0.098	ug/L	0.98	0.0097	105	70 - 130		
Etridiazole		0.96	0.0098	0.098	ug/L	0.98	0.0097	98	70 - 130		
Fluorene		1.0	0.022	0.098	ug/L	0.98	0.021	106	70 - 130		
gamma BHC		1.0	0.017	0.098	ug/L	0.98	0.016	104	70 - 130		
Heptachlor		1.0	0.0059	0.0098	ug/L	0.98	0.0058	103	70 - 130		
Heptachlor Epoxide		1.0	0.0059	0.0098	ug/L	0.98	0.0058	105	70 - 130		
Hexachlorobenzene		0.86	0.018	0.098	ug/L	0.98	0.017	88	70 - 130		
Hexachlorocyclopentadiene		0.90	0.019	0.098	ug/L	0.98	0.018	92	70 - 130		
Hexazinone		0.81	0.034	0.098	ug/L	0.98	0.034	82	70 - 130		
Indeno(1,2,3-cd)pyrene		0.77	0.013	0.098	ug/L	0.98	0.012	78	70 - 130		
Isophorone		1.1	0.011	0.098	ug/L	0.98	0.011	110	70 - 130		
Methoxychlor		0.94	0.011	0.098	ug/L	0.98	0.011	96	70 - 130		
Metolachlor		1.0	0.022	0.098	ug/L	0.98	0.022	107	70 - 130		
Metribuzin		0.89	0.024	0.098	ug/L	0.98	0.024	91	70 - 130		
Molinate		1.1	0.025	0.098	ug/L	0.98	0.025	112	70 - 130		
Phenanthrene		0.98	0.015	0.098	ug/L	0.98	0.014	100	70 - 130		
Prometryn		0.98	0.022	0.098	ug/L	0.98	0.021	100	70 - 130		
Propachlor		1.0	0.014	0.098	ug/L	0.98	0.014	105	70 - 130		
Pyrene		0.95	0.029	0.098	ug/L	0.98	0.029	97	70 - 130		
Simazine		0.99	0.027	0.098	ug/L	0.98	0.027	101	70 - 130		
Terbacil		1.0	0.031	0.098	ug/L	0.98	0.031	106	70 - 130		
Thiobencarb		1.1	0.018	0.098	ug/L	0.98	0.017	114	70 - 130		
trans-Permethrin		0.92	0.020	0.098	ug/L	0.98	0.019	94	70 - 130		
Trifluralin		0.86	0.0098	0.098	ug/L	0.98	0.0097	88	70 - 130		
d10-Acenaphthene (%)		91			%		101				
d10-Phenanthrene (%)		95			%		100				
d12-Chrysene (%)		90			%		92				
1,3-Dimethyl-2-nitrobenzene (%)		100			%		98				
d10-Pyrene (%)		98			%		102				
d12-Perylene (%)		92			%		92				
Triphenyl phosphate (%)		111			%		118				

Semivolatile Organic Compounds (BNA), GC/MS MSD by EPA 525.2, B211130-017

B211130-017 analyzed on 12/20/2021 17:44; B211108-005 prepared on 11/24/2021 00:15; Source = C002063-01

2,4-Dinitrotoluene	0.96	0.024	0.097	ug/L	0.97	0.024	99	70 - 130	1.4	20
2,6-Dinitrotoluene	1.0	0.018	0.097	ug/L	0.97	0.018	107	70 - 130	0.7	20
4,4'-DDD	0.90	0.021	0.097	ug/L	0.97	0.021	93	70 - 130	0.5	20
4,4'-DDE	0.84	0.024	0.097	ug/L	0.97	0.024	87	70 - 130	0.4	20
4,4'-DDT	0.90	0.022	0.097	ug/L	0.97	0.022	92	70 - 130	6.0	20
Acenaphthylene	0.95	0.035	0.097	ug/L	0.97	0.035	97	70 - 130	1.2	20
Alachlor	1.1	0.020	0.097	ug/L	0.97	0.020	110	70 - 130	0.0	20
Aldrin	0.97	0.011	0.097	ug/L	0.97	0.011	99	70 - 130	0.8	20
alpha BHC	1.0	0.012	0.097	ug/L	0.97	0.012	103	70 - 130	3.8	20
alpha Endosulfan	1.1	0.012	0.097	ug/L	0.97	0.012	111	70 - 130	2.9	20
Anthracene	0.96	0.041	0.097	ug/L	0.97	0.041	99	70 - 130	2.7	20
Atrazine	1.0	0.025	0.097	ug/L	0.97	0.025	103	70 - 130	0.7	20
Benzo(a)anthracene	0.94	0.016	0.097	ug/L	0.97	0.016	96	70 - 130	0.4	20
Benzo(a)pyrene	0.88	0.011	0.097	ug/L	0.97	0.011	90	70 - 130	1.7	20
Benzo(b)fluoranthene	0.85	0.014	0.097	ug/L	0.97	0.014	87	70 - 130	0.2	20
Benzo(ghi)perylene	0.78	0.016	0.097	ug/L	0.97	0.015	80	70 - 130	4.0	20
Benzo(k)fluoranthene	0.87	0.013	0.097	ug/L	0.97	0.012	89	70 - 130	4.4	20
beta BHC	1.0	0.019	0.097	ug/L	0.97	0.019	105	70 - 130	0.4	20



Quality Control for C002420

Analyte	Qualifier	Result	MDL	RL	Units	Spike Level	Source Result	% REC	% REC Limits	RPD	RPD Limits
beta Endosulfan		1.0	0.018	0.097	ug/L	0.97	0.018	104	70 - 130	1.0	20
bis(2-Ethylhexyl)adipate		0.82	0.028	0.097	ug/L	0.97	0.028	84	70 - 130	1.6	20
bis(2-Ethylhexyl)phthalate		1.0	0.057	0.097	ug/L	0.97	0.25	81	70 - 130	9.6	20
Bromacil		1.1	0.018	0.097	ug/L	0.97	0.017	111	70 - 130	0.0	20
Butachlor		1.0	0.025	0.097	ug/L	0.97	0.025	106	70 - 130	0.4	20
Butylbenzyl Phthalate		1.0	0.025	0.097	ug/L	0.97	0.025	106	70 - 130	0.5	20
Chlordane		0.88	0.039	0.097	ug/L	0.97	0.039	90	70 - 130	1.5	20
Chlordane-alpha		0.93	0.018	0.097	ug/L	0.97	0.017	96	70 - 130	3.4	20
Chlordane-gamma		0.87	0.018	0.097	ug/L	0.97	0.017	90	70 - 130	0.6	20
Chlorobenzilate		1.0	0.046	0.097	ug/L	0.97	0.045	105	70 - 130	1.2	20
Chloroneb		0.98	0.050	0.097	ug/L	0.97	0.050	101	70 - 130	6.2	20
Chlorothalonil		1.0	0.031	0.097	ug/L	0.97	0.031	103	70 - 130	2.9	20
Chrysene		0.96	0.012	0.097	ug/L	0.97	0.012	99	70 - 130	0.4	20
cis-Permethrin		0.96	0.046	0.097	ug/L	0.97	0.045	99	70 - 130	0.6	20
DCPA		1.0	0.027	0.097	ug/L	0.97	0.027	103	70 - 130	0.6	20
delta BHC		1.0	0.012	0.097	ug/L	0.97	0.012	104	70 - 130	0.9	20
Dibenzo(a,h)anthracene		0.79	0.014	0.097	ug/L	0.97	0.014	82	70 - 130	1.2	20
Dieldrin		1.1	0.022	0.097	ug/L	0.97	0.022	111	70 - 130	1.7	20
Diethyl Phthalate		1.1	0.014	0.097	ug/L	0.97	0.014	111	70 - 130	2.2	20
Dimethyl Phthalate		1.0	0.0097	0.097	ug/L	0.97	0.0097	107	70 - 130	2.6	20
Di-n-butyl phthalate		1.1	0.027	0.097	ug/L	0.97	0.027	116	70 - 130	0.4	20
Endosulfan Sulfate		0.99	0.034	0.097	ug/L	0.97	0.034	102	70 - 130	5.5	20
Endrin		0.97	0.030	0.097	ug/L	0.97	0.030	100	70 - 130	4.0	20
Endrin Aldehyde		1.1	0.028	0.097	ug/L	0.97	0.028	114	70 - 130	1.8	20
EPTC		1.0	0.0097	0.097	ug/L	0.97	0.0097	105	70 - 130	0.1	20
Etridiazole		0.95	0.0097	0.097	ug/L	0.97	0.0097	97	70 - 130	1.8	20
Fluorene		1.0	0.021	0.097	ug/L	0.97	0.021	106	70 - 130	0.4	20
gamma BHC		1.0	0.016	0.097	ug/L	0.97	0.016	106	70 - 130	0.6	20
Heptachlor		1.0	0.0058	0.0097	ug/L	0.97	0.0058	106	70 - 130	1.6	20
Heptachlor Epoxide		1.0	0.0058	0.0097	ug/L	0.97	0.0058	104	70 - 130	1.8	20
Hexachlorobenzene		0.86	0.018	0.097	ug/L	0.97	0.017	89	70 - 130	0.1	20
Hexachlorocyclopentadiene		0.90	0.018	0.097	ug/L	0.97	0.018	92	70 - 130	0.6	20
Hexazinone		0.83	0.034	0.097	ug/L	0.97	0.034	85	70 - 130	2.7	20
Indeno(1,2,3-cd)pyrene		0.74	0.013	0.097	ug/L	0.97	0.012	76	70 - 130	4.0	20
Isophorone		1.0	0.011	0.097	ug/L	0.97	0.011	106	70 - 130	4.8	20
Methoxychlor		0.92	0.011	0.097	ug/L	0.97	0.011	95	70 - 130	1.2	20
Metolachlor		1.0	0.022	0.097	ug/L	0.97	0.022	106	70 - 130	1.7	20
Metribuzin		0.90	0.024	0.097	ug/L	0.97	0.024	93	70 - 130	1.4	20
Molinate		1.1	0.025	0.097	ug/L	0.97	0.025	111	70 - 130	2.0	20
Phenanthrene		0.96	0.014	0.097	ug/L	0.97	0.014	99	70 - 130	2.2	20
Prometryn		0.99	0.021	0.097	ug/L	0.97	0.021	102	70 - 130	1.1	20
Propachlor		1.0	0.014	0.097	ug/L	0.97	0.014	107	70 - 130	1.1	20
Pyrene		0.96	0.029	0.097	ug/L	0.97	0.029	98	70 - 130	0.6	20
Simazine		0.98	0.027	0.097	ug/L	0.97	0.027	101	70 - 130	1.1	20
Terbacil		1.0	0.031	0.097	ug/L	0.97	0.031	106	70 - 130	0.6	20
Thiobencarb		1.1	0.018	0.097	ug/L	0.97	0.017	113	70 - 130	1.3	20
trans-Permethrin		0.92	0.019	0.097	ug/L	0.97	0.019	95	70 - 130	0.1	20
Trifluralin		0.88	0.0097	0.097	ug/L	0.97	0.0097	91	70 - 130	2.4	20
d10-Acenaphthene (%)		94			%		101				
d10-Phenanthrene (%)		96			%		100				
d12-Chrysene (%)		93			%		92				
1,3-Dimethyl-2-nitrobenzene (%)		100			%		98				
d10-Pyrene (%)		99			%		102				
d12-Perylene (%)		92			%		92				
Triphenyl phosphate (%)		111			%		118				



Quality Control for C002420

Analyte	Qualifier	Result	MDL	RL	Units	Spike Level	Source Result	% REC	% REC Limits	RPD	RPD Limits
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Semivolatile Organic Compounds (BNA), GC/MS LCS by EPA 525.2, B211130-017

B211130-017 analyzed on 12/20/2021 17:44; B211108-005 prepared on 11/24/2021 00:15

Toxaphene		9.7	0.50	1.0	ug/L	10		97	70 - 130		
d10-Acenaphthene (%)		90			%						
d10-Phenanthrene (%)		98			%						
d12-Chrysene (%)		87			%						
1,3-Dimethyl-2-nitrobenzene (%)		103			%						
d10-Pyrene (%)		97			%						
d12-Perylene (%)		80			%						
Triphenyl phosphate (%)		104			%						



Qualifiers and Definitions

<	Less than
E1	Concentration estimated. Analyte detected below reporting limit (RL) but above MDL. For SIP, E1=DNQ, Estimated Concentration.
NC	Not Calculable
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

CC	Control Culture
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
NCC	Negative Culture Control
PCC	Positive Culture Control
QCS	Quality Control Sample



Lim, Jack

From: David Terz <davidt@fglinc.com>
Sent: Friday, November 5, 2021 4:24 PM
To: Shang, Yuyun
Cc: Lim, Jack; Lorenson, Kristi; Glenn Olsen
Subject: C002420-07 Radon sample

Follow Up Flag: Follow up
Flag Status: Flagged

CAUTION – This email came from outside of EBMUD. Do not open attachments or click on links in suspicious emails.

All-

The Radon analysis for sample C002420-07 (FGL ID SP 2115758), collected on 11/2/21 cannot be completed due to instrument malfunction. This occurred today, 11/5/21 and no time remains in the 4 day Hold Time to submit to another laboratory for analysis.

We will cancel the Radon and are requesting a new sample for Radon. We hope to have the instrument repaired by late next week; however, we have a sub lab available to send the sample if the our instrument is not up and running.

--
Regards,
David Terz
QA Director
Fruit Growers Laboratory
805-392-2024



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

	COC #: C002420	Project Title: Bayside Ground Water Project TAT: Standard	Client PM: David Behnken Lab PM: Kristi Schwab Job #:	Expect Date: 10/13/2021 Sampled By: Jon Marshak <input checked="" type="checkbox"/> Samples transported on ice
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Date	Time	Site/Locator	Sample ID	Type	Matrix	ID	Type	Tests Required	
10/2/21	930	WTP BAYSIDE - BAY WELL HEAD	C002420-01	GRAB	Aqueous			+SAMP KIT	
								-01A PLSTL EPA 200.7-NPW (Ca,Fe,K,Mg,Mn,Na)	
								-01B PLSTL TDS	
								-01C PLSTM Hardness	
								-01D PLSTS EPA 300.1 (Cl,NO3,SO4)	
								-01E PSQTL Ammonia: Tit-AQ	
								-01F A125N EPA 552.2	
								-01G A125N EPA 552.2	
								-01L VOC4T EPA 624.1 THM	
								-01M VOC4T EPA 624.1	
								-01N VOC4T EPA 624.1	
								-01O C500Z Alkalinity: Species	
								Field Test Parameters:	
								CL2R =	0.09 mg/L
								pH =	8.13 pH Units

Field Comments: WDR Requirements

Field Instructions:

Date	Time	Site/Locator	Sample ID	Type	Matrix	ID	Type	Tests Required
11/2/21	945	WTP BAYSIDE - BAY WELL HEAD	C002420-02	GRAB	Drinking Water			EPA 245.1 Hg, EPA 200.7-W (Al, Ca, Cu, Fe, K, Mg, Mn, Na, Zn), EPA 200.8-W (Ag, As, Ba, Be, Cd, Cr, Ni, Pb, Sb, Se, Tl)
								-02B PLSTM Hardness
								-02C PLSTS EPA 300.1 (Cl, F, I, NO2, NO3, SO4)
								-02D C500Z Alkalinity: Species
								-02E VOA4S TOC: Total
								-02F VOA4S TOC: Total
								-02G ANORS EPA 525.2 Full
								-02H ANORS EPA 525.2
								-02I ANORS EPA 525.2
								-02J ANORS EPA 525.2
								-02K SWBCT Colilert 18 QT-W
								-02O VOA4A SRL 524M TCP
								-02P VOA4A SRL 524M-TCP

Double #1 (1) 5.2 #12
Double #2 (2) 5.2 #12



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



COC #: C002420	Project Title: Bayside Ground Water Project TAT: Standard	Client PM: David Behnken Lab PM: Kristi Schwab Job #:	Expect Date: 10/13/2021 Sampled By: Jon Marshak <input checked="" type="checkbox"/> Samples transported on ice
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Date	Time	Site/Locator	Sample ID	Type	Matrix	ID	Type	Tests Required
11/2/21	945	WTP BAYSIDE - BAY WELL HEAD	C002420-02	GRAB	Drinking Water	-02Q	VOA4A	SRL 524M-TCP
						-02R	BPLLT	Cyanide
						-02S	PLSTL	Color Visual, Conductivity, TDS, Turbidity
						-02T	PLSTL	+SAVE 30

Field Comments: T22 Requirements

Field Instructions:

Date	Time	Site/Locator	Sample ID	Type	Matrix	ID	Type	Tests Required
11/2/21	955	WTP BAYSIDE - BAY WELL HEAD	C002420-03	GRAB	Drinking Water	-03A	PLSTL	MBAS-W
						-03B	PLSTS	EPA 314 Perchlorate
						-03C	CLAB	Chromium +6
						-03D	CLAB	EPA 504.1
						-03E	CLAB	EPA 504.1
						-03F	CLAB	EPA 504.1
						-03G	CLAB	EPA 508 PCB
						-03H	CLAB	EPA 508 PCB
						-03I	CLAB	EPA 515.3
						-03J	CLAB	EPA 515.3
						-03K	CLAB	EPA 531.1
						-03L	CLAB	EPA 547 Glyphosate
						-03M	CLAB	EPA 548.1 Endothall
						-03N	CLAB	EPA 549.2 Diquat
						-03O	CLAB	EPA 524.2
						-03P	CLAB	EPA 524.2
						-03Q	CLAB	EPA 524.2
						-03R	ANORT	+NO ANALYSIS

Field Comments:

Field Instructions: +No Analysis for Two-Step sampling. See cooler label for instructions.

Date	Time	Site/Locator	Sample ID	Type	Matrix	ID	Type	Tests Required
11/2/21	1015	WTP BAYSIDE - BAY WELL HEAD	C002420-04	GRAB	Drinking Water	-04A	ANORT	EPA 1613
						-04B	ANORT	EPA 1613

COOLER #3 @ 6-6 *12
COOLER #4 @ 6-7 *12



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



COC #: C002420	Project Title: Bayside Ground Water Project TAT: Standard	Client PM: David Behnken Lab PM: Kristi Schwab Job #:	Expect Date: 10/13/2021 Sampled By: <i>Jon Marshak</i> <input checked="" type="checkbox"/> Samples transported on ice
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Date	Time	Site/Locator	Sample ID	Type	Matrix	ID	Type	Tests Required
Field Comments:								
Field Instructions:								
<i>11/2/21</i>	<i>1020</i>	WTP BAYSIDE - BAY WELL HEAD	C002420-05	GRAB	Drinking Water	-05A	PLSTL	EPA 100.2 Asbestos
						-05B	PLSTL	EPA 100.2 Asbestos

Field Comments:
Field Instructions:

<i>11/2/21</i>	<i>1025</i>	WTP BAYSIDE - BAY WELL HEAD	C002420-06	GRAB	Drinking Water	-06A	CLAB	TON Ambient
						-06B	CLAB	TON Ambient

Field Comments:
Field Instructions:

<i>11/2/21</i>	<i>1030</i>	WTP BAYSIDE - BAY WELL HEAD	C002420-07	GRAB	Drinking Water	-07A	A250	Tritium
						-07B	VOC4	Radon
						-07D	A250	Tritium
						-07E	PLSTL	Gross Alpha/Beta
						-07F	PLSTL	Gross Alpha/Beta
						-07L	PLSTL	Gross Alpha/Beta
						-07M	PLSTL	Radium 226
						-07N	PLSTL	Radium 228
						-07O	PLSTL	Strontium-90
						-07P	PLSTL	Uranium

Field Comments:
Field Instructions: Refer to special sampling instructions included for Radon.

<i>11/2/21</i>	<i>0450</i>	FIELD QC - COLLECTION QC	C002420-08	OCFB	Drinking Water	-08C	VOA4A	SRL 524M TCP
						-08D	VOA4A	SRL 524M-TCP
						-08E	A250Z	+NO ANALYSIS



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



COC #: C002420	Project Title: Bayside Ground Water Project TAT: Standard	Client PM: David Behnken Lab PM: Kristi Schwab Job #:	Expect Date: 10/13/2021 Sampled By: <i>Jon Marshak</i> <input checked="" type="checkbox"/> Samples transported on ice
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Date	Time	Site/Locator	Sample ID	Type	Matrix	ID	Type	Tests Required
Field Comments: Field Blank for 524M-TCP; Expires 10/22/21								
Field Instructions: Fill amber VOA vials containing ascorbic acid using water from the +No Analysis bottle. Zero headspace is required.								
<i>11/2/21</i>	<i>1000</i>	FIELD QC - COLLECTION QC	C002420-09	QCTB	Drinking Water	-09A -09B	CLAB CLAB	EPA 504.1 EPA 504.1
Field Comments: Trip Blank 504.1								
Field Instructions: Do NOT Open TRIP BLANK containers for 504.1.								
<i>11/2/21</i>	<i>1000</i> <i>1002</i>	FIELD QC - COLLECTION QC	C002420-10	QCFB	Drinking Water	-10A -10B -10C	CLAB CLAB CLAB	EPA 524.2 +NO ANALYSIS +NO ANALYSIS
Field Comments: Field Blank 524.2								
Field Instructions: Fill amber VOA vial containing Ascorbic acid using blank water from the clear unpreserved VOA vials (+No Analysis). Zero headspace is required. Add 3 drops HCl.								



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



COC #: C002420	Project Title: Bayside Ground Water Project TAT: Standard	Client PM: David Behnken Lab PM: Kristi Schwab Job #:	Expect Date: 10/13/2021 Sampled By: <i>Jon Marshak</i> <input checked="" type="checkbox"/> Samples transported on ice
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Date	Time	Site/Locator	Sample ID	Type	Matrix	ID	Type	Tests Required
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Total Containers for: C002420 | 70

	Signature	Print Name	Time	Date
Relinquished by:	<i>[Signature]</i>	Jon Marshak	1145	11/2/21
Received by:				
Relinquished by:	_____			
Received by:				
Relinquished by:	_____			
Received by:	<i>[Signature]</i>	ALVIN NS 1223		11/2/21

Container Legend:
A125N = Glass, amber, NM, septa top, 12.5 mg NH4Cl, Amber, 125 mL
A250 = Glass, amber, WM, PTFE line cap, Amber, 250 mL
A250Z = Glass, amber, NM, septa top, ZHS, Amber, 250 mL
ANORS = Glass, amber, PTFE line cap, 45 mg Na2SO3, Amber, 1000 mL
ANORT = Glass, amber, NM, PTFE line cap, 80 mg Na2SO3, Amber, 1000 mL
BPLLT = Plastic, brown, WM, 20 mg Na2SO3, Brown, 1000 mL
C500Z = Glass, clear, NM, septa top, Clear, 500 mL
CLAB = Contract lab supplied container, see COC, 0 None
PLSTL = Plastic, WM, 1000 mL
PLSTM = Plastic, WM, 500 mL
PLSTS = Plastic, NM, 125 mL
PSQLT = Plastic, square, large, 50 mg Na2SO3, 1000 mL
SWBCT = Plastic, sterile, Na2SO3, SWTR sample, 290 mL
VOA4A = Glass, amber, septa top, 25 mg Ascorbic acid, Amber, 40 mL
VOA4S = Glass, amber, septa top, 0.5 mL 1:1 H2SO4, Amber, 40 mL
VOC4 = Glass, clear, septa top, Clear, 40 mL
VOC4T = Glass, clear, septa top, 3.5 mg Na2SO3, Clear, 40 mL



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

		COC #: C002420	Project Title: Bayside Ground Water Project TAT: Standard	Client PM: David Behnken Lab PM: Kristi Schwab Job #:	Received Date/Time: 11/02/2021 12:23 Received By: Alvin Ng Sampled By: J. Marshak Due Date: 12/03/2021			
Date	Time	Site/Locator	Sample ID	Type	Matrix	ID	Type	Tests Required
11/02/2021	09:30	WTP BAYSIDE - BAY WELL HEAD	C002420-01	GRAB	Aqueous			+SAMP KIT
						-01A	PLSTL	EPA 200.7-NPW (Ca,Fe,K,Mg,Mn,Na)
						-01B	PLSTL	TDS
						-01C	PLSTM	Hardness
						-01D	PLSTS	EPA 300.1 (Cl,NO3,SO4)
						-01E	PSQLT	Ammonia: Titr-AQ
						-01F	A125N	EPA 552.2
						-01G	A125N	EPA 552.2
						-01L	VOC4T	EPA 624.1 THM
						-01M	VOC4T	EPA 624.1
						-01N	VOC4T	EPA 624.1
						-01O	C500Z	Alkalinity: Species
Field Test Parameters:								
CL2R =						0.09	mg/L	
pH =						8.13	pH Units	
Field Comments: WDR Requirements								
Field Instructions:								
Sample External Comments:								

2mm 11/5/2021



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

		COC #: C002420	Project Title: Bayside Ground Water Project TAT: Standard	Client PM: David Behnken Lab PM: Kristi Schwab Job #:	Received Date/Time: 11/02/2021 12:23 Received By: Alvin Ng Sampled By: J. Marshak Due Date: 12/03/2021			
Date	Time	Site/Locator	Sample ID	Type	Matrix	ID	Type	Tests Required
11/02/2021	09:45	WTP BAYSIDE - BAY WELL HEAD	C002420-02	GRAB	Drinking Water			+SAVE 30, Alkalinity: Species, Colilert 18 QT-W, Color Visual, Conductivity, Cyanide, EPA 200.7-W, EPA 200.8-W, EPA 245.1 Hg, EPA 300.1, EPA 525.2, EPA 525.2 Full, Hardness, SRL 524M TCP, SRL 524M-TCP, TDS, TOC: Total, Turbidity
						-02A	PLSTL	EPA 245.1 Hg, EPA 200.7-W (Al,Ca,Cu,Fe,K,Mg,Mn,Na,Zn), EPA 200.8-W (Ag,As,Ba,Be,Cd,Cr,Ni,Pb,Sb,Se,Tl)
						-02B	PLSTM	Hardness
						-02C	PLSTS	EPA 300.1 (Cl,F,I,NO2,NO3,SO4)
						-02D	C500Z	Alkalinity: Species
						-02E	VOA4S	TOC: Total
						-02F	VOA4S	TOC: Total
						-02G	ANORS	EPA 525.2 Full
						-02H	ANORS	EPA 525.2
						-02I	ANORS	EPA 525.2
						-02J	ANORS	EPA 525.2
						-02K	SWBCT	Colilert 18 QT-W
						-02O	VOA4A	SRL 524M TCP
						-02P	VOA4A	SRL 524M-TCP
						-02Q	VOA4A	SRL 524M-TCP
						-02R	BPLLT	Cyanide
						-02S	PLSTL	Color Visual, Conductivity, TDS, Turbidity
						-02T	PLSTL	+SAVE 30

Field Comments: T22 Requirements

Field Instructions:

Sample External Comments:



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

		COC #: C002420	Project Title: Bayside Ground Water Project TAT: Standard	Client PM: David Behnken Lab PM: Kristi Schwab Job #:	Received Date/Time: 11/02/2021 12:23 Received By: Alvin Ng Sampled By: J. Marshak Due Date: 12/03/2021			
Date	Time	Site/Locator	Sample ID	Type	Matrix	ID	Type	Tests Required
11/02/2021	09:55	WTP BAYSIDE - BAY WELL HEAD	C002420-03	GRAB	Drinking Water	-03A	PLSTL	MBAS-W
						-03B	PLSTS	EPA 314 Perchlorate
						-03C	CLAB	Chromium +6
						-03D	CLAB	EPA 504.1
						-03E	CLAB	EPA 504.1
						-03F	CLAB	EPA 504.1
						-03G	CLAB	EPA 508 PCB
						-03H	CLAB	EPA 508 PCB
						-03I	CLAB	EPA 515.3
						-03J	CLAB	EPA 515.3
						-03K	CLAB	EPA 531.1
						-03L	CLAB	EPA 547 Glyphosate
						-03M	CLAB	EPA 548.1 Endothal
						-03N	CLAB	EPA 549.2 Diquat
						-03O	CLAB	EPA 524.2
						-03P	CLAB	EPA 524.2
						-03Q	CLAB	EPA 524.2
						-03R	ANORT	+NO ANALYSIS
Field Comments:								
Field Instructions: +No Analysis for Two-Step sampling. See cooler label for instructions.								
Sample External Comments:								
11/02/2021	10:15	WTP BAYSIDE - BAY WELL HEAD	C002420-04	GRAB	Drinking Water	-04A	ANORT	EPA 1613
						-04B	ANORT	EPA 1613
Field Comments:								
Field Instructions:								
Sample External Comments:								
11/02/2021	10:20	WTP BAYSIDE - BAY WELL HEAD	C002420-05	GRAB	Drinking Water	-05A	PLSTL	EPA 100.2 Asbestos
						-05B	PLSTL	EPA 100.2 Asbestos
Field Comments:								
Field Instructions:								



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

		COC #: C002420	Project Title: Bayside Ground Water Project TAT: Standard	Client PM: David Behnken Lab PM: Kristi Schwab Job #:	Received Date/Time: 11/02/2021 12:23 Received By: Alvin Ng Sampled By: J. Marshak Due Date: 12/03/2021			
Date	Time	Site/Locator	Sample ID	Type	Matrix	ID	Type	Tests Required
Sample External Comments:								
11/02/2021	10:25	WTP BAYSIDE - BAY WELL HEAD	C002420-06	GRAB	Drinking Water	-06A	CLAB	TON Ambient
						-06B	CLAB	TON Ambient
Field Comments:								
Field Instructions:								
Sample External Comments:								
11/02/2021	10:30	WTP BAYSIDE - BAY WELL HEAD	C002420-07	GRAB	Drinking Water	-07A	A250	Tritium
						-07B	VOC4	Radon
						-07D	A250	Tritium
						-07E	PLSTL	Gross Alpha/Beta
						-07F	PLSTL	Gross Alpha/Beta
						-07L	PLSTL	Gross Alpha/Beta
						-07M	PLSTL	Radium 226
						-07N	PLSTL	Radium 228
						-07O	PLSTL	Strontium-90
						-07P	PLSTL	Uranium
Field Comments:								
Field Instructions: Refer to special sampling instructions included for Radon.								
Sample External Comments:								
11/02/2021	09:50	FIELD QC - COLLECTION QC	C002420-08	QCFB	Drinking Water	-08C	VOA4A	SRL 524M TCP
						-08D	VOA4A	SRL 524M-TCP
						-08E	A250Z	+NO ANALYSIS
Field Comments: Field Blank for 524M-TCP; Expires 10/22/21								
Field Instructions: Fill amber VOA vials containing ascorbic acid using water from the +No Analysis bottle. Zero headspace is required.								
Sample External Comments:								
11/02/2021	10:00	FIELD QC - COLLECTION QC	C002420-09	QCTB	Drinking Water	-09A	CLAB	EPA 504.1
						-09B	CLAB	EPA 504.1



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

		COC #: C002420	Project Title: Bayside Ground Water Project TAT: Standard	Client PM: David Behnken Lab PM: Kristi Schwab Job #:	Received Date/Time: 11/02/2021 12:23 Received By: Alvin Ng Sampled By: J. Marshak Due Date: 12/03/2021			
Date	Time	Site/Locator	Sample ID	Type	Matrix	ID	Type	Tests Required
Field Comments: Trip Blank 504.1								
Field Instructions: Do NOT Open TRIP BLANK containers for 504.1.								
Sample External Comments:								
11/02/2021	10:02	FIELD QC - COLLECTION QC	C002420-10	QCFB	Drinking Water	-10A	CLAB	EPA 524.2
						-10B	CLAB	+NO ANALYSIS
						-10C	CLAB	+NO ANALYSIS
Field Comments: Field Blank 524.2								
Field Instructions: Fill amber VOA vial containing Ascorbic acid using blank water from the clear unreserved VOA vials (+No Analysis). Zero headspace is required. Add 3 drops HCl.								
Sample External Comments:								
Total Containers for: C002420							70	



C002420 Sample Acceptance Report

Received: 11/02/2021 12:23
Received By: Alvin Ng

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

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

Sample: C002420-01		Comments
Bubbles in ZHS/VOA containers	Yes	Alkalinity -10 has bubble larger than 6mm - All OKay. 2mm 11/5/2021



C002420 Sample Acceptance Report

Received: 11/02/2021 12:23
Received By: Alvin Ng

Sample: C002420-02		Comments
Bubbles in ZHS/VOA containers	Yes	Alkalinity -2D has bubble larger than 6mm <i>ALK OKay: 2mm 11/5/2021</i>
SWBCT sample Corrected Temperature	5.4	
SWBCT sample Uncorrected Temp	5.2 ✓	

Sample: C002420-03		Comments
Bubbles in ZHS/VOA containers	No ✓	

Sample: C002420-07		Comments
Bubbles in ZHS/VOA containers	No ✓	

Sample: C002420-08		Comments
Bubbles in ZHS/VOA containers	No ✓	

Sample: C002420-09		Comments
Bubbles in ZHS/VOA containers	No ✓	

Sample: C002420-10		Comments
Bubbles in ZHS/VOA containers	No ✓	

Intent to chill

Cooler: 1		Comments
Corrected Temp (° C)	5.4	
IR Thermometer Number	IR #12 ✓	
Representative temperature taken from	-01	
Uncorrected Temp (° C)	5.2 ✓	



C002420 Sample Acceptance Report

Received: 11/02/2021 12:23
Received By: Alvin Ng

Visible ice formed inside sample container?	No	
---	----	--

Intent to chill

Cooler: 2 **Comments**

Corrected Temp (° C)	5.4	
IR Thermometer Number	IR #12 ✓	
Representative temperature taken from	-02	
Uncorrected Temp (° C)	5.2 ✓	
Visible ice formed inside sample container?	No	

Intent to chill

Cooler: 3 **Comments**

Corrected Temp (° C)	6.8	
IR Thermometer Number	IR #12 ✓	
Representative temperature taken from	-03	
Uncorrected Temp (° C)	6.6 ✓	
Visible ice formed inside sample container?	No	

Intent to chill

Cooler: 4 **Comments**

Corrected Temp (° C)	6.9	
IR Thermometer Number	IR #12 ✓	
Representative temperature taken from	-07	



C002420 Sample Acceptance Report

Received: 11/02/2021 12:23
 Received By: Alvin Ng

Uncorrected Temp (° C)	6.7 ✓	
Visible ice formed inside sample container?	No	

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



Sample Acceptance Preservation Report
Report Generated: 11/2/2021 12:32:50 PM
COC: C002420

Inventory Item	Inventory ID	Open Date	Prep Date	Expiration Date
Ammonium Hydroxide	ST211101-003	11/01/2021	N/A	11/01/2022
Ammonium Sulfate Buffer (ASB-04)	ST211101-006	N/A	11/01/2021	05/01/2022
Ethylenediamine 12.5 mg/mL (EDA-19)	ST211025-003	N/A	10/25/2021	11/25/2021
H2SO4 15 mL 1:1 LDPE dropper	ST210716-005	09/25/2020	N/A	09/25/2030
HCl 15 mL 1:1 LDPE dropper	ST210729-008	N/A	N/A	07/22/2022
Hydrochloric Acid (HCl) 1+1 (HCl-01)	ST210529-001	N/A	05/29/2021	05/29/2022
NaOH 15 mL 1:1 LDPE dropper	ST210716-007	07/01/2020	N/A	06/10/2030
Nitric Acid TMG	ST210819-002	08/19/2021	N/A	01/08/2023
pH Strip 0-14	ST210901-009	09/01/2021	N/A	09/30/2024
pH Strip 7.9-9.8	ST210901-011	N/A	N/A	06/30/2023
Sulfuric Acid Gr ACS	ST210729-010	04/13/2021	N/A	04/13/2025

Container Number	Container Name	Tests	Preservation Requirement	Result	Initial/Date
C002420-01A	PLSTL	EPA 200.7-NPW	HNO3 to pH <2. Preservation Time = 1248 ✓	PAS	AD 11/2/21
C002420-01C	PLSTM	Hardness	HNO3 to pH <2 ✓		
C002420-01E	PSQLT	Ammonia: Titr-AQ	Check Cl2R = 0 (PSQLT), then H2SO4 to pH <2 ✓		
C002420-01F	A125N	EPA 552.2	Check Container ✓		
C002420-01G	A125N	EPA 552.2-FR	Check Container ✓		
C002420-01L	VOC4T	EPA 624.1 THM	Check Container ✓		
C002420-01M	VOC4T	EPA 624.1-FR	Check Container ✓		
C002420-01N	VOC4T	EPA 624.1-FR	Check Container ✓		
C002420-02A	PLSTL	EPA 200.7-W, EPA 200.8-W, EPA 245.1 Hg	HNO3 to pH <2. Preservation Time = 1382 ✓		
C002420-02B	PLSTM	Hardness	HNO3 to pH <2 ✓		



Sample Acceptance Preservation Report
Report Generated: 11/2/2021 12:32:50 PM

C002420-02E	VOA4S	TOC: Total	Check Container	✓	PACS	APN 11/2/21
C002420-02F	VOA4S	TOC: Total-FR	Check Container	✓		
C002420-02G	ANORS	EPA 525.2 Full	1+1 HCl to pH <2	✓		
C002420-02H	ANORS	EPA 525.2-FR	1+1 HCl to pH <2	✓		
C002420-02I	ANORS	EPA 525.2-FR	1+1 HCl to pH <2	✓		
C002420-02J	ANORS	EPA 525.2-FR	1+1 HCl to pH <2	✓		
C002420-02K	SWBCT	Collert 18 QT-W	Check Container	✓		
C002420-02O	VOA4A	SRL 524M TCP	Check Container	✓		
C002420-02P	VOA4A	SRL 524M-TCP-FR	Check Container	✓		
C002420-02Q	VOA4A	SRL 524M-TCP-FR	Check Container	✓		
C002420-02R	BPLLT	Cyanide	Check Cl2R = 0, NaOH W: pH >12, WW: pH >10	✓		
C002420-03C	CLAB	Chromium +6	Check Container	✓		
C002420-03G	CLAB	EPA 508 PCB	Na2S2O3 then Cl2R = 0	✓		
C002420-03H	CLAB	EPA 508 PCB-FR	Na2S2O3 then Cl2R = 0	✓		
C002420-03I	CLAB	EPA 515.3	Check Container	✓		
C002420-03J	CLAB	EPA 515.3-FR	Check Container	✓		
C002420-03K	CLAB	EPA 531.1	Monochloroacetic acid	✓		
C002420-03L	CLAB	EPA 547 Glyphosate	Check Container	✓		
C002420-03M	CLAB	EPA 548.1 Endothall	Check Container	✓		
C002420-03N	CLAB	EPA 549.2 Diquat	H2SO4 to pH<2	✓		
C002420-03O	CLAB	EPA 524.2	Check Container	✓		
C002420-03P	CLAB	EPA 524.2-FR	Check Container	✓		
C002420-03Q	CLAB	EPA 524.2-FR	Check Container	✓		
C002420-04A	ANORT	EPA 1613	Check Cl2R = 0	✓		
C002420-04B	ANORT	EPA 1613-FR	Check Cl2R = 0	✓		



COC: C002420

Sample Acceptance Preservation Report

Report Generated: 11/2/2021 12:32:50 PM

C002420-07E	PLSTL	Gross Alpha/Beta	1.5 mL HNO3 to pH <2. Leave 1 bottle unpreserved	✓	PAS	AD/MEK
C002420-07F	PLSTL	Gross Alpha/Beta-FR	Unpreserved	✓		
C002420-07L	PLSTL	Gross Alpha/Beta-FR	Unpreserved	✓		
C002420-07M	PLSTL	Radium 226	1.5 mL HNO3 to pH <2	✓		
C002420-07N	PLSTL	Radium 228	1.5 mL HNO3 to pH <2	✓		
C002420-07O	PLSTL	Strontium-90	1.5 mL HNO3 to pH <2	✓		
C002420-07P	PLSTL	Uranium	1.5 mL HNO3 to pH <2	✓		
C002420-08C	VOA4A	SRL 524M TCP	Check Container	✓		
C002420-08D	VOA4A	SRL 524M-TCP-FR	Check Container	✓		
C002420-10A	CLAB	EPA 524.2	Check Container	✓		



FORENSIC
LABORATORIES

Final

ANALYSIS REPORT
ASBESTOS IN DRINKING WATER
Transmission Electron Microscopy*

Client:	EBMUD	Client Number:	2674
Contact:	Kristi Schwab	Report Number:	T034540
Street:	PO Box 24055 M/S 59	Date/time Received:	11/2/21
City/state/zip:	Oakland, CA 94623		

Site:	WTP Bayside Ground Water, Bay Well Head	Date filtered:	11/2/21
Job ID/PO:	PO# 934-41654-AX	Analyst(s):	MAB
Date Collected:	11/2/21	Date Analyzed:	11/9/21
Hold time, hrs:	<48	Date Reported:	11/9/21
Filter type:	25mm MCE	Date Printed:	11/9/21
Pore size:	0.22 µm		

ANALYTICAL RESULTS

Sample Number	C002420-05A			
Description				
Lab Sample Number	20135363			
Volume Filtered, mL	30			
Filter Area, mm ²	190			
Grid Opening Area, mm ²	0.0091			
Number of GO's Analyzed	4			
Area Analyzed, mm ²	0.0364			
# Asbestos Fibers ≥10 µm	0			
Analytical Sensitivity, MFL	0.2			
Asbestos Concentration, ≥10µm in length, MFL	<0.2			
Asbestos Type(s) Detected**	ND			
95% Upper Conf. Limit, MFL	0.7			
95% Lower Conf. Limit, MFL	0.0			

0

Mark Floyd, Analytical Microscopy Supervisor

* Method 100.2 (EPA/600/R-94/134). Results are reported in Millions of Fibers per Liter (MFL) over 10 µm in length.

** Asbestos types: CH=chrysotile; AM=amosite; CR=crocidolite; TR=tremolite; AC=actinolite; AN=anthophyllite; ND=none detected; NA=Not Analyzed; n/a=not applicable (i.e., divide by 0); OV=overloaded; BL=blank sample; PF=prepped not analyzed.

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NELAP/ORELAP Certification 4036



CA-ELAP Certification 1664

Thursday, November 11, 2021

Jack Lim
EBMUD Laboratory
P.O. Box 24055
MS #59
Oakland, CA 94623

Re Lab Order: W110140
Project ID: C002420

Collected By: J. MARSHAK
PO/Contract #: B933-18143-AX

Dear Jack Lim:

Enclosed are the analytical results for sample(s) received by the laboratory on Tuesday, November 02, 2021. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Enclosures

Project Manager: Sandralyn Luna

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ENVIRONMENTAL ANALYSES

SAMPLE SUMMARY

Lab Order: W110140
Project ID: C002420

Lab ID	Sample ID	Matrix	Date Collected	Date Received
W110140001	C002420-06	Drinking Water	11/02/2021 10:25	11/02/2021 15:14

11/11/2021 06:03

REPORT OF LABORATORY ANALYSIS

Page 2 of 7

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NARRATIVE

Lab Order: W110140
Project ID: C002420

General Qualifiers and Notes

Caltest authorizes this report to be reproduced only in its entirety. Results are specific to the sample(s) as submitted and only to the parameter(s) reported.

Caltest certifies that test results meet California Environmental Laboratory Accreditation Program (CA-ELAP) and/or National Environmental Laboratory Accreditation Program (NELAP) requirements, as applicable, unless stated otherwise.

Analyses performed by EPA or Standard Methods, unless otherwise noted.

Dilution Factors (DF) reported greater than '1' have been used to adjust the result, Reporting Limit (RL), and Method Detection Limit (MDL).

All Solid, sludge, and/or biosolids data is reported in Wet Weight, unless otherwise specified.

Filtrations performed at Caltest for dissolved metals (excluding mercury) and/or pH analysis are not performed within the 15 minute holding time as specified by 40CFR 136.3 table II.

Results Qualifiers: Report fields may contain codes and non-numeric data correlating to one or more of the following definitions:

ND - indicates analytical result has not been detected at or above the Reporting Limit (RL), or at above the Method Detection Limit (MDL) when it is included on the report and is not otherwise noted.

RL - Reporting Limit is the quantitation limit at which the laboratory is able to detect an analyte. An analyte not detected at or above the RL is reported as ND unless otherwise noted or qualified. For analyses pertaining to the State Implementation Plan of the California Toxics Rule, the Caltest Reporting Limit (RL) is equivalent to the Minimum Level (ML). A standard is always run at or below the ML. Where Reporting Limits are elevated due to dilution, the ML calibration criteria has been met.

MDL - The Method Detection Limit is defined as the minimum measured concentration of a substance that can be reported with 99% confidence that the measured concentration is distinguishable from method blank results.

J - reflects estimated analytical result value detected below the Reporting Limit (RL) and above the Method Detection Limit (MDL). The 'J' flag is equivalent to the DNQ Estimated Concentration flag.

B - indicates the analyte has been detected in the blank associated with the sample.

SS - compound is a Surrogate Spike used per laboratory quality assurance manual.

NOTE: This document represents a complete Analytical Report for the samples referenced herein and should be retained as a permanent record thereof.

Qualifiers and Compound Notes

1 Per client request, the sample was tested at ambient conditions (21. degrees C) and was not dechlorinated.

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ENVIRONMENTAL ANALYSES

ANALYTICAL RESULTS

Lab Order: W110140
Project ID: C002420

Lab ID W110140001	Date Collected	11/2/2021 10:25	Matrix	Drinking Water			
Sample ID C002420-06	Date Received	11/2/2021 15:14					
Parameters	Result Units	R. L.	DF Prepared	Batch	Analyzed	Batch	Qual
Odor Threshold Analysis	Analytical Method:	SM 2150 B-97			Analyzed by:	BCP	
Odor	ND TON	1	1		11/02/21 15:41	WET 11147	1

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ENVIRONMENTAL ANALYSES

QUALITY CONTROL DATA

Lab Order: W110140
Project ID: C002420

Analysis Description:	Odor Threshold Analysis	QC Batch:	WET/11147
Analysis Method:	SM 2150 B-97	QC Batch Method:	SM 2150 B-97

METHOD BLANK: 1029494

Parameter	Blank Result	Reporting Limit	Units	Qualifiers
Odor	ND	1	TON	

SAMPLE DUPLICATE: 1029495

Parameter	Units	W110140001 Result	DUP Result	RPD	Max RPD	Reporting Limit	MDL Qualifiers
Odor	TON	ND	0	0	20	1	1 1

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QUALITY CONTROL DATA QUALIFIERS

Lab Order: W110140
Project ID: C002420

QUALITY CONTROL PARAMETER QUALIFIERS

Results Qualifiers: Report fields may contain codes and non-numeric data correlating to one or more of the following definitions:

NS - means not spiked and will not have recoveries reported for Analyte Spike Amounts

QC Codes Keys: These descriptors are used to help identify the specific QC samples and clarify the report.

MB - Method Blank

Method Blanks are reported to the same Method Detection Limits (MDLs) or Reporting Limits (RLs) as the analytical samples in the corresponding QC batch.

LCS/LCSD - Laboratory Control Spike / Laboratory Control Spike Duplicate

DUP - Duplicate of Original Sample Matrix

MS/MSD - Matrix Spike / Matrix Spike Duplicate

RPD - Relative Percent Difference

%Recovery - Spike Recovery stated as a percentage

Per client request, the sample was tested at ambient conditions (21. degrees C) and was not dechlorinated.

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ENVIRONMENTAL ANALYSES

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Lab Order: W110140
Project ID: C002420

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
W110140001	C002420-06	SM 2150 B-97	WET/11147		

11/11/2021 06:03

REPORT OF LABORATORY ANALYSIS

Page 7 of 7

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East Bay Municipal Utility District Laboratory Services Subcontract Chain of Custody

W110140

COC #: C002420	Project Title: Bayside Ground Water Project		Lab PM: Kristi Schwab (510) 287-1696	Sampled By: J. Marshak
	TAT: Standard		Shipping Method: STAT Courier	Submitted Date: 11/2/21
PO#:			Expiration: Call PM for billing instruction	

Date	Time	Sample ID	Location/PS Code	Matrix	Container ID	Type	Tests Required	Method Reference
11/02/2021	10:25	C002420-06	WTP BAYSIDE - BAY WELL HEAD	Drinking Water	-06A	CLAB	TON Ambient	SM2150B-1987
					-06B	CLAB	TON Ambient	Bottle for QC (1)
Comments: Please analyze at ambient temperature. Please include analysis temperature and odor characterization (if detected) on final report. Custom statiform NOT required.				Total containers received: 2				

Relinquished by:	Signature	Print Name	Time	Date
Received by:	<i>[Signature]</i>	ANITA PEREZ	14:20	11/2/21
Relinquished by:	<i>[Signature]</i>	Maria Perez	14:20	11/2/21
Received by:	<i>[Signature]</i>	Maria Perez	15:14	11/2/21
Relinquished by:	<i>[Signature]</i>	Jessica Jones	15:14	11/2/21

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.
Call Test Analytical
1885 N Kelly Rd
Napa, CA 94558
707-258-4000

TEMP 10.4 / 10.5 °C

SEALED: Y / N INTACT Y / N

ON ICE Y / N



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

22 November 2021

EBMUD

Attn: K. Schwab

PO Box 24055

Oakland, CA 94607

RE: Bayside Ground Water Project WDR

Work Order: 21K0530

Enclosed are the results of analyses for samples received by the laboratory on 11/02/21 23:30. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink that reads 'Jeanette Poplin'.

Jeanette L. Poplin For Robbie C. Phillips
Project Manager



Alpha

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 PO Box 24055 Oakland CA, 94607	Project Manager: K. Schwab Project: Bayside Ground Water Project WDR Project Number: C002420	Reported: 11/22/21 15:39
--	--	-----------------------------

Bay Area: 262 Rickenbacker Circle | Livermore, CA 94551 | T: 925-828-6226 | F: 925-828-6309 | ELAP# 2728
Central Valley: 9090 Union Park Way Suite 113 | Elk Grove, CA 95624 | T: 916-686-5190 | F: 916-686-5192 | ELAP# 2922
North Bay: 110 Liberty Street | Petaluma, CA 94952 | T: 707-769-3128 | F: 707-769-8093 | ELAP# 2303
San Diego: 2722 Loker Avenue West Suite A | Carlsbad, CA 92010 | T: 760-930-2555 | F: 760-930-2510 | ELAP# 3055

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
C002420-03	21K0530-01	Water	11/02/21 09:55	11/02/21 23:30
C002420-09	21K0530-02	Water	11/02/21 10:00	11/02/21 23:30
C002420-10	21K0530-03	Water	11/02/21 10:02	11/02/21 23:30

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

EBMUD PO Box 24055 Oakland CA, 94607	Project Manager: K. Schwab Project: Bayside Ground Water Project WDR Project Number: C002420	Reported: 11/22/21 15:39
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Metals by EPA 200 Series Methods

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Analyst	ELAP #	Notes
C002420-03 (21K0530-01) Water Sampled: 11/02/21 09:55 Received: 11/02/21 23:30												
Chromium, hexavalent	ND	0.50	1.0	ug/L	1	AK13428	11/04/21 22:49	11/04/21 22:49	EPA 218.6	SMS	1551	U

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EBMUD PO Box 24055 Oakland CA, 94607	Project Manager: K. Schwab Project: Bayside Ground Water Project WDR Project Number: C002420	Reported: 11/22/21 15:39
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Conventional Chemistry Parameters by APHA/EPA Methods

Analyte	Result	MDL	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Analyst	ELAP#	Notes
			Limit	MDL									
C002420-03 (21K0530-01) Water Sampled: 11/02/21 09:55 Received: 11/02/21 23:30													
MBAS, calculated as LAS, mw 340	ND	0.030	0.050		mg/L	1	AK13404	11/04/21 08:30	11/04/21 15:45	SM5540C	MRL	1551	U
Perchlorate	ND	0.40	2.0		ug/L	1	AK13589	11/05/21 08:00	11/05/21 21:16	EPA 314.0	MVA	2303	U

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EBMUD PO Box 24055 Oakland CA, 94607	Project Manager: K. Schwab Project: Bayside Ground Water Project WDR Project Number: C002420	Reported: 11/22/21 15:39
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Volatile Organic Compounds by EPA Method 524.2

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Analyst	ELAP#	Notes
		MDL	Limit									
C002420-03 (21K0530-01) Water Sampled: 11/02/21 09:55 Received: 11/02/21 23:30												
Acrylonitrile	ND	0.40	5.0	ug/L	1	AK13527	11/05/21 11:37	11/05/21 14:44	EPA 524.2	LJJ	1551	U
Benzene	ND	0.10	0.50	ug/L	1	AK13527	11/05/21 11:37	11/05/21 14:44	EPA 524.2	LJJ	1551	U
Bromobenzene	ND	0.20	0.50	ug/L	1	AK13527	11/05/21 11:37	11/05/21 14:44	EPA 524.2	LJJ	1551	U
Bromochloromethane	ND	0.40	0.50	ug/L	1	AK13527	11/05/21 11:37	11/05/21 14:44	EPA 524.2	LJJ	1551	U
Bromodichloromethane	ND	0.20	1.0	ug/L	1	AK13527	11/05/21 11:37	11/05/21 14:44	EPA 524.2	LJJ	1551	U
Bromoform	ND	0.30	1.0	ug/L	1	AK13527	11/05/21 11:37	11/05/21 14:44	EPA 524.2	LJJ	1551	U
Bromomethane	ND	0.40	0.50	ug/L	1	AK13527	11/05/21 11:37	11/05/21 14:44	EPA 524.2	LJJ	1551	U
n-Butylbenzene	ND	0.50	0.50	ug/L	1	AK13527	11/05/21 11:37	11/05/21 14:44	EPA 524.2	LJJ	1551	U
sec-Butylbenzene	ND	0.20	0.50	ug/L	1	AK13527	11/05/21 11:37	11/05/21 14:44	EPA 524.2	LJJ	1551	U
tert-Butylbenzene	ND	0.50	0.50	ug/L	1	AK13527	11/05/21 11:37	11/05/21 14:44	EPA 524.2	LJJ	1551	U
Carbon disulfide	ND	0.40	0.50	ug/L	1	AK13527	11/05/21 11:37	11/05/21 14:44	EPA 524.2	LJJ	1551	U
Carbon tetrachloride	ND	0.30	0.50	ug/L	1	AK13527	11/05/21 11:37	11/05/21 14:44	EPA 524.2	LJJ	1551	U
Chlorobenzene	ND	0.20	0.50	ug/L	1	AK13527	11/05/21 11:37	11/05/21 14:44	EPA 524.2	LJJ	1551	U
Chloroethane	ND	0.30	0.50	ug/L	1	AK13527	11/05/21 11:37	11/05/21 14:44	EPA 524.2	LJJ	1551	U
Chloroform	ND	0.30	1.0	ug/L	1	AK13527	11/05/21 11:37	11/05/21 14:44	EPA 524.2	LJJ	1551	U
Chloromethane	ND	0.40	0.50	ug/L	1	AK13527	11/05/21 11:37	11/05/21 14:44	EPA 524.2	LJJ	1551	U
2-Chlorotoluene	ND	0.20	0.50	ug/L	1	AK13527	11/05/21 11:37	11/05/21 14:44	EPA 524.2	LJJ	1551	U
4-Chlorotoluene	ND	0.20	0.50	ug/L	1	AK13527	11/05/21 11:37	11/05/21 14:44	EPA 524.2	LJJ	1551	U
Dibromochloromethane	ND	0.30	1.0	ug/L	1	AK13527	11/05/21 11:37	11/05/21 14:44	EPA 524.2	LJJ	1551	U
Dibromomethane	ND	0.20	0.50	ug/L	1	AK13527	11/05/21 11:37	11/05/21 14:44	EPA 524.2	LJJ	1551	U
1,2-Dichlorobenzene	ND	0.20	0.50	ug/L	1	AK13527	11/05/21 11:37	11/05/21 14:44	EPA 524.2	LJJ	1551	U
1,3-Dichlorobenzene	ND	0.20	0.50	ug/L	1	AK13527	11/05/21 11:37	11/05/21 14:44	EPA 524.2	LJJ	1551	U
1,4-Dichlorobenzene	ND	0.20	0.50	ug/L	1	AK13527	11/05/21 11:37	11/05/21 14:44	EPA 524.2	LJJ	1551	U
Dichlorodifluoromethane	ND	0.50	0.50	ug/L	1	AK13527	11/05/21 11:37	11/05/21 14:44	EPA 524.2	LJJ	1551	U
1,1-Dichloroethane	ND	0.20	0.50	ug/L	1	AK13527	11/05/21 11:37	11/05/21 14:44	EPA 524.2	LJJ	1551	U
1,2-Dichloroethane	ND	0.10	0.50	ug/L	1	AK13527	11/05/21 11:37	11/05/21 14:44	EPA 524.2	LJJ	1551	U
1,1-Dichloroethene	ND	0.30	0.50	ug/L	1	AK13527	11/05/21 11:37	11/05/21 14:44	EPA 524.2	LJJ	1551	U
cis-1,2-Dichloroethene	ND	0.10	0.50	ug/L	1	AK13527	11/05/21 11:37	11/05/21 14:44	EPA 524.2	LJJ	1551	U
trans-1,2-Dichloroethene	ND	0.30	0.50	ug/L	1	AK13527	11/05/21 11:37	11/05/21 14:44	EPA 524.2	LJJ	1551	U
1,2-Dichloropropane	ND	0.20	0.50	ug/L	1	AK13527	11/05/21 11:37	11/05/21 14:44	EPA 524.2	LJJ	1551	U
1,3-Dichloropropane	ND	0.10	0.50	ug/L	1	AK13527	11/05/21 11:37	11/05/21 14:44	EPA 524.2	LJJ	1551	U
2,2-Dichloropropane	ND	0.30	0.50	ug/L	1	AK13527	11/05/21 11:37	11/05/21 14:44	EPA 524.2	LJJ	1551	U
1,1-Dichloropropene	ND	0.20	0.50	ug/L	1	AK13527	11/05/21 11:37	11/05/21 14:44	EPA 524.2	LJJ	1551	U
cis-1,3-Dichloropropene	ND	0.30	0.50	ug/L	1	AK13527	11/05/21 11:37	11/05/21 14:44	EPA 524.2	LJJ	1551	U
trans-1,3-Dichloropropene	ND	0.50	0.50	ug/L	1	AK13527	11/05/21 11:37	11/05/21 14:44	EPA 524.2	LJJ	1551	U
1,3-Dichloropropene (total)	ND	0.30	0.50	ug/L	1	AK13527	11/05/21 11:37	11/05/21 14:44	EPA 524.2	LJJ	1551	U
Ethylbenzene	ND	0.20	0.50	ug/L	1	AK13527	11/05/21 11:37	11/05/21 14:44	EPA 524.2	LJJ	1551	U

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

EBMUD PO Box 24055 Oakland CA, 94607	Project Manager: K. Schwab Project: Bayside Ground Water Project WDR Project Number: C002420	Reported: 11/22/21 15:39
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Volatile Organic Compounds by EPA Method 524.2

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Analyst	ELAP#	Notes
		MDL	Limit									
C002420-03 (21K0530-01) Water Sampled: 11/02/21 09:55 Received: 11/02/21 23:30												
Hexachlorobutadiene	ND	0.40	0.50	ug/L	1	AK13527	11/05/21 11:37	11/05/21 14:44	EPA 524.2	LJJ	1551	U
Isopropylbenzene	ND	0.20	0.50	ug/L	1	AK13527	11/05/21 11:37	11/05/21 14:44	EPA 524.2	LJJ	1551	U
p-Isopropyltoluene	ND	0.50	0.50	ug/L	1	AK13527	11/05/21 11:37	11/05/21 14:44	EPA 524.2	LJJ	1551	U
Methyl ethyl ketone	ND	0.20	5.0	ug/L	1	AK13527	11/05/21 11:37	11/05/21 14:44	EPA 524.2	LJJ	1551	U
Methyl isobutyl ketone	ND	0.90	5.0	ug/L	1	AK13527	11/05/21 11:37	11/05/21 14:44	EPA 524.2	LJJ	1551	U
Methylene chloride	ND	0.40	0.50	ug/L	1	AK13527	11/05/21 11:37	11/05/21 14:44	EPA 524.2	LJJ	1551	U
Naphthalene	ND	0.50	0.50	ug/L	1	AK13527	11/05/21 11:37	11/05/21 14:44	EPA 524.2	LJJ	1551	U
n-Propylbenzene	ND	0.50	0.50	ug/L	1	AK13527	11/05/21 11:37	11/05/21 14:44	EPA 524.2	LJJ	1551	U
Styrene	ND	0.50	0.50	ug/L	1	AK13527	11/05/21 11:37	11/05/21 14:44	EPA 524.2	LJJ	1551	U
1,1,1,2-Tetrachloroethane	ND	0.40	0.50	ug/L	1	AK13527	11/05/21 11:37	11/05/21 14:44	EPA 524.2	LJJ	1551	U
1,1,2,2-Tetrachloroethane	ND	0.20	0.50	ug/L	1	AK13527	11/05/21 11:37	11/05/21 14:44	EPA 524.2	LJJ	1551	U
Tetrachloroethene	ND	0.20	0.50	ug/L	1	AK13527	11/05/21 11:37	11/05/21 14:44	EPA 524.2	LJJ	1551	U
Toluene	ND	0.30	0.50	ug/L	1	AK13527	11/05/21 11:37	11/05/21 14:44	EPA 524.2	LJJ	1551	U
1,2,3-Trichlorobenzene	ND	0.40	0.50	ug/L	1	AK13527	11/05/21 11:37	11/05/21 14:44	EPA 524.2	LJJ	1551	U
1,2,4-Trichlorobenzene	ND	0.40	0.50	ug/L	1	AK13527	11/05/21 11:37	11/05/21 14:44	EPA 524.2	LJJ	1551	U
1,1,1-Trichloroethane	ND	0.40	0.50	ug/L	1	AK13527	11/05/21 11:37	11/05/21 14:44	EPA 524.2	LJJ	1551	U
1,1,2-Trichloroethane	ND	0.20	0.50	ug/L	1	AK13527	11/05/21 11:37	11/05/21 14:44	EPA 524.2	LJJ	1551	U
Trichloroethene	ND	0.30	0.50	ug/L	1	AK13527	11/05/21 11:37	11/05/21 14:44	EPA 524.2	LJJ	1551	U
Trichlorofluoromethane	ND	0.50	5.0	ug/L	1	AK13527	11/05/21 11:37	11/05/21 14:44	EPA 524.2	LJJ	1551	U
Trichlorotrifluoroethane	ND	0.40	10	ug/L	1	AK13527	11/05/21 11:37	11/05/21 14:44	EPA 524.2	LJJ	1551	U
1,2,4-Trimethylbenzene	ND	0.50	0.50	ug/L	1	AK13527	11/05/21 11:37	11/05/21 14:44	EPA 524.2	LJJ	1551	U
1,3,5-Trimethylbenzene	ND	0.50	0.50	ug/L	1	AK13527	11/05/21 11:37	11/05/21 14:44	EPA 524.2	LJJ	1551	U
Vinyl chloride	ND	0.50	0.50	ug/L	1	AK13527	11/05/21 11:37	11/05/21 14:44	EPA 524.2	LJJ	1551	U
m,p-Xylene	ND	0.20	0.50	ug/L	1	AK13527	11/05/21 11:37	11/05/21 14:44	EPA 524.2	LJJ	1551	U
o-Xylene	ND	0.20	0.50	ug/L	1	AK13527	11/05/21 11:37	11/05/21 14:44	EPA 524.2	LJJ	1551	U
Xylenes (total)	ND	0.20	0.50	ug/L	1	AK13527	11/05/21 11:37	11/05/21 14:44	EPA 524.2	LJJ	1551	U
Trihalomethanes (total)	ND	0.30	0.50	ug/L	1	AK13527	11/05/21 11:37	11/05/21 14:44	EPA 524.2	LJJ	1551	U
Methyl tert-butyl ether	ND	0.50	3.0	ug/L	1	AK13527	11/05/21 11:37	11/05/21 14:44	EPA 524.2	LJJ	1551	U
Ethyl tert-butyl ether	ND	0.40	0.50	ug/L	1	AK13527	11/05/21 11:37	11/05/21 14:44	EPA 524.2	LJJ	1551	U
Tert-amyl methyl ether	ND	0.30	0.50	ug/L	1	AK13527	11/05/21 11:37	11/05/21 14:44	EPA 524.2	LJJ	1551	U
Tert-butyl alcohol	ND	6.0	10	ug/L	1	AK13527	11/05/21 11:37	11/05/21 14:44	EPA 524.2	LJJ	1551	U
Surrogate: Bromofluorobenzene		98.5 %	70-130			AK13527	11/05/21 11:37	11/05/21 14:44	EPA 524.2	LJJ	1551	
Surrogate: Dibromofluoromethane		99.9 %	70-130			AK13527	11/05/21 11:37	11/05/21 14:44	EPA 524.2	LJJ	1551	
Surrogate: Toluene-d8		102 %	70-130			AK13527	11/05/21 11:37	11/05/21 14:44	EPA 524.2	LJJ	1551	

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EBMUD PO Box 24055 Oakland CA, 94607	Project Manager: K. Schwab Project: Bayside Ground Water Project WDR Project Number: C002420	Reported: 11/22/21 15:39
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Volatile Organic Compounds by EPA Method 524.2

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Analyst	ELAP#	Notes
		MDL	Limit									
C002420-10 (21K0530-03) Water Sampled: 11/02/21 10:02 Received: 11/02/21 23:30												
Acrylonitrile	ND	0.40	5.0	ug/L	1	AK13527	11/05/21 11:37	11/05/21 15:17	EPA 524.2	LJJ	1551	U
Benzene	ND	0.10	0.50	ug/L	1	AK13527	11/05/21 11:37	11/05/21 15:17	EPA 524.2	LJJ	1551	U
Bromobenzene	ND	0.20	0.50	ug/L	1	AK13527	11/05/21 11:37	11/05/21 15:17	EPA 524.2	LJJ	1551	U
Bromochloromethane	ND	0.40	0.50	ug/L	1	AK13527	11/05/21 11:37	11/05/21 15:17	EPA 524.2	LJJ	1551	U
Bromodichloromethane	ND	0.20	1.0	ug/L	1	AK13527	11/05/21 11:37	11/05/21 15:17	EPA 524.2	LJJ	1551	U
Bromoform	ND	0.30	1.0	ug/L	1	AK13527	11/05/21 11:37	11/05/21 15:17	EPA 524.2	LJJ	1551	U
Bromomethane	ND	0.40	0.50	ug/L	1	AK13527	11/05/21 11:37	11/05/21 15:17	EPA 524.2	LJJ	1551	U
n-Butylbenzene	ND	0.50	0.50	ug/L	1	AK13527	11/05/21 11:37	11/05/21 15:17	EPA 524.2	LJJ	1551	U
sec-Butylbenzene	ND	0.20	0.50	ug/L	1	AK13527	11/05/21 11:37	11/05/21 15:17	EPA 524.2	LJJ	1551	U
tert-Butylbenzene	ND	0.50	0.50	ug/L	1	AK13527	11/05/21 11:37	11/05/21 15:17	EPA 524.2	LJJ	1551	U
Carbon disulfide	ND	0.40	0.50	ug/L	1	AK13527	11/05/21 11:37	11/05/21 15:17	EPA 524.2	LJJ	1551	U
Carbon tetrachloride	ND	0.30	0.50	ug/L	1	AK13527	11/05/21 11:37	11/05/21 15:17	EPA 524.2	LJJ	1551	U
Chlorobenzene	ND	0.20	0.50	ug/L	1	AK13527	11/05/21 11:37	11/05/21 15:17	EPA 524.2	LJJ	1551	U
Chloroethane	ND	0.30	0.50	ug/L	1	AK13527	11/05/21 11:37	11/05/21 15:17	EPA 524.2	LJJ	1551	U
Chloroform	ND	0.30	1.0	ug/L	1	AK13527	11/05/21 11:37	11/05/21 15:17	EPA 524.2	LJJ	1551	U
Chloromethane	ND	0.40	0.50	ug/L	1	AK13527	11/05/21 11:37	11/05/21 15:17	EPA 524.2	LJJ	1551	U
2-Chlorotoluene	ND	0.20	0.50	ug/L	1	AK13527	11/05/21 11:37	11/05/21 15:17	EPA 524.2	LJJ	1551	U
4-Chlorotoluene	ND	0.20	0.50	ug/L	1	AK13527	11/05/21 11:37	11/05/21 15:17	EPA 524.2	LJJ	1551	U
Dibromochloromethane	ND	0.30	1.0	ug/L	1	AK13527	11/05/21 11:37	11/05/21 15:17	EPA 524.2	LJJ	1551	U
Dibromomethane	ND	0.20	0.50	ug/L	1	AK13527	11/05/21 11:37	11/05/21 15:17	EPA 524.2	LJJ	1551	U
1,2-Dichlorobenzene	ND	0.20	0.50	ug/L	1	AK13527	11/05/21 11:37	11/05/21 15:17	EPA 524.2	LJJ	1551	U
1,3-Dichlorobenzene	ND	0.20	0.50	ug/L	1	AK13527	11/05/21 11:37	11/05/21 15:17	EPA 524.2	LJJ	1551	U
1,4-Dichlorobenzene	ND	0.20	0.50	ug/L	1	AK13527	11/05/21 11:37	11/05/21 15:17	EPA 524.2	LJJ	1551	U
Dichlorodifluoromethane	ND	0.50	0.50	ug/L	1	AK13527	11/05/21 11:37	11/05/21 15:17	EPA 524.2	LJJ	1551	U
1,1-Dichloroethane	ND	0.20	0.50	ug/L	1	AK13527	11/05/21 11:37	11/05/21 15:17	EPA 524.2	LJJ	1551	U
1,2-Dichloroethane	ND	0.10	0.50	ug/L	1	AK13527	11/05/21 11:37	11/05/21 15:17	EPA 524.2	LJJ	1551	U
1,1-Dichloroethene	ND	0.30	0.50	ug/L	1	AK13527	11/05/21 11:37	11/05/21 15:17	EPA 524.2	LJJ	1551	U
cis-1,2-Dichloroethene	ND	0.10	0.50	ug/L	1	AK13527	11/05/21 11:37	11/05/21 15:17	EPA 524.2	LJJ	1551	U
trans-1,2-Dichloroethene	ND	0.30	0.50	ug/L	1	AK13527	11/05/21 11:37	11/05/21 15:17	EPA 524.2	LJJ	1551	U
1,2-Dichloropropane	ND	0.20	0.50	ug/L	1	AK13527	11/05/21 11:37	11/05/21 15:17	EPA 524.2	LJJ	1551	U
1,3-Dichloropropane	ND	0.10	0.50	ug/L	1	AK13527	11/05/21 11:37	11/05/21 15:17	EPA 524.2	LJJ	1551	U
2,2-Dichloropropane	ND	0.30	0.50	ug/L	1	AK13527	11/05/21 11:37	11/05/21 15:17	EPA 524.2	LJJ	1551	U
1,1-Dichloropropene	ND	0.20	0.50	ug/L	1	AK13527	11/05/21 11:37	11/05/21 15:17	EPA 524.2	LJJ	1551	U
cis-1,3-Dichloropropene	ND	0.30	0.50	ug/L	1	AK13527	11/05/21 11:37	11/05/21 15:17	EPA 524.2	LJJ	1551	U
trans-1,3-Dichloropropene	ND	0.50	0.50	ug/L	1	AK13527	11/05/21 11:37	11/05/21 15:17	EPA 524.2	LJJ	1551	U
1,3-Dichloropropene (total)	ND	0.30	0.50	ug/L	1	AK13527	11/05/21 11:37	11/05/21 15:17	EPA 524.2	LJJ	1551	U
Ethylbenzene	ND	0.20	0.50	ug/L	1	AK13527	11/05/21 11:37	11/05/21 15:17	EPA 524.2	LJJ	1551	U

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EBMUD PO Box 24055 Oakland CA, 94607	Project Manager: K. Schwab Project: Bayside Ground Water Project WDR Project Number: C002420	Reported: 11/22/21 15:39
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Volatile Organic Compounds by EPA Method 524.2

Analyte	Result	MDL	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Analyst	ELAP#	Notes
			Limit										
C002420-10 (21K0530-03) Water Sampled: 11/02/21 10:02 Received: 11/02/21 23:30													
Hexachlorobutadiene	ND	0.40	0.50		ug/L	1	AK13527	11/05/21 11:37	11/05/21 15:17	EPA 524.2	LJJ	1551	U
Isopropylbenzene	ND	0.20	0.50		ug/L	1	AK13527	11/05/21 11:37	11/05/21 15:17	EPA 524.2	LJJ	1551	U
p-Isopropyltoluene	ND	0.50	0.50		ug/L	1	AK13527	11/05/21 11:37	11/05/21 15:17	EPA 524.2	LJJ	1551	U
Methyl ethyl ketone	ND	0.20	5.0		ug/L	1	AK13527	11/05/21 11:37	11/05/21 15:17	EPA 524.2	LJJ	1551	U
Methyl isobutyl ketone	ND	0.90	5.0		ug/L	1	AK13527	11/05/21 11:37	11/05/21 15:17	EPA 524.2	LJJ	1551	U
Methylene chloride	ND	0.40	0.50		ug/L	1	AK13527	11/05/21 11:37	11/05/21 15:17	EPA 524.2	LJJ	1551	U
Naphthalene	ND	0.50	0.50		ug/L	1	AK13527	11/05/21 11:37	11/05/21 15:17	EPA 524.2	LJJ	1551	U
n-Propylbenzene	ND	0.50	0.50		ug/L	1	AK13527	11/05/21 11:37	11/05/21 15:17	EPA 524.2	LJJ	1551	U
Styrene	ND	0.50	0.50		ug/L	1	AK13527	11/05/21 11:37	11/05/21 15:17	EPA 524.2	LJJ	1551	U
1,1,1,2-Tetrachloroethane	ND	0.40	0.50		ug/L	1	AK13527	11/05/21 11:37	11/05/21 15:17	EPA 524.2	LJJ	1551	U
1,1,2,2-Tetrachloroethane	ND	0.20	0.50		ug/L	1	AK13527	11/05/21 11:37	11/05/21 15:17	EPA 524.2	LJJ	1551	U
Tetrachloroethene	ND	0.20	0.50		ug/L	1	AK13527	11/05/21 11:37	11/05/21 15:17	EPA 524.2	LJJ	1551	U
Toluene	ND	0.30	0.50		ug/L	1	AK13527	11/05/21 11:37	11/05/21 15:17	EPA 524.2	LJJ	1551	U
1,2,3-Trichlorobenzene	ND	0.40	0.50		ug/L	1	AK13527	11/05/21 11:37	11/05/21 15:17	EPA 524.2	LJJ	1551	U
1,2,4-Trichlorobenzene	ND	0.40	0.50		ug/L	1	AK13527	11/05/21 11:37	11/05/21 15:17	EPA 524.2	LJJ	1551	U
1,1,1-Trichloroethane	ND	0.40	0.50		ug/L	1	AK13527	11/05/21 11:37	11/05/21 15:17	EPA 524.2	LJJ	1551	U
1,1,2-Trichloroethane	ND	0.20	0.50		ug/L	1	AK13527	11/05/21 11:37	11/05/21 15:17	EPA 524.2	LJJ	1551	U
Trichloroethene	ND	0.30	0.50		ug/L	1	AK13527	11/05/21 11:37	11/05/21 15:17	EPA 524.2	LJJ	1551	U
Trichlorofluoromethane	ND	0.50	5.0		ug/L	1	AK13527	11/05/21 11:37	11/05/21 15:17	EPA 524.2	LJJ	1551	U
Trichlorotrifluoroethane	ND	0.40	10		ug/L	1	AK13527	11/05/21 11:37	11/05/21 15:17	EPA 524.2	LJJ	1551	U
1,2,4-Trimethylbenzene	ND	0.50	0.50		ug/L	1	AK13527	11/05/21 11:37	11/05/21 15:17	EPA 524.2	LJJ	1551	U
1,3,5-Trimethylbenzene	ND	0.50	0.50		ug/L	1	AK13527	11/05/21 11:37	11/05/21 15:17	EPA 524.2	LJJ	1551	U
Vinyl chloride	ND	0.50	0.50		ug/L	1	AK13527	11/05/21 11:37	11/05/21 15:17	EPA 524.2	LJJ	1551	U
m,p-Xylene	ND	0.20	0.50		ug/L	1	AK13527	11/05/21 11:37	11/05/21 15:17	EPA 524.2	LJJ	1551	U
o-Xylene	ND	0.20	0.50		ug/L	1	AK13527	11/05/21 11:37	11/05/21 15:17	EPA 524.2	LJJ	1551	U
Xylenes (total)	ND	0.20	0.50		ug/L	1	AK13527	11/05/21 11:37	11/05/21 15:17	EPA 524.2	LJJ	1551	U
Trihalomethanes (total)	ND	0.30	0.50		ug/L	1	AK13527	11/05/21 11:37	11/05/21 15:17	EPA 524.2	LJJ	1551	U
Methyl tert-butyl ether	ND	0.50	3.0		ug/L	1	AK13527	11/05/21 11:37	11/05/21 15:17	EPA 524.2	LJJ	1551	U
Ethyl tert-butyl ether	ND	0.40	0.50		ug/L	1	AK13527	11/05/21 11:37	11/05/21 15:17	EPA 524.2	LJJ	1551	U
Tert-amyl methyl ether	ND	0.30	0.50		ug/L	1	AK13527	11/05/21 11:37	11/05/21 15:17	EPA 524.2	LJJ	1551	U
Tert-butyl alcohol	ND	6.0	10		ug/L	1	AK13527	11/05/21 11:37	11/05/21 15:17	EPA 524.2	LJJ	1551	U
Surrogate: Bromofluorobenzene		101 %	70-130				AK13527	11/05/21 11:37	11/05/21 15:17	EPA 524.2	LJJ	1551	
Surrogate: Dibromofluoromethane		101 %	70-130				AK13527	11/05/21 11:37	11/05/21 15:17	EPA 524.2	LJJ	1551	
Surrogate: Toluene-d8		103 %	70-130				AK13527	11/05/21 11:37	11/05/21 15:17	EPA 524.2	LJJ	1551	

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Chlorinated Pesticides and PCBs by EPA Method 508

Analyte	Result	MDL	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Analyst	ELAP#	Notes
			Limit										
C002420-03 (21K0530-01) Water Sampled: 11/02/21 09:55 Received: 11/02/21 23:30													
PCB-1016	ND	0.30	0.50		ug/L	1	AK13647	11/09/21 07:00	11/15/21 23:06	EPA 508	MCB	1551	U
PCB-1221	ND	0.30	0.50		ug/L	1	AK13647	11/09/21 07:00	11/15/21 23:06	EPA 508	MCB	1551	U
PCB-1232	ND	0.30	0.50		ug/L	1	AK13647	11/09/21 07:00	11/15/21 23:06	EPA 508	MCB	1551	U
PCB-1242	ND	0.30	0.50		ug/L	1	AK13647	11/09/21 07:00	11/15/21 23:06	EPA 508	MCB	1551	U
PCB-1248	ND	0.30	0.50		ug/L	1	AK13647	11/09/21 07:00	11/15/21 23:06	EPA 508	MCB	1551	U
PCB-1254	ND	0.30	0.50		ug/L	1	AK13647	11/09/21 07:00	11/15/21 23:06	EPA 508	MCB	1551	U
PCB-1260	ND	0.20	0.50		ug/L	1	AK13647	11/09/21 07:00	11/15/21 23:06	EPA 508	MCB	1551	U
Total PCBs	ND	0.30	0.50		ug/L	1	AK13647	11/09/21 07:00	11/15/21 23:06	EPA 508	MCB	1551	U
Surrogate: Decachlorobiphenyl			101 %		50-170		AK13647	11/09/21 07:00	11/15/21 23:06	EPA 508	MCB	1551	
Surrogate: Tetrachloro-meta-xylene			48.8 %		40-140		AK13647	11/09/21 07:00	11/15/21 23:06	EPA 508	MCB	1551	

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Organic Analytes by EPA Method 504.1

Analyte	Result	MDL	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Analyst	ELAP#	Notes
			Limit	MDL									
C002420-03 (21K0530-01) Water Sampled: 11/02/21 09:55 Received: 11/02/21 23:30													
1,2-Dibromo-3-chloropropane	ND	0.0080	0.010		ug/L	1	AK13687	11/09/21 06:36	11/10/21 09:44	EPA 504.1	MCB	1551	U
1,2-Dibromoethane (EDB)	ND	0.010	0.020		ug/L	1	AK13687	11/09/21 06:36	11/10/21 09:44	EPA 504.1	MCB	1551	U
C002420-09 (21K0530-02) Water Sampled: 11/02/21 10:00 Received: 11/02/21 23:30													
1,2-Dibromo-3-chloropropane	ND	0.0080	0.010		ug/L	1	AK13687	11/09/21 06:36	11/10/21 10:19	EPA 504.1	MCB	1551	U
1,2-Dibromoethane (EDB)	ND	0.010	0.020		ug/L	1	AK13687	11/09/21 06:36	11/10/21 10:19	EPA 504.1	MCB	1551	U

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Chlorinated Acids by EPA Method 515.3

Analyte	Result	MDL	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Analyst	ELAP#	Notes
			Limit										
C002420-03 (21K0530-01) Water Sampled: 11/02/21 09:55 Received: 11/02/21 23:30													
Bentazon	ND	0.20	2.0		ug/L	1	AK14167	11/15/21 09:46	11/16/21 20:40	EPA 515.3	MCB	1551	U
2,4-D	ND	1.0	10		ug/L	1	AK14167	11/15/21 09:46	11/16/21 20:40	EPA 515.3	MCB	1551	U
Dalapon	ND	2.0	10		ug/L	1	AK14167	11/15/21 09:46	11/16/21 20:40	EPA 515.3	MCB	1551	U
Dinoseb	ND	0.20	2.0		ug/L	1	AK14167	11/15/21 09:46	11/16/21 20:40	EPA 515.3	MCB	1551	U
Pentachlorophenol	ND	0.20	0.20		ug/L	1	AK14167	11/15/21 09:46	11/16/21 20:40	EPA 515.3	MCB	1551	U
Picloram	ND	0.10	1.0		ug/L	1	AK14167	11/15/21 09:46	11/16/21 20:40	EPA 515.3	MCB	1551	U
2,4,5-TP (Silvex)	ND	0.20	1.0		ug/L	1	AK14167	11/15/21 09:46	11/16/21 20:40	EPA 515.3	MCB	1551	U
Surrogate: DCAA			111 %		70-130		AK14167	11/15/21 09:46	11/16/21 20:40	EPA 515.3	MCB	1551	

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Carbamates by EPA Method 531.1

Analyte	Result	MDL	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Analyst	ELAP#	Notes
			Limit										
C002420-03 (21K0530-01) Water Sampled: 11/02/21 09:55 Received: 11/02/21 23:30													
Aldicarb	ND	0.60	3.0		ug/L	1	AK13183	11/03/21 11:00	11/03/21 18:41	EPA 531.1	MM	1551	U
Aldicarb sulfone	ND	0.50	4.0		ug/L	1	AK13183	11/03/21 11:00	11/03/21 18:41	EPA 531.1	MM	1551	U
Carbaryl	ND	0.80	5.0		ug/L	1	AK13183	11/03/21 11:00	11/03/21 18:41	EPA 531.1	MM	1551	U
Carbofuran	ND	0.40	5.0		ug/L	1	AK13183	11/03/21 11:00	11/03/21 18:41	EPA 531.1	MM	1551	U
3-Hydroxycarbofuran	ND	0.60	3.0		ug/L	1	AK13183	11/03/21 11:00	11/03/21 18:41	EPA 531.1	MM	1551	U
Methiocarb	ND	0.90	5.0		ug/L	1	AK13183	11/03/21 11:00	11/03/21 18:41	EPA 531.1	MM	1551	U
Methomyl	ND	0.90	2.0		ug/L	1	AK13183	11/03/21 11:00	11/03/21 18:41	EPA 531.1	MM	1551	U
Oxamyl	ND	0.90	20		ug/L	1	AK13183	11/03/21 11:00	11/03/21 18:41	EPA 531.1	MM	1551	U

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PO Box 24055	Project: Bayside Ground Water Project WDR	11/22/21 15:39
Oakland CA, 94607	Project Number: C002420	

Endothall by EPA Method 548.1

Analyte	Result	MDL	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Analyst	ELAP#	Notes
			Limit	Units									
C002420-03 (21K0530-01) Water Sampled: 11/02/21 09:55 Received: 11/02/21 23:30													
Endothall	ND	20	45	ug/L	I	AK13509	11/08/21 08:00	11/11/21 01:29	EPA 548.1	NBH	1551	U	

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EBMUD PO Box 24055 Oakland CA, 94607	Project Manager: K. Schwab Project: Bayside Ground Water Project WDR Project Number: C002420	Reported: 11/22/21 15:39
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Glyphosate by EPA Method 547

Analyte	Result	MDL	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Analyst	ELAP#	Notes
			Limit										
C002420-03 (21K0530-01) Water Sampled: 11/02/21 09:55 Received: 11/02/21 23:30													
Glyphosate	ND	10	25		ug/L	1	AK13701	11/10/21 07:00	11/10/21 15:36	EPA 547	MM	1551	U

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Diquat by EPA Method 549.2

Analyte	Result	MDL	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Analyst	ELAP#	Notes
			Limit	Units									
C002420-03 (21K0530-01) Water Sampled: 11/02/21 09:55 Received: 11/02/21 23:30													
Diquat	ND	0.60	4.0	ug/L	I	AK13700	11/09/21 08:57	11/17/21 18:54	EPA 549.2	MM	1551		U

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Metals by EPA 200 Series Methods - Quality Control

Analyte	Result	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch AK13428 - General Prep											
Blank (AK13428-BLK1) Prepared & Analyzed: 11/04/21											
Chromium, hexavalent	ND	0.50	1.0	ug/L							U
LCS (AK13428-BS1) Prepared & Analyzed: 11/04/21											
Chromium, hexavalent	9.74	0.50	1.0	ug/L	10.0		97.4	90-110			
Duplicate (AK13428-DUP1) Source: 21K0530-01 Prepared & Analyzed: 11/04/21											
Chromium, hexavalent	ND	0.50	1.0	ug/L		ND			20		U
Matrix Spike (AK13428-MS1) Source: 21K0530-01 Prepared & Analyzed: 11/04/21											
Chromium, hexavalent	9.68	0.50	1.0	ug/L	10.0	ND	96.8	90-110			
Matrix Spike Dup (AK13428-MSD1) Source: 21K0530-01 Prepared & Analyzed: 11/05/21											
Chromium, hexavalent	9.71	0.50	1.0	ug/L	10.0	ND	97.1	90-110	0.310	20	

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EBMUD PO Box 24055 Oakland CA, 94607	Project Manager: K. Schwab Project: Bayside Ground Water Project WDR Project Number: C002420	Reported: 11/22/21 15:39
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Conventional Chemistry Parameters by APHA/EPA Methods - Quality Control

Analyte	Result	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch AK13404 - General Preparation											
Blank (AK13404-BLK1) Prepared & Analyzed: 11/04/21											
MBAS, calculated as LAS, mw 340	ND	0.030	0.050	mg/L							U
LCS (AK13404-BS1) Prepared & Analyzed: 11/04/21											
MBAS, calculated as LAS, mw 340	0.187	0.030	0.050	mg/L	0.200		93.7	80-120			
Matrix Spike (AK13404-MS1) Source: 21K0530-01 Prepared & Analyzed: 11/04/21											
MBAS, calculated as LAS, mw 340	0.204	0.030	0.050	mg/L	0.200	ND	102	80-120			
Matrix Spike Dup (AK13404-MSD1) Source: 21K0530-01 Prepared & Analyzed: 11/04/21											
MBAS, calculated as LAS, mw 340	0.197	0.030	0.050	mg/L	0.200	ND	98.6	80-120	3.20	20	
Batch AK13589 - NB General Prep											
Blank (AK13589-BLK1) Prepared & Analyzed: 11/05/21											
Perchlorate	ND	0.40	2.0	ug/L							U
LCS (AK13589-BS1) Prepared & Analyzed: 11/05/21											
Perchlorate	9.48	0.40	2.0	ug/L	10.0		94.8	85-115			
Duplicate (AK13589-DUP1) Source: 21K0223-01 Prepared & Analyzed: 11/05/21											
Perchlorate	ND	0.40	2.0	ug/L		ND			15		U
Matrix Spike (AK13589-MS1) Source: 21K0223-07 Prepared & Analyzed: 11/05/21											
Perchlorate	9.71	0.40	2.0	ug/L	10.0	ND	97.1	70-130			
Matrix Spike (AK13589-MS2) Source: 21K0530-01 Prepared & Analyzed: 11/05/21											
Perchlorate	9.49	0.40	2.0	ug/L	10.0	ND	94.9	70-130			

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EBMUD PO Box 24055 Oakland CA, 94607	Project Manager: K. Schwab Project: Bayside Ground Water Project WDR Project Number: C002420	Reported: 11/22/21 15:39
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Conventional Chemistry Parameters by APHA/EPA Methods - Quality Control

Analyte	Result	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch AK13589 - NB General Prep

Matrix Spike Dup (AK13589-MSD1)	Source: 21K0223-07		Prepared & Analyzed: 11/05/21								
Perchlorate	9.85	0.40	2.0	ug/L	10.0	ND	98.5	70-130	1.43	15	

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Volatile Organic Compounds by EPA Method 524.2 - Quality Control

Analyte	Result	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC %REC	Limits	RPD	RPD Limit	Notes
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Batch AK13527 - VOAs in Water GCMS

Blank (AK13527-BLK1)

Prepared & Analyzed: 11/05/21

Acrylonitrile	ND	0.40	5.0	ug/L							U
Benzene	ND	0.10	0.50	ug/L							U
Bromobenzene	ND	0.20	0.50	ug/L							U
Bromochloromethane	ND	0.40	0.50	ug/L							U
Bromodichloromethane	ND	0.20	1.0	ug/L							U
Bromoform	ND	0.30	1.0	ug/L							U
Bromomethane	ND	0.40	0.50	ug/L							U
n-Butylbenzene	ND	0.50	0.50	ug/L							U
sec-Butylbenzene	ND	0.20	0.50	ug/L							U
tert-Butylbenzene	ND	0.50	0.50	ug/L							U
Carbon disulfide	ND	0.40	0.50	ug/L							U
Carbon tetrachloride	ND	0.30	0.50	ug/L							U
Chlorobenzene	ND	0.20	0.50	ug/L							U
Chloroethane	ND	0.30	0.50	ug/L							U
Chloroform	ND	0.30	1.0	ug/L							U
Chloromethane	ND	0.40	0.50	ug/L							U
2-Chlorotoluene	ND	0.20	0.50	ug/L							U
4-Chlorotoluene	ND	0.20	0.50	ug/L							U
Dibromochloromethane	ND	0.30	1.0	ug/L							U
Dibromomethane	ND	0.20	0.50	ug/L							U
1,2-Dichlorobenzene	ND	0.20	0.50	ug/L							U
1,3-Dichlorobenzene	ND	0.20	0.50	ug/L							U
1,4-Dichlorobenzene	ND	0.20	0.50	ug/L							U
Dichlorodifluoromethane	ND	0.50	0.50	ug/L							U
1,1-Dichloroethane	ND	0.20	0.50	ug/L							U
1,2-Dichloroethane	ND	0.10	0.50	ug/L							U
1,1-Dichloroethene	ND	0.30	0.50	ug/L							U
cis-1,2-Dichloroethene	ND	0.10	0.50	ug/L							U
trans-1,2-Dichloroethene	ND	0.30	0.50	ug/L							U
1,2-Dichloropropane	ND	0.20	0.50	ug/L							U
1,3-Dichloropropane	ND	0.10	0.50	ug/L							U
2,2-Dichloropropane	ND	0.30	0.50	ug/L							U
1,1-Dichloropropene	ND	0.20	0.50	ug/L							U
cis-1,3-Dichloropropene	ND	0.30	0.50	ug/L							U
trans-1,3-Dichloropropene	ND	0.50	0.50	ug/L							U
Ethylbenzene	ND	0.20	0.50	ug/L							U

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EBMUD PO Box 24055 Oakland CA, 94607	Project Manager: K. Schwab Project: Bayside Ground Water Project WDR Project Number: C002420	Reported: 11/22/21 15:39
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Volatile Organic Compounds by EPA Method 524.2 - Quality Control

Analyte	Result	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC %REC	Limits	RPD	RPD Limit	Notes
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Batch AK13527 - VOAs in Water GCMS

Blank (AK13527-BLK1)

Prepared & Analyzed: 11/05/21

1,3-Dichloropropene (total)	ND	0.30	0.50	ug/L							U
Hexachlorobutadiene	ND	0.40	0.50	ug/L							U
Isopropylbenzene	ND	0.20	0.50	ug/L							U
p-Isopropyltoluene	ND	0.50	0.50	ug/L							U
Methyl ethyl ketone	ND	0.20	5.0	ug/L							U
Methyl isobutyl ketone	ND	0.90	5.0	ug/L							U
Methylene chloride	ND	0.40	0.50	ug/L							U
Naphthalene	ND	0.50	0.50	ug/L							U
n-Propylbenzene	ND	0.50	0.50	ug/L							U
Styrene	ND	0.50	0.50	ug/L							U
1,1,1,2-Tetrachloroethane	ND	0.40	0.50	ug/L							U
1,1,2,2-Tetrachloroethane	ND	0.20	0.50	ug/L							U
Tetrachloroethene	ND	0.20	0.50	ug/L							U
Toluene	ND	0.30	0.50	ug/L							U
1,2,3-Trichlorobenzene	ND	0.40	0.50	ug/L							U
1,2,4-Trichlorobenzene	ND	0.40	0.50	ug/L							U
1,1,1-Trichloroethane	ND	0.40	0.50	ug/L							U
1,1,2-Trichloroethane	ND	0.20	0.50	ug/L							U
Trichloroethene	ND	0.30	0.50	ug/L							U
Trichlorofluoromethane	ND	0.50	5.0	ug/L							U
Trichlorotrifluoroethane	ND	0.40	10	ug/L							U
1,2,4-Trimethylbenzene	ND	0.50	0.50	ug/L							U
1,3,5-Trimethylbenzene	ND	0.50	0.50	ug/L							U
Vinyl chloride	ND	0.50	0.50	ug/L							U
m,p-Xylene	ND	0.20	0.50	ug/L							U
o-Xylene	ND	0.20	0.50	ug/L							U
Xylenes (total)	ND	0.20	0.50	ug/L							U
Trihalomethanes (total)	ND	0.30	0.50	ug/L							U
Methyl tert-butyl ether	ND	0.50	3.0	ug/L							U
Ethyl tert-butyl ether	ND	0.40	0.50	ug/L							U
Tert-amyl methyl ether	ND	0.30	0.50	ug/L							U
Tert-butyl alcohol	ND	6.0	10	ug/L							U
Surrogate: Bromofluorobenzene	25.1			ug/L	25.0		101	70-130			
Surrogate: Dibromofluoromethane	25.5			ug/L	25.0		102	70-130			
Surrogate: Toluene-d8	26.0			ug/L	25.0		104	70-130			

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Volatile Organic Compounds by EPA Method 524.2 - Quality Control

Analyte	Result	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch AK13527 - VOAs in Water GCMS

LCS (AK13527-BS1)		Prepared & Analyzed: 11/05/21									
Acrylonitrile	4.93	0.40	5.0	ug/L	5.00		98.6	70-130			J
Benzene	4.62	0.10	0.50	ug/L	5.00		92.4	70-130			
Bromobenzene	5.05	0.20	0.50	ug/L	5.00		101	70-130			
Bromochloromethane	4.72	0.40	0.50	ug/L	5.00		94.4	70-130			
Bromodichloromethane	4.81	0.20	1.0	ug/L	5.00		96.2	70-130			
Bromoform	5.02	0.30	1.0	ug/L	5.00		100	70-130			
Bromomethane	4.15	0.40	0.50	ug/L	5.00		83.0	70-130			
n-Butylbenzene	5.25	0.50	0.50	ug/L	5.00		105	70-130			
sec-Butylbenzene	5.37	0.20	0.50	ug/L	5.00		107	70-130			
tert-Butylbenzene	4.94	0.50	0.50	ug/L	5.00		98.8	70-130			
Carbon disulfide	4.45	0.40	0.50	ug/L	5.00		89.0	70-130			
Carbon tetrachloride	4.41	0.30	0.50	ug/L	5.00		88.2	70-130			
Chlorobenzene	4.93	0.20	0.50	ug/L	5.00		98.6	70-130			
Chloroethane	5.35	0.30	0.50	ug/L	5.00		107	70-130			
Chloroform	5.15	0.30	1.0	ug/L	5.00		103	70-130			
Chloromethane	6.45	0.40	0.50	ug/L	5.00		129	70-130			
2-Chlorotoluene	4.97	0.20	0.50	ug/L	5.00		99.4	70-130			
4-Chlorotoluene	4.68	0.20	0.50	ug/L	5.00		93.6	70-130			
Dibromochloromethane	4.96	0.30	1.0	ug/L	5.00		99.2	70-130			
Dibromomethane	4.69	0.20	0.50	ug/L	5.00		93.8	70-130			
1,2-Dichlorobenzene	4.53	0.20	0.50	ug/L	5.00		90.6	70-130			
1,3-Dichlorobenzene	4.79	0.20	0.50	ug/L	5.00		95.8	70-130			
1,4-Dichlorobenzene	4.64	0.20	0.50	ug/L	5.00		92.8	70-130			
Dichlorodifluoromethane	6.52	0.50	0.50	ug/L	5.00		130	70-130			
1,1-Dichloroethane	5.00	0.20	0.50	ug/L	5.00		100	70-130			
1,2-Dichloroethane	5.07	0.10	0.50	ug/L	5.00		101	70-130			
1,1-Dichloroethene	4.86	0.30	0.50	ug/L	5.00		97.2	70-130			
cis-1,2-Dichloroethene	4.67	0.10	0.50	ug/L	5.00		93.4	70-130			
trans-1,2-Dichloroethene	4.64	0.30	0.50	ug/L	5.00		92.8	70-130			
1,2-Dichloropropane	4.39	0.20	0.50	ug/L	5.00		87.8	70-130			
1,3-Dichloropropane	4.88	0.10	0.50	ug/L	5.00		97.6	70-130			
2,2-Dichloropropane	4.34	0.30	0.50	ug/L	5.00		86.8	70-130			
1,1-Dichloropropene	4.63	0.20	0.50	ug/L	5.00		92.6	70-130			
cis-1,3-Dichloropropene	3.93	0.30	0.50	ug/L	5.00		78.6	70-130			
trans-1,3-Dichloropropene	4.20	0.50	0.50	ug/L	5.00		84.0	70-130			
Ethylbenzene	4.80	0.20	0.50	ug/L	5.00		96.0	70-130			

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Volatile Organic Compounds by EPA Method 524.2 - Quality Control

Analyte	Result	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch AK13527 - VOAs in Water GCMS

LCS (AK13527-BS1)		Prepared & Analyzed: 11/05/21									
Hexachlorobutadiene	4.65	0.40	0.50	ug/L	5.00		93.0	70-130			
Isopropylbenzene	5.18	0.20	0.50	ug/L	5.00		104	70-130			
p-Isopropyltoluene	5.08	0.50	0.50	ug/L	5.00		102	70-130			
Methyl ethyl ketone	8.76	0.20	5.0	ug/L	10.0		87.6	70-130			
Methyl isobutyl ketone	8.72	0.90	5.0	ug/L	10.0		87.2	70-130			
Methylene chloride	4.78	0.40	0.50	ug/L	5.00		95.6	70-130			
Naphthalene	4.04	0.50	0.50	ug/L	5.00		80.8	70-130			
n-Propylbenzene	5.01	0.50	0.50	ug/L	5.00		100	70-130			
Styrene	4.68	0.50	0.50	ug/L	5.00		93.6	70-130			
1,1,1,2-Tetrachloroethane	4.54	0.40	0.50	ug/L	5.00		90.8	70-130			
1,1,2,2-Tetrachloroethane	4.76	0.20	0.50	ug/L	5.00		95.2	70-130			
Tetrachloroethene	4.98	0.20	0.50	ug/L	5.00		99.6	70-130			
Toluene	4.92	0.30	0.50	ug/L	5.00		98.4	70-130			
1,2,3-Trichlorobenzene	4.12	0.40	0.50	ug/L	5.00		82.4	70-130			
1,2,4-Trichlorobenzene	4.08	0.40	0.50	ug/L	5.00		81.6	70-130			
1,1,1-Trichloroethane	4.71	0.40	0.50	ug/L	5.00		94.2	70-130			
1,1,2-Trichloroethane	4.83	0.20	0.50	ug/L	5.00		96.6	70-130			
Trichloroethene	4.60	0.30	0.50	ug/L	5.00		92.0	70-130			
Trichlorofluoromethane	6.05	0.50	5.0	ug/L	5.00		121	70-130			
Trichlorotrifluoroethane	5.94	0.40	10	ug/L	5.00		119	70-130			J
1,2,4-Trimethylbenzene	4.95	0.50	0.50	ug/L	5.00		99.0	70-130			
1,3,5-Trimethylbenzene	4.89	0.50	0.50	ug/L	5.00		97.8	70-130			
Vinyl chloride	5.79	0.50	0.50	ug/L	5.00		116	70-130			
m,p-Xylene	9.85	0.20	0.50	ug/L	10.0		98.5	70-130			
o-Xylene	4.94	0.20	0.50	ug/L	5.00		98.8	70-130			
Xylenes (total)	14.8	0.20	0.50	ug/L	15.0		98.6	70-130			
Methyl tert-butyl ether	5.38	0.50	3.0	ug/L	5.00		108	70-130			
Ethyl tert-butyl ether	5.69	0.40	0.50	ug/L	5.00		114	70-130			
Tert-butyl alcohol	78.0	6.0	10	ug/L	100		78.0	70-130			
Tert-amyl methyl ether	4.31	0.30	0.50	ug/L	5.00		86.2	70-130			
Surrogate: Bromofluorobenzene	26.0			ug/L	25.0		104	70-130			
Surrogate: Dibromofluoromethane	25.9			ug/L	25.0		104	70-130			
Surrogate: Toluene-d8	25.6			ug/L	25.0		103	70-130			

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Volatile Organic Compounds by EPA Method 524.2 - Quality Control

Analyte	Result	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch AK13527 - VOAs in Water GCMS

LCS Dup (AK13527-BSD1)

Prepared & Analyzed: 11/05/21

Acrylonitrile	4.43	0.40	5.0	ug/L	5.00		88.6	70-130	10.7	30	J
Benzene	4.57	0.10	0.50	ug/L	5.00		91.4	70-130	1.09	30	
Bromobenzene	4.86	0.20	0.50	ug/L	5.00		97.2	70-130	3.83	30	
Bromochloromethane	4.62	0.40	0.50	ug/L	5.00		92.4	70-130	2.14	30	
Bromodichloromethane	4.79	0.20	1.0	ug/L	5.00		95.8	70-130	0.417	30	
Bromoform	4.65	0.30	1.0	ug/L	5.00		93.0	70-130	7.65	30	
Bromomethane	4.63	0.40	0.50	ug/L	5.00		92.6	70-130	10.9	30	
n-Butylbenzene	5.15	0.50	0.50	ug/L	5.00		103	70-130	1.92	30	
sec-Butylbenzene	5.15	0.20	0.50	ug/L	5.00		103	70-130	4.18	30	
tert-Butylbenzene	4.76	0.50	0.50	ug/L	5.00		95.2	70-130	3.71	30	
Carbon disulfide	4.38	0.40	0.50	ug/L	5.00		87.6	70-130	1.59	30	
Carbon tetrachloride	4.32	0.30	0.50	ug/L	5.00		86.4	70-130	2.06	30	
Chlorobenzene	4.84	0.20	0.50	ug/L	5.00		96.8	70-130	1.84	30	
Chloroethane	5.25	0.30	0.50	ug/L	5.00		105	70-130	1.89	30	
Chloroform	5.12	0.30	1.0	ug/L	5.00		102	70-130	0.584	30	
Chloromethane	6.43	0.40	0.50	ug/L	5.00		129	70-130	0.311	30	
2-Chlorotoluene	4.91	0.20	0.50	ug/L	5.00		98.2	70-130	1.21	30	
4-Chlorotoluene	4.90	0.20	0.50	ug/L	5.00		98.0	70-130	4.59	30	
Dibromochloromethane	5.02	0.30	1.0	ug/L	5.00		100	70-130	1.20	30	
Dibromomethane	4.43	0.20	0.50	ug/L	5.00		88.6	70-130	5.70	30	
1,2-Dichlorobenzene	4.58	0.20	0.50	ug/L	5.00		91.6	70-130	1.10	30	
1,3-Dichlorobenzene	4.57	0.20	0.50	ug/L	5.00		91.4	70-130	4.70	30	
1,4-Dichlorobenzene	4.90	0.20	0.50	ug/L	5.00		98.0	70-130	5.45	30	
Dichlorodifluoromethane	6.31	0.50	0.50	ug/L	5.00		126	70-130	3.27	30	
1,1-Dichloroethane	4.93	0.20	0.50	ug/L	5.00		98.6	70-130	1.41	30	
1,2-Dichloroethane	4.94	0.10	0.50	ug/L	5.00		98.8	70-130	2.60	30	
1,1-Dichloroethene	4.56	0.30	0.50	ug/L	5.00		91.2	70-130	6.37	30	
cis-1,2-Dichloroethene	4.57	0.10	0.50	ug/L	5.00		91.4	70-130	2.16	30	
trans-1,2-Dichloroethene	4.55	0.30	0.50	ug/L	5.00		91.0	70-130	1.96	30	
1,2-Dichloropropane	4.51	0.20	0.50	ug/L	5.00		90.2	70-130	2.70	30	
1,3-Dichloropropane	4.83	0.10	0.50	ug/L	5.00		96.6	70-130	1.03	30	
2,2-Dichloropropane	4.54	0.30	0.50	ug/L	5.00		90.8	70-130	4.50	30	
1,1-Dichloropropene	4.62	0.20	0.50	ug/L	5.00		92.4	70-130	0.216	30	
cis-1,3-Dichloropropene	4.02	0.30	0.50	ug/L	5.00		80.4	70-130	2.26	30	
trans-1,3-Dichloropropene	4.48	0.50	0.50	ug/L	5.00		89.6	70-130	6.45	30	
Ethylbenzene	4.77	0.20	0.50	ug/L	5.00		95.4	70-130	0.627	30	

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Volatile Organic Compounds by EPA Method 524.2 - Quality Control

Analyte	Result	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch AK13527 - VOAs in Water GCMS

LCS Dup (AK13527-BSD1)

Prepared & Analyzed: 11/05/21

Hexachlorobutadiene	4.60	0.40	0.50	ug/L	5.00		92.0	70-130	1.08	30	
Isopropylbenzene	5.10	0.20	0.50	ug/L	5.00		102	70-130	1.56	30	
p-Isopropyltoluene	4.78	0.50	0.50	ug/L	5.00		95.6	70-130	6.09	30	
Methyl ethyl ketone	8.45	0.20	5.0	ug/L	10.0		84.5	70-130	3.60	30	
Methyl isobutyl ketone	8.57	0.90	5.0	ug/L	10.0		85.7	70-130	1.74	30	
Methylene chloride	4.40	0.40	0.50	ug/L	5.00		88.0	70-130	8.28	30	
Naphthalene	4.25	0.50	0.50	ug/L	5.00		85.0	70-130	5.07	30	
n-Propylbenzene	4.90	0.50	0.50	ug/L	5.00		98.0	70-130	2.22	30	
Styrene	4.60	0.50	0.50	ug/L	5.00		92.0	70-130	1.72	30	
1,1,1,2-Tetrachloroethane	4.59	0.40	0.50	ug/L	5.00		91.8	70-130	1.10	30	
1,1,2,2-Tetrachloroethane	4.53	0.20	0.50	ug/L	5.00		90.6	70-130	4.95	30	
Tetrachloroethene	4.85	0.20	0.50	ug/L	5.00		97.0	70-130	2.64	30	
Toluene	4.94	0.30	0.50	ug/L	5.00		98.8	70-130	0.406	30	
1,2,3-Trichlorobenzene	4.33	0.40	0.50	ug/L	5.00		86.6	70-130	4.97	30	
1,2,4-Trichlorobenzene	4.07	0.40	0.50	ug/L	5.00		81.4	70-130	0.245	30	
1,1,1-Trichloroethane	4.68	0.40	0.50	ug/L	5.00		93.6	70-130	0.639	30	
1,1,2-Trichloroethane	4.75	0.20	0.50	ug/L	5.00		95.0	70-130	1.67	30	
Trichloroethene	4.49	0.30	0.50	ug/L	5.00		89.8	70-130	2.42	30	
Trichlorofluoromethane	5.84	0.50	5.0	ug/L	5.00		117	70-130	3.53	30	
Trichlorotrifluoroethane	5.62	0.40	10	ug/L	5.00		112	70-130	5.54	30	J
1,2,4-Trimethylbenzene	4.73	0.50	0.50	ug/L	5.00		94.6	70-130	4.55	30	
1,3,5-Trimethylbenzene	4.79	0.50	0.50	ug/L	5.00		95.8	70-130	2.07	30	
Vinyl chloride	5.88	0.50	0.50	ug/L	5.00		118	70-130	1.54	30	
m,p-Xylene	9.72	0.20	0.50	ug/L	10.0		97.2	70-130	1.33	30	
o-Xylene	4.83	0.20	0.50	ug/L	5.00		96.6	70-130	2.25	30	
Xylenes (total)	14.6	0.20	0.50	ug/L	15.0		97.0	70-130	1.64	30	
Methyl tert-butyl ether	5.24	0.50	3.0	ug/L	5.00		105	70-130	2.64	30	
Ethyl tert-butyl ether	5.59	0.40	0.50	ug/L	5.00		112	70-130	1.77	30	
Tert-butyl alcohol	71.8	6.0	10	ug/L	100		71.8	70-130	8.37	30	
Tert-amyl methyl ether	4.35	0.30	0.50	ug/L	5.00		87.0	70-130	0.924	30	
Surrogate: Bromofluorobenzene	25.8			ug/L	25.0		103	70-130			
Surrogate: Dibromofluoromethane	25.9			ug/L	25.0		104	70-130			
Surrogate: Toluene-d8	26.0			ug/L	25.0		104	70-130			

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EBMUD PO Box 24055 Oakland CA, 94607	Project Manager: K. Schwab Project: Bayside Ground Water Project WDR Project Number: C002420	Reported: 11/22/21 15:39
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Volatile Organic Compounds by EPA Method 524.2 - Quality Control

Analyte	Result	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC %REC	Limits	RPD	RPD Limit	Notes
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Batch AK13527 - VOAs in Water GCMS

Matrix Spike (AK13527-MS1)	Source: 21K0530-01		Prepared & Analyzed: 11/05/21								
Acrylonitrile	5.53	0.40	5.0	ug/L	5.00	ND	111	70-130			
Benzene	5.34	0.10	0.50	ug/L	5.00	ND	107	70-130			
Bromobenzene	5.39	0.20	0.50	ug/L	5.00	ND	108	70-130			
Bromochloromethane	5.23	0.40	0.50	ug/L	5.00	ND	105	70-130			
Bromodichloromethane	5.53	0.20	1.0	ug/L	5.00	ND	111	70-130			
Bromoform	7.13	0.30	1.0	ug/L	5.00	ND	143	70-130			QM-05
Bromomethane	3.08	0.40	0.50	ug/L	5.00	ND	61.6	70-130			QM-05
n-Butylbenzene	5.89	0.50	0.50	ug/L	5.00	ND	118	70-130			
sec-Butylbenzene	5.74	0.20	0.50	ug/L	5.00	ND	115	70-130			
tert-Butylbenzene	5.54	0.50	0.50	ug/L	5.00	ND	111	70-130			
Carbon disulfide	6.18	0.40	0.50	ug/L	5.00	ND	124	70-130			
Carbon tetrachloride	5.97	0.30	0.50	ug/L	5.00	ND	119	70-130			
Chlorobenzene	5.34	0.20	0.50	ug/L	5.00	ND	107	70-130			
Chloroethane	6.27	0.30	0.50	ug/L	5.00	ND	125	70-130			
Chloroform	6.61	0.30	1.0	ug/L	5.00	ND	132	70-130			QM-05
Chloromethane	7.23	0.40	0.50	ug/L	5.00	ND	145	70-130			QM-05
2-Chlorotoluene	5.39	0.20	0.50	ug/L	5.00	ND	108	70-130			
4-Chlorotoluene	5.05	0.20	0.50	ug/L	5.00	ND	101	70-130			
Dibromochloromethane	6.19	0.30	1.0	ug/L	5.00	ND	124	70-130			
Dibromomethane	5.04	0.20	0.50	ug/L	5.00	ND	101	70-130			
1,2-Dichlorobenzene	4.98	0.20	0.50	ug/L	5.00	ND	99.6	70-130			
1,3-Dichlorobenzene	5.16	0.20	0.50	ug/L	5.00	ND	103	70-130			
1,4-Dichlorobenzene	4.83	0.20	0.50	ug/L	5.00	ND	96.6	70-130			
Dichlorodifluoromethane	7.88	0.50	0.50	ug/L	5.00	ND	158	70-130			QM-05
1,1-Dichloroethane	5.69	0.20	0.50	ug/L	5.00	ND	114	70-130			
1,2-Dichloroethane	5.46	0.10	0.50	ug/L	5.00	ND	109	70-130			
1,1-Dichloroethene	5.59	0.30	0.50	ug/L	5.00	ND	112	70-130			
cis-1,2-Dichloroethene	5.24	0.10	0.50	ug/L	5.00	ND	105	70-130			
trans-1,2-Dichloroethene	5.48	0.30	0.50	ug/L	5.00	ND	110	70-130			
1,2-Dichloropropane	4.96	0.20	0.50	ug/L	5.00	ND	99.2	70-130			
1,3-Dichloropropane	5.22	0.10	0.50	ug/L	5.00	ND	104	70-130			
2,2-Dichloropropane	5.00	0.30	0.50	ug/L	5.00	ND	100	70-130			
1,1-Dichloropropene	6.09	0.20	0.50	ug/L	5.00	ND	122	70-130			
cis-1,3-Dichloropropene	4.30	0.30	0.50	ug/L	5.00	ND	86.0	70-130			
trans-1,3-Dichloropropene	4.68	0.50	0.50	ug/L	5.00	ND	93.6	70-130			
Ethylbenzene	5.31	0.20	0.50	ug/L	5.00	ND	106	70-130			

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EBMUD PO Box 24055 Oakland CA, 94607	Project Manager: K. Schwab Project: Bayside Ground Water Project WDR Project Number: C002420	Reported: 11/22/21 15:39
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Volatile Organic Compounds by EPA Method 524.2 - Quality Control

Analyte	Result	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch AK13527 - VOAs in Water GCMS

Matrix Spike (AK13527-MS1)	Source: 21K0530-01		Prepared & Analyzed: 11/05/21								
Hexachlorobutadiene	5.38	0.40	0.50	ug/L	5.00	ND	108	70-130			
Isopropylbenzene	5.76	0.20	0.50	ug/L	5.00	ND	115	70-130			
p-Isopropyltoluene	5.48	0.50	0.50	ug/L	5.00	ND	110	70-130			
Methyl ethyl ketone	10.0	0.20	5.0	ug/L	10.0	ND	100	70-130			
Methyl isobutyl ketone	9.25	0.90	5.0	ug/L	10.0	ND	92.5	70-130			
Methylene chloride	5.04	0.40	0.50	ug/L	5.00	ND	101	70-130			
Naphthalene	4.39	0.50	0.50	ug/L	5.00	ND	87.8	70-130			
n-Propylbenzene	5.63	0.50	0.50	ug/L	5.00	ND	113	70-130			
Styrene	5.43	0.50	0.50	ug/L	5.00	ND	109	70-130			
1,1,1,2-Tetrachloroethane	5.23	0.40	0.50	ug/L	5.00	ND	105	70-130			
1,1,2,2-Tetrachloroethane	4.91	0.20	0.50	ug/L	5.00	ND	98.2	70-130			
Tetrachloroethene	5.13	0.20	0.50	ug/L	5.00	ND	103	70-130			
Toluene	5.48	0.30	0.50	ug/L	5.00	ND	110	70-130			
1,2,3-Trichlorobenzene	4.60	0.40	0.50	ug/L	5.00	ND	92.0	70-130			
1,2,4-Trichlorobenzene	4.45	0.40	0.50	ug/L	5.00	ND	89.0	70-130			
1,1,1-Trichloroethane	5.56	0.40	0.50	ug/L	5.00	ND	111	70-130			
1,1,2-Trichloroethane	5.15	0.20	0.50	ug/L	5.00	ND	103	70-130			
Trichloroethene	5.10	0.30	0.50	ug/L	5.00	ND	102	70-130			
Trichlorofluoromethane	6.20	0.50	5.0	ug/L	5.00	ND	124	70-130			
Trichlorotrifluoroethane	6.18	0.40	10	ug/L	5.00	ND	124	70-130			J
1,2,4-Trimethylbenzene	5.57	0.50	0.50	ug/L	5.00	ND	111	70-130			
1,3,5-Trimethylbenzene	5.40	0.50	0.50	ug/L	5.00	ND	108	70-130			
Vinyl chloride	7.54	0.50	0.50	ug/L	5.00	ND	151	70-130			QM-05
m,p-Xylene	10.9	0.20	0.50	ug/L	10.0	ND	109	70-130			
o-Xylene	5.43	0.20	0.50	ug/L	5.00	ND	109	70-130			
Xylenes (total)	16.3	0.20	0.50	ug/L	15.0	ND	109	70-130			
Methyl tert-butyl ether	5.20	0.50	3.0	ug/L	5.00	ND	104	70-130			
Ethyl tert-butyl ether	6.14	0.40	0.50	ug/L	5.00	ND	123	70-130			
Tert-butyl alcohol	84.8	6.0	10	ug/L	100	ND	84.8	70-130			
Tert-amyl methyl ether	4.60	0.30	0.50	ug/L	5.00	ND	92.0	70-130			
Surrogate: Bromofluorobenzene	25.7			ug/L	25.0		103	70-130			
Surrogate: Dibromofluoromethane	26.6			ug/L	25.0		106	70-130			
Surrogate: Toluene-d8	25.5			ug/L	25.0		102	70-130			

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Volatile Organic Compounds by EPA Method 524.2 - Quality Control

Analyte	Result	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch AK13527 - VOAs in Water GCMS

Matrix Spike Dup (AK13527-MSD1)	Source: 21K0530-01			Prepared & Analyzed: 11/05/21							
Acrylonitrile	5.36	0.40	5.0	ug/L	5.00	ND	107	70-130	3.12	30	
Benzene	5.39	0.10	0.50	ug/L	5.00	ND	108	70-130	0.932	30	
Bromobenzene	5.60	0.20	0.50	ug/L	5.00	ND	112	70-130	3.82	30	
Bromochloromethane	5.29	0.40	0.50	ug/L	5.00	ND	106	70-130	1.14	30	
Bromodichloromethane	5.48	0.20	1.0	ug/L	5.00	ND	110	70-130	0.908	30	
Bromoform	5.65	0.30	1.0	ug/L	5.00	ND	113	70-130	23.2	30	
Bromomethane	4.47	0.40	0.50	ug/L	5.00	ND	89.4	70-130	36.8	30	QM-05
n-Butylbenzene	6.12	0.50	0.50	ug/L	5.00	ND	122	70-130	3.83	30	
sec-Butylbenzene	6.00	0.20	0.50	ug/L	5.00	ND	120	70-130	4.43	30	
tert-Butylbenzene	5.78	0.50	0.50	ug/L	5.00	ND	116	70-130	4.24	30	
Carbon disulfide	5.55	0.40	0.50	ug/L	5.00	ND	111	70-130	10.7	30	
Carbon tetrachloride	5.75	0.30	0.50	ug/L	5.00	ND	115	70-130	3.75	30	
Chlorobenzene	5.47	0.20	0.50	ug/L	5.00	ND	109	70-130	2.41	30	
Chloroethane	6.43	0.30	0.50	ug/L	5.00	ND	129	70-130	2.52	30	
Chloroform	6.81	0.30	1.0	ug/L	5.00	ND	136	70-130	2.98	30	QM-05
Chloromethane	9.30	0.40	0.50	ug/L	5.00	ND	186	70-130	25.0	30	QM-05
2-Chlorotoluene	5.62	0.20	0.50	ug/L	5.00	ND	112	70-130	4.18	30	
4-Chlorotoluene	5.30	0.20	0.50	ug/L	5.00	ND	106	70-130	4.83	30	
Dibromochloromethane	5.67	0.30	1.0	ug/L	5.00	ND	113	70-130	8.77	30	
Dibromomethane	5.15	0.20	0.50	ug/L	5.00	ND	103	70-130	2.16	30	
1,2-Dichlorobenzene	5.08	0.20	0.50	ug/L	5.00	ND	102	70-130	1.99	30	
1,3-Dichlorobenzene	5.37	0.20	0.50	ug/L	5.00	ND	107	70-130	3.99	30	
1,4-Dichlorobenzene	5.15	0.20	0.50	ug/L	5.00	ND	103	70-130	6.41	30	
Dichlorodifluoromethane	8.47	0.50	0.50	ug/L	5.00	ND	169	70-130	7.22	30	QM-05
1,1-Dichloroethane	5.69	0.20	0.50	ug/L	5.00	ND	114	70-130	0.00	30	
1,2-Dichloroethane	5.91	0.10	0.50	ug/L	5.00	ND	118	70-130	7.92	30	
1,1-Dichloroethene	5.58	0.30	0.50	ug/L	5.00	ND	112	70-130	0.179	30	
cis-1,2-Dichloroethene	5.37	0.10	0.50	ug/L	5.00	ND	107	70-130	2.45	30	
trans-1,2-Dichloroethene	5.44	0.30	0.50	ug/L	5.00	ND	109	70-130	0.733	30	
1,2-Dichloropropane	5.13	0.20	0.50	ug/L	5.00	ND	103	70-130	3.37	30	
1,3-Dichloropropane	5.32	0.10	0.50	ug/L	5.00	ND	106	70-130	1.90	30	
2,2-Dichloropropane	5.10	0.30	0.50	ug/L	5.00	ND	102	70-130	1.98	30	
1,1-Dichloropropene	6.07	0.20	0.50	ug/L	5.00	ND	121	70-130	0.329	30	
cis-1,3-Dichloropropene	3.92	0.30	0.50	ug/L	5.00	ND	78.4	70-130	9.25	30	
trans-1,3-Dichloropropene	4.44	0.50	0.50	ug/L	5.00	ND	88.8	70-130	5.26	30	
Ethylbenzene	5.59	0.20	0.50	ug/L	5.00	ND	112	70-130	5.14	30	

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Volatile Organic Compounds by EPA Method 524.2 - Quality Control

Analyte	Result	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch AK13527 - VOAs in Water GCMS

Matrix Spike Dup (AK13527-MSD1)	Source: 21K0530-01		Prepared & Analyzed: 11/05/21								
Hexachlorobutadiene	5.37	0.40	0.50	ug/L	5.00	ND	107	70-130	0.186	30	
Isopropylbenzene	6.02	0.20	0.50	ug/L	5.00	ND	120	70-130	4.41	30	
p-Isopropyltoluene	5.78	0.50	0.50	ug/L	5.00	ND	116	70-130	5.33	30	
Methyl ethyl ketone	10.4	0.20	5.0	ug/L	10.0	ND	104	70-130	3.91	30	
Methyl isobutyl ketone	10.0	0.90	5.0	ug/L	10.0	ND	100	70-130	7.89	30	
Methylene chloride	5.40	0.40	0.50	ug/L	5.00	ND	108	70-130	6.90	30	
Naphthalene	4.61	0.50	0.50	ug/L	5.00	ND	92.2	70-130	4.89	30	
n-Propylbenzene	5.90	0.50	0.50	ug/L	5.00	ND	118	70-130	4.68	30	
Styrene	5.57	0.50	0.50	ug/L	5.00	ND	111	70-130	2.55	30	
1,1,1,2-Tetrachloroethane	5.40	0.40	0.50	ug/L	5.00	ND	108	70-130	3.20	30	
1,1,2,2-Tetrachloroethane	5.18	0.20	0.50	ug/L	5.00	ND	104	70-130	5.35	30	
Tetrachloroethene	5.54	0.20	0.50	ug/L	5.00	ND	111	70-130	7.69	30	
Toluene	5.57	0.30	0.50	ug/L	5.00	ND	111	70-130	1.63	30	
1,2,3-Trichlorobenzene	4.74	0.40	0.50	ug/L	5.00	ND	94.8	70-130	3.00	30	
1,2,4-Trichlorobenzene	4.59	0.40	0.50	ug/L	5.00	ND	91.8	70-130	3.10	30	
1,1,1-Trichloroethane	5.56	0.40	0.50	ug/L	5.00	ND	111	70-130	0.00	30	
1,1,2-Trichloroethane	5.26	0.20	0.50	ug/L	5.00	ND	105	70-130	2.11	30	
Trichloroethene	5.25	0.30	0.50	ug/L	5.00	ND	105	70-130	2.90	30	
Trichlorofluoromethane	6.45	0.50	5.0	ug/L	5.00	ND	129	70-130	3.95	30	
Trichlorotrifluoroethane	7.08	0.40	10	ug/L	5.00	ND	142	70-130	13.6	30	QM-05, J
1,2,4-Trimethylbenzene	5.82	0.50	0.50	ug/L	5.00	ND	116	70-130	4.39	30	
1,3,5-Trimethylbenzene	5.81	0.50	0.50	ug/L	5.00	ND	116	70-130	7.31	30	
Vinyl chloride	8.08	0.50	0.50	ug/L	5.00	ND	162	70-130	6.91	30	QM-05
m,p-Xylene	11.2	0.20	0.50	ug/L	10.0	ND	112	70-130	2.90	30	
o-Xylene	5.64	0.20	0.50	ug/L	5.00	ND	113	70-130	3.79	30	
Xylenes (total)	16.8	0.20	0.50	ug/L	15.0	ND	112	70-130	3.20	30	
Methyl tert-butyl ether	5.37	0.50	3.0	ug/L	5.00	ND	107	70-130	3.22	30	
Ethyl tert-butyl ether	6.30	0.40	0.50	ug/L	5.00	ND	126	70-130	2.57	30	
Tert-butyl alcohol	80.7	6.0	10	ug/L	100	ND	80.7	70-130	4.91	30	
Tert-amyl methyl ether	4.77	0.30	0.50	ug/L	5.00	ND	95.4	70-130	3.63	30	
Surrogate: Bromofluorobenzene	25.8			ug/L	25.0		103	70-130			
Surrogate: Dibromofluoromethane	26.0			ug/L	25.0		104	70-130			
Surrogate: Toluene-d8	25.3			ug/L	25.0		101	70-130			

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Chlorinated Pesticides and PCBs by EPA Method 508 - Quality Control

Analyte	Result	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch AK13647 - SVOAs in Water GC

Blank (AK13647-BLK1)

Prepared: 11/09/21 Analyzed: 11/15/21

PCB-1016	ND	0.30	0.50	ug/L							U
PCB-1221	ND	0.30	0.50	ug/L							U
PCB-1232	ND	0.30	0.50	ug/L							U
PCB-1242	ND	0.30	0.50	ug/L							U
PCB-1248	ND	0.30	0.50	ug/L							U
PCB-1254	ND	0.30	0.50	ug/L							U
PCB-1260	ND	0.20	0.50	ug/L							U
Total PCBs	ND	0.30	0.50	ug/L							U
Surrogate: Decachlorobiphenyl	0.239			ug/L	0.250		95.6	50-170			
Surrogate: Tetrachloro-meta-xylene	0.105			ug/L	0.250		42.0	40-140			

LCS (AK13647-BS1)

Prepared: 11/09/21 Analyzed: 11/15/21

PCB-1016	1.67	0.30	0.50	ug/L	2.00		83.5	70-130			
PCB-1260	1.56	0.20	0.50	ug/L	2.00		77.8	70-130			
Surrogate: Decachlorobiphenyl	0.257			ug/L	0.250		103	50-170			
Surrogate: Tetrachloro-meta-xylene	0.0790			ug/L	0.250		31.6	40-140			S-GC

LCS Dup (AK13647-BSD1)

Prepared: 11/09/21 Analyzed: 11/15/21

PCB-1016	1.65	0.30	0.50	ug/L	2.00		82.4	70-130	1.27	25	
PCB-1260	1.74	0.20	0.50	ug/L	2.00		87.0	70-130	11.1	25	
Surrogate: Decachlorobiphenyl	0.265			ug/L	0.250		106	50-170			
Surrogate: Tetrachloro-meta-xylene	0.128			ug/L	0.250		51.2	40-140			

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EBMUD PO Box 24055 Oakland CA, 94607	Project Manager: K. Schwab Project: Bayside Ground Water Project WDR Project Number: C002420	Reported: 11/22/21 15:39
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Organic Analytes by EPA Method 504.1 - Quality Control

Analyte	Result	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC %REC	Limits	RPD	RPD Limit	Notes
Batch AK13687 - EPA 504.1											
Blank (AK13687-BLK1) Prepared & Analyzed: 11/09/21											
1,2-Dibromo-3-chloropropane	ND	0.0080	0.010	ug/L							U
1,2-Dibromoethane (EDB)	ND	0.010	0.020	ug/L							U
LCS (AK13687-BS1) Prepared: 11/09/21 Analyzed: 11/10/21											
1,2-Dibromo-3-chloropropane	0.278	0.0080	0.010	ug/L	0.250		111	70-130			
1,2-Dibromoethane (EDB)	0.261	0.010	0.020	ug/L	0.250		104	70-130			
LCS Dup (AK13687-BSD1) Prepared: 11/09/21 Analyzed: 11/10/21											
1,2-Dibromo-3-chloropropane	0.288	0.0080	0.010	ug/L	0.250		115	70-130	3.50	25	
1,2-Dibromoethane (EDB)	0.276	0.010	0.020	ug/L	0.250		110	70-130	5.49	25	
MRL Check (AK13687-MRL1) Prepared: 11/09/21 Analyzed: 11/10/21											
1,2-Dibromo-3-chloropropane	0.0121	0.0080	0.010	ug/L	0.0100		121	60-140			
1,2-Dibromoethane (EDB)	0.0240	0.010	0.020	ug/L	0.0200		120	60-140			
Matrix Spike (AK13687-MS1) Source: 21J3493-01 Prepared: 11/09/21 Analyzed: 11/10/21											
1,2-Dibromo-3-chloropropane	0.310	0.0080	0.010	ug/L	0.307	ND	101	65-135			
1,2-Dibromoethane (EDB)	0.289	0.010	0.020	ug/L	0.307	ND	94.3	65-135			
Matrix Spike Dup (AK13687-MSD1) Source: 21J3493-01 Prepared: 11/09/21 Analyzed: 11/10/21											
1,2-Dibromo-3-chloropropane	0.294	0.0080	0.010	ug/L	0.307	ND	95.8	65-135	5.22	25	
1,2-Dibromoethane (EDB)	0.280	0.010	0.020	ug/L	0.307	ND	91.2	65-135	3.24	25	

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EBMUD PO Box 24055 Oakland CA, 94607	Project Manager: K. Schwab Project: Bayside Ground Water Project WDR Project Number: C002420	Reported: 11/22/21 15:39
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Chlorinated Acids by EPA Method 515.3 - Quality Control

Analyte	Result	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch AK14167 - Herbicides

Blank (AK14167-BLK1)

Prepared: 11/15/21 Analyzed: 11/16/21

Bentazon	ND	0.20	2.0	ug/L							U
2,4-D	ND	1.0	10	ug/L							U
Dalapon	ND	2.0	10	ug/L							U
Dinoseb	ND	0.20	2.0	ug/L							U
Pentachlorophenol	ND	0.20	0.20	ug/L							U
Picloram	ND	0.10	1.0	ug/L							U
2,4,5-TP (Silvex)	ND	0.20	1.0	ug/L							U
Surrogate: DCAA	11.3			ug/L	11.4		98.9	70-130			

Matrix Spike (AK14167-MS1)

Source: 21K0749-01

Prepared: 11/15/21 Analyzed: 11/17/21

Bentazon	3.03	0.20	2.0	ug/L	3.52	ND	86.1	70-130			
2,4-D	9.13	1.0	10	ug/L	10.6	ND	86.5	70-130			J
Dalapon	18.8	2.0	10	ug/L	22.9	ND	82.3	70-130			
Dinoseb	3.08	0.20	2.0	ug/L	3.52	ND	87.4	70-130			
Pentachlorophenol	1.10	0.20	0.20	ug/L	1.32	ND	83.6	70-130			
Picloram	1.52	0.10	1.0	ug/L	1.76	ND	86.5	70-130			
2,4,5-TP (Silvex)	1.45	0.20	1.0	ug/L	1.76	ND	82.2	70-130			
Surrogate: DCAA	11.6			ug/L	11.4		101	70-130			

Matrix Spike (AK14167-MS2)

Source: 21K1199-01

Prepared: 11/15/21 Analyzed: 11/17/21

Bentazon	3.15	0.20	2.0	ug/L	3.52	ND	89.6	70-130			
2,4-D	9.64	1.0	10	ug/L	10.6	ND	91.2	70-130			J
Dalapon	21.2	2.0	10	ug/L	22.9	ND	92.5	70-130			
Dinoseb	3.45	0.20	2.0	ug/L	3.52	ND	98.1	70-130			
Pentachlorophenol	1.28	0.20	0.20	ug/L	1.32	ND	97.2	70-130			
Picloram	1.50	0.10	1.0	ug/L	1.76	ND	85.4	70-130			
2,4,5-TP (Silvex)	1.67	0.20	1.0	ug/L	1.76	ND	95.1	70-130			
Surrogate: DCAA	11.7			ug/L	11.4		103	70-130			

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EBMUD PO Box 24055 Oakland CA, 94607	Project Manager: K. Schwab Project: Bayside Ground Water Project WDR Project Number: C002420	Reported: 11/22/21 15:39
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Carbamates by EPA Method 531.1 - Quality Control

Analyte	Result	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch AK13183 - HPLC

Blank (AK13183-BLK1)

Prepared & Analyzed: 11/02/21

Aldicarb	ND	0.60	3.0	ug/L							U
Aldicarb sulfone	ND	0.50	4.0	ug/L							U
Carbaryl	ND	0.80	5.0	ug/L							U
Carbofuran	ND	0.40	5.0	ug/L							U
3-Hydroxycarbofuran	ND	0.60	3.0	ug/L							U
Methiocarb	ND	0.90	5.0	ug/L							U
Methomyl	ND	0.90	2.0	ug/L							U
Oxamyl	ND	0.90	20	ug/L							U

LCS (AK13183-BS1)

Prepared: 11/02/21 Analyzed: 11/03/21

Aldicarb	23.5	0.60	3.0	ug/L	20.0		118	80-120			
Aldicarb sulfone	23.5	0.50	4.0	ug/L	20.0		118	80-120			
Carbaryl	23.3	0.80	5.0	ug/L	20.0		117	80-120			
Carbofuran	21.8	0.40	5.0	ug/L	20.0		109	80-120			
3-Hydroxycarbofuran	21.7	0.60	3.0	ug/L	20.0		109	80-120			
Methiocarb	21.2	0.90	5.0	ug/L	20.0		106	80-120			
Methomyl	22.7	0.90	2.0	ug/L	20.0		113	80-120			
Oxamyl	22.6	0.90	20	ug/L	20.0		113	80-120			

LCS Dup (AK13183-BSD1)

Prepared: 11/02/21 Analyzed: 11/03/21

Aldicarb	20.6	0.60	3.0	ug/L	20.0		103	80-120	13.2	20	
Aldicarb sulfone	23.6	0.50	4.0	ug/L	20.0		118	80-120	0.347	20	
Carbaryl	22.2	0.80	5.0	ug/L	20.0		111	80-120	5.00	20	
Carbofuran	20.5	0.40	5.0	ug/L	20.0		103	80-120	5.99	20	
3-Hydroxycarbofuran	20.4	0.60	3.0	ug/L	20.0		102	80-120	6.11	20	
Methiocarb	22.3	0.90	5.0	ug/L	20.0		112	80-120	4.94	20	
Methomyl	23.5	0.90	2.0	ug/L	20.0		117	80-120	3.35	20	
Oxamyl	22.2	0.90	20	ug/L	20.0		111	80-120	1.89	20	

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EBMUD PO Box 24055 Oakland CA, 94607	Project Manager: K. Schwab Project: Bayside Ground Water Project WDR Project Number: C002420	Reported: 11/22/21 15:39
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Carbamates by EPA Method 531.1 - Quality Control

Analyte	Result	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC %REC	Limits	RPD	RPD Limit	Notes
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Batch AK13183 - HPLC

Matrix Spike (AK13183-MS1)	Source: 21J3134-01		Prepared: 11/02/21 Analyzed: 11/04/21								
Aldicarb	17.7	0.60	3.0	ug/L	20.0	ND	88.3	65-135			
Aldicarb sulfone	22.3	0.50	4.0	ug/L	20.0	ND	111	65-135			
Carbaryl	21.4	0.80	5.0	ug/L	20.0	ND	107	65-135			
Carbofuran	23.3	0.40	5.0	ug/L	20.0	ND	117	65-135			
3-Hydroxycarbofuran	19.3	0.60	3.0	ug/L	20.0	ND	96.7	65-135			
Methiocarb	23.5	0.90	5.0	ug/L	20.0	ND	118	65-135			
Methomyl	20.6	0.90	2.0	ug/L	20.0	ND	103	65-135			
Oxamyl	23.6	0.90	20	ug/L	20.0	ND	118	65-135			

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Endothall by EPA Method 548.1 - Quality Control

Analyte	Result	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch AK13509 - EPA 548.1											
Blank (AK13509-BLK1) Prepared: 11/08/21 Analyzed: 11/10/21											
Endothall	ND	20	45	ug/L							U
LCS (AK13509-BS1) Prepared: 11/08/21 Analyzed: 11/10/21											
Endothall	212	20	45	ug/L	200		106	80-120			
LCS Dup (AK13509-BSD1) Prepared: 11/08/21 Analyzed: 11/10/21											
Endothall	205	20	45	ug/L	200		102	80-120	3.53	30	
Matrix Spike (AK13509-MS1) Source: 21K0074-01 Prepared: 11/08/21 Analyzed: 11/10/21											
Endothall	187	20	45	ug/L	200	ND	93.5	80-120			

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EBMUD PO Box 24055 Oakland CA, 94607	Project Manager: K. Schwab Project: Bayside Ground Water Project WDR Project Number: C002420	Reported: 11/22/21 15:39
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Glyphosate by EPA Method 547 - Quality Control

Analyte	Result	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC %REC	Limits	RPD	RPD Limit	Notes
Batch AK13701 - HPLC											
Blank (AK13701-BLK1) Prepared & Analyzed: 11/10/21											
Glyphosate	ND	10	25	ug/L							U
LCS (AK13701-BS1) Prepared & Analyzed: 11/10/21											
Glyphosate	237	10	25	ug/L	200		119	70-130			
LCS Dup (AK13701-BSD1) Prepared & Analyzed: 11/10/21											
Glyphosate	220	10	25	ug/L	200		110	70-130	7.36	30	
Matrix Spike (AK13701-MS1) Source: 21K0530-01 Prepared & Analyzed: 11/10/21											
Glyphosate	247	10	25	ug/L	200	ND	124	70-130			

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EBMUD PO Box 24055 Oakland CA, 94607	Project Manager: K. Schwab Project: Bayside Ground Water Project WDR Project Number: C002420	Reported: 11/22/21 15:39
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Diquat by EPA Method 549.2 - Quality Control

Analyte	Result	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch AK13700 - EPA 549.2											
Blank (AK13700-BLK1) Prepared: 11/09/21 Analyzed: 11/17/21											
Diquat	ND	0.60	4.0	ug/L							U
LCS (AK13700-BS1) Prepared: 11/09/21 Analyzed: 11/17/21											
Diquat	20.0	0.60	4.0	ug/L	20.0		99.8	70-130			
LCS Dup (AK13700-BSD1) Prepared: 11/09/21 Analyzed: 11/17/21											
Diquat	20.0	0.60	4.0	ug/L	20.0		100	70-130	0.176	25	

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EBMUD PO Box 24055 Oakland CA, 94607	Project Manager: K. Schwab Project: Bayside Ground Water Project WDR Project Number: C002420	Reported: 11/22/21 15:39
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Notes and Definitions

- J Detected but below the Reporting Limit; therefore, result is an estimated concentration, detected but not quantified (DNQ).
- QM-05 The spike recovery was outside acceptance limits for the MS and/or MSD due to matrix interference. The LCS and/or LCSD were within acceptance limits showing that the laboratory is in control and the data is acceptable.
- S-GC Surrogate recovery outside of control limits. The data was accepted based on valid recovery of the remaining surrogates.
- U Analyte included in analysis, but not detected at or above MDL.
- ND Analyte NOT DETECTED at or above the reporting limit
- dry Sample results reported on a dry weight basis
- MDL Method detection limit
- Rec Recovery
- RPD Relative Percent Difference

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

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21K0538



East Bay Municipal Utility District Laboratory Services Subcontract Chain of Custody

COC #: C002420	Project Title: Bayside Ground Water Project	Lab PM: Kristi Schwab (510) 287-1696 Shipping Method: Alpha Courier	Sampled By: J. Marshak
	TAT: Standard	PO#: 934-37431-AX Expiration: 6/30/2021	Submitted Date:

Date	Time	Sample ID	Location/PS Code	Matrix	Container ID	Type	Tests Required	Method Reference
11/02/2021	09:55	C002420-03	WTP BAYSIDE - BAY WELL HEAD	Drinking Water	-03C	CLAB	Chromium +6	EPA 218.6
					-03D	CLAB	EPA 504.1	EPA 504.1
					-03E	CLAB	EPA 504.1	Bottle for QC (2)
					-03F	CLAB	EPA 504.1	Bottle for QC (2)
					-03G	CLAB	EPA 508 PCB	EPA 508
					-03H	CLAB	EPA 508 PCB	Bottle for QC (1)
					-03I	CLAB	EPA 515.3	EPA 515.3
					-03J	CLAB	EPA 515.3	Bottle for QC (1)
					-03K	CLAB	EPA 531.1	EPA 531.1
					-03L	CLAB	EPA 547 Glyphosate	EPA 547
					-03M	CLAB	EPA 548.1 Endothal	EPA 548.1
					-03N	CLAB	EPA 549.2 Diquat	EPA 549.2
					-03O	CLAB	EPA 524.2	EPA 524.2
					-03P	CLAB	EPA 524.2	Bottle for QC (2)
					-03Q	CLAB	EPA 524.2	Bottle for QC (2)
-03A	PLSTL	MBAS-W	SM 6540 C-2011					
-03B	PLSTS	EPA 314 Perchlorate	EPA 314.0					

Comments: For 508, please report arachnids and total PCBs only. Please comply with 48-hour hold time for MBAS. No reporting to DDW via Writeon/CLIP required.

11/02/2021	10:00	C002420-09	FIELD QC - COLLECTION QC	Drinking Water	-09A	CLAB	EPA 504.1	EPA 504.1
					-09B	CLAB	EPA 504.1	Bottle for QC (2)

Comments: 504 Trip Blank



21K0530



East Bay Municipal Utility District Laboratory Services Subcontract Chain of Custody

COC #: C002420	Project Title: Bayside Ground Water Project	Lab PM: Kristi Schwab (510) 287-1696 Shipping Method: Alpha Courier	Sampled By: J. Marshak
	TAT: Standard	PO#: 934-37431-AX Expiration: 6/30/2021	Submitted Date:

11/02/2021	10:02	C002420-10	FIELD QC - COLLECTION QC	Drinking Water	-10A	CLAB	EPA 524.2	EPA 524.2
					-10B	CLAB	+NO ANALYSIS	
					-10C	CLAB	+NO ANALYSIS	

Comments:

Total containers received: 20

	Signature	Print Name	Time	Date
Relinquished by:	<i>Lauren Brougham</i>	Lauren Brougham	1655	11-2-2021
Received by:	<i>Jessie Roberts</i>	Jessie Roberts	1700	11-2-21
Relinquished by:		JE	2330	11-2-21
Received by:		JE	2330	11-2-21
Relinquished by:				
Received by:				

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

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



wko_UKtoNB_COC.rpt

WORK ORDER

Printed: 11/3/2021 12:13:04PM

21K0530

Alpha Analytical Laboratories Ukiah to North Bay Chain of Custody

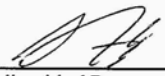

Client: EBMUD	Client Code: RP_EBMUD	Bid: 1_Master Price Sheet
Project: Bayside Ground Water Project WDR	Project Number: C002420	PO #: 934-37431-AX

Date Due: 11/17/21 15:00 (10 day TAT)
 Received By: James E. Eubanks Date Received: 11/02/21 23:30
 Logged In By: Sean Foley Date Logged: 11/03/21 12:00

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

Analysis	Department	Expires	Comments
21K0530-01 C002420-03 [Water]	Sampled 11/02/21 09:55		
NB Perchlorate EPA 314.0	NB Wet Chem	11/30/21 23:59	

Containers Supplied:
500mL Poly Unpres (J)

 11-3-21 7:45
 Relinquished By _____ Date _____ Time _____ Received By _____ Date _____ Time _____
 11/4/21 12:35
 Relinquished By _____ Date _____ Time _____ Received By _____ Date _____ Time _____



FGL
ENVIRONMENTAL AGRICULTURAL
Analytical Chemists

December 16, 2021

East Bay Municipal Utility Dist.
Nirmela Arsem, Laboratory Manager
Post Office Box 24055, MS #59
Oakland, CA 94623

Lab ID : SP 2115758
Customer : 2-14973

Laboratory Report

Introduction: This report package contains total of 7 pages divided into 3 sections:

- Case Narrative (2 pages) : An overview of the work performed at FGL.
- Sample Results (2 pages) : Results for each sample submitted.
- Quality Control (3 pages) : Supporting Quality Control (QC) results.

Case Narrative

This Case Narrative pertains to the following samples:

Sample Description	Date Sampled	Date Received	FGL Lab ID #	Matrix
C002420-07	11/02/2021	11/04/2021	SP 2115758-001	DW

Sampling and Receipt Information: All samples were received in acceptable condition and within temperature requirements, unless noted on the Condition Upon Receipt (CUR) form. All samples arrived on ice. All samples were prepared and analyzed within the method specified hold time. All samples were checked for pH if acid or base preservation is required (except for VOAs). For details of sample receipt information, please see the attached Chain of Custody and Condition Upon Receipt Form.

Quality Control: All samples were prepared and analyzed according to the following tables:

Inorganic - Metals QC

200.8	11/04/2021:217410 All analysis quality controls are within established criteria
	11/04/2021:212885 All preparation quality controls are within established criteria (performed at FGL-SP ELAP# 1573)

Radio QC

900.0	11/12/2021:217723 All analysis quality controls are within established criteria
	11/08/2021:212977 All preparation quality controls are within established criteria (performed at FGL-SP ELAP# 1573)
903.0	11/24/2021:218378 All analysis quality controls are within established criteria
	11/16/2021:213023 All preparation quality controls are within established criteria (performed at FGL-SP ELAP# 1573)

Page 1 of 7

Corporate Offices & Laboratory 853 Corporation Street Santa Paula, CA 93060 TEL: (805)392-2000 Env FAX: (805)525-4172 / Ag FAX: (805)392-2063 CA ELAP Certification No. 1573	Office & Laboratory 2500 Stagecoach Road Stockton, CA 95215 TEL: (209)942-0182 FAX: (209)942-0423 CA ELAP Certification No. 1563	Office & Laboratory 563 E. Lindo Avenue Chico, CA 95926 TEL: (530)343-5818 FAX: (530)343-3807 CA ELAP Certification No. 2670	Office & Laboratory 3442 Empresa Drive, Suite D San Luis Obispo, CA 93401 TEL: (805)783-2940 FAX: (805)783-2912 CA ELAP Certification No. 2775	Office & Laboratory 9415 W. Goshen Avenue Visalia, CA 93281 TEL: (559)734-8473 FAX: (559)734-8435 CA ELAP Certification No. 2811
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December 16, 2021
 East Bay Municipal Utility Dist.

Lab ID : SP 2115758
 Customer : 2-14973

Radio QC


906.0	12/01/2021:218629 All analysis quality controls are within established criteria
	11/29/2021:213786 All preparation quality controls are within established criteria (performed at FGL-SP ELAP# 1573)
Ra - 05	11/28/2021:218693 All analysis quality controls are within established criteria
	11/22/2021:213417 All preparation quality controls are within established criteria (performed at FGL-SP ELAP# 1573)

Discussion of Analytical Results: -

Radon sample submitted, but analysis could not be completed due to instrument malfunction . Customer elected not to re-sample.

Certification:: I certify that this data package is in compliance with ELAP standards, both technically and for completeness, except for any conditions listed above. Release of the data contained in this data package is authorized by the Laboratory Director or his designee, as verified by the following electronic signature.

KD:MKH

Approved By **Kelly A. Dunnahoo, B.S.**  Digitally signed by Kelly A. Dunnahoo, B.S.
 Title: Laboratory Manager
 Date: 2021.12.16



FGL
ENVIRONMENTAL AGRICULTURAL
Analytical Chemists

December 16, 2021

Lab ID : SP 2115758-001
Customer ID : 2-14973

East Bay Municipal Utility Dist.
Nirmela Arsem, Laboratory Manager
Post Office Box 24055, MS #59
Oakland, CA 94623

Sampled On : November 2, 2021-10:30
Sampled By : J Marshak
Received On : November 4, 2021-12:00
Matrix : Drinking Water

Description : C002420-07
Project : COC 002420

Sample Result - Inorganic

Constituent	Result	PQL	Units	MCL/AL	Sample Preparation		Sample Analysis	
					Method	Date/ID	Method	Date/ID
Metals, Total								
Uranium	ND	0.67	pCi/L	20	200.8	11/04/21:212885	200.8	11/04/21:217410

ND - Non-Detected. PQL - Practical Quantitation Limit. * PQL adjusted for dilution.
MCL - Maximum Contamination Level. 2 - Secondary Standard. 3 - CDPH Notification Level. AL - Regulatory Action Level.

Corporate Offices & Laboratory	Office & Laboratory	Office & Laboratory	Office & Laboratory	Office & Laboratory
853 Corporation Street Santa Paula, CA 93060 TEL: (805)392-2000 Env FAX: (805)525-4172 / Ag FAX: (805)392-2063 CA ELAP Certification No. 1573	2500 Stagecoach Road Stockton, CA 95215 TEL: (209)942-0182 FAX: (209)942-0423 CA ELAP Certification No. 1563	563 E. Lindo Avenue Chico, CA 95926 TEL: (530)343-5818 FAX: (530)343-3807 CA ELAP Certification No. 2670	3442 Empresa Drive, Suite D San Luis Obispo, CA 93401 TEL: (805)783-2940 FAX: (805)783-2912 CA ELAP Certification No. 2775	9415 W. Goshen Avenue Visalia, CA 93281 TEL: (559)734-8473 FAX: (559)734-8435 CA ELAP Certification No. 2811



FGL
ENVIRONMENTAL AGRICULTURAL
Analytical Chemists

December 16, 2021

Lab ID : SP 2115758-001
Customer ID : 2-14973

East Bay Municipal Utility Dist.
Nirmela Arsem, Laboratory Manager
Post Office Box 24055, MS #59
Oakland, CA 94623

Sampled On : November 2, 2021-10:30
Sampled By : J Marshak
Received On : November 4, 2021-12:00
Matrix : Drinking Water

Description : C002420-07
Project : COC 002420

Sample Result - Radio

Constituent	Result ± Error	MDA	Units	MCL/AL	Sample Preparation		Sample Analysis	
					Method	Date/ID	Method	Date/ID
Radio Chemistry								
Gross Alpha	0.545 ± 0.603	0.941	pCi/L	15/5	900.0	11/08/21-08:00 2P2112977	900.0	11/12/21-14:57 2A2117725
Gross Beta	0.377 ± 0.550	0.788	pCi/L	50	900.0	11/08/21-08:00 2P2112977	900.0	11/12/21-14:57 2A2117725
Total Alpha Radium (226)	0.224 ± 0.147	0.369	pCi/L		903.0	11/16/21-17:40 2P2113023	903.0	11/24/21-10:55 2A2118378
Tritium	272 ± 274	434	pCi/L	20000	906.0	11/29/21-10:30 2P2113786	906.0	12/01/21-08:55 2A2118629
Ra 228	0.083 ± 0.591	0.624	pCi/L		Ra - 05	11/22/21-16:30 2P2113417	Ra - 05	11/28/21-15:10 2A2118693

ND=Non-Detected, PQL=Practical Quantitation Limit. * PQL adjusted for dilution.

MDA = Minimum Detectable Activity (Calculated at the 95% confidence level) = Data utilized by DHS to determine matrix interference.
MCL / AL = Maximum Contamination Level / Action Level. Alpha's Action Level of 5 pCi/L is based on the Assigned Value (AV).
AV = Assigned Value(Gross Alpha Result + (0.84 x Error)). CCR Section 64442: Drinking Water Compliance Note: Do the following if Gross Alpha's (AV) exceeds 5 pCi/L run Uranium. If Gross Alpha's (AV) minus Uranium exceeds 5 pCi/L run Radium 226.

Drinking Water Compliance:
Gross Alpha (AV) minus Uranium is less than or equal to 15 pCi/L
Uranium is less than or equal to 20 pCi/L
Radium 226 + Radium 228 is less than or equal to 5 pCi/L

Note: Samples are held for 3-6 months prior to disposal.



December 16, 2021
East Bay Municipal Utility Dist.

Lab ID : SP 2115758
Customer : 2-14973

Quality Control - Radio

Constituent	Method	Date/ID	Type	Units	Conc.	QC Data	DQO	Note
Radio Alpha	900.0	11/12/21:217723JCA	CCV	cpm	7310	42.5 %	35-47	
			CCB	cpm		0.100	0.15	
Beta	900.0	11/12/21:217723JCA	CCV	cpm	7310	94.3 %	83-94	
			CCB	cpm		0.480	0.5	
Gross Alpha	900.0	11/08/21:212977ejc (SP 2115758-001)	Blank	pCi/L		0.34	3	
			LCS	pCi/L	201.1	76.5 %	75-125	
			MS	pCi/L	201.1	77.2 %	60-140	
			MSD	pCi/L	201.1	78.1 %	60-140	
			MSRPD	pCi/L	201.1	1.1%	≤30	
Gross Beta	900.0	11/08/21:212977ejc (SP 2115758-001)	Blank	pCi/L		1.39	4	
			LCS	pCi/L	35.12	119 %	84-160	
			MS	pCi/L	35.12	109 %	80-130	
			MSD	pCi/L	35.12	111 %	80-130	
			MSRPD	pCi/L	201.1	1.8%	≤30	
Alpha	903.0	11/24/21:218378JCA	CCV	cpm	7631	40.9 %	37-46	
Total Alpha Radium (226)	903.0	11/16/21:213023emv	CCB	cpm		0.100	0.17	
			RgBlk	pCi/L		0.02	2	
			LCS	pCi/L	24.38	57.0 %	52-107	
			BS	pCi/L	24.38	53.8 %	43-111	
			BSD	pCi/L	24.38	54.2 %	43-111	
			BSRPD	pCi/L	24.38	0.7%	≤35.5	
Trinium	906.0	11/29/21:213786jca	Blank	pCi/L		21	<300	
			LCS	pCi/L	1542	104 %	75-125	
			BS	pCi/L	1542	103 %	75-125	
			BSD	pCi/L	1542	104 %	75-125	
			BSRPD	pCi/L	1542	0.5%	≤25	
	906.0	12/01/21:218629JCA	CCV	pCi/L	22500	103 %	90-110	
Beta	Ra - 05	11/28/21:218693emv	CCV	cpm	7629	92.5 %	84-94	
			CCB	cpm		0.400	0.5	
Ra 228	Ra - 05	11/22/21:213417emv	RgBlk	pCi/L		-0.21	3	
			LRS	pCi/L	14.10	82.0 %	65-108	
			BS	pCi/L	14.10	86.5 %	75-125	
			BSD	pCi/L	14.10	93.8 %	75-125	
			BSRPD	pCi/L	14.10	1.0	≤3	

Definition	
CCV	: Continuing Calibration Verification - Analyzed to verify the instrument calibration is within criteria.
CCB	: Continuing Calibration Blank - Analyzed to verify the instrument baseline is within criteria.
Blank	: Method Blank - Prepared to verify that the preparation process is not contributing contamination to the samples.
RgBlk	: Method Reagent Blank - Prepared to correct for any reagent contributions to sample result.
LCS	: Laboratory Control Standard/Sample - Prepared to verify that the preparation process is not affecting analyte recovery.
LRS	: Laboratory Recovery Standard - Prepared to establish the batch recovery factor used in result calculations.
MS	: Matrix Spikes - A random sample is spiked with a known amount of analyte. The recoveries are an indication of how that sample matrix affects analyte recovery.
MSD	: Matrix Spike Duplicate of MS/MSD pair - A random sample duplicate is spiked with a known amount of analyte. The recoveries are an indication of how that sample matrix affects analyte recovery.
BS	: Blank Spikes - A blank is spiked with a known amount of analyte. It is prepared to verify that the preparation process is not affecting analyte recovery.
BSD	: Blank Spike Duplicate of BS/BSD pair - A blank duplicate is spiked with a known amount of analyte. It is prepared to verify that the preparation process is not affecting analyte recovery.
MSRPD	: MS/MSD Relative Percent Difference (RPD) - The MS relative percent difference is an indication of precision for the preparation and analysis.
BSRPD	: BS/BSD Relative Percent Difference (RPD) - The BS relative percent difference is an indication of precision for the preparation and analysis.
ND	: Non-detect - Result was below the DQO listed for the analyte.

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853 Corporation Street Santa Paula, CA 93060 TEL: (805)392-2000 Env FAX: (805)525-4172 / Ag FAX: (805)392-2063 CA ELAP Certification No. 1573	2500 Stagecoach Road Stockton, CA 95215 TEL: (209)942-0192 FAX: (209)942-0423 CA ELAP Certification No. 1563	563 E. Lindo Avenue Chico, CA 95926 TEL: (530)343-5818 FAX: (530)343-3807 CA ELAP Certification No. 2670	3442 Empresa Drive, Suite D San Luis Obispo, CA 93401 TEL: (805)783-2940 FAX: (805)783-2912 CA ELAP Certification No. 2775	9415 W. Goshen Avenue Visalia, CA 93281 TEL: (559)734-8473 FAX: (559)734-8435 CA ELAP Certification No. 2810



December 16, 2021
East Bay Municipal Utility Dist.

Lab ID : SP 2115758
Customer : 2-14973

Quality Control - Radio

Definition DQO : Data Quality Objective - This is the criteria against which the quality control data is compared.
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December 16, 2021
 East Bay Municipal Utility Dist.

Lab ID : SP 2115758
 Customer : 2-14973

Quality Control - Inorganic

Constituent	Method	Date/ID	Type	Units	Conc.	QC Data	DQO	Note
Metals Uranium	200.8	(STK2155922-001)	MS	ug/L	5.000	102 %	75-125	
			MSD	ug/L	5.000	98.9 %	75-125	
			MSRPD	ug/L	5.000	1.4%	≤20	
	200.8	11/04/21:217410AC	CCV	ppb	120.0	99.1 %	90-110	
			CCB	ppb		0.003	0.2	
			CCV	ppb	120.0	101 %	90-110	
			CCB	ppb		0.005	0.2	
Definition								
CCV : Continuing Calibration Verification - Analyzed to verify the instrument calibration is within criteria.								
CCB : Continuing Calibration Blank - Analyzed to verify the instrument baseline is within criteria.								
MS : Matrix Spikes - A random sample is spiked with a known amount of analyte. The recoveries are an indication of how that sample matrix affects analyte recovery.								
MSD : Matrix Spike Duplicate of MS/MSD pair - A random sample duplicate is spiked with a known amount of analyte. The recoveries are an indication of how that sample matrix affects analyte recovery.								
MSRPD : MS/MSD Relative Percent Difference (RPD) - The MS relative percent difference is an indication of precision for the preparation and analysis.								
DQO : Data Quality Objective - This is the criteria against which the quality control data is compared.								



FGL
ENVIRONMENTAL AGRICULTURAL
Analytical Chemists

January 14, 2022

East Bay Municipal Utility Dist.
Yuyun Shang, Laboratory Manager
Post Office Box 24055, MS #59
Oakland, CA 94623

Subject: Subcontract Analysis for FGL Lab No. SP 2115758

Enclosed please find results for the following sample(s) which were received by FGL.

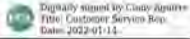
- Sub Contracted-Strontium 90

Please note that this analysis was performed by Pace Analytical (ELAP Certified Laboratory)

Thank you for using FGL Environmental.

Sincerely,

Cindy Aguirre



Enclosure

Corporate Offices & Laboratory 853 Corporation Street Santa Paula, CA 93060 TEL: (805)392-2000 Env FAX: (805)525-4172 / Ag FAX: (805)392-2063 CA ELAP Certification No. 1573	Office & Laboratory 2500 Stagecoach Road Stockton, CA 95215 TEL: (209)942-0182 FAX: (209)942-0423 CA ELAP Certification No. 1563	Office & Laboratory 563 E. Lindo Avenue Chico, CA 95926 TEL: (530)343-5818 FAX: (530)343-3807 CA ELAP Certification No. 2670	Office & Laboratory 3442 Empresa Drive, Suite D San Luis Obispo, CA 93401 TEL: (805)783-2940 FAX: (805)783-2912 CA ELAP Certification No. 2775	Office & Laboratory 9415 W. Goshen Avenue Visalia, CA 93281 TEL: (559)734-8473 FAX: (559)734-8435 CA ELAP Certification No. 2811
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Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

January 14, 2022

Cindy Aguirre
FGL Environmental, Inc.
853 Corporation St.
Santa Paula, CA 930603005

RE: Project: SP 2115758
Pace Project No.: 30456033

Dear Cindy Aguirre:

Enclosed are the analytical results for sample(s) received by the laboratory on November 12, 2021. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network:
• Pace Analytical Services - Greensburg

If you have any questions concerning this report, please feel free to contact me:

Sincerely,

Karen L. Smetanka
karen.smetanka@pacelabs.com
(724)850-5600
Project Manager

Enclosures

cc: loginsp@fglinc.com, FGL Environmental, Inc.



REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

CERTIFICATIONS

Project: SP 2115758
Pace Project No.: 30456033

Pace Analytical Services Pennsylvania
1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601
ANAB DOD-ELAP Rad Accreditation #: L2417
Alabama Certification #: 41590
Arizona Certification #: AZ0734
Arkansas Certification
California Certification #: 04222CA
Colorado Certification #: PA01547
Connecticut Certification #: PH-0694
Delaware Certification
EPA Region 4 DW Rad
Florida/TNI Certification #: E87683
Georgia Certification #: C040
Florida: Cert E871149 SEKS WET
Guam Certification
Hawaii Certification
Idaho Certification
Illinois Certification
Indiana Certification
Iowa Certification #: 391
Kansas/TNI Certification #: E-10358
Kentucky Certification #: KY90133
KY WW Permit #: KY0098221
KY WW Permit #: KY0000221
Louisiana DHH/TNI Certification #: LA180012
Louisiana DEQ/TNI Certification #: 4086
Maine Certification #: 2017020
Maryland Certification #: 308
Massachusetts Certification #: M-PA1457
Michigan/PADEP Certification #: 9991

Missouri Certification #: 235
Montana Certification #: Cert0082
Nebraska Certification #: NE-OS-29-14
Nevada Certification #: PA014572018-1
New Hampshire/TNI Certification #: 297617
New Jersey/TNI Certification #: PA051
New Mexico Certification #: PA01457
New York/TNI Certification #: 10888
North Carolina Certification #: 42706
North Dakota Certification #: R-190
Ohio EPA Rad Approval: #41249
Oregon/TNI Certification #: PA200002-010
Pennsylvania/TNI Certification #: 65-00282
Puerto Rico Certification #: PA01457
Rhode Island Certification #: 65-00282
South Dakota Certification
Tennessee Certification #: 02867
Texas/TNI Certification #: T104704188-17-3
Utah/TNI Certification #: PA014572017-9
USDA Soil Permit #: P330-17-00091
Vermont Dept. of Health: ID# VT-0282
Virgin Island/PADEP Certification
Virginia/VELAP Certification #: 9526
Washington Certification #: C868
West Virginia DEP Certification #: 143
West Virginia DHHR Certification #: 9964C
Wisconsin Approve List for Rad
Wyoming Certification #: 8TMS-L

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Greensburg, PA 15601
(724)850-5600

SAMPLE SUMMARY

Project: SP 2115758
Pace Project No.: 30456033

Lab ID	Sample ID	Matrix	Date Collected	Date Received
30456033001	C002420-07	Drinking Water	11/02/21 10:30	11/12/21 10:10

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 Greensburg, PA 15601
 (724)850-5600

SAMPLE ANALYTE COUNT

Project: SP 2115758
 Pace Project No.: 30456033

Lab ID	Sample ID	Method	Analysts	Analytes Reported
30456033001	C002420-07	EPA 905.0	JJY	1

PASI-PA = Pace Analytical Services - Greensburg

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: SP 2115758
Pace Project No.: 30456033

Sample: C002420-07 Lab ID: 30456033001 Collected: 11/02/21 10:30 Received: 11/12/21 10:10 Matrix: Drinking Water
PWS: Site ID: Sample Type:

Comments: • The sampler's signature were not listed on the COC.

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Pace Analytical Services - Greensburg						
Strontium-90	EPA 905.0	0.184 ± 0.156 (0.319) C:96% T:NA	pCi/L	01/14/22 06:29	10098-97-2	

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Greensburg, PA 15601
(724)850-5600

QUALITY CONTROL - RADIOCHEMISTRY

Project: SP 2115758
Pace Project No.: 30456033

QC Batch: 477393 Analysis Method: EPA 905.0
QC Batch Method: EPA 905.0 Analysis Description: 905.0 Strontium 89/90
Laboratory: Pace Analytical Services - Greensburg

Associated Lab Samples: 30456033001

METHOD BLANK: 2306745 Matrix: Water

Associated Lab Samples: 30456033001

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Strontium-90	0.113 ± 0.166 (0.370) C:86% T:NA	pCi/L	01/14/22 06:29	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

QUALIFIERS

Project: SP 2115758
Pace Project No.: 30456033

DEFINITIONS

- DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.
- ND - Not Detected at or above adjusted reporting limit.
- TNTC - Too Numerous To Count
- J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.
- MDL - Adjusted Method Detection Limit.
- PQL - Practical Quantitation Limit.
- RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.
- S - Surrogate
1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.
- Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.
- LCS(D) - Laboratory Control Sample (Duplicate)
- MS(D) - Matrix Spike (Duplicate)
- DUP - Sample Duplicate
- RPD - Relative Percent Difference
- NC - Not Calculable.
- SG - Silica Gel - Clean-Up
- U - Indicates the compound was analyzed for, but not detected.
- N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.
- Reported results are not rounded until the final step prior to reporting. Therefore, calculated parameters that are typically reported as "Total" may vary slightly from the sum of the reported component parameters.
- Act - Activity
- Unc - Uncertainty: For Safe Drinking Water Act (SDWA) analyses, the reported Unc. is the calculated Count Uncertainty (95% confidence interval) using a coverage factor of 1.96. For all other matrices (non-SDWA), the reported Unc. is the calculated Expanded Uncertainty (aka Combined Standard Uncertainty, CSU), reported at the 95% confidence interval using a coverage factor of 1.96.
- Gamma Spec: The Unc. reported for all gamma-spectroscopy analyses (EPA 901.1), is the calculated Expanded Uncertainty (CSU) at the 95.4% confidence interval, using a coverage factor of 2.0.
- (MDC) - Minimum Detectable Concentration
- Trac - Tracer Recovery (%)
- Carr - Carrier Recovery (%)
- Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.
- TNI - The NELAC Institute.

REPORT OF LABORATORY ANALYSIS

Date: 01/14/2022 05:14 PM

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Page 7 of 9



Pittsburgh Lab Sample Condition Upon Receipt



Client Name: Fruit Growers Project # 30456033

Courier: Fed Ex UPS USPS Client Commercial Pace Other _____

Tracking #: 1Z9920311359501255

Label _____
LIMS Login _____

Custody Seal on Cooler/Box Present: yes no Seals intact: yes no

Thermometer Used N/A Type of Ice: Wet Blue None

Cooler Temperature Observed Temp _____ °C Correction Factor: _____ °C Final Temp: _____ °C
Temp should be above freezing to 6°C

Comments:	Yes	No	N/A	pH paper Lot#	Date and initials of person examining contents:
				<u>1002911</u>	<u>12/21/21 PAE</u>
Chain of Custody Present:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1.	
Chain of Custody Filled Out:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	2.	
Chain of Custody Relinquished:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	3.	
Sampler Name & Signature on COC:	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	4.	<u>NO sampler signature on COC</u>
Sample Labels match COC:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	5.	
-Includes date/time/ID Matrix: <u>DW/LWT</u>					
Samples Arrived within Hold Time:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	6.	
Short Hold Time Analysis (<72hr remaining):	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	7.	
Rush Turn Around Time Requested:	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	8.	
Sufficient Volume:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	9.	
Correct Containers Used:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	10.	
-Pace Containers Used:	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
Containers Intact:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	11.	
Orthophosphate field filtered	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	12.	
Hex Cr Aqueous sample field filtered	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	13.	
Organic Samples checked for dechlorination:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	14.	
Filtered volume received for Dissolved tests	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	15.	
All containers have been checked for preservation.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	16.	
exceptions: VOA, coliform, TOC, O&G, Phenolics, Radon, Non-aqueous matrix					
All containers meet method preservation requirements.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Initial when completed	Date/time of preservation
				<u>PAE</u>	
				Lot # of added preservative	
Headspace in VOA Vials (>6mm):	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	17.	
Trip Blank Present:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	18.	
Trip Blank Custody Seals Present	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
Rad Samples Screened < 0.5 mrem/hr	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Initial when completed:	Date: <u>12/20/21</u> Survey Meter SN: <u>1563</u>
				<u>PAE</u>	

WO# : 30456033
 PM: KLS Due Date: 12/07/21
 CLIENT: FGL

Client Notification/ Resolution:

Person Contacted: _____ Date/Time: _____ Contacted By: _____

Comments/ Resolution: _____

A check in this box indicates that additional information has been stored in ereports.

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

*PM review is documented electronically in LIMS. When the Project Manager closes the SRF Review schedule in LIMS. The review is in the Status section of the Workorder Edit Screen.



East Bay Municipal Utility District Laboratory Services Subcontract Chain of Custody **2115758**

COC #: C002420	Project Title: Bayside Ground Water Project	Lab PM: Kristi Schwab (510) 287-1696 Shipping Method: Fed Ex	Sampled By: J. Marshak
	TAT: Standard	PO#: 933-22629-AX Expiration: 12/31/2021	Submitted Date: 11/3/21

Date	Time	Sample ID	Location/PS Code	Matrix	Container ID	Type	Tests Required	Method Reference
11/02/2021	10:30	C002420-07	WTP BAYSIDE - BAY WELL HEAD	Drinking Water	-07A	A250	Tritium	EPA 906.0
					-07D	A250	Tritium	Bottle for QC (1)
					-07E	PLSTL	Gross Alpha/Beta	EPA 900.0
					-07F	PLSTL	Gross Alpha/Beta	Bottle for QC (1)
					-07L	PLSTL	Gross Alpha/Beta	Bottle for QC (1)
					-07M	PLSTL	Radium 226	EPA 903.0, 903.1, 904.0
					-07N	PLSTL	Radium 228	EPA 903.0, 903.1, 904.0
					-07O	PLSTL	Strontium-90	EPA 905.0
					-07P	PLSTL	Uranium	EPA 908.0
					-07B	VOC4	Radon	EPA 913.0
Comments: Monitoring and analysis for compliance with CCR Title 22, Sections 64442 and 64443. System is a Community Water System (CWS). Please provide extended report with prep and analysis dates and times. No reporting to DDW via Writeon/CLIP required.					Total containers received: 10			

Signature	Print Name	Time	Date
Relinquished by:	<i>Kristi Schwab</i>	1500	11/2/21
Received by:			
Relinquished by:			
Received by: <i>Adex</i>	<i>11/04/21</i>	<i>1200</i>	<i>ORA</i>
Relinquished by:			
Received by:			

Send results and invoice to:



East Bay Municipal Utility District Laboratory Services Subcontract Chain of Custody

COC #: C002420	Project Title: Bayside Ground Water Project	Lab PM: Kristi Schwab (510) 287-1696 Shipping Method: Fed Ex	Sampled By: J. Marshak
	TAT: Standard	PO#: 933-22629-AX Expiration: 12/31/2021	Submitted Date: 11/3/21

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.
FGL Environmental Agricultural
853 Corporation Street
Santa Paula, CA 93060
805-392-2000

fele 11/4/21 12
OKA



FGL Environmental
Revision Date: 10/09/14

Doc ID: 2D0900157_SOP_17.DOC
Page: 1 of 1

Condition Upon Receipt (Attach to COC) SP 2115758

Sample Receipt at SP:

- 1. Number of ice chests/packages received: 1
2. Shipper tracking numbers
3. Were samples received in a chilled condition?
Temps: ROI / / / / / / /

4. Surface water (SWTR) bact samples: A sample that has a temperature upon receipt of >10C, whether iced or not, should be flagged unless the time since sample collection has been less than two hours.

- 5. Do the number of bottles received agree with the COC? Yes No N/A
6. Verify sample date, time, sampler Yes No N/A
7. Were the samples received intact? (i.e. no broken bottles, leaks, etc.) Yes No
8. Were sample custody seals intact? Yes No N/A

Sample Verification, Labeling and Distribution:

- 1. Were all requested analyses understood and acceptable? Yes No
2. Did bottle labels correspond with the client's ID's? Yes No
3. Were all bottles requiring sample preservation properly preserved? Yes No N/A FGL
[Exception: Oil & Grease, VOA and CrVI verified in lab]
4. VOAs checked for Headspace? Yes No N/A
5. Were all analyses within holding times at time of receipt? Yes No
6. Have rush or project due dates been checked and accepted? Yes No N/A

Include a copy of the COC for lab delivery. (Bacti, Inorganics and Radio)

Sample Receipt, Login and Verification completed by: Reviewed and Approved By Celina Acosta
Digitally signed by Celina Acosta
Title: Sample Receiving
Date: 12/16/2021 09:30:24

Discrepancy Documentation:

Any items above which are "No" or do not meet specifications (i.e. temps) must be resolved.

- 1. Person Contacted: Phone Number:
Initiated By: Date:
Problem:
Resolution:
2. Person Contacted: Phone Number:
Initiated By: Date:
Problem:
Resolution:

(2014973)
East Bay Municipal Utility Dist.
SP 2115758
CRA-11/16/2021-09:30:24



Test Report



December 7, 2021

FAL Project ID: 14112

Ms. Kristi Schwab
EBMUD Laboratory
P.O. Box 24055 MS #59
Oakland, CA 94623

Dear Ms. Schwab,

The following results are associated with Frontier Analytical Laboratory project **14112**. This corresponds to your project **C002420**. One drinking water sample was received on 11/4/2021 in good condition. This sample was extracted and analyzed by EPA Method 1613 for 2,3,7,8-TCDD only.

The following Level I report consists of an Analytical Data section and a Sample Receipt section. The Analytical Data section contains our sample tracking log and the analytical results. The Sample Receipt section contains your chain of custody, our sample login form and a sample photo. The attached results and electronic data deliverable (EDD) are specifically for the sample referenced in this report only. These results meet all National Environmental Laboratory Accreditation Program (NELAP) requirements and shall not be reproduced except in full. Frontier Analytical Laboratory's State of Oregon NELAP certificate number is **4041**. Our State of California ELAP certificate number is **2934**. This report and the associated EDD have been emailed to you as a portable document format (PDF) file. A hardcopy will not be sent to you unless specifically requested.

If you have any questions regarding project **14112**, please contact me at (916) 934-0900. Thank you for choosing Frontier Analytical Laboratory for your analytical testing needs.

Sincerely,

Bradley B. Silverbush
Laboratory Director

FRONTIER ANALYTICAL LABORATORY
5172 Hillisdale Circle • El Dorado Hills, CA 95762
Tel: (916) 934-0900 • Fax: (916) 934-0909
www.frontieranalytical.com



Frontier Analytical Laboratory

Sample Tracking Log

FAL Project ID: **14112**

Received on: **11/04/2021**

Project Due: **12/03/2021**

Storage: **R-3**

FAL Sample ID	Dup	Client Project ID	Client Sample ID	Requested Method	Matrix	Sampling Date	Sampling Time	Hold Time Due Date
14112-001-SA	1	C002420	C002420-04	EPA 1613 TCDD	Drinking Water	11/02/2021	10:15 am	11/02/2022



EPA Method 1613
TCDD



FAL ID: 14112-001-MB
Client ID: Method Blank
Matrix: Drinking Water
Batch No: X5915

Date Extracted: 12-02-2021
Date Received: NA
Amount: 1.000 L

ICal: PCDDFAL4-4-21-21
GC Column: DB5MS
Units: pg/L


Acquired: 12-06-2021
WHO TEQ: NA


Compound	Conc	DL	Qual	MDL
2,3,7,8-TCDD	ND	1.18		0.474

Internal Standards	% Rec	QC Limits	Qual
13C-2,3,7,8-TCDD	78.0	31.0 - 137	

Cleanup Surrogate	% Rec	QC Limits	Qual
37Cl-2,3,7,8-TCDD	77.3	42.0 - 164	

- A Isotopic Labeled Standard outside QC range but signal to noise ratio is >10:1
- B Analyte is present in Method Blank
- C Chemical Interference
- D Presence of Diphenyl Ethers
- DNQ Analyte concentration is below calibration range
- E Analyte concentration is above calibration range
- F Analyte confirmation on secondary column
- J Analyte concentration is below calibration range
- M Maximum possible concentration
- ND Analyte Not Detected at Detection Limit Level
- NP Not Provided
- P Pre-filtered through a Whatman 0.7um GF/F filter
- S Sample acceptance criteria not met
- X Matrix interferences
- * Result taken from dilution or reinjection

Analyst: 
Date: 12/7/2021

Reviewed By: 
Date: 12/7/2021



EPA Method 1613
TCDD



FAL ID: 14112-001-OPR
Client ID: OPR
Matrix: Drinking Water
Batch No: X5915

Date Extracted: 12-02-2021
Date Received: NA
Amount: 1.000 L

ICal: PCDDFAL4-4-21-21
GC Column: DB5MS
Units: ng/ml

Acquired: 12-06-2021
WHO TEQ: NA

Compound	Conc	QC Limits
2,3,7,8-TCDD	10.1	7.30 - 14.6
Internal Standards	% Rec	QC Limits
13C-2,3,7,8-TCDD	68.8	25.0 - 141
Cleanup Surrogate		
37Cl-2,3,7,8-TCDD	70.0	37.0 - 158

- A Isotopic Labeled Standard outside QC range but signal to noise ratio is >10:1
- B Analyte is present in Method Blank
- C Chemical Interference
- D Presence of Diphenyl Ethers
- DNQ Analyte concentration is below calibration range
- E Analyte concentration is above calibration range
- F Analyte confirmation on secondary column
- J Analyte concentration is below calibration range
- M Maximum possible concentration
- ND Analyte Not Detected at Detection Limit Level
- NP Not Provided
- P Pre-filtered through a Whatman 0.7um GF/F filter
- S Sample acceptance criteria not met
- X Matrix interferences
- * Result taken from dilution or reinjection

Analyst: [Signature]
Date: 12/7/2021

Reviewed By: [Signature]
Date: 12/7/2021



EPA Method 1613
TCDD



FAL ID: 14112-001-SA
Client ID: C002420-04
Matrix: Drinking Water
Batch No. X5915

Date Extracted: 12-02-2021
Date Received: 11-04-2021
Amount: 1.010 L

ICal: PCDDFAL4-4-21-21
GC Column: DB5MS
Units: pg/L


Acquired: 12-06-2021
WHO TEQ: NA


Compound	Conc	DL	Qual	MDL
2,3,7,8-TCDD	ND	1.37		0.474

Internal Standards	% Rec	QC Limits	Qual
13C-2,3,7,8-TCDD	78.5	31.0 - 137	

Cleanup Surrogate	% Rec	QC Limits	Qual
37Cl-2,3,7,8-TCDD	79.5	42.0 - 164	

- A Isotopic Labeled Standard outside QC range but signal to noise ratio is >10:1
- B Analyte is present in Method Blank
- C Chemical Interference
- D Presence of Diphenyl Ethers
- DNQ Analyte concentration is below calibration range
- E Analyte concentration is above calibration range
- F Analyte confirmation on secondary column
- J Analyte concentration is below calibration range
- M Maximum possible concentration
- ND Analyte Not Detected at Detection Limit Level
- NP Not Provided
- P Pre-filtered through a Whatman 0.7um GF/F filter
- S Sample acceptance criteria not met
- X Matrix interferences
- * Result taken from dilution or reinjection

Analyst: 
Date: 12/7/2021

Reviewed By: 
Date: 12/7/2021



East Bay Municipal Utility District Laboratory Services Subcontract Chain of Custody

14112
OOC

COC #: C002420	Project Title: Bayside Ground Water Project	Lab PM: Kristi Schwab (510) 287-1696 Shipping Method: Fed Ex	Sampled By: J. Marshak
	TAT: Standard	PO#: 934-44196-AX Expiration: 12/31/2022	Submitted Date: 11/3/21

Date	Time	Sample ID	Location/PS Code	Matrix	Container ID	Type	Tests Required	Method Reference
11/02/2021	10:15	C002420-04	WTP BAYSIDE - BAY WELL HEAD	Drinking Water	-04A	ANORT	EPA 1613	EPA 1613
					-04B	ANORT	EPA 1613	Bottle for QC (1)
Comments: 1613 for 2,3,7,8-TCDD only. No reporting to DDW via Writeon/CLIP required.								
Total containers received:					2			

	Signature	Print Name	Time	Date
Relinquished by:		Kristi Schwab	1500	11/3/21
Received by:				
Relinquished by:				
Received by:				
Relinquished by:				
Received by:		Kathy Zipp	1030	11/04/2021

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.
Frontier Analytical Laboratory
5172 Hillsdale Circle
El Dorado Hills, CA 95762
916-934-0900



Frontier Analytical Laboratory

Sample Login Form

FAL Project ID: **14112**

Client:	East Bay Municipal Utility District
Client Project ID:	C002420
Date Received:	11/04/2021
Time Received:	10:30 am
Received By:	KZ
Logged In By:	KZ
# of Samples Received:	1
Duplicates:	1
Storage Location:	R-3

Method of Delivery:	Fed-Ex
Tracking Number:	775111778450
Shipping Container Received Intact	Yes
Custody seals(s) present?	No
Custody seals(s) intact?	No
Sample Arrival Temperature (C)	0
Cooling Method	Ice
Chain Of Custody Present?	Yes
Return Shipping Container To Client	No
Test aqueous sample for residual Chlorine	Yes
Sodium Thiosulfate Added	No
Adequate Sample Volume	Yes
Appropriate Sample Container	Yes
pH Range of Aqueous Sample	Between 4 and 9
Anomalies or additional comments:	





FGL
ENVIRONMENTAL AGRICULTURAL
Analytical Chemists

December 16, 2021

East Bay Municipal Utility Dist.
Nirmida Arsem, Laboratory Manager
Post Office Box 24055, MS #59
Oakland, CA 94623

Lab ID : SP 2115758
Customer : 2-14973

Laboratory Report

Introduction: This report package contains total of 7 pages divided into 3 sections:

- Case Narrative (2 pages) : An overview of the work performed at FGL.
- Sample Results (2 pages) : Results for each sample submitted.
- Quality Control (3 pages) : Supporting Quality Control (QC) results.

Case Narrative

This Case Narrative pertains to the following samples:

Sample Description	Date Sampled	Date Received	FGL Lab ID #	Matrix
C002420-07	11/02/2021	11/04/2021	SP 2115758-001	DW

Sampling and Receipt Information: All samples were received in acceptable condition and within temperature requirements, unless noted on the Condition Upon Receipt (CUR) form. All samples arrived on ice. All samples were prepared and analyzed within the method specified hold time. All samples were checked for pH if acid or base preservation is required (except for VOAs). For details of sample receipt information, please see the attached Chain of Custody and Condition Upon Receipt Form.

Quality Control: All samples were prepared and analyzed according to the following tables:

Inorganic - Metals Q C

200.8	11/04/2021:217410 All analysis quality controls are within established criteria
	11/04/2021:212885 All preparation quality controls are within established criteria (performed at FGL-SP ELAP# 1573)

Radio Q C

900.0	11/12/2021:217723 All analysis quality controls are within established criteria
	11/08/2021:212977 All preparation quality controls are within established criteria (performed at FGL-SP ELAP# 1573)
903.0	11/24/2021:218378 All analysis quality controls are within established criteria
	11/16/2021:213023 All preparation quality controls are within established criteria (performed at FGL-SP ELAP# 1573)

Page 1 of 7

Corporate Offices & Laboratory 853 Corporation Street Santa Paula, CA 93060 TEL: (805)392-2000 Env FAX: (805)525-4172 / Ag FAX: (805)392-2063 CA ELAP Certification No. 1573	Office & Laboratory 2500 Stagecoach Road Stockton, CA 95215 TEL: (209)942-0182 FAX: (209)942-0423 CA ELAP Certification No. 1563	Office & Laboratory 563 E. Lindo Avenue Chico, CA 95926 TEL: (530)343-5818 FAX: (530)343-3807 CA ELAP Certification No. 2670	Office & Laboratory 3442 Empresa Drive, Suite D San Luis Obispo, CA 93401 TEL: (805)783-2940 FAX: (805)783-2912 CA ELAP Certification No. 2775	Office & Laboratory 9415 W. Gøthen Avenue Visalia, CA 93291 TEL: (559)734-8473 FAX: (559)734-8435 CA ELAP Certification No. 2810
--	--	--	--	--



December 16, 2021 L
East Bay Municipal Utility Dist.

Lab ID : SP 2115758
Customer : 2-14973

Radio Q C


906.0	12/01/2021:218629 All analysis quality controls are within established criteria
	11/29/2021:213786 All preparation quality controls are within established criteria (perform at FGL-SP ELAP# 1573)
Ra - 05	11/28/2021:218693 All analysis quality controls are within established criteria
	11/22/2021:213417 All preparation quality controls are within established criteria (perform at FGL-SP ELAP# 1573)

Discussion of Analytical Results: -

Radon sample submitted, but analysis could not be completed due to instrument malfunction. Customer elected not to re-sample.

Certification:: I certify that this data package is in compliance with ELAP standards, both technically and for completeness, except for any conditions listed above. Release of the data contained in this data package is authorized by the Laboratory Director or his designee, as verified by the following electronic signature.

KD:MKH

Approved By **Kelly A. Dunnahoo, B.S.**  Digitally signed by Kelly A. Dunnahoo, B.S.
Title: Laboratory Director
Date: 2021-12-16



FGL
ENVIRONMENTAL AGRICULTURAL
Analytical Chemists

December 16, 2021 L
C

ab ID : SP 2115758-001
Customer ID : 2-14973

East Bay Municipal Utility Dist.
Nirmada Arsem, Laboratory Manager
Post Office Box 24055, MS #59
Oakland, CA 94623

Sampled On : November 2, 2021-10:30
Sampled By : J Marshak
Received On : November 4, 2021-12:00
Matrix : Drinking Water

Description : C002420-07
Project : COC 002420

Sample Result - Inorganic

Constituent	Result	PQL	Units	MCL/AL	Sample Preparation		Sample Analysis	
					Method	Date/ID	Method	Date/ID
Metals, Total								
Uranium	ND	0.67	pCi/L	20	200.8	11/04/21-212885	200.8	11/04/21-217410

ND=Non-Detected. PQL=Practical Quantitation Limit. * PQL adjusted for dilution.
MCL = Maximum Contamination Level. 2 - Secondary Standard. 3 - CDPH Notification Level. AL = Regulatory Action Level.

Corporate Offices & Laboratory	Office & Laboratory	Office & Laboratory	Office & Laboratory	Office & Laboratory
853 Corporation Street Sanita Paula, CA 95060 TEL: (805)392-2000 Env FAX: (805)525-4172 / Ag FAX: (805)392-2063 CA ELAP Certification No. 1573	2500 Stagecoach Road Stockton, CA 95215 TEL: (209)942-0182 FAX: (209)942-0423 CA ELAP Certification No. 1563	563 E. Lindo Avenue Chico, CA 95926 TEL: (530)343-5818 FAX: (530)343-3807 CA ELAP Certification No. 2670	3442 Em presa Drive, Suite D San Luis Obispo, CA 93401 TEL: (805)783-2940 FAX: (805)783-2912 CA ELAP Certification No. 2775	9415 W. Goshen Avenue Visalia, CA 93291 TEL: (559)734-8473 FAX: (559)734-8435 CA ELAP Certification No. 2810



FGL
ENVIRO NM ENTAL AGRICULTURAL
Analytical Chemists

December 16, 2021 L
C

ab ID : SP 2115758-001
Custom ID : 2-14973

East Bay Municipal Utility Dist.
Nirm da Arsem, Laboratory Manager
Post Office Box 24055, MS #59
Oakland, CA 94623

Sampled On : November 2, 2021-10:30
Sampled By : J Marshak
Received On : November 4, 2021-12:00
Matrix : Drinking Water

Description : C002420-07
Project : COC 002420

Sample Result - Radio

Constituent	Result ± Error	MDA	Units	MCL/AL	Sample Preparation		Sample Analysis	
					Method	Date/ID	Method	Date/ID
Radio Chemistry								
Gross Alpha	0.545 ± 0.603	0.941	pCi/L	15/5	900.0	11/08/21-08:00 2P2112977	900.0	11/12/21-14:57 2A2117723
Gross Beta	0.377 ± 0.550	0.788	pCi/L	50	900.0	11/08/21-08:00 2P2112977	900.0	11/12/21-14:57 2A2117723
Total Alpha Radium (226)	0.224 ± 0.147	0.369	pCi/L		903.0	11/16/21-17:40 2P2113023	903.0	11/24/21-10:55 2A2118378
Tritium	272 ± 274	434	pCi/L	20000	906.0	11/29/21-10:30 2P2113786	906.0	12/01/21-08:55 2A2118629
Ra 228	0.083 ± 0.591	0.624	pCi/L		Ra - 05	11/22/21-16:30 2P2113417	Ra - 05	11/28/21-15:10 2A2118693

ND=Non-Detected. PQL=Practical Quantitation Limit. * PQL adjusted for dilution.

MDA = Minimum Detectable Activity (Calculated at the 95% confidence level) = Data utilized by DHS to determine matrix interference.
MCL / AL = Maximum Contamination Level / Action Level. Alpha's Action Level of 5 pCi/L is based on the Assigned Value (AV).
AV = Assigned Value(Gross Alpha Result + (0.84 x Error)). CCR Section 64442: Drinking Water Compliance Note: Do the following
If Gross Alpha's (AV) exceeds 5 pCi/L run Uranium. If Gross Alpha's (AV) minus Uranium exceeds 5 pCi/L run Radium 226.

Drinking Water Compliance:
Gross Alpha (AV) minus Uranium is less than or equal to 15 pCi/L
Uranium is less than or equal to 20 pCi/L
Radium 226 + Radium 228 is less than or equal to 5 pCi/L

Note: Samples are held for 3-6 months prior to disposal.

Corporate Offices & Laboratory 853 Corporation Street Santa Paula, CA 93060 TEL: (805)392-2000 Env FAX: (805)525-4172 / Ag FAX: (805)392-2063 CA ELAP Certification No. 1573	Office & Laboratory 2500 Stagecoach Road Stockton, CA 95215 TEL: (209)942-0182 FAX: (209)942-0423 CA ELAP Certification No. 1563	Office & Laboratory 563 E. Lindo Avenue Chico, CA 95926 TEL: (530)343-5818 FAX: (530)343-3807 CA ELAP Certification No. 2670	Office & Laboratory 3442 Em presa Drive, Suite D San Luis Obispo, CA 93401 TEL: (805)783-2940 FAX: (805)783-2912 CA ELAP Certification No. 2775	Office & Laboratory 9415 W. Gøthen Avenue Visalia, CA 93291 TEL: (559)734-9473 FAX: (559)734-8435 CA ELAP Certification No. 2810
--	--	--	---	--



December 16, 2021 L
East Bay Municipal Utility Dist.

Lab ID : SP 2115758
Customer : 2-14973

Quality Control - Radio

Constituent	Method	Date/ID	Type	Units	Conc.	QC Data	DQO	Note
Radio								
Alpha	900.0	11/12/21:217723JCA	CCV CCB	cpm cpm	7310	42.5 % 0.100	35-47 0.15	
Beta	900.0	11/12/21:217723JCA	CCV CCB	cpm cpm	7310	94.3 % 0.480	83-94 0.5	
Gross Alpha	900.0	11/08/21:212977ejc (SP 2115758-001)	Blank LCS MS MSD MSRPD	pCi/L pCi/L pCi/L pCi/L pCi/L	201.1 201.1 201.1 201.1	0.34 76.5 % 77.2 % 78.1 % 1.1%	3 75-125 60-140 60-140 ≤30	
Gross Beta	900.0	11/08/21:212977ejc (SP 2115758-001)	Blank LCS MS MSD MSRPD	pCi/L pCi/L pCi/L pCi/L pCi/L	35.12 35.12 35.12 201.1	1.39 119 % 109 % 111 % 1.8%	4 84-160 80-130 80-130 ≤30	
Alpha	903.0	11/24/21:218378JCA	CCV CCB	cpm cpm	7631	40.9 % 0.100	37-46 0.17	
Total Alpha Radium (226)	903.0	11/16/21:213023em v	RgBlk LCS BS BSD BSRPD	pCi/L pCi/L pCi/L pCi/L pCi/L	24.38 24.38 24.38 24.38	0.02 57.0 % 53.8 % 54.2 % 0.7%	2 52-107 43-111 43-111 ≤35.5	
Tritium	906.0	11/29/21:213786jca	Blank LCS BS BSD BSRPD	pCi/L pCi/L pCi/L pCi/L pCi/L	1542 1542 1542 1542	21 104 % 103 % 104 % 0.5%	<300 75-125 75-125 75-125 ≤25	
	906.0	12/01/21:218629JCA	CCV CCB	pCi/L pCi/L	22500	103 % 174	90-110 500	
Beta	Ra - 05	11/28/21:218693em v	CCV CCB	cpm cpm	7629	92.5 % 0.400	84-94 0.5	
Ra 228	Ra - 05	11/22/21:213417em v	RgBlk LRS BS BSD BSRPD	pCi/L pCi/L pCi/L pCi/L pCi/L	14.10 14.10 14.10 14.10	-0.21 82.0 % 86.5 % 93.8 % 1.0	3 65-108 75-125 75-125 ≤3	

Definition	
CCV	: Continuing Calibration Verification - Analyzed to verify the instrument calibration is within criteria.
CCB	: Continuing Calibration Blank - Analyzed to verify the instrument baseline is within criteria.
Blank	: Method Blank - Prepared to verify that the preparation process is not contributing contamination to the samples.
RgBlk	: Method Reagent Blank - Prepared to correct for any reagent contributions to sample result.
LCS	: Laboratory Control Standard/Sample - Prepared to verify that the preparation process is not affecting analyte recovery.
LRS	: Laboratory Recovery Standard - Prepared to establish the batch recovery factor used in result calculations.
MS	: Matrix Spikes - A random sample is spiked with a known amount of analyte. The recoveries are an indication of how that sample matrix affects analyte recovery.
MSD	: Matrix Spike Duplicate of MS/MSD pair - A random sample duplicate is spiked with a known amount of analyte. The recoveries are an indication of how that sample matrix affects analyte recovery.
BS	: Blank Spikes - A blank is spiked with a known amount of analyte. It is prepared to verify that the preparation process is not affecting analyte recovery.
BSD	: Blank Spike Duplicate of BS/BSD pair - A blank duplicate is spiked with a known amount of analyte. It is prepared to verify that the preparation process is not affecting analyte recovery.
MSRPD	: MS/MSD Relative Percent Difference (RPD) - The MS relative percent difference is an indication of precision for the preparation and analysis.
BSRPD	: BS/BSD Relative Percent Difference (RPD) - The BS relative percent difference is an indication of precision for the preparation and analysis.
ND	: Non-detect - Result was below the DQO listed for the analyte.

Corporate Offices & Laboratory	Office & Laboratory	Office & Laboratory	Office & Laboratory	Office & Laboratory
853 Corporation Street Santa Paula, CA 93060 TEL: (805)392-2000 Env FAX: (805)525-4172 / Ag FAX: (805)392-2063 CA ELAP Certification No. 1573	2500 Stagecoach Road Stockton, CA 95215 TEL: (209)942-0182 FAX: (209)942-0423 CA ELAP Certification No. 1563	563 E. Lindo Avenue Chico, CA 95926 TEL: (530)343-5818 FAX: (530)343-3807 CA ELAP Certification No. 2670	3442 Empresa Drive, Suite D San Luis Obispo, CA 93401 TEL: (805)783-2940 FAX: (805)783-2912 CA ELAP Certification No. 2775	9415 W. Gøthen Avenue Visalia, CA 93291 TEL: (559)734-8473 FAX: (559)734-8435 CA ELAP Certification No. 2810



December 16, 2021 L
East Bay Municipal Utility Dist.

Lab ID : SP 2115758
Customer : 2-14973

Quality Control - Radio

Definition DQO : Data Quality Objective - This is the criteria against which the quality control data is compared.
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December 16, 2021 L
 East Bay Municipal Utility Dist.

Lab ID : SP 2115758
 Customer : 2-14973

Quality Control - Inorganic

Constituent	Method	Date/ID	Type	Units	Conc.	QC Data	DQO	Note
Metals Uranium	200.8	(STK2155922-001)	MS	ug/L	5.000	102 %	75-125	
			MSD	ug/L	5.000	98.9 %	75-125	
			MSRPD	ug/L	5.000	1.4%	≤20	
	200.8	11/04/21:217410AC	CCV	ppb	120.0	99.1 %	90-110	
			CCB	ppb		0.003	0.2	
			CCV	ppb	120.0	101 %	90-110	
			CCB	ppb		0.005	0.2	
Definition CCV : Continuing Calibration Verification - Analyzed to verify the instrument calibration is within criteria. CCB : Continuing Calibration Blank - Analyzed to verify the instrument baseline is within criteria. MS : Matrix Spikes - A random sample is spiked with a known amount of analyte. The recoveries are an indication of how that sample matrix affects analyte recovery. MSD : Matrix Spike Duplicate of MS/MSD pair - A random sample duplicate is spiked with a known amount of analyte. The recoveries are an indication of how that sample matrix affects analyte recovery. MSRPD : MS/MSD Relative Percent Difference (RPD) - The MS relative percent difference is an indication of precision for the preparation and analysis. DQO : Data Quality Objective - This is the criteria against which the quality control data is compared.								



East Bay Municipal Utility District Laboratory Services Subcontract Chain of Custody **215758**

COC #: C002420	Project Title: Bayside Ground Water Project	Lab PM: Kristi Schwab (510) 287-1696	Sampled By: J. Marshak
	TAT: Standard	Shipping Method: Fed Ex	Submitted Date: 11/3/21
		PO#: 933-22629-AX Expiration: 12/31/2021	

Date	Time	Sample ID	Location/PS Code	Matrix	Container ID	Type	Tests Required	Method Reference
11/02/2021	10:30	C002420-07	WTP BAYSIDE - BAY WELL HEAD	Drinking Water	-07A	A250	Tritium	EPA 906.0
					-07D	A250	Tritium	Bottle for QC (1)
					-07E	PLSTL	Gross Alpha/Beta	EPA 900.0
					-07F	PLSTL	Gross Alpha/Beta	Bottle for QC (1)
					-07L	PLSTL	Gross Alpha/Beta	Bottle for QC (1)
					-07M	PLSTL	Radium 226	EPA 903.0, 903.1, 904.0
					-07N	PLSTL	Radium 228	EPA 903.0, 903.1, 904.0
					-07O	PLSTL	Strontium-90	EPA 905.0
					-07P	PLSTL	Uranium	EPA 908.0
					-07B	VOG4	Radon	EPA 913.0

Comments: Monitoring and analysis for compliance with CCR Title 22, Sections 64442 and 64443. System is a Community Water System (CWS). Please provide extended report with prep and analysis dates and times. No reporting to DDW via Writeon/CLIP required.

Total containers received: 10

Relinquished by:	Signature	Print Name	Time	Date
Received by:		CANTINA DEAS	1500	11/3/21
Relinquished by:				
Received by:		RADEK 11/04/21 1200		
Relinquished by:				
Received by:				

Send results and invoice to:



East Bay Municipal Utility District Laboratory Services Subcontract Chain of Custody



COC #: C002420	Project Title: Bayside Ground Water Project	Lab PM: Kristi Schwab (510) 287-1696	Sampled By: J. Marshak
	TAT: Standard	Shipping Method: Fed Ex PO#: 933-22629-AX Expiration: 12/31/2021	Submitted Date: 11/3/21

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.
FGL Environmental Agricultural
853 Corporation Street
Santa Paula, CA 93060
805-392-2000

felix 11/4/21 12
OMA



FGL Environmental D
Revision Date: 10/09/14 P

oc ID: 2D0900157_SOP_17.DOC
age: 1 of 1

Condition Upon Receipt (Attach to CO Q SP 2115758)

Sample Receipt at SP:

- 1. Number of ice chests/packages received: 1
2. Shipper tracking numbers
3. Were samples received in a chilled condition?
Temps: ROI / / / / / / /

4. Surface water (SWTR) bact samples: A sample that has a temperature upon receipt of > 10C, whether iced or not, should be flagged unless the time since sample collection has been less than two hours.

- 5. Do the number of bottles received agree with the COC? Yes N A
6. Verify sample date, time, sampler Yes N A
7. Were the samples received intact? (i.e. no broken bottles, leaks, etc.) Yes N
8. Were sample custody seals intact? Yes N NA

Sample Verification, Labeling and Distribution:

- 1. Were all requested analyses understood and acceptable? Yes N
2. Did bottle labels correspond with the client's ID's? Yes N
3. Were all bottles requiring sample preservation properly preserved? Yes N NA F GL
[Exception: Oil & Grease, VOA and CrVI verified in lab]
4. VOAs checked for Headspace? Yes N NA
5. Were all analyses within holding times at time of receipt? Yes N
6. Have rush or project due dates been checked and accepted? Yes N NA

Include a copy of the COC for lab delivery. (Bacti, Inorganics and Radio)

Sample Receipt, Login and Verification completed by: Reviewed and Approved By Celina Acosta
Digitally signed by Celina Acosta
Title: Sample Receiving
Date: 11/16/2021-09:30:24

Discrepancy Documentation:

Any items above which are "No" or do not meet specifications (i.e. temps) must be resolved.

- 1. Person Contacted: P hone Number:
Initiated By: Date:
Problem:

Resolution:

- 2. Person Contacted: P hone Number:
Initiated By: Date:
Problem:

Resolution:

(2014973)
East Bay Municipal Utility Dist.
SP 2115758
CRA-11/16/2021-09:30:24