Clinton Creek Surface Water Quality and Hydrological Investigations Quarterly Report: May 2022

Prepared For
Assessment and Abandoned Mines
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Down to Earth Biology

AUTHORSHIP

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1 OVERVIEW

This quarterly report provides a summary of activities undertaken and data collected during EDI's May 2022 trip to Clinton Creek as part of the 2022/2023 Surface Water Quality and Hydrological Investigations. This was the first field event under the contract extension. The following report describes trip information and overview (Table 1-1), site conditions, meteorology, hydrology, water quality data, program recommendations, maps (Appendix A), and photos (Appendix B) for the May 2022 site visit (Table 1-2).

Table 1-1. May 2022 trip information.

Trip dates	May 15–19, 2022
EDI field staff	Joel MacFabe and James McGrath (EDI), Evan Warren (Tr'ondëk Hwëchin citizen and casual EDI employee)
Weather during trip	Air temperatures ranged between 6 and 9°C. Weather conditions ranged from clear to overcast.
Changes to project scope (i.e., additional sites sampled)	Sampling and monitoring were conducted within scope.
Alterations to sample schedule/budget	None
Additional comments	The mine access road was washed out at the main site gate, near sampling site E2. The washout is approximately 5.5 m wide and about 1.5 m deep. The creek did not wash out the section that was previously repaired in 2020, but rather eroded away the left downstream bank. The main "culvert" (old steel riveted pipe) was frozen, full of ice. The overflow pipe/culvert closer to the gate was dry and free of ice. Fines and flattened grass on top of roadway suggests that water overtopped the road at some point. A discharge measurement was completed with an ADV approximately 60 m upstream of the washout; flow was measured at 1.104 m^3/s.
Wildlife sightings	None
Safety concerns	Hudgeon Lake (HL3) could not be sampled due to thin ice covering the lake. The thin layer of ice could not support access on foot or helicopter landing. During freshet, streams had elevated flows and velocities. Each site was assessed for safe wading conditions before staff entered the water.

Table 1-2. Summary of information provided in this report.

Report Section	Description
Site Conditions	• Summary of weather and general site conditions
Meteorology	• Statement on meteorological station status and identification of any data gaps or QA/QC issues
Hydrology	• Discussion of hydrology data for May 2022 • Statement on QA/QC for the data collected this month
Water Quality	• Summary of water quality results for May 2022 • Statement on QA/QC sample results for this month
Program Recommendations	• Program recommendations for meteorological, hydrology and water quality programs

1.1 SITE CONDITIONS

Site conditions during the May trip were typical of spring as observed in recent years, with waterbodies at moderate to high flows. Turbidity and suspended sediment were moderate to high in most waterbodies, except the groundwater seeps which were clear.

Access in May was via helicopter. All sites were accessible except for Hudgeon (due to thin spring ice cover) and Porcupine lakes. Access to Porcupine Lake is currently considered unsafe due to potential instability of the pit walls.

2 METEOROLOGY

Meteorological data were collected at the automated station located on the waste rock pile near Hudgeon Lake for the period of January 1, 2021, to May 31, 2022. EDI downloaded the data from this period and conducted a QA/QC review of the available data.

As noted in the winter quarterly report, icing conditions affected the wind velocity instrument (anemometer) between January 18 and January 23. The propellor was likely frozen during this time, resulting in a wind speed of zero m/s and rendering the wind direction data unreliable; these data were graded as ice affected and removed from the corrected dataset. A maximum windspeed of 8.65 m/s (31.14 km/hr) was recorded on March 6.

Peak snow depth occurred on February 19, at 70.3 cm as recorded by the snow depth sensor. The snowmelt period started on April 18, when mean daily air temperatures reached above freezing levels. By May 4, no snow was present under the snow depth sensor.

The coldest recorded air temperature value through the winter was a low of -48.5 °C on January 9.

Prior to the snowmelt period, several erroneous tips were recorded by the tipping bucket rain gauge. All rain gauge data prior to April 18 were removed from the corrected dataset and graded as ice affected.

Other than the above errors, all sensors appear to be functioning properly for this period. The hourly data were reviewed in EDI's proprietary Water Resource Framework system and exported into a corrected data table (Microsoft Excel Worksheet format, .xlsx).

3 HYDROLOGY

A summary of surface water conditions and hydrometric monitoring tasks completed at each station in May 2022 is provided in Table 3-1. Additional hydrometric survey information (including levelling survey data) is available in Appendix C. We also completed a QA/QC check of the instantaneous and continuous hydrometric data.

3.1 FIELD RESULTS SUMMARY

Continuous water level data are available for station E3(H) until May 16, when the logger was last downloaded. A review of continuous hydrometric files indicates that water level sensors were functioning properly until October 30, when the logger became encased in ice until thawing out in early April. Mean daily water temperatures became positive on April 20, therefore all water level data prior to this point have been graded as ice affected and removed from the corrected dataset. Water levels thus far in 2022 have reached a peak of 0.822 m on May 7. Measured discharge on May 16 was 1.224 m^3/s (Table 3-1).

Water level data from E1(H) are available until June 14. The logger became compromised on August 3, 2021; under direction from Yukon Government AAM, Northern Avcom repaired the logger, and then together with EDI reinstalled the logger, stilling well, and levelling survey benchmarks on October 6, 2021. At the onset of winter, water temperature at the E1(H) location reached 0°C in late November, with the logger impacted by ice on November 29 until May 7. Erroneous data have been graded as ice affected and removed from the corrected dataset. Lake levels since May 7 have ranged between 0.446 m and 1.117 m with the peak level observed on May 22 and several notable subpeak values observed since. Measured discharge at the time of the site visit on May 17 was at 5.031 m^3/s.

Flows in May across the Clinton Creek site were high, typical of freshet conditions. The field crew visited 15 hydrometric stations in May. The crew completed measurements with the velocity-area method using an Acoustic Doppler Velocimeter (ADV) at eight stations and with the salt dilution gauging method at five stations; flow measurements could not be completed at stations R1B (water overflowing banks and through vegetation) and R3 (beaver dam has flooded the valley) (Table 3-1).

Table 3-1. Hydrometric data and site conditions in May 2022.

Hydrometric Identifier (HID)	Date	Time	Discharge Measurement Method [1]	Discharge (m^3/s)	Discharge Data Flag [2]	Comments
E1(H)	17-May-2022	10:40	ADV-MID	5.031	-	Discharge measurement completed just upstream of ford. Survey completed. Water level high.
E2	16-May-2022	16:00	ADV-MID	4.392	-	Discharge measurement completed at site sign. Water level moderate.
E3(H)	16-May-2022	18:10	ADV-MID	1.224	-	Discharge measurement completed approximately 70 m downstream from stilling well, at road crossing. Survey completed; logger downloaded. Water level high.
E4	16-May-2022	13:50	ADV-MID	5.243	-	Discharge measurement completed at site sign. Ice on banks 1 m thick, but no ice in channel. Water level high.
E7	16-May-2022	11:20	ADV-MID	6.903	-	Discharge measurement completed approximately 50 m upstream of confluence with Forty Mile River. No ice in channel; candle ice remaining on banks. Water level high.
R1	18-May-2022	11:05	ADV-MID	3.002	-	Discharge measurement completed approximately 6 m upstream of site sign. Some ice on bed on both channel edges. Bed movement detected while completing discharge measurement. Water level high.
R1B	18-May-2022	11:00	N	-	X	Discharge measurement attempted at site flagging. Channel greater than bankfull at time of visit and water was moving through vegetation on banks. Conditions unsuitable for quality discharge measurement.
R2	18-May-2022	12:45	ADV-MID	1.203	-	Discharge measurement completed approximately 50 m downstream of site sign to capture discharge from two channels. Water level high, with water spilling over banks.
R3	17-May-2022	15:00	N	-	X	Creek backed up due to beaver dam, which has flooded the entire valley. Channel frozen to bed with 0.4 m of water flowing on top. Unsuitable conditions: discharge measurement not completed.

Hydrometric Identifier (HID)	Date	Time	Discharge Measurement Method [1]	Discharge (m^3/s)	Discharge Data Flag [2]	Comments
R4	16-May-2022	14:50	ADV-MID	0.699	-	Discharge measurement completed at site flagging; water level moderate. Anchor ice on bottom of channel.
R7	17-May-2022	17:10	SS	0.053	-	Discharge measurement completed downstream of trough via salt dilution gauging; discharge too high to use volumetric method with trough.
R8	18-May-2022	13:35	SS	0.056	-	Discharge measurement completed. No ice in channel; water level high.
R9	17-May-2022	18:20	SS	0.152	-	Discharge measurement completed via salt dilution gauging; discharge too high to use volumetric method with weir. Some ice remaining on bed and banks.
R11(H)	17-May-2022	14:00	SS	0.157	-	Discharge measurement completed at site sign; water level high.
GWCC-5	16-May-2022	17:35	SS	0.007	-	Discharge measurement completed downstream of site sign; water level high.

[1] Discharge methods: ADV-MID – Mid Section Method using Acoustic Doppler Velocimeter, SS – Salt Dilution Gauging, V – Volumetric, N – None (Appendix C).

[2] Data flag codes found in the Hydrology Legend in Appendix C.

4 WATER QUALITY

We visited 22 sites for surface water quality sampling during the May 2022 trip and samples were collected from all sites (Table 4-1). Site HL3 was not visited due to unsafe ice cover on Hudgeon Lake. All samples were collected as per the methodology document prepared for the Clinton Creek site (EDI Environmental Dynamics Inc. 2020). In general, turbidity levels across the site were due to high freshet flows. As such, the samples had very high total suspended solids, which affected QA/QC results and the detection limits, which the lab had to raise for all the asbestos analysis as well as for some metals analysis. The elevated turbidity also resulted in higher total metals concentrations in many samples.

We submitted all samples for analysis to ALS Laboratories under chain of custody documentation. The limited flight schedule from Dawson to Whitehorse resulted in missing the 72-hour nutrient sampling holding time for the samples collected on May 16. All other samples, which were shipped to ALS Laboratories in Burnaby via Air North on May 18, met holding times.

We compiled a summary of site conditions and a record of sample collection (Table 4-1). In-situ and laboratory results summary tables as well as the ALS Certificates of Analysis are attached (Appendix D and Appendix E). We reviewed the results to determine parameters that were present at concentrations that exceeded the relevant CCME-AL guidelines (Table 4-2).

Table 4-1. Summary of water quality sample site conditions and record of samples collected in May 2022.

Site ID	Sample Collected? (Y/N)	Sampling Date	Water Level	Turbidity	Comments
E1	Y	17-May-2022	high	moderate	Sample collected from left downstream bank of road crossing. High water level. Replicate collected at site (CC-201).
E1(H)	Y	17-May-2022	high	moderate	Sample collected approximately 10 m upstream from ford, on left downstream bank. Some fine sediment suspended in water column.
E2	Y	16-May-2022	moderate	moderate	Sample collected at site sign. No ice on banks. Water has orange tinge.
E3	Y	16-May-2022	low	clear	Sample collected at site sign. Coarse woody debris in channel, no ice remaining on banks.
E4	Y	16-May-2022	high	moderate	Sample collected approximately 100 m upstream of site access trail. Ice over one metre thick remaining on both banks; no ice in channel. Replicate collected at site (CC-206).
E7	Y	16-May-2022	high	moderate	Sample collected approximately 50 m upstream of confluence. High water.
E8	Y	16-May-2022	high	moderate	Sample collected from left downstream bank. High water level. Shore ice present along both banks above water level.
R1	Y	18-May-2022	high	moderate	Sample collected approximately 4 m upstream of site sign, from right downstream bank. Some ice remaining on channel bed along both banks.
R2	Y	18-May-2022	flood	high	Sample collected at site sign. High water, with creek spilling over both banks. Ice remaining on channel bottom.
R3	Y	17-May-2022	high	high	Sample collected at site sign in centre of original channel. Channel frozen to bed with 0.4 m of water flowing on top. Water level backed up throughout valley bottom and through vegetation due to beaver dam. High suspended solids in water.
R4	Y	16-May-2022	moderate	moderate	Sample collected at site sign. Ice shelves on banks and some anchor ice present on bottom of channel.
R6	Y	16-May-2022	high	moderate	Sample collected at site from left downstream bank. Ice over one metre thick along both banks. High water level; no gravel bars or islands visible.
R7	Y	17-May-2022	high	moderate	Sample collected at site sign. Discharge greater than trough volume.
R8	Y	18-May-2022	high	moderate	Sample collected at site sign. Channel free of ice, water tea-coloured.

Site ID	Sample Collected? (Y/N)	Sampling Date	Water Level	Turbidity	Comments
R9	Y	17-May-2022	high	high	Sample collected 2 m upstream of weir. Ice remains on channel bed with water flowing over ice. Water level high, flowing over weir.
R11	Y	17-May-2022	high	moderate	Sample collected at site sign. Freshet conditions, channel free of ice. Water tea-coloured.
GWCC-1	Y	17-May-2022	high	clear	Sample collected from groundwater seepage at site sign.
GWCC-2	Y	17-May-2022	high	clear	Sample collected at site sign. Additional seeps flowing on either side of site, likely from the same source.
GWCC-3	Y	17-May-2022	high	clear	Sample collected from flowing seep in hillside at site sign.
GWCC-4	Y	17-May-2022	high	light	Sample collected from seepage in hillside at site sign. Additional seepage upstream of site is flowing into channel along toe of slope originating approximately 6 m up valley from site sign.
GWCC-5	Y	16-May-2022	high	clear	Sample collected at site sign. Surface water flowing into groundwater-fed pool at site sign.
HL3-T	N	-	-	-	The depth profile and sampling at HL3 could not be completed due to unsafe ice cover on the lake, as is typical during the freshet sampling event.
HL3-M	N	-	-	-	The depth profile and sampling at HL3 could not be completed due to unsafe ice cover on the lake, as is typical during the freshet sampling event.
HL3-B	N	-	-	-	The depth profile and sampling at HL3 could not be completed due to unsafe ice cover on the lake, as is typical during the freshet sampling event.
SL	Y	17-May-2022	high	clear	Sample collected from lake inflow. Partial ice-covered channels leading into lake; no ice remaining on lake.
Field Blank	Y	17-May-2022	-	-	Field blank completed at site R11.
Travel Blank	Y	17-May-2022	-	-	Sample created by ALS, carried to site, and returned to ALS for analysis.

4.1 WATER QUALITY LAB RESULTS SUMMARY: MAY 2022

Analysis of the May 2022 samples indicated that the parameters listed in Table 4-2 exceeded applicable CCME-AL guidelines. High spring flows caused elevated turbidity, which resulted in higher levels of total metals (like aluminium, cadmium, chromium, copper, iron, lead, and selenium) in many samples.

Table 4-2. Summary of CCME-AL guideline exceedances for water quality samples collected in May 2022.

Site ID	Parameters exceeding CCME-AL guidelines
E1	• Aluminium – total • Chromium – total • Copper – total • Iron – total
E1(H)	• Aluminum – total • Chromium – total • Copper – total • Iron – total
E2	• Aluminium – total • Chromium – total • Copper – total • Iron – total • Selenium – total
E3	• Aluminium – total • Cadmium – total • Trivalent chromium – total • Copper – total • Iron – total
E4	• Aluminium – total • Cadmium – total • Trivalent chromium – total • Copper – total • Iron – total • Selenium – total
E7	• Aluminium – total • Chromium – total • Copper – total • Iron – total • Selenium – total
E8	• Aluminium – total • Chromium – total

Site ID	Parameters exceeding CCME-AL guidelines
	• Copper – total • Iron – total • Lead – total
R1	• Aluminium – total • Cadmium – total • Chromium – total • Copper – total • Iron – total • Lead – total • Manganese – total • Selenium – total
R2	• Aluminium – total • Cadmium – total • Trivalent chromium – total • Copper – total • Iron – total • Lead – total • Manganese – total and dissolved
R3	• Aluminium – total • Cadmium – total • Trivalent chromium – total • Copper – total • Iron – total • Lead – total
R4	• Aluminium – total • Cadmium – total • Chromium – total • Copper – total • Iron – total • Selenium – total
R6	• Aluminium – total • Cadmium – total • Chromium – total • Copper – total • Iron – total • Lead – total
R7	• pH • Aluminium – total • Cadmium – total

Site ID	Parameters exceeding CCME-AL guidelines
	• Chromium – total • Copper – total • Iron – total • Lead – total
R8	• Aluminium – total • Cadmium – total • Chromium – total • Copper – total • Iron – total • Lead – total • Selenium – total
R9	• Aluminium – total • Cadmium – total • Trivalent chromium – total • Copper – total • Iron – total • Lead – total • Selenium – total • Manganese – total
R11	• Aluminium – total • Cadmium – total • Chromium – total • Copper – total • Iron – total • Lead – total
GWCC-1	• Fluoride • Arsenic – total • Chromium – total • Selenium – total
GWCC-2	• Fluoride • Arsenic – total • Chromium – total • Selenium – total
GWCC-3	• Dissolved oxygen • Chromium – total • Hexavalent chromium – total • Selenium – total
GWCC-4	• Dissolved oxygen

Site ID	Parameters exceeding CCME-AL guidelines
	• Chromium – total • Hexavalent chromium – total • Selenium – total
GWCC-5	• Dissolved oxygen • Fluoride • Chromium – total • Selenium – total
SL	• Fluoride • Aluminium – total • Arsenic – total • Chromium – total • Copper – total • Iron – total • Selenium – total

Analysis of asbestos fiber concentrations resulted in the following:

- E2 (Clinton Creek, downstream of Porcupine Creek, but upstream of Wolverine Creek) had 500.61 million fibers per litre.
- E3 (Wolverine Creek, upstream of culvert) had 1923.41 million fibers per litre.
- R1 (Clinton Creek, upstream of Hudgeon Lake) result was below analytical sensitivity.
- R3 (Wolverine Creek upstream of tailings) had 21.08 million fibers per litre.

4.2 QUALITY ASSURANCE/QUALITY CONTROL PROGRAM RESULTS

The QA/QC program includes a travel blank, a field blank and two replicate samples. A review of the laboratory water quality QA/QC program results indicates that the average relative percent difference (RPD) was within acceptable ranges, and there was no contamination of field samples (Table 4-3).

Table 4-3. QA/QC program results for water quality samples collected in May 2022.

Quality Control Action	Objective	Sample Results	Explanation / Action Taken
Sample Integrity	Recommended sample holding times are met	The limited flight schedule from Dawson to Whitehorse resulted in missing the 72-hour nutrient sampling holding time for the samples collected on May 16 by one day. All other applicable holding times were met.	No impacts on data quality are expected.
Sample Integrity	In situ and lab results are comparable	Objective was met.	None
Dissolved Metals > Total Metals	The dissolved metals concentration should be <1.2x the total metal concentration (results must be >5x minimum detection limit [MDL])	Dissolved mercury was 1.3x the total metal concentration at sites E1(H) and R9, 1.4x the total metal concentration at R7, 1.7x the total metal concentration at E3, and 1.8x the total metal concentration at R11. Dissolved sodium was 2.6x the total metal concentration at R1.	No impacts on data quality are expected. The dissolved concentrations were low (same magnitude as the detection limit) and only slightly greater than 1.2x the total concentrations, and no one sample had a trend of dissolved metal concentrations greater than total.
Field and Travel Blank Samples	Blanks should not exceed the detection limit for any parameter	Objective was met.	None
Field Replicate Sample 1	Replicate Relative Percent Difference (RPD) should be <20% (results of one replicate must be >5x MDL)	The average RPD of the replicate sample for E1 was 13% with an average difference of 23% for total and 5% for dissolved metals.	The sample RPD was within acceptable limits (albeit higher than usual due to elevated suspended solids) and no effect on data quality is expected.
Field Replicate Sample 2	Replicate Relative Percent Difference (RPD) should be <20% (results of one replicate must be >5x MDL)	The average RPD of the replicate sample for E4 was 9% with an average difference of	The sample RPD was within acceptable limits and no effect on data quality is expected.

Quality Control Action	Objective	Sample Results	Explanation / Action Taken
		5% for total and 11% for dissolved metals.	

4.3 HUDGEON LAKE IN-SITU DEPTH PROFILE

In May 2022, we did not collect in-situ water quality or samples for site HL3 due to unsafe ice cover on Hudgeon Lake.

5 PROGRAM RECOMMENDATIONS

5.1 DISCHARGE AT R3 (WOLVERINE CREEK)

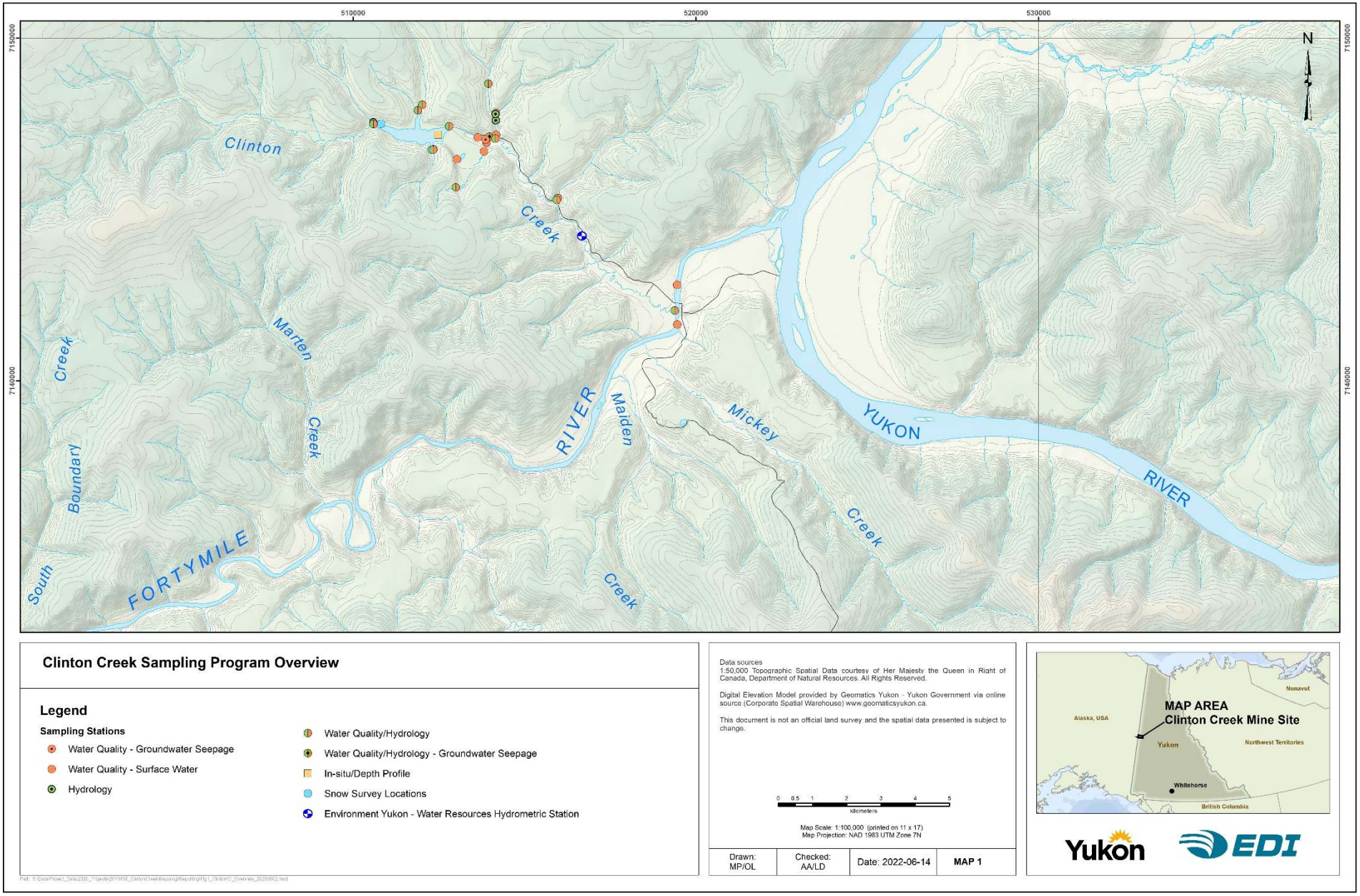
During the August 2020 site visit, the EDI field crew noted that beaver activity at site R3 on Wolverine Creek had rendered conditions unsuitable for discharge measurements. Beaver activity has continued throughout 2020, 2021 and 2022; therefore, discharge measurements have not been collected at R3 since May 2020. The beaver dam will need to be removed before accurate discharge measurements can resume.

6 REFERENCES

EDI Environmental Dynamics Inc. 2020. Clinton Creek Surface Water Quality and Hydrological Investigations 2020/21: Methodology. Prepared for Assessment & Abandoned Mines, Government of Yukon, Whitehorse, Yukon.

APPENDICES

APPENDIX A MAPS OF HYDROMETRIC AND WATER QUALITY STATIONS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RIVER
Maiden
Mickey
Creek
YUKON
RIVER
Clinton Creek Sampling Program Overview
Legend
Sampling Stations
Water Quality - Groundwater Seepage
Water Quality - Surface Water
Hydrology
Water Quality/Hydrology
Water Quality/Hydrology - Groundwater Seepage
In-situ/Depth Profile
Snow Survey Locations
Environment Yukon - Water Resources Hydrometric Station
Data sources
1:50,000 Topographic Spatial Data courtesy of Her Majesty the Queen in Right of Canada, Department of Natural Resources. All Rights Reserved.
Digital Elevation Model provided by Geomatics Yukon - Yukon Government via online source (Corporate Spatial Warehouse) www.geomaticsyukon.ca.
This document is not an official land survey and the spatial data presented is subject to change.
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Checked: AA/LD
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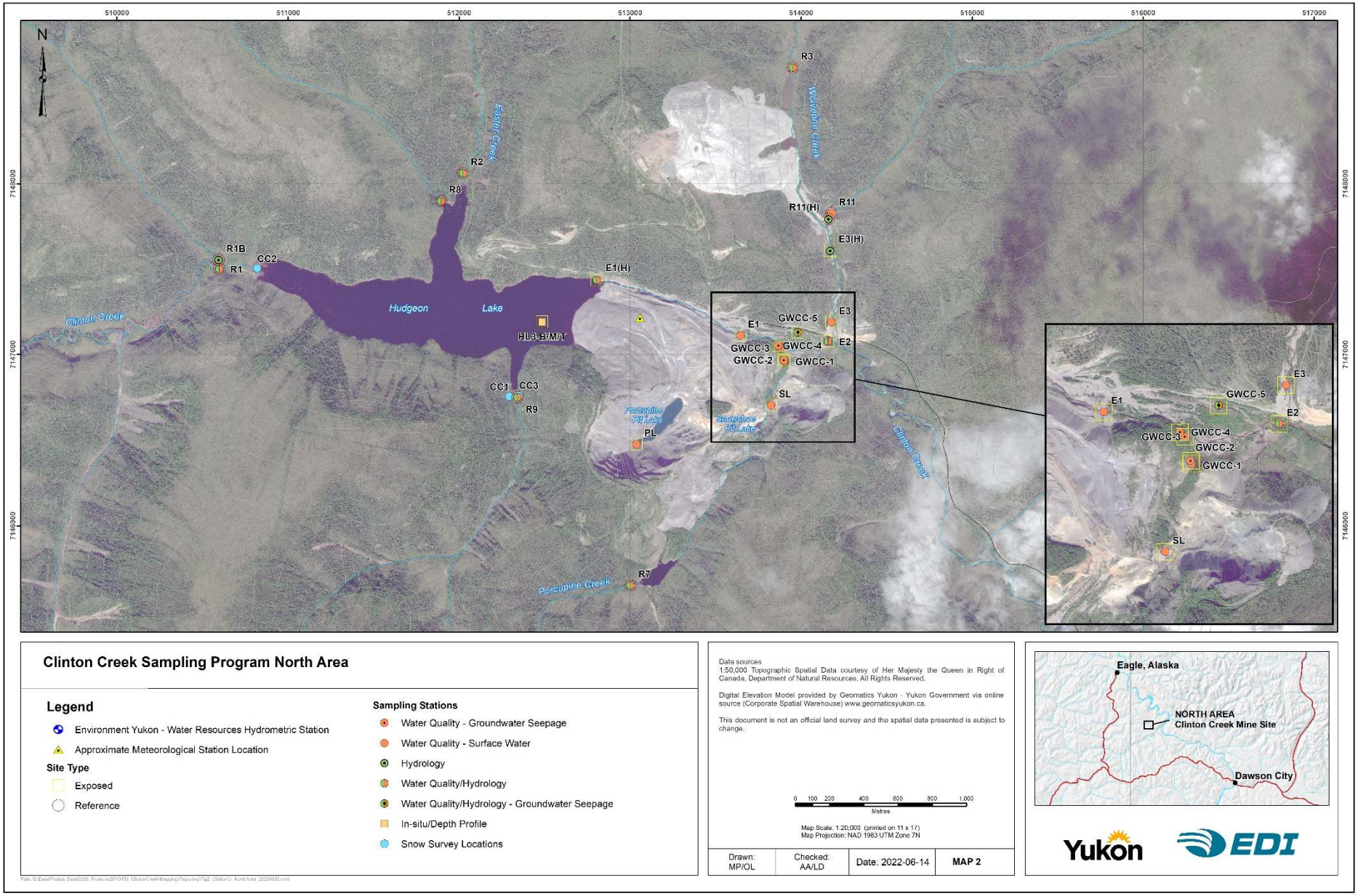
Clinton Creek Mine Site
Yukon
Northwest Territories
Whitehorse
British Columbia
Yukon
EDI



Clinton Creek Sampling Program North Area

Legend

- Environment Yukon - Water Resources Hydrometric Station
- Approximate Meteorological Station Location

Site Type

- Exposed
- Reference

Sampling Stations

- Water Quality - Groundwater Seepage
- Water Quality - Surface Water
- Hydrology
- Water Quality/Hydrology
- Water Quality/Hydrology - Groundwater Seepage
- In-situ/Depth Profile
- Snow Survey Locations

Data sources
1:50,000 Topographic Spatial Data courtesy of Her Majesty the Queen in Right of Canada, Department of Natural Resources. All Rights Reserved.

Digital Elevation Model provided by Geomatics Yukon - Yukon Government via online source (Corporate Spatial Warehouse) www.geomaticsyukon.ca.

This document is not an official land survey and the spatial data presented is subject to change.

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Metres

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Map Projection: NAD 1983 UTM Zone 7N

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MP/OL	AA/LD	2022-06-14	MAP 2

Yukon EDI

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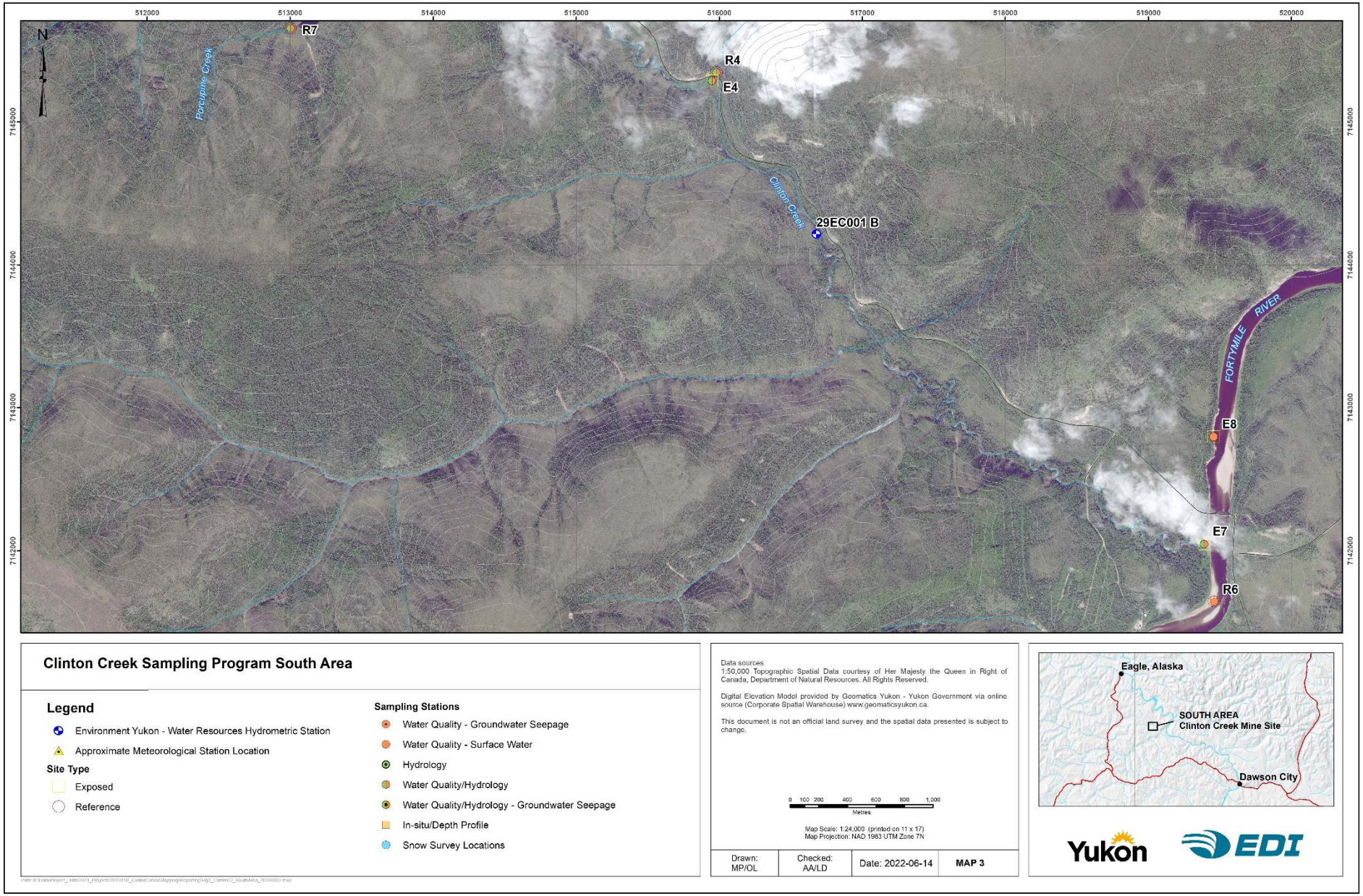

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APPENDIX B STATION PHOTOS

Appendix Photo 1. E1 – looking upstream from ford.

Appendix Photo 2. E1 – looking downstream from sampling location.

Appendix Photo 3. E1(H) – looking upstream.

Appendix Photo 4. E1(H) – looking downstream.

Appendix Photo 5. E1(H) – staff gauge.

Appendix Photo 6. E1(H) – overview.

Appendix Photo 7. E2 – looking upstream.

Appendix Photo 8. E2 – looking downstream.

Appendix Photo 9. E3 – looking upstream.

Appendix Photo 10. E3 – looking downstream.

Appendix Photo 11. E3(H) – looking upstream.

Appendix Photo 12. E3(H) – looking downstream.

Appendix Photo 13. E3(H) – staff gauge.

Appendix Photo 14. E4 – looking upstream.

Appendix Photo 15. E4 – looking downstream.

Appendix Photo 16. E7 – looking upstream.

Appendix Photo 17. E7 – looking downstream.

Appendix Photo 18. E8 – looking upstream.

Appendix Photo 19. E8 – looking downstream.

Appendix Photo 20. GWCC-1 – overview.

Appendix Photo 21. GWCC-2 – overview.

Appendix Photo 22. GWCC-3 – overview.

Appendix Photo 23. GWCC-4 – overview.

Appendix Photo 24. GWCC-5 – looking upstream.

Appendix Photo 25. GWCC-5 – looking downstream.

Appendix Photo 26. R1 – looking upstream.

Appendix Photo 27. R1 – looking downstream.

Appendix Photo 28. R1B – looking upstream.

Appendix Photo 29. R1B – looking downstream.

Appendix Photo 30. R2 – looking upstream.

Appendix Photo 31. R2 – looking downstream.

Appendix Photo 32. R3 – looking upstream.

Appendix Photo 33. R3 – looking downstream.

Appendix Photo 34. R4 – looking upstream.

Appendix Photo 35. R4 – looking downstream.

Appendix Photo 36. R6 – looking upstream.

Appendix Photo 37. R6 – looking downstream.

Appendix Photo 38. R7 – looking upstream.

Appendix Photo 39. R7 – looking downstream.

Appendix Photo 40. R8 – looking upstream.

Appendix Photo 41. R8 – looking downstream.

Appendix Photo 42. R9 – looking upstream.

Appendix Photo 43. R9 – looking downstream.

Appendix Photo 44. R11 – looking upstream.

Appendix Photo 45. R11 – looking downstream.

Appendix Photo 46. R11(H) – looking upstream.

Appendix Photo 47. R11(H) – looking downstream.

Appendix Photo 48. Upper SL – looking downstream.

Appendix Photo 49. Upper SL – overview.

APPENDIX C HYDROMETRIC AND SURVEY DATA

Discharge Measurement Method Legend

Measurement Method ID	Measurement Method	Measurement Description
ADV-MID	Mid Section Method - Acoustic Doppler Velocimeter	Cross-sectional velocity using an ADV, mid-section method.
SS	Brine Salt Slug Tracer	Salt dilution gauging using a brine salt slug.
V	Volumetric	Volumetric measurement obtained by filling a graduated contained at a culvert, pipe outlet or weir.
W	Weir	Measurement obtained by a rated structure (v-notch weir).
N	None	No measurement could be obtained.
SD	Dry Salt Slug Tracer	Salt dilution gauging using a dry salt slug.
HWM	High Water Mark - Indirect Method	Indirect method using high water mark in the slope-area calculation for estimating high discharges.
ADCP	Acoustic Doppler Current Profiler	Cross-sectional velocity using an ADCP, mid-section method.
SC	Constant Rate Salt Tracer	Salt dilution gauging using the constant rate method.
CM-MID	Mid Section Method - Current Meter	Cross-sectional velocity using a velocimeter (Swoffer or Pygmy AA)

Discharge Data Flag Legend

Discharge Data Flag	Discharge Data Flag Description
E	Estimated value
B	Backwater effects (ice related)
F	Instrument malfunction
M	Manual measurement
A	Automated measurement (logged)
ML	Missing length data
MD	Missing depth data
MW	Missing width data
O	Outside of measurement reporting range
S	Suspect data
X	Poor channel conditions for discharge measurement
MI	Missing Data
SH-L	Data logger Shift
SH-SG	Staff Gauge Shift
UR	Under review

Survey Data Flag Legend

Survey Flag	Survey Flag Description
S	Suspect data
MI	Missing data
UR	Under review
F	Instrument Malfunction
O	Outside measurement Accuracy (+/-0.003 m)
N	No survey conducted
B	Backwater effects (ice related)

Hudgeon Lake survey data - E1(H)			Units in m							
Site ID	Date	Time	Stage	BM1	BM2	BM3	Top of Staff Gauge	Top of Logger Pipe	Staff Gauge	Review notes
E1(H)	2020-05-11	10:55	99.822	100.000	100.997	101.091	99.554	-	1.266	Survey affected by spring thaw (frost heaving).
E1(H)	2020-05-19	14:20	99.147	100.000	101.030	101.127	99.585	-	0.558	Survey affected by spring thaw (frost heaving).
E1(H)	2020-08-04	12:38	99.158	100.000	101.055	101.206	99.660	-	0.498	Benchmark movement since freshet surveys.
E1(H)	2020-10-05	10:00	99.162	100.000	101.052	101.206	99.659	-	0.504	Benchmarks stabilized over the summer.
E1(H)	2021-05-11	12:00	99.396	100.000	100.158	101.129	99.610	99.293	0.780	Benchmark movement since last survey in October 2020.
E1(H)	2021-08-04	12:30	99.063	100.000	100.181	101.239	99.732	99.506	0.328	Benchmark and staff gauge movement since freshet survey, with a lifting trend.
E1(H)	2021-10-06	17:18	99.084	100.000	101.206	101.251	99.681	99.503	0.401	New staff gauge mount installed caused elevation shift.
Site ID	**Date**	**Time**	**Stage**	**BM4**	**BM5**	**BM6**	**Top of Staff Gauge**	**Top of Logger Pipe**	**Staff Gauge**	**Review notes**
E1(H)	2021-10-06	17:24	97.227	100.000	100.789	101.962	97.824	97.646	0.401	New benchmarks installed and staff gauge mount replaced. BM4 used as primary benchmark (old BM1).
E1(H)	2022-05-17	10:38	97.743	100.000	100.800	101.954	97.901	97.707	0.845	Survey affected by spring thaw.

Wolverine Creek survey data - E3(H)			Units in m							
Site ID	Date	Time	Stage	BM1	BM4	BM5	Top of Staff Gauge	Top of Metal Rod	Staff Gauge	Review notes
E3(H)	2020-05-12	9:55	99.385	100.000	100.536	100.480	99.731	-	0.656	Benchmark movement due to spring thaw.
E3(H)	2020-08-03	12:00	99.014	100.000	100.507	100.491	99.743	-	0.269	Benchmark 2 not surveyed.
E3(H)	2020-10-04	12:50	98.984	100.000	-	100.491	99.741	100.151	0.243	Benchmark 2 not surveyed.
E3(H)	2021-05-10	16:25	99.205	100.000	100.524	100.469	99.753	-	0.477	Possible station movement due to spring thaw.
E3(H)	2021-08-02	17:20	98.926	100.000	100.505	100.193	99.754	100.171	0.169	Benchmark 3 is no longer stable and needs replacement. Other benchmarks appear to be stable within the margin of error.
E3(H)	2021-10-04	17:15	98.940	100.000	100.501	100.435	99.734	100.149	0.203	BM3 discontinued due to shore erosion. BM5 installed approximately 5 m downstream of BM3 on right downstream bank. Shifts >0.003 m detected on all stations
E3(H)	2022-05-16	18:20	99.380	100.000	100.541	100.445	99.759	100.176	0.620	Survey affected by spring thaw.

Snowshoe Pit Lake survey data			Units in m							
Site ID	Date	Time	Stage	BM1	BM2	BM3	Top of Staff Gauge	Sensor Casing	Staff Gauge	Review notes
SL Upper	2020-05-11	14:20	98.13	100.000	99.604	100.464	-	-	-	Staff gauge in underwater; unable to find. Station elevations stable.
SL Upper	2020-08-04	9:24	96.13	100.000	99.604	100.466	97.346	-	-	Staff gauge is dry. Staff gauge is no longer level.
SL Upper	2020-10-06	10:20	96.569	100.000	99.603	100.464	97.546	-	0.028	Staff gauge wetted but was no longer upright; surveyed before and after straightening.
SL Upper	2021-05-11	16:35	98.015	100.000	99.604	100.465	97.546		1.429	Benchmarks remain stable.
SL Upper	2021-08-03	12:00	-	-	-	-	-	-	-	Two stagnant ponds of different elevations in Upper Snowshoe Lake; no survey conducted.
SL Upper	2021-10-06	11:50	93.909	100.000	99.606	100.470	97.556	-	-	Stage elevation 2.647 m below bottom of staff gauge. Shifts in BM3 and staff gauge.
SL Upper	2022-05-17	16:40	98.262	100.000	-	100.464	-	-	-	Unable to survey staff gauge (underwater) or BM2 (encased in ice).

APPENDIX D WATER QUALITY DATA TABLES

Water Quality Lab Analysis Summary

				Sample ID	VA22B0989-017	VA22B0989-021-Rep	VA22B0989-021-RPD	VA22B0989-018	VA22B0989-008	VA22B0989-007	VA22B0989-002	VA22B0989-001-Rep	VA22B0989-001-RPD
				Date Sampled	2022-05-17	2022-05-17	2022-05-17	2022-05-17	2022-05-16	2022-05-16	2022-05-16	2022-05-16	2022-05-16
				WQ Site ID	E1	E1	E1	E1(H)	E2	E3	E4	E4	E4
Class	Analyte	Units	CCME - Long term aquatic life	Detection limit		QC - Replicate Sample	QC - Relative Percent Difference					QC - Replicate Sample	QC - Relative Percent Difference
In-situ													
	Dissolved oxygen	mg/L	9.5	-	13.28	13.28	-	9.87	12.77	13.33	12.79	12.79	-
	Dissolved oxygen, percent	%	-	-	94.7	94.7	-	68.5	92.6	94	93.4	93.4	-
	Field pH	pH	6.5-9.0	-	7.44	7.44	-	7.86	7.67	7.72	7.54	7.54	-
	Field temperature	℃	-	-	1.5	1.5	-	0.4	2.2	1.1	2.4	2.4	-
	Field turbidity	NTU	-	-	37.1	37.1	-	0.89	34.5	92.9	40.4	40.4	-
	Specific conductivity	µS/cm	-	-	192.6	192.6	-	829.3	300.1	172.3	285.5	285.5	-
	Oxidation/Reduction Potential	mV	-	-	139	139	-	114.2	203.1	177.4	211.5	177.4	-
Physical													
	Conductivity	µS/cm	-	0.1	194	198	2.0%	267	286	171	285	276	3.2%
	Dissolved Hardness (CaCO3)	mg/L	-	0.05	102	99.4	2.6%	138	145	87.2	144	143	0.7%
	Dissolved Organic Carbon (C)	mg/L	-	0.05	37.1	36.8	0.8%	35.2	37	34.6	39.9	38.2	4.4%
	Hardness (CaCO3)	mg/L	-	0.05	104	102	1.9%	137	152	119	150	155	3.3%
	pH	pH	6.5-9.0	0.01	7.7	7.47	3.0%	7.8	7.78	7.72	7.81	7.8	0.1%
	Total Suspended Solids	mg/L	-	4	34	19	**56.6%**	16	22	160	45	45	**112.2%**
Nutrients													
	Ammonia, Total (as N)	mg/L	Variable	0.0005	0.0086	0.0091	5.6%	0.01	0.0098	0.0246	0.0122	0.0224	**59.0%**
	Ammonia, Total (as N) - CCME long term guideline based on field pH & temperature				*6.02*	*6.02*	-	*6.02*	*6.02*	*6.02*	*6.02*	*6.02*	-
	Dissolved phosphorus (P)	mg/L	-	0.005	<0.005	<0.005	<5DL	<0.005	<0.005	<0.005	<0.005	<0.005	<5DL
	Nitrate (as N)	mg/L	3	0.0005	0.0212	0.0223	5.1%	0.027	0.0455	<0.0005	0.0505	0.0342	**38.5%**
	Nitrite (as N)	mg/L	0.06	0.0001	<0.0001	<0.0001	<5DL	<0.0001	<0.0001	<0.0001	0.0012	<0.0001	<5DL
	Total phosphorus (P)	mg/L	-	0.005	<0.005	<0.005	<5DL	<0.005	<0.005	<0.005	<0.005	<0.005	<5DL
Inorganics													
	Bromide (Br)	mg/L	-	0.005	<0.005	<0.005	<5DL	<0.005	<0.005	<0.005	<0.005	<0.005	<5DL
	Chloride (Cl)	mg/L	120	0.05	<0.05	<0.05	<5DL	<0.05	<0.05	<0.05	<0.05	<0.05	<5DL
	Fluoride (F)	mg/L	0.12	0.002	0.076	0.067	12.6%	0.069	0.072	0.063	0.069	0.069	0.0%
	Sulphate (SO4)	mg/L	-	0.03	54.2	55.4	2.2%	83.7	98.7	46.5	92.6	90.2	2.6%
Asbestos													
	Chrysotile	MFL	-	10.5	-	-	-	-	500.61	1923.41	-	-	-
	Amosite	MFL	-	10.5	-	-	-	-	<AS	<AS	-	-	-
	Crocidolite	MFL	-	10.5	-	-	-	-	<AS	<AS	-	-	-
	Actinolite	MFL	-	10.5	-	-	-	-	<AS	<AS	-	-	-
	Tremolite	MFL	-	10.5	-	-	-	-	<AS	<AS	-	-	-
	Anthophyllite	MFL	-	10.5	-	-	-	-	<AS	<AS	-	-	-
	Total Asbestos	MFL	-	10.5	-	-	-	-	500.61	1923.41	-	-	-
Total metals													
	Aluminum (Al)	mg/L	0.1	0.0003	**0.758**	**0.557**	**30.6%**	**0.67**	**0.617**	**1.97**	**0.79**	**0.835**	5.5%
	Antimony (Sb)	mg/L		0.00001	0.00042	0.00027	**43.5%**	0.00024	0.00037	0.00058	0.00047	0.00048	2.1%
	Arsenic (As)	mg/L	0.005	0.00001	0.00196	0.00141	**32.6%**	0.00127	0.00164	0.00245	0.0019	0.00197	3.6%
	Barium (Ba)	mg/L		0.00001	0.0578	0.0464	**21.9%**	0.052	0.0459	0.0871	0.0526	0.053	0.8%
	Beryllium (Be)	mg/L		0.000001	<0.000001	<0.000001	<5DL	<0.000001	<0.000001	0.0001	<0.000001	<0.000001	<5DL
	Bismuth (Bi)	mg/L		0.000001	<0.000001	<0.000001	<5DL	<0.000001	<0.000001	<0.000001	<0.000001	<0.000001	<5DL
	Boron (B)	mg/L	1.5	0.001	<0.001	<0.001	<5DL	<0.001	0.012	0.019	0.014	0.014	0.0%
	Cadmium (Cd)	mg/L	Variable	0.0000001	0.000111	0.000106	4.6%	0.0000908	0.0000966	**0.000147**	0.000132	0.000133	0.8%
	Cadmium (Cd) - CCME long term guideline based on dissolved hardness				*0.000161*	*0.000158*	-	*0.000207*	*0.000216*	*0.000141*	*0.000215*	*0.000213*	-
	Calcium (Ca)	mg/L		0.005	22.4	22.8	1.8%	28.7	29.1	17.5	28.6	29.7	3.8%
	Cesium (Cs)	mg/L		0.000001	0.000308	0.000162	**62.1%**	0.000184	0.000625	0.000367	0.000495	0.000496	0.2%
	Chromium (Cr)	mg/L	0.001	0.00005	**0.00736**	**0.00369**	**66.4%**	**0.00267**	**0.00371**	0.0453	0.00973	0.0108	10.4%
	Chromium, hexavalent (Cr VI)	mg/L	0.001	0.00005	<0.00005	<0.00005	<5DL	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<5DL
	Chromium, trivalent (Cr III)	mg/L	0.0089	0.00005	0.00736	0.00369	**66.4%**	0.00267	0.00371	**0.0453**	**0.00973**	**0.0108**	10.4%
	Cobalt (Co)	mg/L		0.00001	0.00141	0.00108	**26.5%**	0.00091	0.00099	0.00319	0.00164	0.00164	0.0%
	Copper (Cu)	mg/L	Variable	0.00005	**0.0048**	**0.00438**	9.2%	**0.00398**	**0.00429**	**0.00697**	**0.00484**	**0.00509**	5.0%
	Copper (Cu) - CCME long term guideline based on dissolved hardness				*0.00241*	*0.00235*	-	*0.00311*	*0.00325*	*0.0021*	*0.00323*	*0.00321*	-
	Iron (Fe)	mg/L	0.3	0.001	**1.6**	**1.24**	**25.4%**	**1.21**	**1.3**	**4.11**	**1.84**	**1.95**	5.8%
	Lead (Pb)	mg/L	Variable	0.000001	0.00241	0.00213	12.3%	0.00181	0.00116	0.00191	0.00139	0.00145	4.2%
	Lead (Pb) - CCME long term guideline based on dissolved hardness				*0.00326*	*0.00316*	-	*0.00479*	*0.00511*	*0.00267*	*0.00506*	*0.00502*	-
	Lithium (Li)	mg/L		0.0001	0.0019	0.0017	11.1%	0.0022	0.0028	0.0028	0.0032	0.0033	3.1%
	Magnesium (Mg)	mg/L		0.0005	11.7	11	6.2%	15.8	19.2	18.2	19.1	19.7	3.1%
	Manganese (Mn)	mg/L	Variable	0.00001	0.146	0.143	2.1%	0.146	0.128	0.166	0.153	0.157	2.6%
	Manganese (Mn) - CCME long term guideline based on dissolved hardness & field pH				*0.53*	*0.49*	-	*0.57*	*0.5*	*0.44*	*0.57*	*0.57*	-
	Mercury (Hg)	mg/L	0.000026	0.0000001	0.0000109	0.0000119	8.8%	0.0000053	0.0000118	0.0000056	0.0000134	0.0000105	**24.3%**
	Molybdenum (Mo)	mg/L	0.073	0.000001	0.000554	0.000478	14.7%	0.000574	0.00067	0.000716	0.000778	0.000798	2.5%
	Nickel (Ni)	mg/L	Variable	0.00005	0.0162	0.0102	**45.5%**	0.00641	0.0116	0.0652	0.0232	0.0239	3.0%
	Nickel (Ni) - CCME long term guideline based on dissolved hardness				*0.097*	*0.0951*	-	*0.122*	*0.127*	*0.0861*	*0.126*	*0.125*	-
	Potassium (K)	mg/L		0.005	1.01	0.951	6.0%	1.07	0.991	0.967	1.04	1.06	1.9%
	Rubidium (Rd)	mg/L		0.00002	0.00131	0.00094	**32.9%**	0.00128	0.00158	0.00276	0.00159	0.00158	0.6%
	Selenium (Se)	mg/L	0.001	0.000001	0.000937	0.000874	7.0%	0.000793	**0.00214**	0.00063	**0.00182**	**0.00187**	2.7%
	Silicon (Si)	mg/L		0.01	3.81	3.21	17.1%	3.69	3.66	9.41	4.47	4.69	4.8%
	Silver (Ag)	mg/L	0.00025	0.000001	0.000035	0.000024	**37.3%**	0.000024	0.000026	0.000057	0.000034	0.000037	8.5%
	Sodium (Na)	mg/L		0.005	1.22	1.24	1.6%	1.61	1.4	1.32	1.53	1.57	2.6%
	Strontium (Sr)	mg/L		0.00002	0.11	0.112	1.8%	0.144	0.149	0.0921	0.15	0.154	2.6%
	Sulphur (S)	mg/L		0.05	19.2	19	1.0%	28.1	33.8	15	31.5	32.2	2.2%
	Tellurium (Te)	mg/L		0.00002	<0.00002	<0.00002	<5DL	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<5DL
	Thallium (Tl)	mg/L	0.0008	0.000001	0.000022	0.000014	**44.4%**	0.000012	0.000018	0.000028	0.000023	0.000023	0.0%
	Thorium (Th)	mg/L		0.00001	0.00024	0.00016	**40.0%**	0.00017	0.00019	0.00033	0.00022	0.00023	4.4%
	Tin (Sn)	mg/L		0.00001	<0.00001	<0.00001	<5DL	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<5DL
	Titanium (Ti)	mg/L		0.00003	<0.00003	0.0125	<5DL	<0.00003	0.0139	0.0365	0.0164	0.0198	18.8%
	Tungsten (W)	mg/L		0.00001	<0.00001	<0.00001	<5DL	<0.00001	<0.00001	0.00011	<0.00001	<0.00001	<5DL
	Uranium (U)	mg/L	0.015	0.000001	0.000842	0.00078	7.6%	0.00118	0.00095	0.00134	0.00101	0.00103	2.0%
	Vanadium (V)	mg/L		0.00005	0.0025	0.00163	**42.1%**	0.00204	0.00202	0.00561	0.00229	0.00245	6.8%
	Zinc (Zn)	mg/L		0.0003	0.0091	0.0081	11.6%	0.0075	0.0069	0.0158	0.01	0.0098	2.0%
	Zirconium (Zr)	mg/L		0.00002	0.00127	0.00111	13.4%	0.001	0.00101	0.00112	0.00094	0.00101	7.2%

Sample ID	VA22B0989-004	VA22B0989-005	VA22B0989-012	VA22B0989-013	VA22B0989-014	VA22B0989-015	VA22B0989-009	VA22B0989-023	VA22B0989-024	VA22B0989-011
Date Sampled	2022-05-16	2022-05-16	2022-05-17	2022-05-17	2022-05-17	2022-05-17	2022-05-16	2022-05-18	2022-05-18	2022-05-17
WQ Site ID	E7	E8	GWCC-1	GWCC-2	GWCC-3	GWCC-4	GWCC-5	R1	R2	R3
In-situ										
Dissolved oxygen	13.15	13.03	11.87	11.7	**7.75**	**7.45**	**7.35**	13.56	13.58	12.81
Dissolved oxygen, percent	92.7	93.1	87	85.5	56.4	54.2	59.3	94	93.4	87.1
Field pH	7.54	7.41	7.68	7.66	7.43	7.47	7.48	8.92	8.78	7.46
Field temperature	1.1	1.6	2.5	2.4	2.1	2.1	6.1	0.6	0.2	0.6
Field turbidity	39.5	46.9	1.63	0.58	0.11	0.13	0.35	56.3	194	167
Specific conductivity	305	93.7	980	1019	2368	2453	1108	165.2	150.6	148
Oxidation/Reduction Potential	238.8	199.7	155.5	152.3	161.4	160.1	133.9	11.2	11.2	177.3
Physical										
Conductivity	293	88.8	945	978	2250	2400	1070	164	160	161
Dissolved Hardness (CaCO3)	153	45.1	510	557	1530	1610	618	81.5	83.3	82.5
Dissolved Organic Carbon (C)	42.2	37	25	23.6	13.4	11	10.7	38.3	33.3	32.6
Hardness (CaCO3)	161	51	532	565	1550	1600	613	84.8	92.5	95.1
pH	7.82	7.44	8.2	8.25	8.29	8.29	8.32	7.3	7.35	7.7
Total Suspended Solids	75	85	6.3	<4	<4	<4	<4	100	630	270
Nutrients										
Ammonia, Total (as N)	0.0169	0.0091	<0.0005	0.0057	<0.0005	<0.0005	0.0075	0.0136	0.0255	0.0402
Ammonia, Total (as N) - CCME long term guideline based on field pH & temperature	*6.02*	*6.02*	*6.02*	*6.02*	*6.02*	*6.02*	*3.98*	*0.206*	*0.206*	*6.02*
Dissolved phosphorus (P)	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.055	<0.005
Nitrate (as N)	0.0372	0.0053	0.37	0.417	0.762	0.726	<0.0005	0.0285	<0.0005	<0.0005
Nitrite (as N)	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Total phosphorus (P)	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Inorganics										
Bromide (Br)	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Chloride (Cl)	<0.05	0.57	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Fluoride (F)	0.072	0.055	**0.235**	**0.228**	<0.002	<0.002	**0.146**	0.057	0.076	0.067
Sulphate (SO4)	96.1	17.8	417	447	1320	1400	427	44.7	43.6	45
Asbestos										
Chrysotile	-	-	-	-	-	-	-	<AS	-	21.08
Amosite	-	-	-	-	-	-	-	<AS	-	<AS
Crocidolite	-	-	-	-	-	-	-	<AS	-	<AS
Actinolite	-	-	-	-	-	-	-	<AS	-	<AS
Tremolite	-	-	-	-	-	-	-	<AS	-	<AS
Anthophyllite	-	-	-	-	-	-	-	<AS	-	<AS
Total Asbestos	-	-	-	-	-	-	-	<AS	-	21.08
Total metals										
Aluminum (Al)	**0.777**	**1.72**	0.0573	0.0107	0.0072	0.008	<0.0003	**0.697**	**2.9**	**3.67**
Antimony (Sb)	0.0004	0.00011	0.00229	0.0022	0.0013	0.00106	0.00077	0.00018	0.00066	0.00036
Arsenic (As)	0.0019	0.00155	**0.0081**	**0.00609**	0.00157	0.00143	0.00067	0.00168	0.00436	0.00387
Barium (Ba)	0.0542	0.0542	0.013	0.00924	0.0304	0.0442	0.0531	0.0479	0.142	0.166
Beryllium (Be)	<0.000001	<0.000001	<0.000001	<0.000001	<0.000001	<0.000001	<0.000001	<0.000001	0.00016	0.000184
Bismuth (Bi)	<0.000001	<0.000001	<0.000001	<0.000001	<0.000001	<0.000001	<0.000001	<0.000001	<0.000001	0.00005
Boron (B)	0.014	<0.001	0.056	0.063	0.168	0.174	0.056	<0.001	<0.001	<0.001
Cadmium (Cd)	0.00014	0.0000668	0.0000402	0.0000566	0.000108	0.0000894	0.000108	**0.000182**	**0.000333**	**0.000246**
Cadmium (Cd) - CCME long term guideline based on dissolved hardness	*0.000226*	*0.0000818*	*0.00037*	*0.00037*	*0.00037*	*0.00037*	*0.00037*	*0.000134*	*0.000136*	*0.000135*
Calcium (Ca)	31.2	12.3	104	103	166	173	138	20.9	18.4	20.6
Cesium (Cs)	0.000349	0.000176	0.00792	0.00554	0.00656	0.00783	0.000257	0.000066	0.000459	0.000641
Chromium (Cr)	**0.0075**	**0.00271**	**0.00151**	**0.00136**	**0.0021**	**0.00222**	**0.00123**	**0.00195**	0.00897	0.00952
Chromium, hexavalent (Cr VI)	<0.00005	<0.00005	0.0006	0.0007	**0.0019**	**0.0018**	0.0008	<0.00005	<0.00005	<0.00005
Chromium, trivalent (Cr III)	0.0075	0.00271	0.00091	0.00066	<0.00005	<0.00005	<0.00005	0.00195	**0.00897**	**0.00952**
Cobalt (Co)	0.00168	0.00165	0.00018	0.00014	<0.00001	<0.00001	0.00014	0.00136	0.00488	0.00421
Copper (Cu)	**0.00529**	**0.00533**	0.00373	0.00373	0.00186	0.00132	0.00095	**0.00589**	**0.0115**	**0.013**
Copper (Cu) - CCME long term guideline based on dissolved hardness	*0.0034*	*0.002*	*0.004*	*0.004*	*0.004*	*0.004*	*0.004*	*0.002*	*0.00202*	*0.00201*
Iron (Fe)	**1.94**	**2.67**	0.127	0.05	<0.001	0.028	0.128	**1.8**	**6.05**	**7.67**
Lead (Pb)	0.00126	**0.00105**	0.000051	<0.000001	<0.000001	<0.000001	<0.000001	**0.00303**	**0.00414**	**0.00444**
Lead (Pb) - CCME long term guideline based on dissolved hardness	*0.00547*	*0.001*	*0.007*	*0.007*	*0.007*	*0.007*	*0.007*	*0.00245*	*0.00252*	*0.00249*
Lithium (Li)	0.0038	0.0028	0.0141	0.0128	0.0217	0.0198	0.0079	0.0014	0.0038	0.0044
Magnesium (Mg)	20.1	4.92	66.2	74.8	276	285	65.1	7.92	11.3	10.6
Manganese (Mn)	0.227	0.168	0.00329	0.00084	0.0007	0.00083	0.0172	**0.198**	**0.41**	0.265
Manganese (Mn) - CCME long term guideline based on dissolved hardness & field pH	*0.6*	*0.35*	*0.65*	*0.65*	*0.86*	*0.86*	*0.77*	*0.12*	*0.12*	*0.49*
Mercury (Hg)	0.0000126	<0.0000001	0.0000094	0.0000104	0.0000058	<0.0000001	0.0000057	0.000014	0.0000087	0.0000145
Molybdenum (Mo)	0.000746	0.000259	0.0023	0.00246	0.00411	0.00418	0.00223	0.000435	0.000501	0.000844
Nickel (Ni)	0.0205	0.00519	0.0316	0.0331	0.0536	0.0593	0.0253	0.00626	0.0208	0.0186
Nickel (Ni) - CCME long term guideline based on dissolved hardness	*0.132*	*0.025*	*0.15*	*0.15*	*0.15*	*0.15*	*0.15*	*0.0818*	*0.0832*	*0.0826*
Potassium (K)	1.08	1.85	1.24	1.24	2.15	2.16	1.29	0.921	0.853	1.23
Rubidium (Rd)	0.00149	0.00277	0.00766	0.00587	0.00641	0.00613	0.00273	0.00079	0.00283	0.00572
Selenium (Se)	**0.00166**	0.000189	**0.0275**	**0.0278**	**0.0172**	**0.0128**	**0.0225**	**0.00122**	0.000596	0.000644
Silicon (Si)	4.34	4.91	5.72	5.6	4.96	5.19	5.26	3.08	6.63	7.68
Silver (Ag)	0.000033	0.000018	<0.000001	<0.000001	<0.000001	<0.000001	<0.000001	0.000025	0.000049	0.000098
Sodium (Na)	1.82	2.12	2.94	2.82	7.99	8.01	4.68	1.11	1.02	1.12
Strontium (Sr)	0.165	0.0704	0.663	0.649	1.01	0.986	0.764	0.0992	0.0986	0.107
Sulphur (S)	33.1	6.02	155	166	483	508	146	15.6	15.2	15.4
Tellurium (Te)	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002
Thallium (Tl)	0.000018	0.000015	0.000031	0.000034	0.000058	0.000061	0.000017	0.000011	0.000039	0.000058
Thorium (Th)	0.00022	0.00027	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	0.00019	0.00031	0.00058
Tin (Sn)	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001
Titanium (Ti)	0.0179	0.054	0.00303	0.00048	<0.00003	<0.00003	<0.00003	0.0134	0.0524	0.0546
Tungsten (W)	<0.00001	<0.00001	0.00012	0.00012	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001
Uranium (U)	0.00113	0.000655	0.00184	0.00184	0.00555	0.00586	0.00429	0.000639	0.00148	0.00287
Vanadium (V)	0.00236	0.00484	0.00058	<0.00005	<0.00005	<0.00005	<0.00005	0.0021	0.0094	0.0099
Zinc (Zn)	0.0102	0.0114	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	0.0127	0.0252	0.0348
Zirconium (Zr)	0.00113	0.00076	0.00026	<0.00002	<0.00002	<0.00002	0.00023	0.00114	0.00102	0.00144

Sample ID	VA22B0989-003	VA22B0989-006	VA22B0989-019	VA22B0989-025	VA22B0989-020	VA22B0989-010	VA22B0989-016	VA22B0989-022	VA22B0989-026
Date Sampled	2022-05-16	2022-05-16	2022-05-17	2022-05-18	2022-05-17	2022-05-17	2022-05-17	2022-05-17	2022-05-18
WQ Site ID	R4	R6	R7	R8	R9	R11	SL	Field Blank	Travel Blank
Analyte								QC - Blank	QC - Blank
In-situ									
Dissolved oxygen	13.64	12.85	13.29	13.28	13.65	13.71	12.93	-	-
Dissolved oxygen, percent	93.8	93.4	91.4	94.7	94.4	94.5	94.3	-	-
Field pH	7.6	7.21	7.06	8.23	**9.88**	7.14	8.61	-	-
Field temperature	0.2	2.2	0.3	1.5	0.4	0.8	2.3	-	-
Field turbidity	58.6	46.1	52.3	34.8	157	74.4	6.75	-	-
Specific conductivity	170	81.8	39.3	56.5	66.6	99.5	712.5	-	-
Oxidation/Reduction Potential	208.4	200.7	140.7	6.6	139.5	182.7	141.7	-	-
Physical									
Conductivity	168	79.5	40.6	56.5	64.8	94.7	847	<0.1	<0.1
Dissolved Hardness (CaCO3)	87.4	39	26.9	31	39.9	49.3	470	<0.05	-
Dissolved Organic Carbon (C)	49	34.1	52.4	33.9	53.7	36.3	25	<0.05	-
Hardness (CaCO3)	97.6	47.9	34.2	33.2	54.1	59	485	<0.05	<0.05
pH	7.65	7.42	**6.3**	6.82	6.7	7.31	8.26	**5.25**	**5.25**
Total Suspended Solids	130	150	270	56	560	150	17	<4	<4
Nutrients									
Ammonia, Total (as N)	0.0239	0.0115	0.0176	0.0088	0.0215	0.017	0.0063	<0.0005	<0.0005
Ammonia, Total (as N) - CCME long term guideline based on field pH & temperature	*6.02*	*19*	*19*	*1.92*	*0.0345*	*19*	*0.616*	-	-
Dissolved phosphorus (P)	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	-
Nitrate (as N)	<0.0005	<0.0005	<0.0005	<0.0005	0.033	<0.0005	0.125	<0.0005	<0.0005
Nitrite (as N)	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Total phosphorus (P)	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Inorganics									
Bromide (Br)	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Chloride (Cl)	<0.05	0.58	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Fluoride (F)	0.066	0.054	0.035	0.064	0.046	0.061	**0.188**	<0.002	<0.002
Sulphate (SO4)	46.1	14.2	3.54	10.4	13.1	25.2	358	<0.03	<0.03
Asbestos									
Chrysotile	-	-	-	-	-	-	-	-	-
Amosite	-	-	-	-	-	-	-	-	-
Crocidolite	-	-	-	-	-	-	-	-	-
Actinolite	-	-	-	-	-	-	-	-	-
Tremolite	-	-	-	-	-	-	-	-	-
Anthophyllite	-	-	-	-	-	-	-	-	-
Total Asbestos	-	-	-	-	-	-	-	-	-
Total metals									
Aluminum (Al)	**1.95**	**3.18**	**2.59**	**0.74**	**4.34**	**1.91**	**0.197**	<0.0003	<0.0003
Antimony (Sb)	0.0003	0.00013	0.00015	0.00113	0.002	0.00023	0.00228	<0.00001	<0.00001
Arsenic (As)	0.00269	0.00228	0.00181	0.00109	0.00273	0.00196	**0.015**	<0.00001	<0.00001
Barium (Ba)	0.0988	0.0753	0.0962	0.0492	0.141	0.097	0.016	<0.00001	<0.00001
Beryllium (Be)	<0.000001	0.000127	<0.000001	<0.000001	0.000161	<0.000001	<0.000001	<0.000001	<0.000001
Bismuth (Bi)	<0.000001	<0.000001	<0.000001	<0.000001	<0.000001	<0.000001	<0.000001	<0.000001	<0.000001
Boron (B)	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.033	<0.001	<0.001
Cadmium (Cd)	**0.00024**	**0.0001**	**0.000123**	**0.000164**	**0.000227**	**0.000182**	0.0000409	<0.0000001	<0.0000001
Cadmium (Cd) - CCME long term guideline based on dissolved hardness	*0.000142*	*0.0000725*	*0.0000533*	*0.00006*	*0.0000739*	*0.0000881*	*0.00037*	*0.00004*	-
Calcium (Ca)	24.8	11.8	7.61	8.12	12.5	13.2	108	<0.005	<0.005
Cesium (Cs)	0.000305	0.000351	0.000157	0.00012	0.00025	0.000203	0.0035	<0.000001	<0.000001
Chromium (Cr)	**0.00614**	**0.00469**	**0.00703**	**0.00526**	0.0111	**0.0067**	**0.0033**	<0.00005	<0.00005
Chromium, hexavalent (Cr VI)	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	0.0005	-	-
Chromium, trivalent (Cr III)	0.00614	0.00469	0.00703	0.00526	**0.0111**	0.0067	0.0028	-	-
Cobalt (Co)	0.00183	0.00278	0.00188	0.00093	0.004	0.00192	0.00038	<0.00001	<0.00001
Copper (Cu)	**0.007**	**0.00744**	**0.00682**	**0.00613**	**0.0111**	**0.00723**	**0.00443**	<0.00005	<0.00005
Copper (Cu) - CCME long term guideline based on dissolved hardness	*0.00211*	*0.002*	*0.002*	*0.002*	*0.002*	*0.002*	*0.004*	*0.002*	-
Iron (Fe)	**3.28**	**4.66**	**4.05**	**1.75**	**7.7**	**3.55**	**0.377**	<0.001	<0.001
Lead (Pb)	0.00167	**0.00179**	**0.00138**	**0.00106**	**0.00246**	**0.00209**	0.000143	<0.000001	<0.000001
Lead (Pb) - CCME long term guideline based on dissolved hardness	*0.00268*	*0.001*	*0.001*	*0.001*	*0.001*	*0.001*	*0.007*	*0.001*	-
Lithium (Li)	0.0026	0.0038	0.0019	<0.0001	0.0034	0.0019	0.0059	<0.0001	<0.0001
Magnesium (Mg)	8.67	4.47	3.68	3.15	5.57	6.32	52.4	<0.0005	<0.0005
Manganese (Mn)	0.209	0.232	0.152	0.0678	**0.323**	0.169	0.00874	<0.00001	<0.00001
Manganese (Mn) - CCME long term guideline based on dissolved hardness & field pH	*0.44*	*0.38*	*0.38*	*0.2*	*0.1*	*0.38*	*0.21*	*0.26*	-
Mercury (Hg)	0.000013	<0.0000001	0.0000081	0.0000104	0.00001	0.0000074	0.0000175	<0.0000001	<0.0000001
Molybdenum (Mo)	0.000667	0.00027	0.000203	0.000483	0.000475	0.000548	0.00189	<0.000001	<0.000001
Nickel (Ni)	0.0152	0.00647	0.00857	0.00856	0.012	0.00898	0.0175	<0.00005	<0.00005
Nickel (Ni) - CCME long term guideline based on dissolved hardness	*0.0863*	*0.025*	*0.025*	*0.025*	*0.025*	*0.025*	*0.15*	*0.025*	-
Potassium (K)	0.733	2.03	0.679	0.562	0.916	0.802	1.01	<0.005	<0.005
Rubidium (Rd)	0.00214	0.00457	0.00223	0.00074	0.00294	0.00189	0.00321	<0.00002	<0.00002
Selenium (Se)	**0.00117**	0.000166	0.000253	**0.00135**	0.000455	0.000634	**0.0243**	<0.000001	<0.000001
Silicon (Si)	5.48	7.23	5.14	3.32	8.49	5.41	4.52	<0.01	<0.01
Silver (Ag)	0.000058	0.000025	0.000032	0.000035	0.00005	0.000061	0.000012	<0.000001	<0.000001
Sodium (Na)	1.4	2.24	0.673	1.01	0.89	1.44	1.79	<0.005	<0.005
Strontium (Sr)	0.133	0.0709	0.0322	0.0371	0.0517	0.0741	0.544	<0.00002	<0.00002
Sulphur (S)	16.2	4.53	1.22	3.61	4.19	8.41	131	<0.05	<0.05
Tellurium (Te)	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002
Thallium (Tl)	0.000022	0.000027	0.000017	<0.000001	0.000027	0.00002	0.00002	<0.000001	<0.000001
Thorium (Th)	0.00029	0.0004	0.00022	0.00013	0.00036	0.0003	<0.00001	<0.00001	<0.00001
Tin (Sn)	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001
Titanium (Ti)	0.043	0.114	0.0737	0.0122	0.156	0.035	0.00727	<0.00003	<0.00003
Tungsten (W)	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001
Uranium (U)	0.00129	0.000772	0.00019	0.000254	0.00033	0.000628	0.00155	<0.000001	<0.000001
Vanadium (V)	0.00541	0.00902	0.00731	0.00233	0.013	0.00562	0.0008	<0.00005	<0.00005
Zinc (Zn)	0.0141	0.0181	0.0155	0.0104	0.0253	0.0152	<0.0003	<0.0003	<0.0003
Zirconium (Zr)	0.0013	0.00085	0.00064	0.00077	0.00095	0.00137	0.00037	<0.00002	<0.00002

Water Quality Lab Analysis Summary

						VA22B0989-021-	VA22B0989-021-						VA22B0989-001-	VA22B0989-001-																			
				Sample ID	VA22B0989-017	Rep	RPD	VA22B0989-018	VA22B0989-008	VA22B0989-007	VA22B0989-002		Rep	RPD	VA22B0989-004	VA22B0989-005	VA22B0989-012	VA22B0989-013	VA22B0989-014	VA22B0989-015	VA22B0989-009	VA22B0989-023	VA22B0989-024	VA22B0989-011	VA22B0989-003	VA22B0989-006	VA22B0989-019	VA22B0989-025	VA22B0989-020	VA22B0989-010	VA22B0989-016	VA22B0989-022	VA22B0989-026
				Date Sampled	2022-05-17	2022-05-17	2022-05-17	2022-05-17	2022-05-16	2022-05-16	2022-05-16		2022-05-16	2022-05-16	2022-05-16	2022-05-16	2022-05-17	2022-05-17	2022-05-17	2022-05-17	2022-05-17	2022-05-18	2022-05-18	2022-05-17	2022-05-16	2022-05-16	2022-05-17	2022-05-18	2022-05-17	2022-05-17	2022-05-17	2022-05-17	2022-05-18
				WQ Site ID	E1	E1	E1	E1(H)	E2	E3	E4		E4	E4	E7	E8	GWCC-1	GWCC-2	GWCC-3	GWCC-4	GWCC-5	R1	R2	R3	R4	R6	R7	R8	R9	R11	SL	Field Blank	Travel Blank
Class	Analyte	Units	CCME - Long term aquatic life	Detection limit		QC - Replicate Sample	QC - Relative Percent Difference						QC - Replicate Sample	QC - Relative Percent Difference																		QC - Blank	QC - Blank
Dissolved metals																																	
	Aluminum (Al)	mg/L		0.0001	0.2	0.197	1.5%	0.178	0.177	0.214	0.422	0.337	**22.4%**	0.184	0.442	0.0068	0.0063	0.0046	0.0025	0.0018	0.21	0.71	0.206	0.232	0.2	0.274	0.187	0.288	0.273	0.025	<0.0001	-
	Antimony (Sb)	mg/L		0.00001	0.00017	0.00018	5.7%	0.00018	0.00026	0.00022	0.00029	0.00028	3.5%	0.00024	<0.00001	0.00218	0.00212	0.00122	0.00102	0.00074	0.00012	0.00027	0.00012	0.00013	<0.00001	<0.00001	0.00045	<0.00001	<0.00001	0.00208	<0.00001	-
	Arsenic (As)	mg/L		0.00001	0.00068	0.00066	3.0%	0.00063	0.00083	0.00082	0.00134	0.00114	16.1%	0.00081	0.0007	0.0079	0.00594	0.00147	0.0014	0.0007	0.00062	0.0015	0.00072	0.00074	0.00049	0.00042	0.00047	0.00045	0.00059	0.0142	<0.00001	-
	Barium (Ba)	mg/L		0.00001	0.033	0.0307	7.2%	0.0373	0.0317	0.0266	0.0445	0.0392	12.7%	0.0323	0.0316	0.011	0.009	0.0305	0.0412	0.0548	0.0262	0.052	0.0223	0.0421	0.0258	0.0324	0.0199	0.0416	0.0285	0.0118	<0.00001	-
	Beryllium (Be)	mg/L		0.0000001	<0.000001	<0.000001	<5DL	<0.000001	<0.000001	<0.000001	<0.000001	<0.000001	<5DL	<0.000001	<0.000001	<0.000001	<0.000001	<0.000001	<0.000001	<0.000001	<0.000001	<0.000001	<0.000001	<0.000001	<0.000001	<0.000001	<0.000001	<0.000001	<0.000001	<0.000001	<0.000001	-
	Bismuth (Bi)	mg/L		0.00001	<0.000001	<0.000001	<5DL	<0.000001	<0.000001	<0.000001	<0.000001	<0.000001	<5DL	<0.000001	<0.000001	<0.000001	<0.000001	<0.000001	<0.000001	<0.000001	<0.000001	<0.000001	<0.000001	<0.000001	<0.000001	<0.000001	<0.000001	<0.000001	<0.000001	<0.000001	<0.000001	-
	Boron (B)	mg/L		0.001	<0.001	<0.001	<5DL	<0.001	0.01	0.012	0.014	0.013	7.4%	0.012	<0.001	0.053	0.058	0.157	0.166	0.054	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.03	<0.001	-
	Cadmium (Cd)	mg/L		0.0000001	0.0000506	0.0000516	2.0%	0.0000504	0.0000562	0.0000164	0.000117	0.000083	**34.0%**	0.000063	0.0000351	0.0000391	0.0000524	0.000105	0.000095	0.00102	0.0000737	0.0000915	0.0000125	0.0000644	0.0000265	0.00005	0.0000382	0.0000605	0.0000395	0.0000318	<0.0000001	-
	Calcium (Ca)	mg/L		0.005	21.7	22	1.4%	29.2	27.5	16.3	27.9	27.9	0.0%	30.3	11.1	97.2	102	162	167	139	19.5	15.4	17.5	22.3	10	6.14	7.4	9.9	11.2	103	<0.005	-
	Cesium (Cs)	mg/L		0.000001	0.000017	0.000016	6.1%	<0.000001	0.000307	<0.000001	0.000284	0.000239	17.2%	0.00008	0.000032	0.00773	0.00556	0.00625	0.00765	0.000253	<0.000001	0.000079	<0.000001	<0.000001	<0.000001	<0.000001	<0.000001	<0.000001	<0.000001	0.00323	<0.000001	-
	Chromium (Cr)	mg/L		0.00005	0.00152	0.00147	3.3%	0.00139	0.0016	0.00496	0.0055	0.00508	7.9%	0.00182	0.00075	0.00125	0.00111	0.00192	0.00185	0.00114	0.00082	0.00311	0.00191	0.00132	<0.00005	0.00302	0.00423	0.00198	0.00272	0.0016	<0.00005	-
	Chromium, hexavalent (Cr VI)	mg/L		0.00005	<0.00005	<0.00005	<5DL	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<5DL	<0.00005		0.0005	0.0006	0.0018	0.0018	0.0008		<0.00005	<0.00005	<0.00005		<0.00005	<0.00005	<0.00005	<0.00005	0.0006		-
	Chromium, trivalent (Cr III)	mg/L		0.00005	0.00152	0.00147	3.3%	0.00139	0.0016	0.00496	0.0055	0.00508	7.9%	0.00182		0.00075	0.00051	<0.00005	<0.00005	<0.00005		0.00311	0.00191	0.00132		0.00302	0.00423	0.00198	0.00272	0.001		-
	Cobalt (Co)	mg/L		0.00001	0.00053	0.00052	1.9%	0.0005	0.00048	0.00047	0.00101	0.00087	14.9%	0.00055	0.00075	0.00011	0.00013	<0.00001	<0.00001	0.00014	0.00046	0.00136	0.00049	0.00037	0.0005	0.0004	0.0002	0.00052	0.0004	0.00014	<0.00001	-
	Copper (Cu)	mg/L		0.00002	0.00327	0.00309	5.7%	0.00281	0.00301	0.00244	0.00386	0.00364	5.9%	0.00327	0.00356	0.00348	0.00351	0.0018	0.00122	0.00088	0.0036	0.00422	0.00243	0.00312	0.00309	0.00313	0.00309	0.00369	0.00283	0.00389	<0.00002	-
	Iron (Fe)	mg/L		0.001	0.394	0.382	3.1%	0.349	0.334	0.496	0.945	0.8	16.6%	0.422	0.838	0.03	0.025	<0.001	<0.001	0.115	0.424	1.44	0.522	0.369	0.467	0.416	0.321	0.504	0.409	0.065	<0.001	-
	Lead (Pb)	mg/L		0.0000001	0.000429	0.000434	1.2%	0.000336	0.000144	0.00011	0.000847	0.000654	**25.7%**	0.000171	0.000268	<0.000001	<0.000001	<0.000001	<0.000001	<0.000001	0.000247	0.000862	0.0001	0.000076	0.000063	<0.000001	<0.000001	0.000054	0.000088	<0.000001	<0.000001	-
	Lithium (Li)	mg/L		0.0001	0.0013	0.0014	7.4%	0.0018	0.0023	0.0012	0.0026	0.0026	0.0%	0.003	0.0018	0.0136	0.0124	0.0205	0.0192	0.0077	0.001	0.0019	0.0012	0.001	0.0016	<0.0001	<0.0001	<0.0001	<0.0001	0.0054	<0.0001	-
	Magnesium (Mg)	mg/L		0.0005	11.5	10.8	6.3%	15.7	18.6	11.3	18.1	17.8	1.7%	18.8	4.22	65	73.4	274	290	65.8	7.97	10.9	9.42	7.7	3.4	2.8	3.04	3.69	5.18	51.6	<0.0005	-
	Manganese (Mn)	mg/L	Variable	0.00001	0.103	0.0994	3.6%	0.11	0.0862	0.0774	0.128	0.111	14.2%	0.112	0.1	0.00154	0.0006	0.00063	0.00049	0.0161	0.0867	***0.166***	0.112	0.1	0.0772	0.0672	0.0154	0.0904	0.0584	0.00391	<0.00001	-
	Manganese (Mn) - CCME long term guideline based on dissolved hardness & field pH				*0.53*	*0.49*	-	*0.57*	*0.5*	*0.44*	*0.57*	*0.57*	-	*0.6*	*0.35*	*0.65*	*0.65*	*0.86*	*0.86*	*0.77*	*0.12*	*0.12*	*0.49*	*0.44*	*0.38*	*0.38*	*0.2*	*0.1*	*0.38*	*0.21*	*0.26*	-
	Mercury (Hg)	mg/L		0.0000005	0.0000105	0.0000091	14.3%	0.0000069	0.0000086	0.0000096	0.0000095	0.0000092	3.2%	0.0000118	0.0000051	0.0000099	0.0000112	0.0000057	<0.0000005	0.0000006	0.0000111	0.0000103	0.0000071	0.00001	<0.0000005	0.0000114	0.0000114	0.0000134	0.0000134	0.0000017	<0.0000005	-
	Molybdenum (Mo)	mg/L		0.000001	0.000398	0.000375	6.0%	0.00047	0.000498	0.000408	0.000568	0.000576	1.4%	0.000543	0.000195	0.00222	0.00237	0.00399	0.00406	0.00221	0.000357	0.000241	0.00042	0.000399	0.000165	0.000088	0.000239	0.000155	0.000184	0.00178	<0.000001	-
	Nickel (Ni)	mg/L		0.00005	0.00557	0.00526	5.7%	0.0052	0.00783	0.00886	0.0156	0.0146	6.6%	0.0098	0.00322	0.03	0.0316	0.0528	0.0583	0.0248	0.00387	0.00829	0.00478	0.00683	0.0025	0.0047	0.00586	0.00418	0.00416	0.0146	<0.00005	-
	Potassium (K)	mg/L		0.005	0.935	0.902	3.6%	0.949	0.931	0.736	0.974	0.942	3.3%	0.944	1.6	1.24	1.24	2.13	2.15	1.31	0.9	0.669	0.68	0.516	1.58	0.487	0.513	0.627	0.552	0.974	<0.005	-
	Rubidium (Rd)	mg/L		0.00002	0.00032	0.00029	9.8%	0.00034	0.00067	0.00022	0.00088	0.00088	0.0%	0.0006	0.00132	0.00762	0.0061	0.00628	0.00595	0.00276	0.00028	0.00062	<0.00002	0.0002	0.00102	0.00031	<0.00002	0.00029	<0.00002	0.00304	<0.00002	-
	Selenium (Se)	mg/L		0.0000001	0.000779	0.000796	2.2%	0.000782	0.00203	0.000392	0.00153	0.00183	17.9%	0.00142	0.000161	0.0264	0.0263	0.0167	0.0122	0.0243	0.00104	0.000314	0.000264	0.000808	0.000111	0.000142	0.00107	0.00021	0.000396	0.0233	<0.000001	-
	Silicon (Si)	mg/L		0.005	2.64	2.66	0.8%	2.93	2.8	2.91	3.34	3.25	2.7%	2.9	2.73	5.29	5.11	4.8	4.88	5.15	2.37	3.33	2.7	2.5	2.37	1.37	2.55	1.76	2.7	3.98	<0.005	-
	Silver (Ag)	mg/L		0.0000001	<0.000001	<0.000001	<5DL	<0.000001	<0.000001	<0.000001	<0.000001	<0.000001	<5DL	0.000011	<0.000001	<0.000001	<0.000001	<0.000001	<0.000001	<0.000001	<0.000001	0.000011	<0.000001	<0.000001	<0.000001	<0.000001	<0.000001	<0.000001	0.00001	<0.000001	<0.000001	-
	Sodium (Na)	mg/L		0.005	1.29	1.19	8.1%	1.56	1.37	1.27	1.75	1.5	15.4%	1.72	1.86	2.86	2.71	7.68	8.18	4.62	2.94	0.957	1.03	1.31	1.86	0.486	0.972	0.663	1.24	1.74	<0.005	-
	Strontium (Sr)	mg/L		0.00002	0.107	0.103	3.8%	0.148	0.143	0.0859	0.146	0.147	0.7%	0.161	0.0616	0.644	0.642	0.982	0.982	0.762	0.0936	0.0808	0.0846	0.119	0.0571	0.0221	0.0308	0.0378	0.0589	0.512	<0.00002	-
	Sulphur (S)	mg/L		0.05	19.2	18	6.5%	28.4	32.5	14.5	30	29.6	1.3%	31	5.72	150	156	471	495	147	15	14.6	14.4	14.6	4.65	1.06	3.55	4.42	8.29	127	<0.05	-
	Tellurium (Te)	mg/L		0.00002	<0.00002	<0.00002	<5DL	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<5DL	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	-
	Thallium (Tl)	mg/L		0.0000001	<0.0000001	<0.0000001	<5DL	<0.0000001	<0.0000001	<0.0000001	0.0000011	<0.0000001	<5DL	<0.0000001	<0.0000001	0.0000028	0.0000033	0.0000054	0.0000059	0.0000016	<0.0000001	<0.0000001	<0.0000001	<0.0000001	<0.0000001	<0.0000001	<0.0000001	<0.0000001	<0.0000001	0.0000017	<0.0000001	-
	Thorium (Th)	mg/L		0.00001	0.0001	0.0001	0.0%	<0.00001	<0.00001	0.00012	0.00012	0.00012	0.0%	0.00011	0.00016	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	0.00014	0.00011	0.00012	0.00012	0.0001	<0.00001	<0.00001	0.00012	0.00018	<0.00001	-
	Tin (Sn)	mg/L		0.00001	<0.00001	<0.00001	<5DL	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<5DL	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	-
	Titanium (Ti)	mg/L		0.00003	0.00243	0.00238	2.1%	0.00216	0.00186	0.00195	0.00875	0.00655	**28.8%**	0.0025	0.0103	<0.00003	0.0003	<0.00003	<0.00003	<0.00003	0.00234	0.0117	0.00246	0.00249	0.00278	0.00259	0.0021	0.00348	0.00246	0.00052	<0.00003	-
	Tungsten (W)	mg/L		0.00001	<0.00001	<0.00001	<5DL	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<5DL	<0.00001	<0.00001	0.00011	0.0001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	-
	Uranium (U)	mg/L		0.000001	0.000724	0.000724	0.0%	0.00117	0.000826	0.000867	0.000914	0.000895	2.1%	0.000946	0.000493	0.00171	0.00172	0.00531	0.00558	0.00424	0.000549	0.000831	0.00095	0.000961	0.000441	0.00005	0.000097	0.00009	0.000365	0.00145	<0.000001	-
	Vanadium (V)	mg/L		0.00005	0.0005	<0.00005	<5DL	<0.00005	<0.00005	0.00083	0.00132	0.00102	**25.6%**	<0.00005	0.00156	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	0.00245	0.00079	0.0007	0.00071	0.00072	<0.00005	0.0008	0.00078	<0.00005	<0.00005	-
	Zinc (Zn)	mg/L	Variable	0.0001	0.0036	0.0033	8.7%	0.0034	0.003	0.0011	0.0059	0.0044	**29.1%**	0.0032	0.0048	<0.0001	0.0011	0.0027	<0.0001	<0.0001	0.0041	0.006	0.0016	0.0021	0.0031	0.0037	0.0025	0.0036	0.0021	<0.0001	<0.0001	-
	Zinc (Zn) - CCME long term guideline based on dissolved hardness, DOC & field pH				*0.0798*	*0.0776*	-	*0.0776*	*0.0922*	*0.0533*	*0.105*	*0.102*	-	*0.114*	*0.0377*	*0.204*	*0.203*	*0.195*	*0.175*	*0.171*	*0.0372*	*0.036*	*0.061*	*0.0676*	*0.0374*	*0.0353*	*0.0142*	*0.0217*	*0.0507*	*0.141*	*0.00626*	-
	Zirconium (Zr)	mg/L		0.00002	0.00093	0.00088	5.5%	0.00091	0.00082	0.00118	0.00115	0.00105	9.1%	0.00111	<0.00002	0.00021	0.0002	<0.00002	<0.00002	0.00022	0.00101	0.00107	0.00112	0.00117	0.00079	0.00056	0.00072	0.00091	0.00153	0.00031	<0.00002	-

Exceedance colour key:
Exceeds CCME - Long term aquatic life
Replicate exceeded 20% relative percent difference (RPD)
<5DL Less than 5 times detection limit, RPD not calculated

APPENDIX E LABORATORY CERTIFICATES OF ANALYSIS AND RESULTS

ALS Environmental

CERTIFICATE OF ANALYSIS

Work Order	: **VA22B0989**	Page	: 1 of 26
Client	: **EDI Environmental Dynamics Inc.**	Laboratory	: Vancouver - Environmental
Contact	: Annina Altherr	Account Manager	: Heather McKenzie
Address	: 2195 2nd Avenue Whitehorse YT Canada Y1A 3T8	Address	: 8081 Lougheed Highway Burnaby BC Canada V5A 1W9
Telephone	: 604 637 1891	Telephone	: +1 604 253 4188
Project	: 20Y0150 Clinton Creek	Date Samples Received	: 19-May-2022 11:10
PO	: ----	Date Analysis Commenced	: 20-May-2022
C-O-C number	: ----	Issue Date	: 21-Jun-2022 17:04
Sampler	: JMF JMG EW		
Site	: ----		
Quote number	: Q77741		
No. of samples received	: 26		
No. of samples analysed	: 26		

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QC Interpretive report to assist with Quality Review and Sample Receipt Notification (SRN).

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

Signatories	*Position*	*Laboratory Department*
Angela Ren	Team Leader - Metals	Metals, Burnaby, British Columbia
Anshim Anshim	Lab Assistant	Metals, Burnaby, British Columbia
Caleb Deroche	Lab Analyst	Metals, Burnaby, British Columbia
Dee Lee	Analyst	Metals, Burnaby, British Columbia
Delson Resende	Lab Assistant	Metals, Burnaby, British Columbia
Erin Sanchez		Metals, Burnaby, British Columbia
Kaitlyn Gardner	Account Manager Assistant	Internal Subcontracting, Cincinnati, Ohio
Kevin Duarte	Supervisor - Metals ICP Instrumentation	Metals, Burnaby, British Columbia
Kim Jensen	Department Manager - Metals	Metals, Burnaby, British Columbia
Lindsay Gung	Supervisor - Water Chemistry	Inorganics, Burnaby, British Columbia
Miles Gropen	Department Manager - Inorganics	Inorganics, Burnaby, British Columbia
Miles Gropen	Department Manager - Inorganics	Metals, Burnaby, British Columbia

General Comments

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Refer to the ALS Quality Control Interpretive report (QCI) for applicable references and methodology summaries. Reference methods may incorporate modifications to improve performance.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Please refer to Quality Control Interpretive report (QCI) for information regarding Holding Time compliance.

Key : CAS Number: Chemical Abstracts Services number is a unique identifier assigned to discrete substances
LOR: Limit of Reporting (detection limit).

Unit	*Description*
-	No Unit
µS/cm	Microsiemens per centimetre
count/sample	count/sample
L	litres
mf/L	million fibres per litre
mg/L	milligrams per litre
mm²	square millimetres
pH units	pH units

<: less than.

>: greater than.

Surrogate: An analyte that is similar in behavior to target analyte(s), but that does not occur naturally in environmental samples. For applicable tests, surrogates are added to samples prior to analysis as a check on recovery.

Test results reported relate only to the samples as received by the laboratory.

UNLESS OTHERWISE STATED on SRN or QCI Report, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION.

Workorder Comments

TSS analysis performed by the ALS Cincinnati OH laboratory for Health & Safety reasons due to possibility of Asbestos content present during the filter drying process. Note: The required Asbestos analysis (TEM) for selected samples will also be sent to ALS Cincinnati.

Qualifiers

Qualifier	*Description*
DLA	*Detection Limit adjusted for required dilution.*
DLDS	*Detection Limit Raised: Dilution required due to high Dissolved Solids / Electrical Conductivity.*
DLM	*Detection Limit Adjusted due to sample matrix effects (e.g. chemical interference, colour, turbidity).*

DTMF	*Dissolved concentration exceeds total for field-filtered metals sample. Metallic contaminants may have been introduced to dissolved sample during field filtration.*
HTD	*Hold time exceeded for re-analysis or dilution, but initial testing was conducted within hold time.*

Analytical Results

Sub-Matrix: **Water**
(Matrix: **Water**)

Analyte	CAS Number	Method	LOR	Unit	Client sample ID	CC-206	E4	R4	E7	E8
					Client sampling date / time	16-May-2022 13:30	16-May-2022 13:20	16-May-2022 14:10	16-May-2022 11:10	16-May-2022 10:10
						VA22B0989-001	VA22B0989-002	VA22B0989-003	VA22B0989-004	VA22B0989-005
						Result	Result	Result	Result	Result
Physical Tests										
conductivity	----	E100	2.0	µS/cm		276	285	168	293	88.8
hardness (as CaCO3), dissolved	----	EC100	0.60	mg/L		143	144	87.4	153	45.1
hardness (as CaCO3), from total Ca/Mg	----	EC100A	0.60	mg/L		155	150	97.6	161	51.0
pH	----	E108	0.10	pH units		7.80	7.81	7.65	7.82	7.44
solids, total suspended [TSS]	----	EPA 160.2	2	mg/L		See Attached	See Attached	See Attached	See Attached	See Attached
Anions and Nutrients										
ammonia, total (as N)	7664-41-7	E298	0.0050	mg/L		0.0224	0.0122	0.0239	0.0169	0.0091
bromide	24959-67-9	E235.Br-L	0.050	mg/L		<0.050	<0.050	<0.050	<0.050	<0.050
chloride	16887-00-6	E235.Cl	0.50	mg/L		<0.50	<0.50	<0.50	<0.50	0.57
fluoride	16984-48-8	E235.F	0.020	mg/L		0.069	0.069	0.066	0.072	0.055
nitrate (as N)	14797-55-8	E235.NO3-L	0.0050	mg/L		0.0342	0.0505	<0.0050	0.0372	0.0053
nitrite (as N)	14797-65-0	E235.NO2-L	0.0010	mg/L		<0.0010	0.0012	<0.0010	<0.0010	<0.0010
phosphorus, total	7723-14-0	E372-U	0.0020	mg/L		0.0630	0.0667	0.121	0.0970	0.0745
sulfate (as SO4)	14808-79-8	E235.SO4	0.30	mg/L		90.2	92.6	46.1	96.1	17.8
Organic / Inorganic Carbon										
carbon, dissolved organic [DOC]	----	E358-L	0.50	mg/L		38.2	39.9	49.0	42.2	37.0
Total Metals										
aluminum, total	7429-90-5	E420	0.0030	mg/L		0.835	0.790	1.95	0.777	1.72
antimony, total	7440-36-0	E420	0.00010	mg/L		0.00048	0.00047	0.00030	0.00040	0.00011
arsenic, total	7440-38-2	E420	0.00010	mg/L		0.00197	0.00190	0.00269	0.00190	0.00155
barium, total	7440-39-3	E420	0.00010	mg/L		0.0530	0.0526	0.0988	0.0542	0.0542
beryllium, total	7440-41-7	E420	0.000100	mg/L		<0.000100	<0.000100	<0.000100	<0.000100	<0.000100
bismuth, total	7440-69-9	E420	0.000050	mg/L		<0.000050	<0.000050	<0.000050	<0.000050	<0.000050
boron, total	7440-42-8	E420	0.010	mg/L		0.014	0.014	<0.010	0.014	<0.010
cadmium, total	7440-43-9	E420	0.0000050	mg/L		0.000133	0.000132	0.000240	0.000140	0.0000668
calcium, total	7440-70-2	E420	0.050	mg/L		29.7	28.6	24.8	31.2	12.3
cesium, total	7440-46-2	E420	0.000010	mg/L		0.000496	0.000495	0.000305	0.000349	0.000176
chromium, total	7440-47-3	E420	0.00050	mg/L		0.0108	0.00973	0.00614	0.00750	0.00271
cobalt, total	7440-48-4	E420	0.00010	mg/L		0.00164	0.00164	0.00183	0.00168	0.00165

Analytical Results

Sub-Matrix: **Water**
(Matrix: **Water**)

Analyte	CAS Number	Method	LOR	Unit	Client sample ID	CC-206	E4	R4	E7	E8
					Client sampling date / time	16-May-2022 13:30	16-May-2022 13:20	16-May-2022 14:10	16-May-2022 11:10	16-May-2022 10:10
						VA22B0989-001	VA22B0989-002	VA22B0989-003	VA22B0989-004	VA22B0989-005
						Result	Result	Result	Result	Result
Total Metals										
copper, total	7440-50-8	E420	0.00050	mg/L		0.00509	0.00484	0.00700	0.00529	0.00533
iron, total	7439-89-6	E420	0.010	mg/L		1.95	1.84	3.28	1.94	2.67
lead, total	7439-92-1	E420	0.000050	mg/L		0.00145	0.00139	0.00167	0.00126	0.00105
lithium, total	7439-93-2	E420	0.0010	mg/L		0.0033	0.0032	0.0026	0.0038	0.0028
magnesium, total	7439-95-4	E420	0.0050	mg/L		19.7	19.1	8.67	20.1	4.92
manganese, total	7439-96-5	E420	0.00010	mg/L		0.157	0.153	0.209	0.227	0.168
mercury, total	7439-97-6	E508	0.0000050	mg/L		0.0000105	0.0000134	0.0000130	0.0000126	<0.0000050
molybdenum, total	7439-98-7	E420	0.000050	mg/L		0.000798	0.000778	0.000667	0.000746	0.000259
nickel, total	7440-02-0	E420	0.00050	mg/L		0.0239	0.0232	0.0152	0.0205	0.00519
phosphorus, total	7723-14-0	E420	0.050	mg/L		0.073	0.057	0.117	0.062	0.098
potassium, total	7440-09-7	E420	0.050	mg/L		1.06	1.04	0.733	1.08	1.85
rubidium, total	7440-17-7	E420	0.00020	mg/L		0.00158	0.00159	0.00214	0.00149	0.00277
selenium, total	7782-49-2	E420	0.000050	mg/L		0.00187	0.00182	0.00117	0.00166	0.000189
silicon, total	7440-21-3	E420	0.10	mg/L		4.69	4.47	5.48	4.34	4.91
silver, total	7440-22-4	E420	0.000010	mg/L		0.000037	0.000034	0.000058	0.000033	0.000018
sodium, total	7440-23-5	E420	0.050	mg/L		1.57	1.53	1.40	1.82	2.12
strontium, total	7440-24-6	E420	0.00020	mg/L		0.154	0.150	0.133	0.165	0.0704
sulfur, total	7704-34-9	E420	0.50	mg/L		32.2	31.5	16.2	33.1	6.02
tellurium, total	13494-80-9	E420	0.00020	mg/L		<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
thallium, total	7440-28-0	E420	0.000010	mg/L		0.000023	0.000023	0.000022	0.000018	0.000015
thorium, total	7440-29-1	E420	0.00010	mg/L		0.00023	0.00022	0.00029	0.00022	0.00027
tin, total	7440-31-5	E420	0.00010	mg/L		<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
titanium, total	7440-32-6	E420	0.00030	mg/L		0.0198	0.0164	0.0430	0.0179	0.0540
tungsten, total	7440-33-7	E420	0.00010	mg/L		<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
uranium, total	7440-61-1	E420	0.000010	mg/L		0.00103	0.00101	0.00129	0.00113	0.000655
vanadium, total	7440-62-2	E420	0.00050	mg/L		0.00245	0.00229	0.00541	0.00236	0.00484
zinc, total	7440-66-6	E420	0.0030	mg/L		0.0098	0.0100	0.0141	0.0102	0.0114
zirconium, total	7440-67-7	E420	0.00020	mg/L		0.00101	0.00094	0.00130	0.00113	0.00076
Dissolved Metals										
aluminum, dissolved	7429-90-5	E421	0.0010	mg/L		0.337	0.422	0.232	0.184	0.442
antimony, dissolved	7440-36-0	E421	0.00010	mg/L		0.00028	0.00029	0.00013	0.00024	<0.00010

Analytical Results

Sub-Matrix: **Water**
(Matrix: **Water**)

Analyte	CAS Number	Method	LOR	Unit	Client sample ID	CC-206	E4	R4	E7	E8
					Client sampling date / time	16-May-2022 13:30	16-May-2022 13:20	16-May-2022 14:10	16-May-2022 11:10	16-May-2022 10:10
						VA22B0989-001	VA22B0989-002	VA22B0989-003	VA22B0989-004	VA22B0989-005
						Result	Result	Result	Result	Result
Dissolved Metals										
arsenic, dissolved	7440-38-2	E421	0.00010	mg/L		0.00114	0.00134	0.00074	0.00081	0.00070
barium, dissolved	7440-39-3	E421	0.00010	mg/L		0.0392	0.0445	0.0421	0.0323	0.0316
beryllium, dissolved	7440-41-7	E421	0.000100	mg/L		<0.000100	<0.000100	<0.000100	<0.000100	<0.000100
bismuth, dissolved	7440-69-9	E421	0.000050	mg/L		<0.000050	<0.000050	<0.000050	<0.000050	<0.000050
boron, dissolved	7440-42-8	E421	0.010	mg/L		0.013	0.014	<0.010	0.012	<0.010
cadmium, dissolved	7440-43-9	E421	0.0000050	mg/L		0.0000830	0.000117	0.0000644	0.0000630	0.0000351
calcium, dissolved	7440-70-2	E421	0.050	mg/L		27.9	27.9	22.3	30.3	11.1
cesium, dissolved	7440-46-2	E421	0.000010	mg/L		0.000239	0.000284	<0.000010	0.000080	0.000032
chromium, dissolved	7440-47-3	E421	0.00050	mg/L		0.00508	0.00550	0.00132	0.00182	0.00075
cobalt, dissolved	7440-48-4	E421	0.00010	mg/L		0.00087	0.00101	0.00037	0.00055	0.00075
copper, dissolved	7440-50-8	E421	0.00020	mg/L		0.00364	0.00386	0.00312	0.00327	0.00356
iron, dissolved	7439-89-6	E421	0.010	mg/L		0.800	0.945	0.369	0.422	0.838
lead, dissolved	7439-92-1	E421	0.000050	mg/L		0.000654	0.000847	0.000076	0.000171	0.000268
lithium, dissolved	7439-93-2	E421	0.0010	mg/L		0.0026	0.0026	0.0010	0.0030	0.0018
magnesium, dissolved	7439-95-4	E421	0.0050	mg/L		17.8	18.1	7.70	18.8	4.22
manganese, dissolved	7439-96-5	E421	0.00010	mg/L		0.111	0.128	0.100	0.112	0.100
mercury, dissolved	7439-97-6	E509	0.0000050	mg/L		0.0000092	0.0000095	0.0000100	0.0000118	0.0000051
molybdenum, dissolved	7439-98-7	E421	0.000050	mg/L		0.000576	0.000568	0.000399	0.000543	0.000195
nickel, dissolved	7440-02-0	E421	0.00050	mg/L		0.0146	0.0156	0.00683	0.00980	0.00322
phosphorus, dissolved	7723-14-0	E421	0.050	mg/L		<0.050	<0.050	<0.050	<0.050	<0.050
potassium, dissolved	7440-09-7	E421	0.050	mg/L		0.942	0.974	0.516	0.944	1.60
rubidium, dissolved	7440-17-7	E421	0.00020	mg/L		0.00088	0.00088	0.00020	0.00060	0.00132
selenium, dissolved	7782-49-2	E421	0.000050	mg/L		0.00183	0.00153	0.000808	0.00142	0.000161
silicon, dissolved	7440-21-3	E421	0.050	mg/L		3.25	3.34	2.50	2.90	2.73
silver, dissolved	7440-22-4	E421	0.000010	mg/L		0.000012	<0.000010	<0.000010	0.000011	<0.000010
sodium, dissolved	7440-23-5	E421	0.050	mg/L		1.50	1.75	1.31	1.72	1.86
strontium, dissolved	7440-24-6	E421	0.00020	mg/L		0.147	0.146	0.119	0.161	0.0616
sulfur, dissolved	7704-34-9	E421	0.50	mg/L		29.6	30.0	14.6	31.0	5.72
tellurium, dissolved	13494-80-9	E421	0.00020	mg/L		<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
thallium, dissolved	7440-28-0	E421	0.000010	mg/L		<0.000010	0.000011	<0.000010	<0.000010	<0.000010
thorium, dissolved	7440-29-1	E421	0.00010	mg/L		0.00012	0.00012	0.00012	0.00011	0.00016

Analytical Results

Sub-Matrix: **Water**
(Matrix: **Water**)

Analyte	CAS Number	Method	LOR	Unit	Client sample ID	CC-206	E4	R4	E7	E8
					Client sampling date / time	16-May-2022 13:30	16-May-2022 13:20	16-May-2022 14:10	16-May-2022 11:10	16-May-2022 10:10
						VA22B0989-001	VA22B0989-002	VA22B0989-003	VA22B0989-004	VA22B0989-005
						Result	Result	Result	Result	Result
Dissolved Metals										
tin, dissolved	7440-31-5	E421	0.00010	mg/L		<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
titanium, dissolved	7440-32-6	E421	0.00030	mg/L		0.00655	0.00875	0.00249	0.00250	0.0103
tungsten, dissolved	7440-33-7	E421	0.00010	mg/L		<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
uranium, dissolved	7440-61-1	E421	0.000010	mg/L		0.000895	0.000914	0.000961	0.000946	0.000493
vanadium, dissolved	7440-62-2	E421	0.00050	mg/L		0.00102	0.00132	0.00070	<0.00050	0.00156
zinc, dissolved	7440-66-6	E421	0.0010	mg/L		0.0044	0.0059	0.0021	0.0032	0.0048
zirconium, dissolved	7440-67-7	E421	0.00020	mg/L		0.00105	0.00115	0.00117	0.00111	<0.00120 DLM
dissolved mercury filtration location	----	EP509	-	-		Field	Field	Field	Field	Field
dissolved metals filtration location	----	EP421	-	-		Field	Field	Field	Field	Field
Speciated Metals										
chromium, hexavalent [Cr VI], dissolved	18540-29-9	E532A	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	----
chromium, hexavalent [Cr VI], total	18540-29-9	E532	0.00050	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
chromium, trivalent [Cr III], dissolved	16065-83-1	EC535A	0.00050	mg/L		0.00508	0.00550	0.00132	0.00182	----
chromium, trivalent [Cr III], total	16065-83-1	EC535	0.00050	mg/L		0.0108	0.00973	0.00614	0.00750	0.00271

Please refer to the General Comments section for an explanation of any qualifiers detected.

Analytical Results

Sub-Matrix: **Water**
(Matrix: **Water**)

Analyte	CAS Number	Method	LOR	Unit	Client sample ID	R6	E3	E2	GWCC-5	R11
					Client sampling date / time	16-May-2022 12:00	16-May-2022 16:10	16-May-2022 15:40	16-May-2022 16:45	17-May-2022 13:35
						VA22B0989-006	VA22B0989-007	VA22B0989-008	VA22B0989-009	VA22B0989-010
						Result	Result	Result	Result	Result
Physical Tests										
conductivity	----	E100	2.0	µS/cm		79.5	171	286	1070	94.7
hardness (as CaCO3), dissolved	----	EC100	0.60	mg/L		39.0	87.2	145	618	49.3
hardness (as CaCO3), from total Ca/Mg	----	EC100A	0.60	mg/L		47.9	119	152	613	59.0
pH	----	E108	0.10	pH units		7.42	7.72	7.78	8.32	7.31
solids, total suspended [TSS]	----	EPA 160.2	2	mg/L		See Attached	See Attached	See Attached	See Attached	See Attached
Asbestos/Other Fibres										
asbestos, actinolite	13768-00-8	EPA 100.2	-	count/sample		----	See Attached	See Attached	----	----
asbestos, amosite	12172-73-5	EPA 100.2	-	count/sample		----	See Attached	See Attached	----	----
asbestos, anthophyllite	17068-78-9	EPA 100.2	-	count/sample		----	See Attached	See Attached	----	----
asbestos, total (by TEM)	1332-21-4	EPA 100.2	-	count/sample		----	See Attached	See Attached	----	----
asbestos, chrysotile	12001-29-5	EPA 100.2	-	count/sample		----	See Attached	See Attached	----	----
asbestos, crocidolite	12001-28-4	EPA 100.2	-	count/sample		----	See Attached	See Attached	----	----
asbestos, tremolite	14567-73-8	EPA 100.2	-	count/sample		----	See Attached	See Attached	----	----
Anions and Nutrients										
ammonia, total (as N)	7664-41-7	E298	0.0050	mg/L		0.0115	0.0246	0.0098	0.0075	0.0170
bromide	24959-67-9	E235.Br-L	0.050	mg/L		<0.050	<0.050	<0.050	<0.250 DLDS	<0.050
chloride	16887-00-6	E235.Cl	0.50	mg/L		0.58	<0.50	<0.50	<2.50 DLDS	<0.50
fluoride	16984-48-8	E235.F	0.020	mg/L		0.054	0.063	0.072	0.146	0.061
nitrate (as N)	14797-55-8	E235.NO3-L	0.0050	mg/L		<0.0050	<0.0050	0.0455	<0.0250 DLDS	<0.0050
nitrite (as N)	14797-65-0	E235.NO2-L	0.0010	mg/L		<0.0010	<0.0010	<0.0010	<0.0050 DLDS	<0.0010
phosphorus, total	7723-14-0	E372-U	0.0020	mg/L		0.129	0.0878	0.0500	0.0048	0.105
sulfate (as SO4)	14808-79-8	E235.SO4	0.30	mg/L		14.2	46.5	98.7	427	25.2
Organic / Inorganic Carbon										
carbon, dissolved organic [DOC]	----	E358-L	0.50	mg/L		34.1	34.6	37.0	10.7	36.3
Total Metals										

Analytical Results

Sub-Matrix: **Water**
(Matrix: **Water**)

Analyte	CAS Number	Method	LOR	Unit	Client sample ID	R6	E3	E2	GWCC-5	R11
					Client sampling date / time	16-May-2022 12:00	16-May-2022 16:10	16-May-2022 15:40	16-May-2022 16:45	17-May-2022 13:35
						VA22B0989-006	VA22B0989-007	VA22B0989-008	VA22B0989-009	VA22B0989-010
						Result	Result	Result	Result	Result
Total Metals										
aluminum, total	7429-90-5	E420	0.0030	mg/L		3.18	1.97	0.617	<0.0030	1.91
antimony, total	7440-36-0	E420	0.00010	mg/L		0.00013	0.00058	0.00037	0.00077	0.00023
arsenic, total	7440-38-2	E420	0.00010	mg/L		0.00228	0.00245	0.00164	0.00067	0.00196
barium, total	7440-39-3	E420	0.00010	mg/L		0.0753	0.0871	0.0459	0.0531	0.0970
beryllium, total	7440-41-7	E420	0.000100	mg/L		0.000127	0.000100	<0.000100	<0.000100	<0.000100
bismuth, total	7440-69-9	E420	0.000050	mg/L		<0.000050	<0.000050	<0.000050	<0.000050	<0.000050
boron, total	7440-42-8	E420	0.010	mg/L		<0.010	0.019	0.012	0.056	<0.010
cadmium, total	7440-43-9	E420	0.0000050	mg/L		0.000100	0.000147	0.0000966	0.000108	0.000182
calcium, total	7440-70-2	E420	0.050	mg/L		11.8	17.5	29.1	138	13.2
cesium, total	7440-46-2	E420	0.000010	mg/L		0.000351	0.000367	0.000625	0.000257	0.000203
chromium, total	7440-47-3	E420	0.00050	mg/L		0.00469	0.0453	0.00371	0.00123	0.00670
cobalt, total	7440-48-4	E420	0.00010	mg/L		0.00278	0.00319	0.00099	0.00014	0.00192
copper, total	7440-50-8	E420	0.00050	mg/L		0.00744	0.00697	0.00429	0.00095	0.00723
iron, total	7439-89-6	E420	0.010	mg/L		4.66	4.11	1.30	0.128	3.55
lead, total	7439-92-1	E420	0.000050	mg/L		0.00179	0.00191	0.00116	<0.000050	0.00209
lithium, total	7439-93-2	E420	0.0010	mg/L		0.0038	0.0028	0.0028	0.0079	0.0019
magnesium, total	7439-95-4	E420	0.0050	mg/L		4.47	18.2	19.2	65.1	6.32
manganese, total	7439-96-5	E420	0.00010	mg/L		0.232	0.166	0.128	0.0172	0.169
mercury, total	7439-97-6	E508	0.0000050	mg/L		<0.0000050	0.0000056	0.0000118	0.0000057	0.0000074
molybdenum, total	7439-98-7	E420	0.000050	mg/L		0.000270	0.000716	0.000670	0.00223	0.000548
nickel, total	7440-02-0	E420	0.00050	mg/L		0.00647	0.0652	0.0116	0.0253	0.00898
phosphorus, total	7723-14-0	E420	0.050	mg/L		0.126	0.110	<0.050	<0.050	0.124
potassium, total	7440-09-7	E420	0.050	mg/L		2.03	0.967	0.991	1.29	0.802
rubidium, total	7440-17-7	E420	0.00020	mg/L		0.00457	0.00276	0.00158	0.00273	0.00189
selenium, total	7782-49-2	E420	0.000050	mg/L		0.000166	0.000630	0.00214	0.0225	0.000634
silicon, total	7440-21-3	E420	0.10	mg/L		7.23	9.41	3.66	5.26	5.41
silver, total	7440-22-4	E420	0.000010	mg/L		0.000025	0.000057	0.000026	<0.000010	0.000061
sodium, total	7440-23-5	E420	0.050	mg/L		2.24	1.32	1.40	4.68	1.44
strontium, total	7440-24-6	E420	0.00020	mg/L		0.0709	0.0921	0.149	0.764	0.0741
sulfur, total	7704-34-9	E420	0.50	mg/L		4.53	15.0	33.8	146	8.41
tellurium, total	13494-80-9	E420	0.00020	mg/L		<0.00020	<0.00020	<0.00020	<0.00020	<0.00020

Analytical Results

Sub-Matrix: **Water**
(Matrix: **Water**)

Analyte	CAS Number	Method	LOR	Unit	Client sample ID	R6	E3	E2	GWCC-5	R11
					Client sampling date / time	16-May-2022 12:00	16-May-2022 16:10	16-May-2022 15:40	16-May-2022 16:45	17-May-2022 13:35
						VA22B0989-006	VA22B0989-007	VA22B0989-008	VA22B0989-009	VA22B0989-010
						Result	Result	Result	Result	Result
Total Metals										
thallium, total	7440-28-0	E420	0.000010	mg/L		0.000027	0.000028	0.000018	0.000017	0.000020
thorium, total	7440-29-1	E420	0.00010	mg/L		0.00040	0.00033	0.00019	<0.00010	0.00030
tin, total	7440-31-5	E420	0.00010	mg/L		<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
titanium, total	7440-32-6	E420	0.00030	mg/L		0.114	0.0365	0.0139	<0.00030	0.0350
tungsten, total	7440-33-7	E420	0.00010	mg/L		<0.00010	0.00011	<0.00010	<0.00010	<0.00010
uranium, total	7440-61-1	E420	0.000010	mg/L		0.000772	0.00134	0.000950	0.00429	0.000628
vanadium, total	7440-62-2	E420	0.00050	mg/L		0.00902	0.00561	0.00202	<0.00050	0.00562
zinc, total	7440-66-6	E420	0.0030	mg/L		0.0181	0.0158	0.0069	<0.0030	0.0152
zirconium, total	7440-67-7	E420	0.00020	mg/L		0.00085	0.00112	0.00101	0.00023	0.00137
Dissolved Metals										
aluminum, dissolved	7429-90-5	E421	0.0010	mg/L		0.200	0.214	0.177	0.0018	0.273
antimony, dissolved	7440-36-0	E421	0.00010	mg/L		<0.00010	0.00022	0.00026	0.00074	<0.00010
arsenic, dissolved	7440-38-2	E421	0.00010	mg/L		0.00049	0.00082	0.00083	0.00070	0.00059
barium, dissolved	7440-39-3	E421	0.00010	mg/L		0.0258	0.0266	0.0317	0.0548	0.0285
beryllium, dissolved	7440-41-7	E421	0.000100	mg/L		<0.000100	<0.000100	<0.000100	<0.000100	<0.000100
bismuth, dissolved	7440-69-9	E421	0.000050	mg/L		<0.000050	<0.000050	<0.000050	<0.000050	<0.000050
boron, dissolved	7440-42-8	E421	0.010	mg/L		<0.010	0.012	0.010	0.054	<0.010
cadmium, dissolved	7440-43-9	E421	0.0000050	mg/L		0.0000265	0.0000164	0.0000562	0.000102	0.0000395
calcium, dissolved	7440-70-2	E421	0.050	mg/L		10.0	16.3	27.5	139	11.2
cesium, dissolved	7440-46-2	E421	0.000010	mg/L		<0.000010	<0.000010	0.000307	0.000253	<0.000010
chromium, dissolved	7440-47-3	E421	0.00050	mg/L		<0.00050	0.00496	0.00160	0.00114	0.00272
cobalt, dissolved	7440-48-4	E421	0.00010	mg/L		0.00050	0.00047	0.00048	0.00014	0.00040
copper, dissolved	7440-50-8	E421	0.00020	mg/L		0.00309	0.00244	0.00301	0.00088	0.00283
iron, dissolved	7439-89-6	E421	0.010	mg/L		0.467	0.496	0.334	0.115	0.409
lead, dissolved	7439-92-1	E421	0.000050	mg/L		0.000063	0.000110	0.000144	<0.000050	0.000088
lithium, dissolved	7439-93-2	E421	0.0010	mg/L		0.0016	0.0012	0.0023	0.0077	<0.0010
magnesium, dissolved	7439-95-4	E421	0.0050	mg/L		3.40	11.3	18.6	65.8	5.18
manganese, dissolved	7439-96-5	E421	0.00010	mg/L		0.0772	0.0774	0.0862	0.0161	0.0584
mercury, dissolved	7439-97-6	E509	0.0000050	mg/L		<0.0000050	0.0000096	0.0000086	0.0000060	0.0000134
molybdenum, dissolved	7439-98-7	E421	0.000050	mg/L		0.000165	0.000408	0.000498	0.00221	0.000184
nickel, dissolved	7440-02-0	E421	0.00050	mg/L		0.00250	0.00886	0.00783	0.0248	0.00416

Analytical Results

Sub-Matrix: **Water**
(Matrix: **Water**)

Analyte	CAS Number	Method	LOR	Unit	Client sample ID	R6	E3	E2	GWCC-5	R11
					Client sampling date / time	16-May-2022 12:00	16-May-2022 16:10	16-May-2022 15:40	16-May-2022 16:45	17-May-2022 13:35
						VA22B0989-006	VA22B0989-007	VA22B0989-008	VA22B0989-009	VA22B0989-010
						Result	Result	Result	Result	Result
Dissolved Metals										
phosphorus, dissolved	7723-14-0	E421	0.050	mg/L		<0.050	<0.050	<0.050	<0.050	<0.050
potassium, dissolved	7440-09-7	E421	0.050	mg/L		1.58	0.736	0.931	1.31	0.552
rubidium, dissolved	7440-17-7	E421	0.00020	mg/L		0.00102	0.00022	0.00067	0.00276	<0.00020
selenium, dissolved	7782-49-2	E421	0.000050	mg/L		0.000111	0.000392	0.00203	0.0243	0.000396
silicon, dissolved	7440-21-3	E421	0.050	mg/L		2.37	2.91	2.80	5.15	2.70
silver, dissolved	7440-22-4	E421	0.000010	mg/L		<0.000010	<0.000010	<0.000010	<0.000010	0.000010
sodium, dissolved	7440-23-5	E421	0.050	mg/L		1.86	1.27	1.37	4.62	1.24
strontium, dissolved	7440-24-6	E421	0.00020	mg/L		0.0571	0.0859	0.143	0.762	0.0589
sulfur, dissolved	7704-34-9	E421	0.50	mg/L		4.65	14.5	32.5	147	8.29
tellurium, dissolved	13494-80-9	E421	0.00020	mg/L		<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
thallium, dissolved	7440-28-0	E421	0.000010	mg/L		<0.000010	<0.000010	<0.000010	0.000016	<0.000010
thorium, dissolved	7440-29-1	E421	0.00010	mg/L		0.00010	0.00012	<0.00010	<0.00010	0.00018
tin, dissolved	7440-31-5	E421	0.00010	mg/L		<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
titanium, dissolved	7440-32-6	E421	0.00030	mg/L		0.00278	0.00195	0.00186	<0.00030	0.00246
tungsten, dissolved	7440-33-7	E421	0.00010	mg/L		<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
uranium, dissolved	7440-61-1	E421	0.000010	mg/L		0.000441	0.000867	0.000826	0.00424	0.000365
vanadium, dissolved	7440-62-2	E421	0.00050	mg/L		0.00071	0.00083	<0.00050	<0.00050	0.00078
zinc, dissolved	7440-66-6	E421	0.0010	mg/L		0.0031	0.0011	0.0030	<0.0010	0.0021
zirconium, dissolved	7440-67-7	E421	0.00020	mg/L		0.00079	0.00118	0.00082	0.00022	0.00153
dissolved mercury filtration location	----	EP509	-	-		Field	Field	Field	Field	Field
dissolved metals filtration location	----	EP421	-	-		Field	Field	Field	Field	Field
Speciated Metals										
chromium, hexavalent [Cr VI], dissolved	18540-29-9	E532A	0.00050	mg/L		----	<0.00050	<0.00050	0.00080	<0.00050
chromium, hexavalent [Cr VI], total	18540-29-9	E532	0.00050	mg/L		<0.00050	<0.00050	<0.00050	0.00080	<0.00050
chromium, trivalent [Cr III], dissolved	16065-83-1	EC535A	0.00050	mg/L		----	0.00496	0.00160	<0.00050	0.00272
chromium, trivalent [Cr III], total	16065-83-1	EC535	0.00050	mg/L		0.00469	0.0453	0.00371	<0.00050	0.00670

Please refer to the General Comments section for an explanation of any qualifiers detected.

Analytical Results

Sub-Matrix: **Water**
(Matrix: **Water**)

Analyte	CAS Number	Method	LOR	Unit	Client sample ID	R3	GWCC-1	GWCC-2	GWCC-3	GWCC-4
					Client sampling date / time	17-May-2022 15:00	17-May-2022 12:30	17-May-2022 12:35	17-May-2022 12:50	17-May-2022 13:00
						VA22B0989-011	VA22B0989-012	VA22B0989-013	VA22B0989-014	VA22B0989-015
						Result	Result	Result	Result	Result
Sample Preparation										
average opening area	----	EPA 100.2mf	-	mm²		See Attached	----	----	----	----
date of analysis	----	EPA 100.2mf	-	-		See Attached	----	----	----	----
date of filtration	----	EPA 100.2mf	-	-		See Attached	----	----	----	----
openings analyzed	----	EPA 100.2mf	-	-		See Attached	----	----	----	----
time of analysis	----	EPA 100.2mf	-	-		See Attached	----	----	----	----
time of filtration	----	EPA 100.2mf	-	-		See Attached	----	----	----	----
volume filtered	----	EPA 100.2mf	-	L		See Attached	----	----	----	----
Physical Tests										
conductivity	----	E100	2.0	µS/cm		161	945	978	2250	2400
hardness (as CaCO3), dissolved	----	EC100	0.60	mg/L		82.5	510	557	1530	1610
hardness (as CaCO3), from total Ca/Mg	----	EC100A	0.60	mg/L		95.1	532	565	1550	1600
pH	----	E108	0.10	pH units		7.70	8.20	8.25	8.29	8.29
solids, total suspended [TSS]	----	EPA 160.2	2	mg/L		See Attached	See Attached	See Attached	See Attached	See Attached
Asbestos/Other Fibres										
asbestos, actinolite	13768-00-8	EPA 100.2mf	-	mf/L		See Attached	----	----	----	----
asbestos, amosite	12172-73-5	EPA 100.2mf	-	mf/L		See Attached	----	----	----	----
asbestos, anthophyllite	17068-78-9	EPA 100.2mf	-	mf/L		See Attached	----	----	----	----
asbestos, total (by TEM)	1332-21-4	EPA 100.2mf	-	mf/L		See Attached	----	----	----	----
asbestos, chrysotile	12001-29-5	EPA 100.2mf	-	mf/L		See Attached	----	----	----	----
asbestos, crocidolite	12001-28-4	EPA 100.2mf	-	mf/L		See Attached	----	----	----	----
asbestos, tremolite	14567-73-8	EPA 100.2mf	-	mf/L		See Attached	----	----	----	----

Analytical Results

Sub-Matrix: **Water**
(Matrix: **Water**)

Analyte	CAS Number	Method	LOR	Unit	Client sample ID	R3	GWCC-1	GWCC-2	GWCC-3	GWCC-4
					Client sampling date / time	17-May-2022 15:00	17-May-2022 12:30	17-May-2022 12:35	17-May-2022 12:50	17-May-2022 13:00
						VA22B0989-011	VA22B0989-012	VA22B0989-013	VA22B0989-014	VA22B0989-015
						Result	Result	Result	Result	Result
Anions and Nutrients										
ammonia, total (as N)	7664-41-7	E298	0.0050	mg/L		0.0402	<0.0050	0.0057	<0.0050	<0.0050
bromide	24959-67-9	E235.Br-L	0.050	mg/L		<0.050	<0.250 DLDS	<0.250 DLDS	<1.00 DLDS	<1.00 DLDS
chloride	16887-00-6	E235.Cl	0.50	mg/L		<0.50	<2.50 DLDS	<2.50 DLDS	<10.0 DLDS	<10.0 DLDS
fluoride	16984-48-8	E235.F	0.020	mg/L		0.067	0.235	0.228	<0.400 DLDS	<0.400 DLDS
nitrate (as N)	14797-55-8	E235.NO3-L	0.0050	mg/L		<0.0050	0.370	0.417	0.762	0.726
nitrite (as N)	14797-65-0	E235.NO2-L	0.0010	mg/L		<0.0010	<0.0050 DLDS	<0.0050 DLDS	<0.0200 DLDS	<0.0200 DLDS
phosphorus, total	7723-14-0	E372-U	0.0020	mg/L		0.174	0.0183	0.0126	0.0066	0.0066
sulfate (as SO4)	14808-79-8	E235.SO4	0.30	mg/L		45.0	417	447	1320	1400
Organic / Inorganic Carbon										
carbon, dissolved organic [DOC]	----	E358-L	0.50	mg/L		32.6	25.0	23.6	13.4	11.0
Total Metals										
aluminum, total	7429-90-5	E420	0.0030	mg/L		3.67	0.0573	0.0107	0.0072	0.0080
antimony, total	7440-36-0	E420	0.00010	mg/L		0.00036	0.00229	0.00220	0.00130	0.00106
arsenic, total	7440-38-2	E420	0.00010	mg/L		0.00387	0.00810	0.00609	0.00157	0.00143
barium, total	7440-39-3	E420	0.00010	mg/L		0.166	0.0130	0.00924	0.0304	0.0442
beryllium, total	7440-41-7	E420	0.000100	mg/L		0.000184	<0.000100	<0.000100	<0.000200 DLA	<0.000200 DLA
bismuth, total	7440-69-9	E420	0.000050	mg/L		0.000050	<0.000050	<0.000050	<0.000100 DLA	<0.000100 DLA
boron, total	7440-42-8	E420	0.010	mg/L		<0.010	0.056	0.063	0.168	0.174
cadmium, total	7440-43-9	E420	0.0000050	mg/L		0.000246	0.0000402	0.0000566	0.000108	0.0000894
calcium, total	7440-70-2	E420	0.050	mg/L		20.6	104	103	166	173
cesium, total	7440-46-2	E420	0.000010	mg/L		0.000641	0.00792	0.00554	0.00656	0.00783
chromium, total	7440-47-3	E420	0.00050	mg/L		0.00952	0.00151	0.00136	0.00210	0.00222
cobalt, total	7440-48-4	E420	0.00010	mg/L		0.00421	0.00018	0.00014	<0.00020 DLA	<0.00020 DLA
copper, total	7440-50-8	E420	0.00050	mg/L		0.0130	0.00373	0.00373	0.00186	0.00132
iron, total	7439-89-6	E420	0.010	mg/L		7.67	0.127	0.050	<0.020 DLA	0.028
lead, total	7439-92-1	E420	0.000050	mg/L		0.00444	0.000051	<0.000050	<0.000100 DLA	<0.000100 DLA
lithium, total	7439-93-2	E420	0.0010	mg/L		0.0044	0.0141	0.0128	0.0217	0.0198
magnesium, total	7439-95-4	E420	0.0050	mg/L		10.6	66.2	74.8	276	285
manganese, total	7439-96-5	E420	0.00010	mg/L		0.265	0.00329	0.00084	0.00070	0.00083
mercury, total	7439-97-6	E508	0.0000050	mg/L		0.0000145	0.0000094	0.0000104	0.0000058	<0.0000050
molybdenum, total	7439-98-7	E420	0.000050	mg/L		0.000844	0.00230	0.00246	0.00411	0.00418

Analytical Results

Sub-Matrix: **Water**
(Matrix: **Water**)

Analyte	CAS Number	Method	LOR	Unit	Client sample ID	R3	GWCC-1	GWCC-2	GWCC-3	GWCC-4
					Client sampling date / time	17-May-2022 15:00	17-May-2022 12:30	17-May-2022 12:35	17-May-2022 12:50	17-May-2022 13:00
						VA22B0989-011	VA22B0989-012	VA22B0989-013	VA22B0989-014	VA22B0989-015
						Result	Result	Result	Result	Result
Total Metals										
nickel, total	7440-02-0	E420	0.00050	mg/L		0.0186	0.0316	0.0331	0.0536	0.0593
phosphorus, total	7723-14-0	E420	0.050	mg/L		0.186	<0.050	<0.050	<0.100 DLA	<0.100 DLA
potassium, total	7440-09-7	E420	0.050	mg/L		1.23	1.24	1.24	2.15	2.16
rubidium, total	7440-17-7	E420	0.00020	mg/L		0.00572	0.00766	0.00587	0.00641	0.00613
selenium, total	7782-49-2	E420	0.000050	mg/L		0.000644	0.0275	0.0278	0.0172	0.0128
silicon, total	7440-21-3	E420	0.10	mg/L		7.68	5.72	5.60	4.96	5.19
silver, total	7440-22-4	E420	0.000010	mg/L		0.000098	<0.000010	<0.000010	<0.000020 DLA	<0.000020 DLA
sodium, total	7440-23-5	E420	0.050	mg/L		1.12	2.94	2.82	7.99	8.01
strontium, total	7440-24-6	E420	0.00020	mg/L		0.107	0.663	0.649	1.01	0.986
sulfur, total	7704-34-9	E420	0.50	mg/L		15.4	155	166	483	508
tellurium, total	13494-80-9	E420	0.00020	mg/L		<0.00020	<0.00020	<0.00020	<0.00040 DLA	<0.00040 DLA
thallium, total	7440-28-0	E420	0.000010	mg/L		0.000058	0.000031	0.000034	0.000058	0.000061
thorium, total	7440-29-1	E420	0.00010	mg/L		0.00058	<0.00010	<0.00010	<0.00020 DLA	<0.00020 DLA
tin, total	7440-31-5	E420	0.00010	mg/L		<0.00010	<0.00010	<0.00010	<0.00020 DLA	<0.00020 DLA
titanium, total	7440-32-6	E420	0.00030	mg/L		0.0546	0.00303	0.00048	<0.00060 DLA	<0.00060 DLA
tungsten, total	7440-33-7	E420	0.00010	mg/L		<0.00010	0.00012	0.00012	<0.00020 DLA	<0.00020 DLA
uranium, total	7440-61-1	E420	0.000010	mg/L		0.00287	0.00184	0.00184	0.00555	0.00586
vanadium, total	7440-62-2	E420	0.00050	mg/L		0.00990	0.00058	<0.00050	<0.00100 DLA	<0.00100 DLA
zinc, total	7440-66-6	E420	0.0030	mg/L		0.0348	<0.0030	<0.0030	<0.0060 DLA	<0.0060 DLA
zirconium, total	7440-67-7	E420	0.00020	mg/L		0.00144	0.00026	<0.00020	<0.00040 DLA	<0.00040 DLA
Dissolved Metals										
aluminum, dissolved	7429-90-5	E421	0.0010	mg/L		0.206	0.0068	0.0063	0.0046	0.0025
antimony, dissolved	7440-36-0	E421	0.00010	mg/L		0.00012	0.00218	0.00212	0.00122	0.00102
arsenic, dissolved	7440-38-2	E421	0.00010	mg/L		0.00072	0.00790	0.00594	0.00147	0.00140
barium, dissolved	7440-39-3	E421	0.00010	mg/L		0.0223	0.0110	0.00900	0.0305	0.0412
beryllium, dissolved	7440-41-7	E421	0.000100	mg/L		<0.000100	<0.000100	<0.000100	<0.000200 DLA	<0.000200 DLA
bismuth, dissolved	7440-69-9	E421	0.000050	mg/L		<0.000050	<0.000050	<0.000050	<0.000100 DLA	<0.000100 DLA
boron, dissolved	7440-42-8	E421	0.010	mg/L		<0.010	0.053	0.058	0.157	0.166
cadmium, dissolved	7440-43-9	E421	0.0000050	mg/L		0.0000125	0.0000391	0.0000524	0.000105	0.0000950
calcium, dissolved	7440-70-2	E421	0.050	mg/L		17.5	97.2	102	162	167
cesium, dissolved	7440-46-2	E421	0.000010	mg/L		<0.000010	0.00773	0.00556	0.00625	0.00765

Analytical Results

Sub-Matrix: **Water**
(Matrix: **Water**)

Analyte	CAS Number	Method	LOR	Unit	Client sample ID	R3	GWCC-1	GWCC-2	GWCC-3	GWCC-4
					Client sampling date / time	17-May-2022 15:00	17-May-2022 12:30	17-May-2022 12:35	17-May-2022 12:50	17-May-2022 13:00
						VA22B0989-011	VA22B0989-012	VA22B0989-013	VA22B0989-014	VA22B0989-015
						Result	Result	Result	Result	Result
Dissolved Metals										
chromium, dissolved	7440-47-3	E421	0.00050	mg/L		0.00191	0.00125	0.00111	0.00192	0.00185
cobalt, dissolved	7440-48-4	E421	0.00010	mg/L		0.00049	0.00011	0.00013	<0.00020 DLA	<0.00020 DLA
copper, dissolved	7440-50-8	E421	0.00020	mg/L		0.00243	0.00348	0.00351	0.00180	0.00122
iron, dissolved	7439-89-6	E421	0.010	mg/L		0.522	0.030	0.025	<0.020 DLA	<0.020 DLA
lead, dissolved	7439-92-1	E421	0.000050	mg/L		0.000100	<0.000050	<0.000050	<0.000100 DLA	<0.000100 DLA
lithium, dissolved	7439-93-2	E421	0.0010	mg/L		0.0012	0.0136	0.0124	0.0205	0.0192
magnesium, dissolved	7439-95-4	E421	0.0050	mg/L		9.42	65.0	73.4	274	290
manganese, dissolved	7439-96-5	E421	0.00010	mg/L		0.112	0.00154	0.00060	0.00063	0.00049
mercury, dissolved	7439-97-6	E509	0.0000050	mg/L		0.0000071	0.0000099	0.0000120	0.0000057	<0.0000050
molybdenum, dissolved	7439-98-7	E421	0.000050	mg/L		0.000420	0.00222	0.00237	0.00399	0.00406
nickel, dissolved	7440-02-0	E421	0.00050	mg/L		0.00478	0.0300	0.0316	0.0528	0.0583
phosphorus, dissolved	7723-14-0	E421	0.050	mg/L		<0.050	<0.050	<0.050	<0.100 DLA	<0.100 DLA
potassium, dissolved	7440-09-7	E421	0.050	mg/L		0.680	1.24	1.24	2.13	2.15
rubidium, dissolved	7440-17-7	E421	0.00020	mg/L		<0.00020	0.00762	0.00610	0.00628	0.00595
selenium, dissolved	7782-49-2	E421	0.000050	mg/L		0.000264	0.0264	0.0263	0.0167	0.0122
silicon, dissolved	7440-21-3	E421	0.050	mg/L		2.70	5.29	5.11	4.80	4.88
silver, dissolved	7440-22-4	E421	0.000010	mg/L		<0.000010	<0.000010	<0.000010	<0.000020 DLA	<0.000020 DLA
sodium, dissolved	7440-23-5	E421	0.050	mg/L		1.03	2.86	2.71	7.68	8.18
strontium, dissolved	7440-24-6	E421	0.00020	mg/L		0.0846	0.644	0.642	0.982	0.982
sulfur, dissolved	7704-34-9	E421	0.50	mg/L		14.4	150	156	471	495
tellurium, dissolved	13494-80-9	E421	0.00020	mg/L		<0.00020	<0.00020	<0.00020	<0.00040 DLA	<0.00040 DLA
thallium, dissolved	7440-28-0	E421	0.000010	mg/L		<0.000010	0.000028	0.000033	0.000054	0.000059
thorium, dissolved	7440-29-1	E421	0.00010	mg/L		0.00012	<0.00010	<0.00010	<0.00020 DLA	<0.00020 DLA
tin, dissolved	7440-31-5	E421	0.00010	mg/L		<0.00010	<0.00010	<0.00010	<0.00020 DLA	<0.00020 DLA
titanium, dissolved	7440-32-6	E421	0.00030	mg/L		0.00246	<0.00030	0.00030	<0.00060 DLA	<0.00060 DLA
tungsten, dissolved	7440-33-7	E421	0.00010	mg/L		<0.00010	0.00011	0.00010	<0.00020 DLA	<0.00020 DLA
uranium, dissolved	7440-61-1	E421	0.000010	mg/L		0.000950	0.00171	0.00172	0.00531	0.00558
vanadium, dissolved	7440-62-2	E421	0.00050	mg/L		0.00079	<0.00050	<0.00050	<0.00100 DLA	<0.00100 DLA
zinc, dissolved	7440-66-6	E421	0.0010	mg/L		0.0016	<0.0010	0.0011	0.0027	<0.0020 DLA
zirconium, dissolved	7440-67-7	E421	0.00020	mg/L		0.00112	0.00021	0.00020	<0.00040 DLA	<0.00040 DLA
dissolved mercury filtration location	----	EP509	-	-		Field	Field	Field	Field	Field

Analytical Results

Sub-Matrix: **Water**
(Matrix: **Water**)

Analyte	CAS Number	Method	LOR	Unit	Client sample ID	R3	GWCC-1	GWCC-2	GWCC-3	GWCC-4
					Client sampling date / time	17-May-2022 15:00	17-May-2022 12:30	17-May-2022 12:35	17-May-2022 12:50	17-May-2022 13:00
						VA22B0989-011	VA22B0989-012	VA22B0989-013	VA22B0989-014	VA22B0989-015
						Result	Result	Result	Result	Result
Dissolved Metals										
dissolved metals filtration location	----	EP421	-	-		Field	Field	Field	Field	Field
Speciated Metals										
chromium, hexavalent [Cr VI], dissolved	18540-29-9	E532A	0.00050	mg/L		<0.00050	0.00050	0.00060	0.00180	0.00180
chromium, hexavalent [Cr VI], total	18540-29-9	E532	0.00050	mg/L		<0.00050	0.00060	0.00070	0.00190	0.00180
chromium, trivalent [Cr III], dissolved	16065-83-1	EC535A	0.00050	mg/L		0.00191	0.00075	0.00051	<0.00100	<0.00100
chromium, trivalent [Cr III], total	16065-83-1	EC535	0.00050	mg/L		0.00952	0.00091	0.00066	<0.00050	<0.00050

Please refer to the General Comments section for an explanation of any qualifiers detected.

Analytical Results

Sub-Matrix: **Water**
(Matrix: **Water**)

Analyte	CAS Number	Method	LOR	Unit	Client sample ID	SL	E1	E1(H)	R7	R9
					Client sampling date / time	17-May-2022 16:40	17-May-2022 12:00	17-May-2022 11:00	17-May-2022 17:10	17-May-2022 18:20
						VA22B0989-016	VA22B0989-017	VA22B0989-018	VA22B0989-019	VA22B0989-020
						Result	Result	Result	Result	Result
Physical Tests										
conductivity	----	E100	2.0	µS/cm		847	194	267	40.6	64.8
hardness (as CaCO3), dissolved	----	EC100	0.60	mg/L		470	102	138	26.9	39.9
hardness (as CaCO3), from total Ca/Mg	----	EC100A	0.60	mg/L		485	104	137	34.2	54.1
pH	----	E108	0.10	pH units		8.26	7.70	7.80	6.30	6.70
solids, total suspended [TSS]	----	EPA 160.2	2	mg/L		See Attached	See Attached	See Attached	See Attached	See Attached
Anions and Nutrients										
ammonia, total (as N)	7664-41-7	E298	0.0050	mg/L		0.0063	0.0086	0.0100	0.0176	0.0215
bromide	24959-67-9	E235.Br-L	0.050	mg/L		<0.250 DLDS	<0.050	<0.050	<0.050	<0.050
chloride	16887-00-6	E235.Cl	0.50	mg/L		<2.50 DLDS	<0.50	<0.50	<0.50	<0.50
fluoride	16984-48-8	E235.F	0.020	mg/L		0.188	0.076	0.069	0.035	0.046
nitrate (as N)	14797-55-8	E235.NO3-L	0.0050	mg/L		0.125 HTD	0.0212 HTD	0.0270	<0.0050	0.0330
nitrite (as N)	14797-65-0	E235.NO2-L	0.0010	mg/L		<0.0050 DLDS, HTD	<0.0010 HTD	<0.0010	<0.0010	<0.0010
phosphorus, total	7723-14-0	E372-U	0.0020	mg/L		0.0232	0.0555	0.0387	0.151	0.294
sulfate (as SO4)	14808-79-8	E235.SO4	0.30	mg/L		358	54.2	83.7	3.54	13.1
Organic / Inorganic Carbon										
carbon, dissolved organic [DOC]	----	E358-L	0.50	mg/L		25.0	37.1	35.2	52.4	53.7
Total Metals										
aluminum, total	7429-90-5	E420	0.0030	mg/L		0.197	0.758	0.670	2.59	4.34
antimony, total	7440-36-0	E420	0.00010	mg/L		0.00228	0.00042	0.00024	0.00015	0.00200
arsenic, total	7440-38-2	E420	0.00010	mg/L		0.0150	0.00196	0.00127	0.00181	0.00273
barium, total	7440-39-3	E420	0.00010	mg/L		0.0160	0.0578	0.0520	0.0962	0.141
beryllium, total	7440-41-7	E420	0.000100	mg/L		<0.000100	<0.000100	<0.000100	<0.000100	0.000161
bismuth, total	7440-69-9	E420	0.000050	mg/L		<0.000050	<0.000050	<0.000050	<0.000050	<0.000050
boron, total	7440-42-8	E420	0.010	mg/L		0.033	<0.010	<0.010	<0.010	<0.010
cadmium, total	7440-43-9	E420	0.0000050	mg/L		0.0000409	0.000111	0.0000908	0.000123	0.000227
calcium, total	7440-70-2	E420	0.050	mg/L		108	22.4	28.7	7.61	12.5
cesium, total	7440-46-2	E420	0.000010	mg/L		0.00350	0.000308	0.000184	0.000157	0.000250
chromium, total	7440-47-3	E420	0.00050	mg/L		0.00330	0.00736	0.00267	0.00703	0.0111
cobalt, total	7440-48-4	E420	0.00010	mg/L		0.00038	0.00141	0.00091	0.00188	0.00400
copper, total	7440-50-8	E420	0.00050	mg/L		0.00443	0.00480	0.00398	0.00682	0.0111

Analytical Results

Sub-Matrix: **Water**
(Matrix: **Water**)

Analyte	CAS Number	Method	LOR	Unit	Client sample ID	SL	E1	E1(H)	R7	R9
					Client sampling date / time	17-May-2022 16:40	17-May-2022 12:00	17-May-2022 11:00	17-May-2022 17:10	17-May-2022 18:20
						VA22B0989-016	VA22B0989-017	VA22B0989-018	VA22B0989-019	VA22B0989-020
						Result	Result	Result	Result	Result
Total Metals										
iron, total	7439-89-6	E420	0.010	mg/L		0.377	1.60	1.21	4.05	7.70
lead, total	7439-92-1	E420	0.000050	mg/L		0.000143	0.00241	0.00181	0.00138	0.00246
lithium, total	7439-93-2	E420	0.0010	mg/L		0.0059	0.0019	0.0022	0.0019	0.0034
magnesium, total	7439-95-4	E420	0.0050	mg/L		52.4	11.7	15.8	3.68	5.57
manganese, total	7439-96-5	E420	0.00010	mg/L		0.00874	0.146	0.146	0.152	0.323
mercury, total	7439-97-6	E508	0.0000050	mg/L		0.0000175	0.0000109	0.0000053	0.0000081	0.0000100
molybdenum, total	7439-98-7	E420	0.000050	mg/L		0.00189	0.000554	0.000574	0.000203	0.000475
nickel, total	7440-02-0	E420	0.00050	mg/L		0.0175	0.0162	0.00641	0.00857	0.0120
phosphorus, total	7723-14-0	E420	0.050	mg/L		<0.050	0.060	<0.050	0.182	0.302
potassium, total	7440-09-7	E420	0.050	mg/L		1.01	1.01	1.07	0.679	0.916
rubidium, total	7440-17-7	E420	0.00020	mg/L		0.00321	0.00131	0.00128	0.00223	0.00294
selenium, total	7782-49-2	E420	0.000050	mg/L		0.0243	0.000937	0.000793	0.000253	0.000455
silicon, total	7440-21-3	E420	0.10	mg/L		4.52	3.81	3.69	5.14	8.49
silver, total	7440-22-4	E420	0.000010	mg/L		0.000012	0.000035	0.000024	0.000032	0.000050
sodium, total	7440-23-5	E420	0.050	mg/L		1.79	1.22	1.61	0.673	0.890
strontium, total	7440-24-6	E420	0.00020	mg/L		0.544	0.110	0.144	0.0322	0.0517
sulfur, total	7704-34-9	E420	0.50	mg/L		131	19.2	28.1	1.22	4.19
tellurium, total	13494-80-9	E420	0.00020	mg/L		<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
thallium, total	7440-28-0	E420	0.000010	mg/L		0.000020	0.000022	0.000012	0.000017	0.000027
thorium, total	7440-29-1	E420	0.00010	mg/L		<0.00010	0.00024	0.00017	0.00022	0.00036
tin, total	7440-31-5	E420	0.00010	mg/L		<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
titanium, total	7440-32-6	E420	0.00030	mg/L		0.00727	<0.0213 DLM	<0.0213 DLM	0.0737	0.156
tungsten, total	7440-33-7	E420	0.00010	mg/L		<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
uranium, total	7440-61-1	E420	0.000010	mg/L		0.00155	0.000842	0.00118	0.000190	0.000330
vanadium, total	7440-62-2	E420	0.00050	mg/L		0.00080	0.00250	0.00204	0.00731	0.0130
zinc, total	7440-66-6	E420	0.0030	mg/L		<0.0030	0.0091	0.0075	0.0155	0.0253
zirconium, total	7440-67-7	E420	0.00020	mg/L		0.00037	0.00127	0.00100	0.00064	0.00095
Dissolved Metals										
aluminum, dissolved	7429-90-5	E421	0.0010	mg/L		0.0250	0.200	0.178	0.274	0.288
antimony, dissolved	7440-36-0	E421	0.00010	mg/L		0.00208	0.00017	0.00018	<0.00010	<0.00010
arsenic, dissolved	7440-38-2	E421	0.00010	mg/L		0.0142	0.00068	0.00063	0.00042	0.00045

Analytical Results

Sub-Matrix: **Water**
(Matrix: **Water**)

Analyte	CAS Number	Method	LOR	Unit	Client sample ID	SL	E1	E1(H)	R7	R9
					Client sampling date / time	17-May-2022 16:40	17-May-2022 12:00	17-May-2022 11:00	17-May-2022 17:10	17-May-2022 18:20
						VA22B0989-016	VA22B0989-017	VA22B0989-018	VA22B0989-019	VA22B0989-020
						Result	Result	Result	Result	Result
Dissolved Metals										
barium, dissolved	7440-39-3	E421	0.00010	mg/L		0.0118	0.0330	0.0373	0.0324	0.0416
beryllium, dissolved	7440-41-7	E421	0.000100	mg/L		<0.000100	<0.000100	<0.000100	<0.000100	<0.000100
bismuth, dissolved	7440-69-9	E421	0.000050	mg/L		<0.000050	<0.000050	<0.000050	<0.000050	<0.000050
boron, dissolved	7440-42-8	E421	0.010	mg/L		0.030	<0.010	<0.010	<0.010	<0.010
cadmium, dissolved	7440-43-9	E421	0.0000050	mg/L		0.0000318	0.0000506	0.0000504	0.0000500	0.0000605
calcium, dissolved	7440-70-2	E421	0.050	mg/L		103	21.7	29.2	6.14	9.90
cesium, dissolved	7440-46-2	E421	0.000010	mg/L		0.00323	0.000017	<0.000010	<0.000010	<0.000010
chromium, dissolved	7440-47-3	E421	0.00050	mg/L		0.00160	0.00152	0.00139	0.00302	0.00198
cobalt, dissolved	7440-48-4	E421	0.00010	mg/L		0.00014	0.00053	0.00050	0.00040	0.00052
copper, dissolved	7440-50-8	E421	0.00020	mg/L		0.00389	0.00327	0.00281	0.00313	0.00369
iron, dissolved	7439-89-6	E421	0.010	mg/L		0.065	0.394	0.349	0.416	0.504
lead, dissolved	7439-92-1	E421	0.000050	mg/L		<0.000050	0.000429	0.000336	<0.000050	0.000054
lithium, dissolved	7439-93-2	E421	0.0010	mg/L		0.0054	0.0013	0.0018	<0.0010	<0.0010
magnesium, dissolved	7439-95-4	E421	0.0050	mg/L		51.6	11.5	15.7	2.80	3.69
manganese, dissolved	7439-96-5	E421	0.00010	mg/L		0.00391	0.103	0.110	0.0672	0.0904
mercury, dissolved	7439-97-6	E509	0.0000050	mg/L		0.0000170	0.0000105	0.0000069	0.0000114	0.0000134
molybdenum, dissolved	7439-98-7	E421	0.000050	mg/L		0.00178	0.000398	0.000470	0.000088	0.000155
nickel, dissolved	7440-02-0	E421	0.00050	mg/L		0.0146	0.00557	0.00520	0.00470	0.00418
phosphorus, dissolved	7723-14-0	E421	0.050	mg/L		<0.050	<0.050	<0.050	<0.050	<0.050
potassium, dissolved	7440-09-7	E421	0.050	mg/L		0.974	0.935	0.949	0.487	0.627
rubidium, dissolved	7440-17-7	E421	0.00020	mg/L		0.00304	0.00032	0.00034	0.00031	0.00029
selenium, dissolved	7782-49-2	E421	0.000050	mg/L		0.0233	0.000779	0.000782	0.000142	0.000210
silicon, dissolved	7440-21-3	E421	0.050	mg/L		3.98	2.64	2.93	1.37	1.76
silver, dissolved	7440-22-4	E421	0.000010	mg/L		<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
sodium, dissolved	7440-23-5	E421	0.050	mg/L		1.74	1.29	1.56	0.486	0.663
strontium, dissolved	7440-24-6	E421	0.00020	mg/L		0.512	0.107	0.148	0.0221	0.0378
sulfur, dissolved	7704-34-9	E421	0.50	mg/L		127	19.2	28.4	1.06	4.42
tellurium, dissolved	13494-80-9	E421	0.00020	mg/L		<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
thallium, dissolved	7440-28-0	E421	0.000010	mg/L		0.000017	<0.000010	<0.000010	<0.000010	<0.000010
thorium, dissolved	7440-29-1	E421	0.00010	mg/L		<0.00010	0.00010	<0.00010	<0.00010	0.00012
tin, dissolved	7440-31-5	E421	0.00010	mg/L		<0.00010	<0.00010	<0.00010	<0.00010	<0.00010

Analytical Results

Sub-Matrix: **Water**
(Matrix: **Water**)

Analyte	CAS Number	Method	LOR	Unit	Client sample ID	SL	E1	E1(H)	R7	R9
					Client sampling date / time	17-May-2022 16:40	17-May-2022 12:00	17-May-2022 11:00	17-May-2022 17:10	17-May-2022 18:20
						VA22B0989-016	**VA22B0989-017**	**VA22B0989-018**	**VA22B0989-019**	**VA22B0989-020**
						Result	Result	Result	Result	Result
Dissolved Metals										
titanium, dissolved	7440-32-6	E421	0.00030	mg/L		0.00052	0.00243	0.00216	0.00259	0.00348
tungsten, dissolved	7440-33-7	E421	0.00010	mg/L		<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
uranium, dissolved	7440-61-1	E421	0.000010	mg/L		0.00145	0.000724	0.00117	0.000050	0.000090
vanadium, dissolved	7440-62-2	E421	0.00050	mg/L		<0.00050	0.00050	<0.00050	0.00072	0.00080
zinc, dissolved	7440-66-6	E421	0.0010	mg/L		<0.0010	0.0036	0.0034	0.0037	0.0036
zirconium, dissolved	7440-67-7	E421	0.00020	mg/L		0.00031	0.00093	0.00091	0.00056	0.00091
dissolved mercury filtration location	----	EP509	-	-		Field	Field	Field	Field	Field
dissolved metals filtration location	----	EP421	-	-		Field	Field	Field	Field	Field
Speciated Metals										
chromium, hexavalent [Cr VI], dissolved	18540-29-9	E532A	0.00050	mg/L		0.00060	<0.00050	<0.00050	<0.00050	<0.00050
chromium, hexavalent [Cr VI], total	18540-29-9	E532	0.00050	mg/L		0.00050	<0.00050	<0.00050	<0.00050	<0.00050
chromium, trivalent [Cr III], dissolved	16065-83-1	EC535A	0.00050	mg/L		0.00100	0.00152	0.00139	0.00302	0.00198
chromium, trivalent [Cr III], total	16065-83-1	EC535	0.00050	mg/L		0.00280	0.00736	0.00267	0.00703	0.0111

Please refer to the General Comments section for an explanation of any qualifiers detected.

Analytical Results

Sub-Matrix: **Water**
(Matrix: **Water**)

Analyte	CAS Number	Method	LOR	Unit	Client sample ID	CC-201	Field Blank	R1	R2	R8
					Client sampling date / time	17-May-2022 11:50	17-May-2022 13:50	18-May-2022 10:40	18-May-2022 12:30	18-May-2022 13:00
						VA22B0989-021	VA22B0989-022	VA22B0989-023	VA22B0989-024	VA22B0989-025
						Result	Result	Result	Result	Result
Sample Preparation										
average opening area	----	EPA 100.2mf	-	mm²		----	----	See Attached	----	----
date of analysis	----	EPA 100.2mf	-	-		----	----	See Attached	----	----
date of filtration	----	EPA 100.2mf	-	-		----	----	See Attached	----	----
openings analyzed	----	EPA 100.2mf	-	-		----	----	See Attached	----	----
time of analysis	----	EPA 100.2mf	-	-		----	----	See Attached	----	----
time of filtration	----	EPA 100.2mf	-	-		----	----	See Attached	----	----
volume filtered	----	EPA 100.2mf	-	L		----	----	See Attached	----	----
Physical Tests										
conductivity	----	E100	2.0	µS/cm		198	<2.0	164	160	56.5
hardness (as CaCO3), dissolved	----	EC100	0.60	mg/L		99.4	<0.60	81.5	83.3	31.0
hardness (as CaCO3), from total Ca/Mg	----	EC100A	0.60	mg/L		102	<0.60	84.8	92.5	33.2
pH	----	E108	0.10	pH units		7.47	5.25	7.30	7.35	6.82
solids, total suspended [TSS]	----	EPA 160.2	2	mg/L		See Attached	See Attached	See Attached	See Attached	See Attached
Asbestos/Other Fibres										
asbestos, actinolite	13768-00-8	EPA 100.2mf	-	mf/L		----	----	See Attached	----	----
asbestos, amosite	12172-73-5	EPA 100.2mf	-	mf/L		----	----	See Attached	----	----
asbestos, anthophyllite	17068-78-9	EPA 100.2mf	-	mf/L		----	----	See Attached	----	----
asbestos, total (by TEM)	1332-21-4	EPA 100.2mf	-	mf/L		----	----	See Attached	----	----
asbestos, chrysotile	12001-29-5	EPA 100.2mf	-	mf/L		----	----	See Attached	----	----
asbestos, crocidolite	12001-28-4	EPA 100.2mf	-	mf/L		----	----	See Attached	----	----
asbestos, tremolite	14567-73-8	EPA 100.2mf	-	mf/L		----	----	See Attached	----	----
Anions and Nutrients										
ammonia, total (as N)	7664-41-7	E298	0.0050	mg/L		0.0091	<0.0050	0.0136	0.0255	0.0088
bromide	24959-67-9	E235.Br-L	0.050	mg/L		<0.050	<0.050	<0.050	<0.050	<0.050
chloride	16887-00-6	E235.Cl	0.50	mg/L		<0.50	<0.50	<0.50	<0.50	<0.50
fluoride	16984-48-8	E235.F	0.020	mg/L		0.067	<0.020	0.057	0.076	0.064
nitrate (as N)	14797-55-8	E235.NO3-L	0.0050	mg/L		0.0223	<0.0050	0.0285	<0.0050	<0.0050
nitrite (as N)	14797-65-0	E235.NO2-L	0.0010	mg/L		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
phosphorus, total	7723-14-0	E372-U	0.0020	mg/L		0.0500	<0.0020	0.0787	0.233	0.0630
sulfate (as SO4)	14808-79-8	E235.SO4	0.30	mg/L		55.4	<0.30	44.7	43.6	10.4

Analytical Results

Sub-Matrix: **Water**
(Matrix: **Water**)

Analyte	CAS Number	Method	LOR	Unit	Client sample ID	CC-201	Field Blank	R1	R2	R8
					Client sampling date / time	17-May-2022 11:50	17-May-2022 13:50	18-May-2022 10:40	18-May-2022 12:30	18-May-2022 13:00
						VA22B0989-021	VA22B0989-022	VA22B0989-023	VA22B0989-024	VA22B0989-025
						Result	Result	Result	Result	Result
Organic / Inorganic Carbon										
carbon, dissolved organic [DOC]	----	E358-L	0.50	mg/L		36.8	<0.50	38.3	33.3	33.9
Total Metals										
aluminum, total	7429-90-5	E420	0.0030	mg/L		0.557	<0.0030	0.697	2.90	0.740
antimony, total	7440-36-0	E420	0.00010	mg/L		0.00027	<0.00010	0.00018	0.00066	0.00113
arsenic, total	7440-38-2	E420	0.00010	mg/L		0.00141	<0.00010	0.00168	0.00436	0.00109
barium, total	7440-39-3	E420	0.00010	mg/L		0.0464	<0.00010	0.0479	0.142	0.0492
beryllium, total	7440-41-7	E420	0.000100	mg/L		<0.000100	<0.000100	<0.000100	0.000160	<0.000100
bismuth, total	7440-69-9	E420	0.000050	mg/L		<0.000050	<0.000050	<0.000050	<0.000050	<0.000050
boron, total	7440-42-8	E420	0.010	mg/L		<0.010	<0.010	<0.010	<0.010	<0.010
cadmium, total	7440-43-9	E420	0.0000050	mg/L		0.000106	<0.0000050	0.000182	0.000333	0.000164
calcium, total	7440-70-2	E420	0.050	mg/L		22.8	<0.050	20.9	18.4	8.12
cesium, total	7440-46-2	E420	0.000010	mg/L		0.000162	<0.000010	0.000066	0.000459	0.000120
chromium, total	7440-47-3	E420	0.00050	mg/L		0.00369	<0.00050	0.00195	0.00897	0.00526
cobalt, total	7440-48-4	E420	0.00010	mg/L		0.00108	<0.00010	0.00136	0.00488	0.00093
copper, total	7440-50-8	E420	0.00050	mg/L		0.00438	<0.00050	0.00589	0.0115	0.00613
iron, total	7439-89-6	E420	0.010	mg/L		1.24	<0.010	1.80	6.05	1.75
lead, total	7439-92-1	E420	0.000050	mg/L		0.00213	<0.000050	0.00303	0.00414	0.00106
lithium, total	7439-93-2	E420	0.0010	mg/L		0.0017	<0.0010	0.0014	0.0038	<0.0010
magnesium, total	7439-95-4	E420	0.0050	mg/L		11.0	<0.0050	7.92	11.3	3.15
manganese, total	7439-96-5	E420	0.00010	mg/L		0.143	<0.00010	0.198	0.410	0.0678
mercury, total	7439-97-6	E508	0.0000050	mg/L		0.0000119	<0.0000050	0.0000140	0.0000087	0.0000104
molybdenum, total	7439-98-7	E420	0.000050	mg/L		0.000478	<0.000050	0.000435	0.000501	0.000483
nickel, total	7440-02-0	E420	0.00050	mg/L		0.0102	<0.00050	0.00626	0.0208	0.00856
phosphorus, total	7723-14-0	E420	0.050	mg/L		<0.050	<0.050	0.071	0.206	0.051
potassium, total	7440-09-7	E420	0.050	mg/L		0.951	<0.050	0.921	0.853	0.562
rubidium, total	7440-17-7	E420	0.00020	mg/L		0.00094	<0.00020	0.00079	0.00283	0.00074
selenium, total	7782-49-2	E420	0.000050	mg/L		0.000874	<0.000050	0.00122	0.000596	0.00135
silicon, total	7440-21-3	E420	0.10	mg/L		3.21	<0.10	3.08	6.63	3.32
silver, total	7440-22-4	E420	0.000010	mg/L		0.000024	<0.000010	0.000025	0.000049	0.000035
sodium, total	7440-23-5	E420	0.050	mg/L		1.24	<0.050	1.11	1.02	1.01
strontium, total	7440-24-6	E420	0.00020	mg/L		0.112	<0.00020	0.0992	0.0986	0.0371

Analytical Results

Sub-Matrix: **Water**
(Matrix: **Water**)

Analyte	CAS Number	Method	LOR	Unit	Client sample ID	CC-201	Field Blank	R1	R2	R8
					Client sampling date / time	17-May-2022 11:50	17-May-2022 13:50	18-May-2022 10:40	18-May-2022 12:30	18-May-2022 13:00
						VA22B0989-021	VA22B0989-022	VA22B0989-023	VA22B0989-024	VA22B0989-025
						Result	Result	Result	Result	Result
Total Metals										
sulfur, total	7704-34-9	E420	0.50	mg/L		19.0	<0.50	15.6	15.2	3.61
tellurium, total	13494-80-9	E420	0.00020	mg/L		<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
thallium, total	7440-28-0	E420	0.000010	mg/L		0.000014	<0.000010	0.000011	0.000039	<0.000010
thorium, total	7440-29-1	E420	0.00010	mg/L		0.00016	<0.00010	0.00019	0.00031	0.00013
tin, total	7440-31-5	E420	0.00010	mg/L		<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
titanium, total	7440-32-6	E420	0.00030	mg/L		0.0125	<0.00030	0.0134	0.0524	0.0122
tungsten, total	7440-33-7	E420	0.00010	mg/L		<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
uranium, total	7440-61-1	E420	0.000010	mg/L		0.000780	<0.000010	0.000639	0.00148	0.000254
vanadium, total	7440-62-2	E420	0.00050	mg/L		0.00163	<0.00050	0.00210	0.00940	0.00233
zinc, total	7440-66-6	E420	0.0030	mg/L		0.0081	<0.0030	0.0127	0.0252	0.0104
zirconium, total	7440-67-7	E420	0.00020	mg/L		0.00111	<0.00020	0.00114	0.00102	0.00077
Dissolved Metals										
aluminum, dissolved	7429-90-5	E421	0.0010	mg/L		0.197	<0.0010	0.210	0.710	0.187
antimony, dissolved	7440-36-0	E421	0.00010	mg/L		0.00018	<0.00010	0.00012	0.00027	0.00045
arsenic, dissolved	7440-38-2	E421	0.00010	mg/L		0.00066	<0.00010	0.00062	0.00150	0.00047
barium, dissolved	7440-39-3	E421	0.00010	mg/L		0.0307	<0.00010	0.0262	0.0520	0.0199
beryllium, dissolved	7440-41-7	E421	0.000100	mg/L		<0.000100	<0.000100	<0.000100	<0.000100	<0.000100
bismuth, dissolved	7440-69-9	E421	0.000050	mg/L		<0.000050	<0.000050	<0.000050	<0.000050	<0.000050
boron, dissolved	7440-42-8	E421	0.010	mg/L		<0.010	<0.010	<0.010	<0.010	<0.010
cadmium, dissolved	7440-43-9	E421	0.0000050	mg/L		0.0000516	<0.0000050	0.0000737	0.0000915	0.0000382
calcium, dissolved	7440-70-2	E421	0.050	mg/L		22.0	<0.050	19.5	15.4	7.40
cesium, dissolved	7440-46-2	E421	0.000010	mg/L		0.000016	<0.000010	<0.000010	0.000079	<0.000010
chromium, dissolved	7440-47-3	E421	0.00050	mg/L		0.00147	<0.00050	0.00082	0.00311	0.00423
cobalt, dissolved	7440-48-4	E421	0.00010	mg/L		0.00052	<0.00010	0.00046	0.00136	0.00020
copper, dissolved	7440-50-8	E421	0.00020	mg/L		0.00309	<0.00020	0.00360	0.00422	0.00309
iron, dissolved	7439-89-6	E421	0.010	mg/L		0.382	<0.010	0.424	1.44	0.321
lead, dissolved	7439-92-1	E421	0.000050	mg/L		0.000434	<0.000050	0.000247	0.000862	<0.000050
lithium, dissolved	7439-93-2	E421	0.0010	mg/L		0.0014	<0.0010	0.0010	0.0019	<0.0010
magnesium, dissolved	7439-95-4	E421	0.0050	mg/L		10.8	<0.0050	7.97	10.9	3.04
manganese, dissolved	7439-96-5	E421	0.00010	mg/L		0.0994	<0.00010	0.0867	0.166	0.0154
mercury, dissolved	7439-97-6	E509	0.0000050	mg/L		0.0000091	<0.0000050	0.0000111	0.0000103	0.0000114

Analytical Results

Sub-Matrix: **Water**
(Matrix: **Water**)

Analyte	CAS Number	Method	LOR	Unit	Client sample ID	CC-201	Field Blank	R1	R2	R8
					Client sampling date / time	17-May-2022 11:50	17-May-2022 13:50	18-May-2022 10:40	18-May-2022 12:30	18-May-2022 13:00
						VA22B0989-021	VA22B0989-022	VA22B0989-023	VA22B0989-024	VA22B0989-025
						Result	Result	Result	Result	Result
Dissolved Metals										
molybdenum, dissolved	7439-98-7	E421	0.000050	mg/L		0.000375	<0.000050	0.000357	0.000241	0.000239
nickel, dissolved	7440-02-0	E421	0.00050	mg/L		0.00526	<0.00050	0.00387	0.00829	0.00586
phosphorus, dissolved	7723-14-0	E421	0.050	mg/L		<0.050	<0.050	<0.050	0.055	<0.050
potassium, dissolved	7440-09-7	E421	0.050	mg/L		0.902	<0.050	0.900	0.669	0.513
rubidium, dissolved	7440-17-7	E421	0.00020	mg/L		0.00029	<0.00020	0.00028	0.00062	<0.00020
selenium, dissolved	7782-49-2	E421	0.000050	mg/L		0.000796	<0.000050	0.00104	0.000314	0.00107
silicon, dissolved	7440-21-3	E421	0.050	mg/L		2.66	<0.050	2.37	3.33	2.55
silver, dissolved	7440-22-4	E421	0.000010	mg/L		<0.000010	<0.000010	<0.000010	0.000011	<0.000010
sodium, dissolved	7440-23-5	E421	0.050	mg/L		1.19	<0.050	2.94 DTMF	0.957	0.972
strontium, dissolved	7440-24-6	E421	0.00020	mg/L		0.103	<0.00020	0.0936	0.0808	0.0308
sulfur, dissolved	7704-34-9	E421	0.50	mg/L		18.0	<0.50	15.0	14.6	3.55
tellurium, dissolved	13494-80-9	E421	0.00020	mg/L		<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
thallium, dissolved	7440-28-0	E421	0.000010	mg/L		<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
thorium, dissolved	7440-29-1	E421	0.00010	mg/L		0.00010	<0.00010	0.00014	0.00011	<0.00010
tin, dissolved	7440-31-5	E421	0.00010	mg/L		<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
titanium, dissolved	7440-32-6	E421	0.00030	mg/L		0.00238	<0.00030	0.00234	0.0117	0.00210
tungsten, dissolved	7440-33-7	E421	0.00010	mg/L		<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
uranium, dissolved	7440-61-1	E421	0.000010	mg/L		0.000724	<0.000010	0.000549	0.000831	0.000097
vanadium, dissolved	7440-62-2	E421	0.00050	mg/L		<0.00050	<0.00050	<0.00050	0.00245	<0.00050
zinc, dissolved	7440-66-6	E421	0.0010	mg/L		0.0033	<0.0010	0.0041	0.0060	0.0025
zirconium, dissolved	7440-67-7	E421	0.00020	mg/L		0.00088	<0.00020	0.00101	0.00107	0.00072
dissolved mercury filtration location	----	EP509	-	-		Field	Field	Field	Field	Field
dissolved metals filtration location	----	EP421	-	-		Field	Field	Field	Field	Field
Speciated Metals										
chromium, hexavalent [Cr VI], dissolved	18540-29-9	E532A	0.00050	mg/L		<0.00050	----	----	<0.00050	<0.00050
chromium, hexavalent [Cr VI], total	18540-29-9	E532	0.00050	mg/L		<0.00050	----	<0.00050	<0.00050	<0.00050
chromium, trivalent [Cr III], dissolved	16065-83-1	EC535A	0.00050	mg/L		0.00147	----	----	0.00311	0.00423
chromium, trivalent [Cr III], total	16065-83-1	EC535	0.00050	mg/L		0.00369	----	0.00195	0.00897	0.00526

Please refer to the General Comments section for an explanation of any qualifiers detected.

Analytical Results

Sub-Matrix: **Water**
(Matrix: **Water**)

Analyte	CAS Number	Method	LOR	Unit	Client sample ID	Travel Blank	----	----	----	----
					Client sampling date / time	18-May-2022	----	----	----	----
					VA22B0989-026	--------	--------	--------	--------	--------
					Result	----	----	----	----	----
Physical Tests										
conductivity	----	E100	2.0	µS/cm		<2.0	----	----	----	----
hardness (as CaCO3), from total Ca/Mg	----	EC100A	0.60	mg/L		<0.60	----	----	----	----
pH	----	E108	0.10	pH units		5.25	----	----	----	----
solids, total suspended [TSS]	----	EPA 160.2	2	mg/L		See Attached	----	----	----	----
Anions and Nutrients										
ammonia, total (as N)	7664-41-7	E298	0.0050	mg/L		<0.0050	----	----	----	----
bromide	24959-67-9	E235.Br-L	0.050	mg/L		<0.050	----	----	----	----
chloride	16887-00-6	E235.Cl	0.50	mg/L		<0.50	----	----	----	----
fluoride	16984-48-8	E235.F	0.020	mg/L		<0.020	----	----	----	----
nitrate (as N)	14797-55-8	E235.NO3-L	0.0050	mg/L		<0.0050	----	----	----	----
nitrite (as N)	14797-65-0	E235.NO2-L	0.0010	mg/L		<0.0010	----	----	----	----
phosphorus, total	7723-14-0	E372-U	0.0020	mg/L		<0.0020	----	----	----	----
sulfate (as SO4)	14808-79-8	E235.SO4	0.30	mg/L		<0.30	----	----	----	----
Total Metals										
aluminum, total	7429-90-5	E420	0.0030	mg/L		<0.0030	----	----	----	----
antimony, total	7440-36-0	E420	0.00010	mg/L		<0.00010	----	----	----	----
arsenic, total	7440-38-2	E420	0.00010	mg/L		<0.00010	----	----	----	----
barium, total	7440-39-3	E420	0.00010	mg/L		<0.00010	----	----	----	----
beryllium, total	7440-41-7	E420	0.000100	mg/L		<0.000100	----	----	----	----
bismuth, total	7440-69-9	E420	0.000050	mg/L		<0.000050	----	----	----	----
boron, total	7440-42-8	E420	0.010	mg/L		<0.010	----	----	----	----
cadmium, total	7440-43-9	E420	0.0000050	mg/L		<0.0000050	----	----	----	----
calcium, total	7440-70-2	E420	0.050	mg/L		<0.050	----	----	----	----
cesium, total	7440-46-2	E420	0.000010	mg/L		<0.000010	----	----	----	----
chromium, total	7440-47-3	E420	0.00050	mg/L		<0.00050	----	----	----	----
cobalt, total	7440-48-4	E420	0.00010	mg/L		<0.00010	----	----	----	----
copper, total	7440-50-8	E420	0.00050	mg/L		<0.00050	----	----	----	----
iron, total	7439-89-6	E420	0.010	mg/L		<0.010	----	----	----	----
lead, total	7439-92-1	E420	0.000050	mg/L		<0.000050	----	----	----	----
lithium, total	7439-93-2	E420	0.0010	mg/L		<0.0010	----	----	----	----
magnesium, total	7439-95-4	E420	0.0050	mg/L		<0.0050	----	----	----	----

Analytical Results

Sub-Matrix: **Water**
(Matrix: **Water**)

Analyte	CAS Number	Method	LOR	Unit	Client sample ID	Travel Blank	----	----	----	----
					Client sampling date / time	18-May-2022	----	----	----	----
						VA22B0989-026	--------	--------	--------	--------
						Result	----	----	----	----
Total Metals										
manganese, total	7439-96-5	E420	0.00010	mg/L		<0.00010	----	----	----	----
mercury, total	7439-97-6	E508	0.0000050	mg/L		<0.0000050	----	----	----	----
molybdenum, total	7439-98-7	E420	0.000050	mg/L		<0.000050	----	----	----	----
nickel, total	7440-02-0	E420	0.00050	mg/L		<0.00050	----	----	----	----
phosphorus, total	7723-14-0	E420	0.050	mg/L		<0.050	----	----	----	----
potassium, total	7440-09-7	E420	0.050	mg/L		<0.050	----	----	----	----
rubidium, total	7440-17-7	E420	0.00020	mg/L		<0.00020	----	----	----	----
selenium, total	7782-49-2	E420	0.000050	mg/L		<0.000050	----	----	----	----
silicon, total	7440-21-3	E420	0.10	mg/L		<0.10	----	----	----	----
silver, total	7440-22-4	E420	0.000010	mg/L		<0.000010	----	----	----	----
sodium, total	7440-23-5	E420	0.050	mg/L		<0.050	----	----	----	----
strontium, total	7440-24-6	E420	0.00020	mg/L		<0.00020	----	----	----	----
sulfur, total	7704-34-9	E420	0.50	mg/L		<0.50	----	----	----	----
tellurium, total	13494-80-9	E420	0.00020	mg/L		<0.00020	----	----	----	----
thallium, total	7440-28-0	E420	0.000010	mg/L		<0.000010	----	----	----	----
thorium, total	7440-29-1	E420	0.00010	mg/L		<0.00010	----	----	----	----
tin, total	7440-31-5	E420	0.00010	mg/L		<0.00010	----	----	----	----
titanium, total	7440-32-6	E420	0.00030	mg/L		<0.00030	----	----	----	----
tungsten, total	7440-33-7	E420	0.00010	mg/L		<0.00010	----	----	----	----
uranium, total	7440-61-1	E420	0.000010	mg/L		<0.000010	----	----	----	----
vanadium, total	7440-62-2	E420	0.00050	mg/L		<0.00050	----	----	----	----
zinc, total	7440-66-6	E420	0.0030	mg/L		<0.0030	----	----	----	----
zirconium, total	7440-67-7	E420	0.00020	mg/L		<0.00020	----	----	----	----

Please refer to the General Comments section for an explanation of any qualifiers detected.

QUALITY CONTROL INTERPRETIVE REPORT

Work Order	: **VA22B0989**	Page	: 1 of 61
Client	: **EDI Environmental Dynamics Inc.**	Laboratory	: Vancouver - Environmental
Contact	: Annina Altherr	Account Manager	: Heather McKenzie
Address	: 2195 2nd Avenue Whitehorse YT Canada Y1A 3T8	Address	: 8081 Lougheed Highway Burnaby, British Columbia Canada V5A 1W9
Telephone	: 604 637 1891	Telephone	: +1 604 253 4188
Project	: 20Y0150 Clinton Creek	Date Samples Received	: 19-May-2022 11:10
PO	: ----	Issue Date	: 21-Jun-2022 17:05
C-O-C number	: ----		
Sampler	: JMF JMG EW		
Site	: ----		
Quote number	: Q77741		
No. of samples received	: 26		
No. of samples analysed	: 26		

This report is automatically generated by the ALS LIMS (Laboratory Information Management System) through evaluation of Quality Control (QC) results and other QA parameters associated with this submission, and is intended to facilitate rapid data validation by auditors or reviewers. The report highlights any exceptions and outliers to ALS Data Quality Objectives, provides holding time details and exceptions, summarizes QC sample frequencies, and lists applicable methodology references and summaries.

Key

Anonymous: Refers to samples which are not part of this work order, but which formed part of the QC process lot.
CAS Number: Chemical Abstracts Service number is a unique identifier assigned to discrete substances.
DQO: Data Quality Objective.
LOR: Limit of Reporting (detection limit).
RPD: Relative Percent Difference.

Workorder Comments

TSS analysis performed by the ALS Cincinnati OH laboratory for Health & Safety reasons due to possibility of Asbestos content present during the filter drying process. Note: The required Asbestos analysis (TEM) for selected samples will also be sent to ALS Cincinnati.
Holding times are displayed as "---" if no guidance exists from CCME, Canadian provinces, or broadly recognized international references.

Summary of Outliers

Outliers : Quality Control Samples

- No Duplicate outliers occur.
- No Laboratory Control Sample (LCS) outliers occur
- No Matrix Spike outliers occur.
- Method Blank value outliers occur - please see following pages for full details.
- No Test sample Surrogate recovery outliers exist.

Outliers: Reference Material (RM) Samples

- No Reference Material (RM) Sample outliers occur.

Outliers : Analysis Holding Time Compliance (Breaches)

- Analysis Holding Time Outliers exist - please see following pages for full details.

Outliers : Frequency of Quality Control Samples

- Quality Control Sample Frequency Outliers occur - please see following pages for full details.

Outliers : Quality Control Samples

Duplicates, Method Blanks, Laboratory Control Samples and Matrix Spikes

Matrix: **Water**

Analyte Group	Laboratory sample ID	Client/Ref Sample ID	Analyte	CAS Number	Method	Result	Limits	Comment
Method Blank (MB) Values								
Anions and Nutrients	QC-MRG7-4946920 01	----	nitrate (as N)	14797-55-8	E235.NO3-L	0.0099 B mg/L	0.005 mg/L	Blank result exceeds permitted value

Result Qualifiers

Qualifier	Description
B	*Method Blank exceeds ALS DQO. Associated sample results which are < Limit of Reporting or > 5 times blank level are considered reliable.*

Analysis Holding Time Compliance

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times, which are selected to meet known provincial and /or federal requirements. In the absence of regulatory hold times, ALS establishes recommendations based on guidelines published by organizations such as CCME, US EPA, APHA Standard Methods, ASTM, or Environment Canada (where available). Dates and holding times reported below represent the first dates of extraction or analysis. If subsequent tests or dilutions exceeded holding times, qualifiers are added (refer to COA).

If samples are identified below as having been analyzed or extracted outside of recommended holding times, measurement uncertainties may be increased, and this should be taken into consideration when interpreting results.

Where actual sampling date is not provided on the chain of custody, the date of receipt with time at 00:00 is used for calculation purposes.

Where only the sample date without time is provided on the chain of custody, the sampling date at 00:00 is used for calculation purposes.

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid)										
E1	E298	17-May-2022	26-May-2022	----	----		28-May-2022	28 days	11 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid)										
E1(H)	E298	17-May-2022	26-May-2022	----	----		28-May-2022	28 days	11 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid)										
GWCC-1	E298	17-May-2022	26-May-2022	----	----		28-May-2022	28 days	11 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid)										
GWCC-2	E298	17-May-2022	26-May-2022	----	----		28-May-2022	28 days	11 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid)										
GWCC-3	E298	17-May-2022	26-May-2022	----	----		28-May-2022	28 days	11 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid)										
GWCC-4	E298	17-May-2022	26-May-2022	----	----		28-May-2022	28 days	11 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid)										
R1	E298	18-May-2022	26-May-2022	----	----		29-May-2022	28 days	11 days	✓

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) R11	E298	17-May-2022	26-May-2022	----	----		28-May-2022	28 days	11 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) R2	E298	18-May-2022	26-May-2022	----	----		29-May-2022	28 days	11 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) R3	E298	17-May-2022	26-May-2022	----	----		28-May-2022	28 days	11 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) R7	E298	17-May-2022	26-May-2022	----	----		28-May-2022	28 days	11 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) R8	E298	18-May-2022	26-May-2022	----	----		29-May-2022	28 days	11 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) R9	E298	17-May-2022	26-May-2022	----	----		28-May-2022	28 days	11 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) SL	E298	17-May-2022	26-May-2022	----	----		28-May-2022	28 days	11 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) CC-201	E298	17-May-2022	26-May-2022	----	----		29-May-2022	28 days	12 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) CC-206	E298	16-May-2022	26-May-2022	----	----		28-May-2022	28 days	12 days	✓

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) E2	E298	16-May-2022	26-May-2022	----	----		28-May-2022	28 days	12 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) E3	E298	16-May-2022	26-May-2022	----	----		28-May-2022	28 days	12 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) E4	E298	16-May-2022	26-May-2022	----	----		28-May-2022	28 days	12 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) E7	E298	16-May-2022	26-May-2022	----	----		28-May-2022	28 days	12 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) E8	E298	16-May-2022	26-May-2022	----	----		28-May-2022	28 days	12 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) Field Blank	E298	17-May-2022	26-May-2022	----	----		29-May-2022	28 days	12 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) GWCC-5	E298	16-May-2022	26-May-2022	----	----		28-May-2022	28 days	12 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) R4	E298	16-May-2022	26-May-2022	----	----		28-May-2022	28 days	12 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) R6	E298	16-May-2022	26-May-2022	----	----		28-May-2022	28 days	12 days	✓

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid)										
Travel Blank	E298	18-May-2022	26-May-2022	----	----		29-May-2022	28 days	12 days	✓
Anions and Nutrients : Bromide in Water by IC (Low Level)										
HDPE										
R2	E235.Br-L	18-May-2022	----	----	----		21-May-2022	28 days	2 days	✓
Anions and Nutrients : Bromide in Water by IC (Low Level)										
HDPE										
R8	E235.Br-L	18-May-2022	----	----	----		21-May-2022	28 days	2 days	✓
Anions and Nutrients : Bromide in Water by IC (Low Level)										
HDPE										
E1	E235.Br-L	17-May-2022	----	----	----		20-May-2022	28 days	3 days	✓
Anions and Nutrients : Bromide in Water by IC (Low Level)										
HDPE										
E1(H)	E235.Br-L	17-May-2022	----	----	----		20-May-2022	28 days	3 days	✓
Anions and Nutrients : Bromide in Water by IC (Low Level)										
HDPE										
Field Blank	E235.Br-L	17-May-2022	----	----	----		21-May-2022	28 days	3 days	✓
Anions and Nutrients : Bromide in Water by IC (Low Level)										
HDPE										
GWCC-1	E235.Br-L	17-May-2022	----	----	----		20-May-2022	28 days	3 days	✓
Anions and Nutrients : Bromide in Water by IC (Low Level)										
HDPE										
GWCC-2	E235.Br-L	17-May-2022	----	----	----		20-May-2022	28 days	3 days	✓
Anions and Nutrients : Bromide in Water by IC (Low Level)										
HDPE										
GWCC-3	E235.Br-L	17-May-2022	----	----	----		20-May-2022	28 days	3 days	✓

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Anions and Nutrients : Bromide in Water by IC (Low Level)										
HDPE GWCC-4	E235.Br-L	17-May-2022	----	----	----		20-May-2022	28 days	3 days	✓
Anions and Nutrients : Bromide in Water by IC (Low Level)										
HDPE R1	E235.Br-L	18-May-2022	----	----	----		21-May-2022	28 days	3 days	✓
Anions and Nutrients : Bromide in Water by IC (Low Level)										
HDPE R11	E235.Br-L	17-May-2022	----	----	----		20-May-2022	28 days	3 days	✓
Anions and Nutrients : Bromide in Water by IC (Low Level)										
HDPE R3	E235.Br-L	17-May-2022	----	----	----		20-May-2022	28 days	3 days	✓
Anions and Nutrients : Bromide in Water by IC (Low Level)										
HDPE R7	E235.Br-L	17-May-2022	----	----	----		20-May-2022	28 days	3 days	✓
Anions and Nutrients : Bromide in Water by IC (Low Level)										
HDPE R9	E235.Br-L	17-May-2022	----	----	----		20-May-2022	28 days	3 days	✓
Anions and Nutrients : Bromide in Water by IC (Low Level)										
HDPE SL	E235.Br-L	17-May-2022	----	----	----		20-May-2022	28 days	3 days	✓
Anions and Nutrients : Bromide in Water by IC (Low Level)										
HDPE Travel Blank	E235.Br-L	18-May-2022	----	----	----		21-May-2022	28 days	3 days	✓
Anions and Nutrients : Bromide in Water by IC (Low Level)										
HDPE CC-201	E235.Br-L	17-May-2022	----	----	----		21-May-2022	28 days	4 days	✓

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Anions and Nutrients : Bromide in Water by IC (Low Level)										
HDPE CC-206	E235.Br-L	16-May-2022	----	----	----		20-May-2022	28 days	4 days	✓
Anions and Nutrients : Bromide in Water by IC (Low Level)										
HDPE E2	E235.Br-L	16-May-2022	----	----	----		20-May-2022	28 days	4 days	✓
Anions and Nutrients : Bromide in Water by IC (Low Level)										
HDPE E3	E235.Br-L	16-May-2022	----	----	----		20-May-2022	28 days	4 days	✓
Anions and Nutrients : Bromide in Water by IC (Low Level)										
HDPE E4	E235.Br-L	16-May-2022	----	----	----		20-May-2022	28 days	4 days	✓
Anions and Nutrients : Bromide in Water by IC (Low Level)										
HDPE E7	E235.Br-L	16-May-2022	----	----	----		20-May-2022	28 days	4 days	✓
Anions and Nutrients : Bromide in Water by IC (Low Level)										
HDPE E8	E235.Br-L	16-May-2022	----	----	----		20-May-2022	28 days	4 days	✓
Anions and Nutrients : Bromide in Water by IC (Low Level)										
HDPE GWCC-5	E235.Br-L	16-May-2022	----	----	----		20-May-2022	28 days	4 days	✓
Anions and Nutrients : Bromide in Water by IC (Low Level)										
HDPE R4	E235.Br-L	16-May-2022	----	----	----		20-May-2022	28 days	4 days	✓
Anions and Nutrients : Bromide in Water by IC (Low Level)										
HDPE R6	E235.Br-L	16-May-2022	----	----	----		20-May-2022	28 days	4 days	✓

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Anions and Nutrients : Chloride in Water by IC										
HDPE R2	E235.Cl	18-May-2022	----	----	----		21-May-2022	28 days	2 days	✓
Anions and Nutrients : Chloride in Water by IC										
HDPE R8	E235.Cl	18-May-2022	----	----	----		21-May-2022	28 days	2 days	✓
Anions and Nutrients : Chloride in Water by IC										
HDPE E1	E235.Cl	17-May-2022	----	----	----		20-May-2022	28 days	3 days	✓
Anions and Nutrients : Chloride in Water by IC										
HDPE E1(H)	E235.Cl	17-May-2022	----	----	----		20-May-2022	28 days	3 days	✓
Anions and Nutrients : Chloride in Water by IC										
HDPE Field Blank	E235.Cl	17-May-2022	----	----	----		21-May-2022	28 days	3 days	✓
Anions and Nutrients : Chloride in Water by IC										
HDPE GWCC-1	E235.Cl	17-May-2022	----	----	----		20-May-2022	28 days	3 days	✓
Anions and Nutrients : Chloride in Water by IC										
HDPE GWCC-2	E235.Cl	17-May-2022	----	----	----		20-May-2022	28 days	3 days	✓
Anions and Nutrients : Chloride in Water by IC										
HDPE GWCC-3	E235.Cl	17-May-2022	----	----	----		20-May-2022	28 days	3 days	✓
Anions and Nutrients : Chloride in Water by IC										
HDPE GWCC-4	E235.Cl	17-May-2022	----	----	----		20-May-2022	28 days	3 days	✓

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Anions and Nutrients : Chloride in Water by IC										
HDPE R1	E235.Cl	18-May-2022	----	----	----		21-May-2022	28 days	3 days	✓
Anions and Nutrients : Chloride in Water by IC										
HDPE R11	E235.Cl	17-May-2022	----	----	----		20-May-2022	28 days	3 days	✓
Anions and Nutrients : Chloride in Water by IC										
HDPE R3	E235.Cl	17-May-2022	----	----	----		20-May-2022	28 days	3 days	✓
Anions and Nutrients : Chloride in Water by IC										
HDPE R7	E235.Cl	17-May-2022	----	----	----		20-May-2022	28 days	3 days	✓
Anions and Nutrients : Chloride in Water by IC										
HDPE R9	E235.Cl	17-May-2022	----	----	----		20-May-2022	28 days	3 days	✓
Anions and Nutrients : Chloride in Water by IC										
HDPE SL	E235.Cl	17-May-2022	----	----	----		20-May-2022	28 days	3 days	✓
Anions and Nutrients : Chloride in Water by IC										
HDPE Travel Blank	E235.Cl	18-May-2022	----	----	----		21-May-2022	28 days	3 days	✓
Anions and Nutrients : Chloride in Water by IC										
HDPE CC-201	E235.Cl	17-May-2022	----	----	----		21-May-2022	28 days	4 days	✓
Anions and Nutrients : Chloride in Water by IC										
HDPE CC-206	E235.Cl	16-May-2022	----	----	----		20-May-2022	28 days	4 days	✓

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Anions and Nutrients : Chloride in Water by IC										
HDPE E2	E235.Cl	16-May-2022	----	----	----		20-May-2022	28 days	4 days	✓
Anions and Nutrients : Chloride in Water by IC										
HDPE E3	E235.Cl	16-May-2022	----	----	----		20-May-2022	28 days	4 days	✓
Anions and Nutrients : Chloride in Water by IC										
HDPE E4	E235.Cl	16-May-2022	----	----	----		20-May-2022	28 days	4 days	✓
Anions and Nutrients : Chloride in Water by IC										
HDPE E7	E235.Cl	16-May-2022	----	----	----		20-May-2022	28 days	4 days	✓
Anions and Nutrients : Chloride in Water by IC										
HDPE E8	E235.Cl	16-May-2022	----	----	----		20-May-2022	28 days	4 days	✓
Anions and Nutrients : Chloride in Water by IC										
HDPE GWCC-5	E235.Cl	16-May-2022	----	----	----		20-May-2022	28 days	4 days	✓
Anions and Nutrients : Chloride in Water by IC										
HDPE R4	E235.Cl	16-May-2022	----	----	----		20-May-2022	28 days	4 days	✓
Anions and Nutrients : Chloride in Water by IC										
HDPE R6	E235.Cl	16-May-2022	----	----	----		20-May-2022	28 days	4 days	✓
Anions and Nutrients : Fluoride in Water by IC										
HDPE R2	E235.F	18-May-2022	----	----	----		21-May-2022	28 days	2 days	✓

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Anions and Nutrients : Fluoride in Water by IC										
HDPE R8	E235.F	18-May-2022	----	----	----		21-May-2022	28 days	2 days	✓
Anions and Nutrients : Fluoride in Water by IC										
HDPE E1	E235.F	17-May-2022	----	----	----		20-May-2022	28 days	3 days	✓
Anions and Nutrients : Fluoride in Water by IC										
HDPE E1(H)	E235.F	17-May-2022	----	----	----		20-May-2022	28 days	3 days	✓
Anions and Nutrients : Fluoride in Water by IC										
HDPE Field Blank	E235.F	17-May-2022	----	----	----		21-May-2022	28 days	3 days	✓
Anions and Nutrients : Fluoride in Water by IC										
HDPE GWCC-1	E235.F	17-May-2022	----	----	----		20-May-2022	28 days	3 days	✓
Anions and Nutrients : Fluoride in Water by IC										
HDPE GWCC-2	E235.F	17-May-2022	----	----	----		20-May-2022	28 days	3 days	✓
Anions and Nutrients : Fluoride in Water by IC										
HDPE GWCC-3	E235.F	17-May-2022	----	----	----		20-May-2022	28 days	3 days	✓
Anions and Nutrients : Fluoride in Water by IC										
HDPE GWCC-4	E235.F	17-May-2022	----	----	----		20-May-2022	28 days	3 days	✓
Anions and Nutrients : Fluoride in Water by IC										
HDPE R1	E235.F	18-May-2022	----	----	----		21-May-2022	28 days	3 days	✓

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Anions and Nutrients : Fluoride in Water by IC										
HDPE R11	E235.F	17-May-2022	----	----	----		20-May-2022	28 days	3 days	✓
Anions and Nutrients : Fluoride in Water by IC										
HDPE R3	E235.F	17-May-2022	----	----	----		20-May-2022	28 days	3 days	✓
Anions and Nutrients : Fluoride in Water by IC										
HDPE R7	E235.F	17-May-2022	----	----	----		20-May-2022	28 days	3 days	✓
Anions and Nutrients : Fluoride in Water by IC										
HDPE R9	E235.F	17-May-2022	----	----	----		20-May-2022	28 days	3 days	✓
Anions and Nutrients : Fluoride in Water by IC										
HDPE SL	E235.F	17-May-2022	----	----	----		20-May-2022	28 days	3 days	✓
Anions and Nutrients : Fluoride in Water by IC										
HDPE Travel Blank	E235.F	18-May-2022	----	----	----		21-May-2022	28 days	3 days	✓
Anions and Nutrients : Fluoride in Water by IC										
HDPE CC-201	E235.F	17-May-2022	----	----	----		21-May-2022	28 days	4 days	✓
Anions and Nutrients : Fluoride in Water by IC										
HDPE CC-206	E235.F	16-May-2022	----	----	----		20-May-2022	28 days	4 days	✓
Anions and Nutrients : Fluoride in Water by IC										
HDPE E2	E235.F	16-May-2022	----	----	----		20-May-2022	28 days	4 days	✓

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Anions and Nutrients : Fluoride in Water by IC										
HDPE E3	E235.F	16-May-2022	----	----	----		20-May-2022	28 days	4 days	✓
Anions and Nutrients : Fluoride in Water by IC										
HDPE E4	E235.F	16-May-2022	----	----	----		20-May-2022	28 days	4 days	✓
Anions and Nutrients : Fluoride in Water by IC										
HDPE E7	E235.F	16-May-2022	----	----	----		20-May-2022	28 days	4 days	✓
Anions and Nutrients : Fluoride in Water by IC										
HDPE E8	E235.F	16-May-2022	----	----	----		20-May-2022	28 days	4 days	✓
Anions and Nutrients : Fluoride in Water by IC										
HDPE GWCC-5	E235.F	16-May-2022	----	----	----		20-May-2022	28 days	4 days	✓
Anions and Nutrients : Fluoride in Water by IC										
HDPE R4	E235.F	16-May-2022	----	----	----		20-May-2022	28 days	4 days	✓
Anions and Nutrients : Fluoride in Water by IC										
HDPE R6	E235.F	16-May-2022	----	----	----		20-May-2022	28 days	4 days	✓
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE R2	E235.NO3-L	18-May-2022	----	----	----		21-May-2022	3 days	2 days	✓
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE R8	E235.NO3-L	18-May-2022	----	----	----		21-May-2022	3 days	2 days	✓

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE										
E1	E235.NO3-L	17-May-2022	----	----	----		20-May-2022	3 days	3 days	✓
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE										
E1(H)	E235.NO3-L	17-May-2022	----	----	----		20-May-2022	3 days	3 days	✓
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE										
Field Blank	E235.NO3-L	17-May-2022	----	----	----		21-May-2022	3 days	3 days	×
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE										
GWCC-1	E235.NO3-L	17-May-2022	----	----	----		20-May-2022	3 days	3 days	✓
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE										
GWCC-2	E235.NO3-L	17-May-2022	----	----	----		20-May-2022	3 days	3 days	✓
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE										
GWCC-3	E235.NO3-L	17-May-2022	----	----	----		20-May-2022	3 days	3 days	✓
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE										
GWCC-4	E235.NO3-L	17-May-2022	----	----	----		20-May-2022	3 days	3 days	✓
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE										
R1	E235.NO3-L	18-May-2022	----	----	----		21-May-2022	3 days	3 days	✓
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE										
R11	E235.NO3-L	17-May-2022	----	----	----		20-May-2022	3 days	3 days	✓

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE R3	E235.NO3-L	17-May-2022	----	----	----		20-May-2022	3 days	3 days	✓
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE R7	E235.NO3-L	17-May-2022	----	----	----		20-May-2022	3 days	3 days	✓
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE R9	E235.NO3-L	17-May-2022	----	----	----		20-May-2022	3 days	3 days	✓
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE SL	E235.NO3-L	17-May-2022	----	----	----		20-May-2022	3 days	3 days	✓
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE Travel Blank	E235.NO3-L	18-May-2022	----	----	----		21-May-2022	3 days	3 days	✓
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE CC-201	E235.NO3-L	17-May-2022	----	----	----		21-May-2022	3 days	4 days	× EHT
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE CC-206	E235.NO3-L	16-May-2022	----	----	----		20-May-2022	3 days	4 days	× EHTL
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE E2	E235.NO3-L	16-May-2022	----	----	----		20-May-2022	3 days	4 days	× EHTL
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE E3	E235.NO3-L	16-May-2022	----	----	----		20-May-2022	3 days	4 days	× EHTL

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE E4	E235.NO3-L	16-May-2022	----	----	----		20-May-2022	3 days	4 days	× EHTL
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE E7	E235.NO3-L	16-May-2022	----	----	----		20-May-2022	3 days	4 days	× EHTL
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE E8	E235.NO3-L	16-May-2022	----	----	----		20-May-2022	3 days	4 days	× EHTL
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE GWCC-5	E235.NO3-L	16-May-2022	----	----	----		20-May-2022	3 days	4 days	× EHTL
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE R4	E235.NO3-L	16-May-2022	----	----	----		20-May-2022	3 days	4 days	× EHTL
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE R6	E235.NO3-L	16-May-2022	----	----	----		20-May-2022	3 days	4 days	× EHTL
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE R2	E235.NO2-L	18-May-2022	----	----	----		21-May-2022	3 days	2 days	✓
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE R8	E235.NO2-L	18-May-2022	----	----	----		21-May-2022	3 days	2 days	✓
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE E1	E235.NO2-L	17-May-2022	----	----	----		20-May-2022	3 days	3 days	✓

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE E1(H)	E235.NO2-L	17-May-2022	----	----	----		20-May-2022	3 days	3 days	✓
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE Field Blank	E235.NO2-L	17-May-2022	----	----	----		21-May-2022	3 days	3 days	×
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE GWCC-1	E235.NO2-L	17-May-2022	----	----	----		20-May-2022	3 days	3 days	✓
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE GWCC-2	E235.NO2-L	17-May-2022	----	----	----		20-May-2022	3 days	3 days	✓
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE GWCC-3	E235.NO2-L	17-May-2022	----	----	----		20-May-2022	3 days	3 days	✓
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE GWCC-4	E235.NO2-L	17-May-2022	----	----	----		20-May-2022	3 days	3 days	✓
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE R1	E235.NO2-L	18-May-2022	----	----	----		21-May-2022	3 days	3 days	✓
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE R11	E235.NO2-L	17-May-2022	----	----	----		20-May-2022	3 days	3 days	✓
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE R3	E235.NO2-L	17-May-2022	----	----	----		20-May-2022	3 days	3 days	✓

Matrix: **Water**

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Analyte Group / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE R7	E235.NO2-L	17-May-2022	----	----	----		20-May-2022	3 days	3 days	✓
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE R9	E235.NO2-L	17-May-2022	----	----	----		20-May-2022	3 days	3 days	✓
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE SL	E235.NO2-L	17-May-2022	----	----	----		20-May-2022	3 days	3 days	✓
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE Travel Blank	E235.NO2-L	18-May-2022	----	----	----		21-May-2022	3 days	3 days	✓
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE CC-201	E235.NO2-L	17-May-2022	----	----	----		21-May-2022	3 days	4 days	× EHT
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE CC-206	E235.NO2-L	16-May-2022	----	----	----		20-May-2022	3 days	4 days	× EHTL
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE E2	E235.NO2-L	16-May-2022	----	----	----		20-May-2022	3 days	4 days	× EHTL
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE E3	E235.NO2-L	16-May-2022	----	----	----		20-May-2022	3 days	4 days	× EHTL
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE E4	E235.NO2-L	16-May-2022	----	----	----		20-May-2022	3 days	4 days	× EHTL

Matrix: **Water**

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Analyte Group / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE E7	E235.NO2-L	16-May-2022	----	----	----		20-May-2022	3 days	4 days	× EHTL
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE E8	E235.NO2-L	16-May-2022	----	----	----		20-May-2022	3 days	4 days	× EHTL
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE GWCC-5	E235.NO2-L	16-May-2022	----	----	----		20-May-2022	3 days	4 days	× EHTL
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE R4	E235.NO2-L	16-May-2022	----	----	----		20-May-2022	3 days	4 days	× EHTL
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE R6	E235.NO2-L	16-May-2022	----	----	----		20-May-2022	3 days	4 days	× EHTL
Anions and Nutrients : Sulfate in Water by IC										
HDPE R2	E235.SO4	18-May-2022	----	----	----		21-May-2022	28 days	2 days	✓
Anions and Nutrients : Sulfate in Water by IC										
HDPE R8	E235.SO4	18-May-2022	----	----	----		21-May-2022	28 days	2 days	✓
Anions and Nutrients : Sulfate in Water by IC										
HDPE E1	E235.SO4	17-May-2022	----	----	----		20-May-2022	28 days	3 days	✓
Anions and Nutrients : Sulfate in Water by IC										
HDPE E1(H)	E235.SO4	17-May-2022	----	----	----		20-May-2022	28 days	3 days	✓

Matrix: **Water**

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Analyte Group / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Anions and Nutrients : Sulfate in Water by IC										
HDPE										
Field Blank	E235.SO4	17-May-2022	----	----	----		21-May-2022	28 days	3 days	✓
Anions and Nutrients : Sulfate in Water by IC										
HDPE										
GWCC-1	E235.SO4	17-May-2022	----	----	----		20-May-2022	28 days	3 days	✓
Anions and Nutrients : Sulfate in Water by IC										
HDPE										
GWCC-2	E235.SO4	17-May-2022	----	----	----		20-May-2022	28 days	3 days	✓
Anions and Nutrients : Sulfate in Water by IC										
HDPE										
GWCC-3	E235.SO4	17-May-2022	----	----	----		20-May-2022	28 days	3 days	✓
Anions and Nutrients : Sulfate in Water by IC										
HDPE										
GWCC-4	E235.SO4	17-May-2022	----	----	----		20-May-2022	28 days	3 days	✓
Anions and Nutrients : Sulfate in Water by IC										
HDPE										
R1	E235.SO4	18-May-2022	----	----	----		21-May-2022	28 days	3 days	✓
Anions and Nutrients : Sulfate in Water by IC										
HDPE										
R11	E235.SO4	17-May-2022	----	----	----		20-May-2022	28 days	3 days	✓
Anions and Nutrients : Sulfate in Water by IC										
HDPE										
R3	E235.SO4	17-May-2022	----	----	----		20-May-2022	28 days	3 days	✓
Anions and Nutrients : Sulfate in Water by IC										
HDPE										
R7	E235.SO4	17-May-2022	----	----	----		20-May-2022	28 days	3 days	✓

Matrix: **Water**

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Analyte Group / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Anions and Nutrients : Sulfate in Water by IC										
HDPE R9	E235.SO4	17-May-2022	----	----	----		20-May-2022	28 days	3 days	✓
Anions and Nutrients : Sulfate in Water by IC										
HDPE SL	E235.SO4	17-May-2022	----	----	----		20-May-2022	28 days	3 days	✓
Anions and Nutrients : Sulfate in Water by IC										
HDPE Travel Blank	E235.SO4	18-May-2022	----	----	----		21-May-2022	28 days	3 days	✓
Anions and Nutrients : Sulfate in Water by IC										
HDPE CC-201	E235.SO4	17-May-2022	----	----	----		21-May-2022	28 days	4 days	✓
Anions and Nutrients : Sulfate in Water by IC										
HDPE CC-206	E235.SO4	16-May-2022	----	----	----		20-May-2022	28 days	4 days	✓
Anions and Nutrients : Sulfate in Water by IC										
HDPE E2	E235.SO4	16-May-2022	----	----	----		20-May-2022	28 days	4 days	✓
Anions and Nutrients : Sulfate in Water by IC										
HDPE E3	E235.SO4	16-May-2022	----	----	----		20-May-2022	28 days	4 days	✓
Anions and Nutrients : Sulfate in Water by IC										
HDPE E4	E235.SO4	16-May-2022	----	----	----		20-May-2022	28 days	4 days	✓
Anions and Nutrients : Sulfate in Water by IC										
HDPE E7	E235.SO4	16-May-2022	----	----	----		20-May-2022	28 days	4 days	✓

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Anions and Nutrients : Sulfate in Water by IC										
HDPE										
E8	E235.SO4	16-May-2022	----	----	----		20-May-2022	28 days	4 days	✓
Anions and Nutrients : Sulfate in Water by IC										
HDPE										
GWCC-5	E235.SO4	16-May-2022	----	----	----		20-May-2022	28 days	4 days	✓
Anions and Nutrients : Sulfate in Water by IC										
HDPE										
R4	E235.SO4	16-May-2022	----	----	----		20-May-2022	28 days	4 days	✓
Anions and Nutrients : Sulfate in Water by IC										
HDPE										
R6	E235.SO4	16-May-2022	----	----	----		20-May-2022	28 days	4 days	✓
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid)										
R1	E372-U	18-May-2022	26-May-2022	----	----		28-May-2022	28 days	10 days	✓
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid)										
R2	E372-U	18-May-2022	26-May-2022	----	----		28-May-2022	28 days	10 days	✓
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid)										
R8	E372-U	18-May-2022	26-May-2022	----	----		28-May-2022	28 days	10 days	✓
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid)										
CC-201	E372-U	17-May-2022	26-May-2022	----	----		28-May-2022	28 days	11 days	✓
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid)										
E1	E372-U	17-May-2022	26-May-2022	----	----		28-May-2022	28 days	11 days	✓

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid)										
E1(H)	E372-U	17-May-2022	26-May-2022	----	----		28-May-2022	28 days	11 days	✓
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid)										
Field Blank	E372-U	17-May-2022	26-May-2022	----	----		28-May-2022	28 days	11 days	✓
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid)										
GWCC-1	E372-U	17-May-2022	26-May-2022	----	----		28-May-2022	28 days	11 days	✓
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid)										
GWCC-2	E372-U	17-May-2022	26-May-2022	----	----		28-May-2022	28 days	11 days	✓
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid)										
GWCC-3	E372-U	17-May-2022	26-May-2022	----	----		28-May-2022	28 days	11 days	✓
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid)										
GWCC-4	E372-U	17-May-2022	26-May-2022	----	----		28-May-2022	28 days	11 days	✓
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid)										
R11	E372-U	17-May-2022	26-May-2022	----	----		28-May-2022	28 days	11 days	✓
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid)										
R3	E372-U	17-May-2022	26-May-2022	----	----		28-May-2022	28 days	11 days	✓
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid)										
R7	E372-U	17-May-2022	26-May-2022	----	----		28-May-2022	28 days	11 days	✓

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid)										
R9	E372-U	17-May-2022	26-May-2022	----	----		28-May-2022	28 days	11 days	✓
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid)										
SL	E372-U	17-May-2022	26-May-2022	----	----		28-May-2022	28 days	11 days	✓
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid)										
Travel Blank	E372-U	18-May-2022	26-May-2022	----	----		28-May-2022	28 days	11 days	✓
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid)										
CC-206	E372-U	16-May-2022	26-May-2022	----	----		28-May-2022	28 days	12 days	✓
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid)										
E2	E372-U	16-May-2022	26-May-2022	----	----		28-May-2022	28 days	12 days	✓
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid)										
E3	E372-U	16-May-2022	26-May-2022	----	----		28-May-2022	28 days	12 days	✓
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid)										
E4	E372-U	16-May-2022	26-May-2022	----	----		28-May-2022	28 days	12 days	✓
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid)										
E7	E372-U	16-May-2022	26-May-2022	----	----		28-May-2022	28 days	12 days	✓
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid)										
E8	E372-U	16-May-2022	26-May-2022	----	----		28-May-2022	28 days	12 days	✓

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid) GWCC-5	E372-U	16-May-2022	26-May-2022	----	----		28-May-2022	28 days	12 days	✓
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid) R4	E372-U	16-May-2022	26-May-2022	----	----		28-May-2022	28 days	12 days	✓
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid) R6	E372-U	16-May-2022	26-May-2022	----	----		28-May-2022	28 days	12 days	✓
Asbestos/Other Fibres : Asbestos by Transmission Electron Microscopy (TEM) in										
HDPE E2	EPA 100.2	16-May-2022	----	----	----		31-May-2022	----	----	
Asbestos/Other Fibres : Asbestos by Transmission Electron Microscopy (TEM) in										
HDPE E3	EPA 100.2	16-May-2022	----	----	----		31-May-2022	----	----	
Asbestos/Other Fibres : Asbestos by Transmission Electron Microscopy (TEM) in million										
HDPE R1	EPA 100.2mf	18-May-2022	----	----	----		31-May-2022	----	----	
Asbestos/Other Fibres : Asbestos by Transmission Electron Microscopy (TEM) in million										
HDPE R3	EPA 100.2mf	17-May-2022	----	----	----		31-May-2022	----	----	
Dissolved Metals : Dissolved Mercury in Water by CVAAS										
Glass vial dissolved (hydrochloric acid) R1	E509	18-May-2022	23-May-2022	----	----		23-May-2022	28 days	5 days	✓
Dissolved Metals : Dissolved Mercury in Water by CVAAS										
Glass vial dissolved (hydrochloric acid) R2	E509	18-May-2022	23-May-2022	----	----		23-May-2022	28 days	5 days	✓

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Dissolved Metals : Dissolved Mercury in Water by CVAAS										
Glass vial dissolved (hydrochloric acid)										
R8	E509	18-May-2022	23-May-2022	----	----		23-May-2022	28 days	5 days	✓
Dissolved Metals : Dissolved Mercury in Water by CVAAS										
Glass vial dissolved (hydrochloric acid)										
CC-201	E509	17-May-2022	23-May-2022	----	----		23-May-2022	28 days	6 days	✓
Dissolved Metals : Dissolved Mercury in Water by CVAAS										
Glass vial dissolved (hydrochloric acid)										
E1	E509	17-May-2022	23-May-2022	----	----		23-May-2022	28 days	6 days	✓
Dissolved Metals : Dissolved Mercury in Water by CVAAS										
Glass vial dissolved (hydrochloric acid)										
E1(H)	E509	17-May-2022	23-May-2022	----	----		23-May-2022	28 days	6 days	✓
Dissolved Metals : Dissolved Mercury in Water by CVAAS										
Glass vial dissolved (hydrochloric acid)										
Field Blank	E509	17-May-2022	23-May-2022	----	----		23-May-2022	28 days	6 days	✓
Dissolved Metals : Dissolved Mercury in Water by CVAAS										
Glass vial dissolved (hydrochloric acid)										
GWCC-1	E509	17-May-2022	23-May-2022	----	----		23-May-2022	28 days	6 days	✓
Dissolved Metals : Dissolved Mercury in Water by CVAAS										
Glass vial dissolved (hydrochloric acid)										
GWCC-2	E509	17-May-2022	23-May-2022	----	----		23-May-2022	28 days	6 days	✓
Dissolved Metals : Dissolved Mercury in Water by CVAAS										
Glass vial dissolved (hydrochloric acid)										
GWCC-3	E509	17-May-2022	23-May-2022	----	----		23-May-2022	28 days	6 days	✓
Dissolved Metals : Dissolved Mercury in Water by CVAAS										
Glass vial dissolved (hydrochloric acid)										
GWCC-4	E509	17-May-2022	23-May-2022	----	----		23-May-2022	28 days	6 days	✓

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Dissolved Metals : Dissolved Mercury in Water by CVAAS										
Glass vial dissolved (hydrochloric acid)										
R11	E509	17-May-2022	23-May-2022	----	----		23-May-2022	28 days	6 days	✓
Dissolved Metals : Dissolved Mercury in Water by CVAAS										
Glass vial dissolved (hydrochloric acid)										
R3	E509	17-May-2022	23-May-2022	----	----		23-May-2022	28 days	6 days	✓
Dissolved Metals : Dissolved Mercury in Water by CVAAS										
Glass vial dissolved (hydrochloric acid)										
R7	E509	17-May-2022	23-May-2022	----	----		23-May-2022	28 days	6 days	✓
Dissolved Metals : Dissolved Mercury in Water by CVAAS										
Glass vial dissolved (hydrochloric acid)										
R9	E509	17-May-2022	23-May-2022	----	----		23-May-2022	28 days	6 days	✓
Dissolved Metals : Dissolved Mercury in Water by CVAAS										
Glass vial dissolved (hydrochloric acid)										
SL	E509	17-May-2022	23-May-2022	----	----		23-May-2022	28 days	6 days	✓
Dissolved Metals : Dissolved Mercury in Water by CVAAS										
Glass vial dissolved (hydrochloric acid)										
CC-206	E509	16-May-2022	23-May-2022	----	----		23-May-2022	28 days	7 days	✓
Dissolved Metals : Dissolved Mercury in Water by CVAAS										
Glass vial dissolved (hydrochloric acid)										
E2	E509	16-May-2022	23-May-2022	----	----		23-May-2022	28 days	7 days	✓
Dissolved Metals : Dissolved Mercury in Water by CVAAS										
Glass vial dissolved (hydrochloric acid)										
E3	E509	16-May-2022	23-May-2022	----	----		23-May-2022	28 days	7 days	✓
Dissolved Metals : Dissolved Mercury in Water by CVAAS										
Glass vial dissolved (hydrochloric acid)										
E4	E509	16-May-2022	23-May-2022	----	----		23-May-2022	28 days	7 days	✓

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Dissolved Metals : Dissolved Mercury in Water by CVAAS										
Glass vial dissolved (hydrochloric acid) E7	E509	16-May-2022	23-May-2022	----	----		23-May-2022	28 days	7 days	✓
Dissolved Metals : Dissolved Mercury in Water by CVAAS										
Glass vial dissolved (hydrochloric acid) E8	E509	16-May-2022	23-May-2022	----	----		23-May-2022	28 days	7 days	✓
Dissolved Metals : Dissolved Mercury in Water by CVAAS										
Glass vial dissolved (hydrochloric acid) GWCC-5	E509	16-May-2022	23-May-2022	----	----		23-May-2022	28 days	7 days	✓
Dissolved Metals : Dissolved Mercury in Water by CVAAS										
Glass vial dissolved (hydrochloric acid) R4	E509	16-May-2022	23-May-2022	----	----		23-May-2022	28 days	7 days	✓
Dissolved Metals : Dissolved Mercury in Water by CVAAS										
Glass vial dissolved (hydrochloric acid) R6	E509	16-May-2022	23-May-2022	----	----		23-May-2022	28 days	7 days	✓
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE - dissolved (lab preserved) R1	E421	18-May-2022	27-May-2022	----	----		28-May-2022	180 days	10 days	✓
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE - dissolved (lab preserved) R2	E421	18-May-2022	27-May-2022	----	----		28-May-2022	180 days	10 days	✓
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE - dissolved (lab preserved) R3	E421	17-May-2022	27-May-2022	----	----		27-May-2022	180 days	10 days	✓
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE - dissolved (lab preserved) R7	E421	17-May-2022	27-May-2022	----	----		27-May-2022	180 days	10 days	✓

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE - dissolved (lab preserved) R8	E421	18-May-2022	27-May-2022	----	----		28-May-2022	180 days	10 days	✓
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE - dissolved (lab preserved) R9	E421	17-May-2022	27-May-2022	----	----		27-May-2022	180 days	10 days	✓
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE - dissolved (lab preserved) SL	E421	17-May-2022	27-May-2022	----	----		27-May-2022	180 days	10 days	✓
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE - dissolved (lab preserved) CC-201	E421	17-May-2022	27-May-2022	----	----		28-May-2022	180 days	11 days	✓
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE - dissolved (lab preserved) E1	E421	17-May-2022	27-May-2022	----	----		27-May-2022	180 days	11 days	✓
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE - dissolved (lab preserved) E1(H)	E421	17-May-2022	27-May-2022	----	----		27-May-2022	180 days	11 days	✓
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE - dissolved (lab preserved) E2	E421	16-May-2022	27-May-2022	----	----		27-May-2022	180 days	11 days	✓
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE - dissolved (lab preserved) E3	E421	16-May-2022	27-May-2022	----	----		27-May-2022	180 days	11 days	✓
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE - dissolved (lab preserved) Field Blank	E421	17-May-2022	27-May-2022	----	----		28-May-2022	180 days	11 days	✓

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE - dissolved (lab preserved) GWCC-1	E421	17-May-2022	27-May-2022	----	----		27-May-2022	180 days	11 days	✓
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE - dissolved (lab preserved) GWCC-2	E421	17-May-2022	27-May-2022	----	----		27-May-2022	180 days	11 days	✓
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE - dissolved (lab preserved) GWCC-3	E421	17-May-2022	27-May-2022	----	----		27-May-2022	180 days	11 days	✓
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE - dissolved (lab preserved) GWCC-4	E421	17-May-2022	27-May-2022	----	----		27-May-2022	180 days	11 days	✓
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE - dissolved (lab preserved) GWCC-5	E421	16-May-2022	27-May-2022	----	----		27-May-2022	180 days	11 days	✓
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE - dissolved (lab preserved) R11	E421	17-May-2022	27-May-2022	----	----		27-May-2022	180 days	11 days	✓
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE - dissolved (lab preserved) R4	E421	16-May-2022	27-May-2022	----	----		27-May-2022	180 days	11 days	✓
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE - dissolved (lab preserved) CC-206	E421	16-May-2022	27-May-2022	----	----		27-May-2022	180 days	12 days	✓
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE - dissolved (lab preserved) E4	E421	16-May-2022	27-May-2022	----	----		27-May-2022	180 days	12 days	✓

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE - dissolved (lab preserved)										
E7	E421	16-May-2022	27-May-2022	----	----		27-May-2022	180 days	12 days	✓
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE - dissolved (lab preserved)										
E8	E421	16-May-2022	27-May-2022	----	----		27-May-2022	180 days	12 days	✓
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE - dissolved (lab preserved)										
R6	E421	16-May-2022	27-May-2022	----	----		27-May-2022	180 days	12 days	✓
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (sulfuric acid)										
CC-206	E358-L	16-May-2022	26-May-2022	----	----		27-May-2022	28 days	10 days	✓
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (sulfuric acid)										
E2	E358-L	16-May-2022	26-May-2022	----	----		27-May-2022	28 days	10 days	✓
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (sulfuric acid)										
E3	E358-L	16-May-2022	26-May-2022	----	----		27-May-2022	28 days	10 days	✓
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (sulfuric acid)										
E4	E358-L	16-May-2022	26-May-2022	----	----		27-May-2022	28 days	10 days	✓
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (sulfuric acid)										
E7	E358-L	16-May-2022	26-May-2022	----	----		27-May-2022	28 days	10 days	✓
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (sulfuric acid)										
E8	E358-L	16-May-2022	26-May-2022	----	----		27-May-2022	28 days	10 days	✓

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (sulfuric acid) GWCC-5	E358-L	16-May-2022	26-May-2022	----	----		27-May-2022	28 days	10 days	✓
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (sulfuric acid) R4	E358-L	16-May-2022	26-May-2022	----	----		27-May-2022	28 days	10 days	✓
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (sulfuric acid) R6	E358-L	16-May-2022	26-May-2022	----	----		27-May-2022	28 days	10 days	✓
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (sulfuric acid) R1	E358-L	18-May-2022	26-May-2022	----	----		27-May-2022	28 days	8 days	✓
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (sulfuric acid) R2	E358-L	18-May-2022	26-May-2022	----	----		27-May-2022	28 days	8 days	✓
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (sulfuric acid) R8	E358-L	18-May-2022	26-May-2022	----	----		27-May-2022	28 days	8 days	✓
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (sulfuric acid) CC-201	E358-L	17-May-2022	26-May-2022	----	----		27-May-2022	28 days	9 days	✓
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (sulfuric acid) E1	E358-L	17-May-2022	26-May-2022	----	----		27-May-2022	28 days	9 days	✓
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (sulfuric acid) E1(H)	E358-L	17-May-2022	26-May-2022	----	----		27-May-2022	28 days	9 days	✓

Matrix: **Water**

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Analyte Group / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (sulfuric acid) Field Blank	E358-L	17-May-2022	26-May-2022	----	----		27-May-2022	28 days	9 days	✓
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (sulfuric acid) GWCC-1	E358-L	17-May-2022	26-May-2022	----	----		27-May-2022	28 days	9 days	✓
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (sulfuric acid) GWCC-2	E358-L	17-May-2022	26-May-2022	----	----		27-May-2022	28 days	9 days	✓
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (sulfuric acid) GWCC-3	E358-L	17-May-2022	26-May-2022	----	----		27-May-2022	28 days	9 days	✓
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (sulfuric acid) GWCC-4	E358-L	17-May-2022	26-May-2022	----	----		27-May-2022	28 days	9 days	✓
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (sulfuric acid) R11	E358-L	17-May-2022	26-May-2022	----	----		27-May-2022	28 days	9 days	✓
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (sulfuric acid) R3	E358-L	17-May-2022	26-May-2022	----	----		27-May-2022	28 days	9 days	✓
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (sulfuric acid) R7	E358-L	17-May-2022	26-May-2022	----	----		27-May-2022	28 days	9 days	✓
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (sulfuric acid) R9	E358-L	17-May-2022	26-May-2022	----	----		27-May-2022	28 days	9 days	✓

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (sulfuric acid) SL	E358-L	17-May-2022	26-May-2022	----	----		27-May-2022	28 days	9 days	✓
Physical Tests : Conductivity in Water										
HDPE R1	E100	18-May-2022	----	----	----		21-May-2022	28 days	3 days	✓
Physical Tests : Conductivity in Water										
HDPE R2	E100	18-May-2022	----	----	----		21-May-2022	28 days	3 days	✓
Physical Tests : Conductivity in Water										
HDPE R8	E100	18-May-2022	----	----	----		21-May-2022	28 days	3 days	✓
Physical Tests : Conductivity in Water										
HDPE Travel Blank	E100	18-May-2022	----	----	----		21-May-2022	28 days	3 days	✓
Physical Tests : Conductivity in Water										
HDPE CC-201	E100	17-May-2022	----	----	----		21-May-2022	28 days	4 days	✓
Physical Tests : Conductivity in Water										
HDPE E1	E100	17-May-2022	----	----	----		21-May-2022	28 days	4 days	✓
Physical Tests : Conductivity in Water										
HDPE E1(H)	E100	17-May-2022	----	----	----		21-May-2022	28 days	4 days	✓
Physical Tests : Conductivity in Water										
HDPE Field Blank	E100	17-May-2022	----	----	----		21-May-2022	28 days	4 days	✓

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Physical Tests : Conductivity in Water										
HDPE GWCC-1	E100	17-May-2022	----	----	----		21-May-2022	28 days	4 days	✓
Physical Tests : Conductivity in Water										
HDPE GWCC-2	E100	17-May-2022	----	----	----		21-May-2022	28 days	4 days	✓
Physical Tests : Conductivity in Water										
HDPE GWCC-3	E100	17-May-2022	----	----	----		21-May-2022	28 days	4 days	✓
Physical Tests : Conductivity in Water										
HDPE GWCC-4	E100	17-May-2022	----	----	----		21-May-2022	28 days	4 days	✓
Physical Tests : Conductivity in Water										
HDPE R11	E100	17-May-2022	----	----	----		21-May-2022	28 days	4 days	✓
Physical Tests : Conductivity in Water										
HDPE R3	E100	17-May-2022	----	----	----		21-May-2022	28 days	4 days	✓
Physical Tests : Conductivity in Water										
HDPE R7	E100	17-May-2022	----	----	----		21-May-2022	28 days	4 days	✓
Physical Tests : Conductivity in Water										
HDPE R9	E100	17-May-2022	----	----	----		21-May-2022	28 days	4 days	✓
Physical Tests : Conductivity in Water										
HDPE SL	E100	17-May-2022	----	----	----		21-May-2022	28 days	4 days	✓

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Physical Tests : Conductivity in Water										
HDPE CC-206	E100	16-May-2022	----	----	----		21-May-2022	28 days	5 days	✓
Physical Tests : Conductivity in Water										
HDPE E2	E100	16-May-2022	----	----	----		21-May-2022	28 days	5 days	✓
Physical Tests : Conductivity in Water										
HDPE E3	E100	16-May-2022	----	----	----		21-May-2022	28 days	5 days	✓
Physical Tests : Conductivity in Water										
HDPE E4	E100	16-May-2022	----	----	----		21-May-2022	28 days	5 days	✓
Physical Tests : Conductivity in Water										
HDPE E7	E100	16-May-2022	----	----	----		21-May-2022	28 days	5 days	✓
Physical Tests : Conductivity in Water										
HDPE E8	E100	16-May-2022	----	----	----		21-May-2022	28 days	5 days	✓
Physical Tests : Conductivity in Water										
HDPE GWCC-5	E100	16-May-2022	----	----	----		21-May-2022	28 days	5 days	✓
Physical Tests : Conductivity in Water										
HDPE R4	E100	16-May-2022	----	----	----		21-May-2022	28 days	5 days	✓
Physical Tests : Conductivity in Water										
HDPE R6	E100	16-May-2022	----	----	----		21-May-2022	28 days	5 days	✓

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Physical Tests : pH by Meter										
HDPE GWCC-5	E108	16-May-2022	----	----	----		21-May-2022	0.25 hrs	113 hrs	× EHTR-FM
Physical Tests : pH by Meter										
HDPE E2	E108	16-May-2022	----	----	----		21-May-2022	0.25 hrs	114 hrs	× EHTR-FM
Physical Tests : pH by Meter										
HDPE E3	E108	16-May-2022	----	----	----		21-May-2022	0.25 hrs	114 hrs	× EHTR-FM
Physical Tests : pH by Meter										
HDPE R4	E108	16-May-2022	----	----	----		21-May-2022	0.25 hrs	116 hrs	× EHTR-FM
Physical Tests : pH by Meter										
HDPE CC-206	E108	16-May-2022	----	----	----		21-May-2022	0.25 hrs	117 hrs	× EHTR-FM
Physical Tests : pH by Meter										
HDPE E4	E108	16-May-2022	----	----	----		21-May-2022	0.25 hrs	117 hrs	× EHTR-FM
Physical Tests : pH by Meter										
HDPE R6	E108	16-May-2022	----	----	----		21-May-2022	0.25 hrs	118 hrs	× EHTR-FM
Physical Tests : pH by Meter										
HDPE E7	E108	16-May-2022	----	----	----		21-May-2022	0.25 hrs	119 hrs	× EHTR-FM
Physical Tests : pH by Meter										
HDPE E8	E108	16-May-2022	----	----	----		21-May-2022	0.25 hrs	120 hrs	× EHTR-FM

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Physical Tests : pH by Meter										
HDPE R2	E108	18-May-2022	----	----	----		21-May-2022	0.25 hrs	67 hrs	× EHTR-FM
Physical Tests : pH by Meter										
HDPE R8	E108	18-May-2022	----	----	----		21-May-2022	0.25 hrs	67 hrs	× EHTR-FM
Physical Tests : pH by Meter										
HDPE R1	E108	18-May-2022	----	----	----		21-May-2022	0.25 hrs	69 hrs	× EHTR-FM
Physical Tests : pH by Meter										
HDPE Travel Blank	E108	18-May-2022	----	----	----		21-May-2022	0.25 hrs	80 hrs	× EHTR-FM
Physical Tests : pH by Meter										
HDPE R9	E108	17-May-2022	----	----	----		21-May-2022	0.25 hrs	88 hrs	× EHTR-FM
Physical Tests : pH by Meter										
HDPE R7	E108	17-May-2022	----	----	----		21-May-2022	0.25 hrs	89 hrs	× EHTR-FM
Physical Tests : pH by Meter										
HDPE SL	E108	17-May-2022	----	----	----		21-May-2022	0.25 hrs	89 hrs	× EHTR-FM
Physical Tests : pH by Meter										
HDPE Field Blank	E108	17-May-2022	----	----	----		21-May-2022	0.25 hrs	90 hrs	× EHTR-FM
Physical Tests : pH by Meter										
HDPE R3	E108	17-May-2022	----	----	----		21-May-2022	0.25 hrs	91 hrs	× EHTR-FM

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Physical Tests : pH by Meter										
HDPE CC-201	E108	17-May-2022	----	----	----		21-May-2022	0.25 hrs	92 hrs	× EHTR-FM
Physical Tests : pH by Meter										
HDPE R11	E108	17-May-2022	----	----	----		21-May-2022	0.25 hrs	92 hrs	× EHTR-FM
Physical Tests : pH by Meter										
HDPE GWCC-2	E108	17-May-2022	----	----	----		21-May-2022	0.25 hrs	93 hrs	× EHTR-FM
Physical Tests : pH by Meter										
HDPE GWCC-3	E108	17-May-2022	----	----	----		21-May-2022	0.25 hrs	93 hrs	× EHTR-FM
Physical Tests : pH by Meter										
HDPE GWCC-4	E108	17-May-2022	----	----	----		21-May-2022	0.25 hrs	93 hrs	× EHTR-FM
Physical Tests : pH by Meter										
HDPE E1	E108	17-May-2022	----	----	----		21-May-2022	0.25 hrs	94 hrs	× EHTR-FM
Physical Tests : pH by Meter										
HDPE GWCC-1	E108	17-May-2022	----	----	----		21-May-2022	0.25 hrs	94 hrs	× EHTR-FM
Physical Tests : pH by Meter										
HDPE E1(H)	E108	17-May-2022	----	----	----		21-May-2022	0.25 hrs	95 hrs	× EHTR-FM
Physical Tests : TSS with Asbestos Control by Gravimetry										
HDPE CC-201	EPA 160.2	17-May-2022	----	----	----		31-May-2022	----	----	

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Physical Tests : TSS with Asbestos Control by Gravimetry										
HDPE CC-206	EPA 160.2	16-May-2022	----	----	----		31-May-2022	----	----	
Physical Tests : TSS with Asbestos Control by Gravimetry										
HDPE E1	EPA 160.2	17-May-2022	----	----	----		31-May-2022	----	----	
Physical Tests : TSS with Asbestos Control by Gravimetry										
HDPE E1(H)	EPA 160.2	17-May-2022	----	----	----		31-May-2022	----	----	
Physical Tests : TSS with Asbestos Control by Gravimetry										
HDPE E2	EPA 160.2	16-May-2022	----	----	----		31-May-2022	----	----	
Physical Tests : TSS with Asbestos Control by Gravimetry										
HDPE E3	EPA 160.2	16-May-2022	----	----	----		31-May-2022	----	----	
Physical Tests : TSS with Asbestos Control by Gravimetry										
HDPE E4	EPA 160.2	16-May-2022	----	----	----		31-May-2022	----	----	
Physical Tests : TSS with Asbestos Control by Gravimetry										
HDPE E7	EPA 160.2	16-May-2022	----	----	----		31-May-2022	----	----	
Physical Tests : TSS with Asbestos Control by Gravimetry										
HDPE E8	EPA 160.2	16-May-2022	----	----	----		31-May-2022	----	----	
Physical Tests : TSS with Asbestos Control by Gravimetry										
HDPE Field Blank	EPA 160.2	17-May-2022	----	----	----		31-May-2022	----	----	

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Physical Tests : TSS with Asbestos Control by Gravimetry										
HDPE GWCC-1	EPA 160.2	17-May-2022	----	----	----		31-May-2022	----	----	
Physical Tests : TSS with Asbestos Control by Gravimetry										
HDPE GWCC-2	EPA 160.2	17-May-2022	----	----	----		31-May-2022	----	----	
Physical Tests : TSS with Asbestos Control by Gravimetry										
HDPE GWCC-3	EPA 160.2	17-May-2022	----	----	----		31-May-2022	----	----	
Physical Tests : TSS with Asbestos Control by Gravimetry										
HDPE GWCC-4	EPA 160.2	17-May-2022	----	----	----		31-May-2022	----	----	
Physical Tests : TSS with Asbestos Control by Gravimetry										
HDPE GWCC-5	EPA 160.2	16-May-2022	----	----	----		31-May-2022	----	----	
Physical Tests : TSS with Asbestos Control by Gravimetry										
HDPE R1	EPA 160.2	18-May-2022	----	----	----		31-May-2022	----	----	
Physical Tests : TSS with Asbestos Control by Gravimetry										
HDPE R11	EPA 160.2	17-May-2022	----	----	----		31-May-2022	----	----	
Physical Tests : TSS with Asbestos Control by Gravimetry										
HDPE R2	EPA 160.2	18-May-2022	----	----	----		31-May-2022	----	----	
Physical Tests : TSS with Asbestos Control by Gravimetry										
HDPE R3	EPA 160.2	17-May-2022	----	----	----		31-May-2022	----	----	

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Physical Tests : TSS with Asbestos Control by Gravimetry										
HDPE R4	EPA 160.2	16-May-2022	----	----	----		31-May-2022	----	----	
Physical Tests : TSS with Asbestos Control by Gravimetry										
HDPE R6	EPA 160.2	16-May-2022	----	----	----		31-May-2022	----	----	
Physical Tests : TSS with Asbestos Control by Gravimetry										
HDPE R7	EPA 160.2	17-May-2022	----	----	----		31-May-2022	----	----	
Physical Tests : TSS with Asbestos Control by Gravimetry										
HDPE R8	EPA 160.2	18-May-2022	----	----	----		31-May-2022	----	----	
Physical Tests : TSS with Asbestos Control by Gravimetry										
HDPE R9	EPA 160.2	17-May-2022	----	----	----		31-May-2022	----	----	
Physical Tests : TSS with Asbestos Control by Gravimetry										
HDPE SL	EPA 160.2	17-May-2022	----	----	----		31-May-2022	----	----	
Physical Tests : TSS with Asbestos Control by Gravimetry										
HDPE Travel Blank	EPA 160.2	18-May-2022	----	----	----		31-May-2022	----	----	
Sample Preparation : Asbestos by Transmission Electron Microscopy (TEM) in million fibres/L										
HDPE R1	EPA 100.2mf	18-May-2022	----	----	----		31-May-2022	----	----	
Sample Preparation : Asbestos by Transmission Electron Microscopy (TEM) in million fibres/L										
HDPE R3	EPA 100.2mf	17-May-2022	----	----	----		31-May-2022	----	----	

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Speciated Metals : Dissolved Hexavalent Chromium (Cr VI) by IC										
HDPE - dissolved (sodium hydroxide) R2	E532A	18-May-2022	----	----	----		15-Jun-2022	28 days	28 days	✓
Speciated Metals : Dissolved Hexavalent Chromium (Cr VI) by IC										
HDPE - dissolved (sodium hydroxide) R8	E532A	18-May-2022	----	----	----		15-Jun-2022	28 days	28 days	✓
Speciated Metals : Dissolved Hexavalent Chromium (Cr VI) by IC										
HDPE - dissolved (sodium hydroxide) CC-201	E532A	17-May-2022	----	----	----		15-Jun-2022	28 days	29 days	× EHT
Speciated Metals : Dissolved Hexavalent Chromium (Cr VI) by IC										
HDPE - dissolved (sodium hydroxide) E1	E532A	17-May-2022	----	----	----		15-Jun-2022	28 days	29 days	× EHT
Speciated Metals : Dissolved Hexavalent Chromium (Cr VI) by IC										
HDPE - dissolved (sodium hydroxide) E1(H)	E532A	17-May-2022	----	----	----		15-Jun-2022	28 days	29 days	× EHT
Speciated Metals : Dissolved Hexavalent Chromium (Cr VI) by IC										
HDPE - dissolved (sodium hydroxide) GWCC-1	E532A	17-May-2022	----	----	----		15-Jun-2022	28 days	29 days	× EHT
Speciated Metals : Dissolved Hexavalent Chromium (Cr VI) by IC										
HDPE - dissolved (sodium hydroxide) GWCC-2	E532A	17-May-2022	----	----	----		15-Jun-2022	28 days	29 days	× EHT
Speciated Metals : Dissolved Hexavalent Chromium (Cr VI) by IC										
HDPE - dissolved (sodium hydroxide) GWCC-3	E532A	17-May-2022	----	----	----		15-Jun-2022	28 days	29 days	× EHT
Speciated Metals : Dissolved Hexavalent Chromium (Cr VI) by IC										
HDPE - dissolved (sodium hydroxide) GWCC-4	E532A	17-May-2022	----	----	----		15-Jun-2022	28 days	29 days	× EHT

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Speciated Metals : Dissolved Hexavalent Chromium (Cr VI) by IC										
HDPE - dissolved (sodium hydroxide) R11	E532A	17-May-2022	----	----	----		15-Jun-2022	28 days	29 days	× EHT
Speciated Metals : Dissolved Hexavalent Chromium (Cr VI) by IC										
HDPE - dissolved (sodium hydroxide) R3	E532A	17-May-2022	----	----	----		15-Jun-2022	28 days	29 days	× EHT
Speciated Metals : Dissolved Hexavalent Chromium (Cr VI) by IC										
HDPE - dissolved (sodium hydroxide) SL	E532A	17-May-2022	----	----	----		15-Jun-2022	28 days	29 days	× EHT
Speciated Metals : Dissolved Hexavalent Chromium (Cr VI) by IC										
HDPE - dissolved (sodium hydroxide) R7	E532A	17-May-2022	----	----	----		15-Jun-2022	28 days	29 days	×
Speciated Metals : Dissolved Hexavalent Chromium (Cr VI) by IC										
HDPE - dissolved (sodium hydroxide) R9	E532A	17-May-2022	----	----	----		15-Jun-2022	28 days	29 days	×
Speciated Metals : Dissolved Hexavalent Chromium (Cr VI) by IC										
HDPE - dissolved (sodium hydroxide) CC-206	E532A	16-May-2022	----	----	----		15-Jun-2022	28 days	30 days	× EHT
Speciated Metals : Dissolved Hexavalent Chromium (Cr VI) by IC										
HDPE - dissolved (sodium hydroxide) E2	E532A	16-May-2022	----	----	----		15-Jun-2022	28 days	30 days	× EHT
Speciated Metals : Dissolved Hexavalent Chromium (Cr VI) by IC										
HDPE - dissolved (sodium hydroxide) E3	E532A	16-May-2022	----	----	----		15-Jun-2022	28 days	30 days	× EHT
Speciated Metals : Dissolved Hexavalent Chromium (Cr VI) by IC										
HDPE - dissolved (sodium hydroxide) E4	E532A	16-May-2022	----	----	----		15-Jun-2022	28 days	30 days	× EHT

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Speciated Metals : Dissolved Hexavalent Chromium (Cr VI) by IC										
HDPE - dissolved (sodium hydroxide)										
E7	E532A	16-May-2022	----	----	----		15-Jun-2022	28 days	30 days	× EHT
Speciated Metals : Dissolved Hexavalent Chromium (Cr VI) by IC										
HDPE - dissolved (sodium hydroxide)										
GWCC-5	E532A	16-May-2022	----	----	----		15-Jun-2022	28 days	30 days	× EHT
Speciated Metals : Dissolved Hexavalent Chromium (Cr VI) by IC										
HDPE - dissolved (sodium hydroxide)										
R4	E532A	16-May-2022	----	----	----		15-Jun-2022	28 days	30 days	× EHT
Speciated Metals : Total Hexavalent Chromium (Cr VI) by IC										
HDPE - total (sodium hydroxide)										
R1	E532	18-May-2022	----	----	----		15-Jun-2022	28 days	28 days	✓
Speciated Metals : Total Hexavalent Chromium (Cr VI) by IC										
HDPE - total (sodium hydroxide)										
R2	E532	18-May-2022	----	----	----		15-Jun-2022	28 days	28 days	✓
Speciated Metals : Total Hexavalent Chromium (Cr VI) by IC										
HDPE - total (sodium hydroxide)										
R8	E532	18-May-2022	----	----	----		15-Jun-2022	28 days	28 days	✓
Speciated Metals : Total Hexavalent Chromium (Cr VI) by IC										
HDPE - total (sodium hydroxide)										
CC-201	E532	17-May-2022	----	----	----		15-Jun-2022	28 days	29 days	× EHT
Speciated Metals : Total Hexavalent Chromium (Cr VI) by IC										
HDPE - total (sodium hydroxide)										
E1	E532	17-May-2022	----	----	----		15-Jun-2022	28 days	29 days	× EHT
Speciated Metals : Total Hexavalent Chromium (Cr VI) by IC										
HDPE - total (sodium hydroxide)										
E1(H)	E532	17-May-2022	----	----	----		15-Jun-2022	28 days	29 days	× EHT

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Speciated Metals : Total Hexavalent Chromium (Cr VI) by IC										
HDPE - total (sodium hydroxide) GWCC-1	E532	17-May-2022	----	----	----		15-Jun-2022	28 days	29 days	× EHT
Speciated Metals : Total Hexavalent Chromium (Cr VI) by IC										
HDPE - total (sodium hydroxide) GWCC-2	E532	17-May-2022	----	----	----		15-Jun-2022	28 days	29 days	× EHT
Speciated Metals : Total Hexavalent Chromium (Cr VI) by IC										
HDPE - total (sodium hydroxide) GWCC-3	E532	17-May-2022	----	----	----		15-Jun-2022	28 days	29 days	× EHT
Speciated Metals : Total Hexavalent Chromium (Cr VI) by IC										
HDPE - total (sodium hydroxide) GWCC-4	E532	17-May-2022	----	----	----		15-Jun-2022	28 days	29 days	× EHT
Speciated Metals : Total Hexavalent Chromium (Cr VI) by IC										
HDPE - total (sodium hydroxide) R11	E532	17-May-2022	----	----	----		15-Jun-2022	28 days	29 days	× EHT
Speciated Metals : Total Hexavalent Chromium (Cr VI) by IC										
HDPE - total (sodium hydroxide) R3	E532	17-May-2022	----	----	----		15-Jun-2022	28 days	29 days	× EHT
Speciated Metals : Total Hexavalent Chromium (Cr VI) by IC										
HDPE - total (sodium hydroxide) SL	E532	17-May-2022	----	----	----		15-Jun-2022	28 days	29 days	× EHT
Speciated Metals : Total Hexavalent Chromium (Cr VI) by IC										
HDPE - total (sodium hydroxide) R7	E532	17-May-2022	----	----	----		15-Jun-2022	28 days	29 days	×
Speciated Metals : Total Hexavalent Chromium (Cr VI) by IC										
HDPE - total (sodium hydroxide) R9	E532	17-May-2022	----	----	----		15-Jun-2022	28 days	29 days	×

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Speciated Metals : Total Hexavalent Chromium (Cr VI) by IC										
HDPE - total (sodium hydroxide) CC-206	E532	16-May-2022	----	----	----		15-Jun-2022	28 days	30 days	× EHT
Speciated Metals : Total Hexavalent Chromium (Cr VI) by IC										
HDPE - total (sodium hydroxide) E2	E532	16-May-2022	----	----	----		15-Jun-2022	28 days	30 days	× EHT
Speciated Metals : Total Hexavalent Chromium (Cr VI) by IC										
HDPE - total (sodium hydroxide) E3	E532	16-May-2022	----	----	----		15-Jun-2022	28 days	30 days	× EHT
Speciated Metals : Total Hexavalent Chromium (Cr VI) by IC										
HDPE - total (sodium hydroxide) E4	E532	16-May-2022	----	----	----		15-Jun-2022	28 days	30 days	× EHT
Speciated Metals : Total Hexavalent Chromium (Cr VI) by IC										
HDPE - total (sodium hydroxide) E7	E532	16-May-2022	----	----	----		15-Jun-2022	28 days	30 days	× EHT
Speciated Metals : Total Hexavalent Chromium (Cr VI) by IC										
HDPE - total (sodium hydroxide) E8	E532	16-May-2022	----	----	----		15-Jun-2022	28 days	30 days	× EHT
Speciated Metals : Total Hexavalent Chromium (Cr VI) by IC										
HDPE - total (sodium hydroxide) GWCC-5	E532	16-May-2022	----	----	----		15-Jun-2022	28 days	30 days	× EHT
Speciated Metals : Total Hexavalent Chromium (Cr VI) by IC										
HDPE - total (sodium hydroxide) R4	E532	16-May-2022	----	----	----		15-Jun-2022	28 days	30 days	× EHT
Speciated Metals : Total Hexavalent Chromium (Cr VI) by IC										
HDPE - total (sodium hydroxide) R6	E532	16-May-2022	----	----	----		15-Jun-2022	28 days	30 days	× EHT

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Total Metals : Total Mercury in Water by CVAAS										
Glass vial total (hydrochloric acid) R1	E508	18-May-2022	----	----	----		23-May-2022	28 days	5 days	✓
Total Metals : Total Mercury in Water by CVAAS										
Glass vial total (hydrochloric acid) R2	E508	18-May-2022	----	----	----		23-May-2022	28 days	5 days	✓
Total Metals : Total Mercury in Water by CVAAS										
Glass vial total (hydrochloric acid) R8	E508	18-May-2022	----	----	----		23-May-2022	28 days	5 days	✓
Total Metals : Total Mercury in Water by CVAAS										
Glass vial total (hydrochloric acid) CC-201	E508	17-May-2022	----	----	----		23-May-2022	28 days	6 days	✓
Total Metals : Total Mercury in Water by CVAAS										
Glass vial total (hydrochloric acid) E1	E508	17-May-2022	----	----	----		23-May-2022	28 days	6 days	✓
Total Metals : Total Mercury in Water by CVAAS										
Glass vial total (hydrochloric acid) E1(H)	E508	17-May-2022	----	----	----		23-May-2022	28 days	6 days	✓
Total Metals : Total Mercury in Water by CVAAS										
Glass vial total (hydrochloric acid) Field Blank	E508	17-May-2022	----	----	----		23-May-2022	28 days	6 days	✓
Total Metals : Total Mercury in Water by CVAAS										
Glass vial total (hydrochloric acid) GWCC-1	E508	17-May-2022	----	----	----		23-May-2022	28 days	6 days	✓
Total Metals : Total Mercury in Water by CVAAS										
Glass vial total (hydrochloric acid) GWCC-2	E508	17-May-2022	----	----	----		23-May-2022	28 days	6 days	✓

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Total Metals : Total Mercury in Water by CVAAS										
Glass vial total (hydrochloric acid) GWCC-3	E508	17-May-2022	----	----	----		23-May-2022	28 days	6 days	✓
Total Metals : Total Mercury in Water by CVAAS										
Glass vial total (hydrochloric acid) GWCC-4	E508	17-May-2022	----	----	----		23-May-2022	28 days	6 days	✓
Total Metals : Total Mercury in Water by CVAAS										
Glass vial total (hydrochloric acid) R11	E508	17-May-2022	----	----	----		23-May-2022	28 days	6 days	✓
Total Metals : Total Mercury in Water by CVAAS										
Glass vial total (hydrochloric acid) R3	E508	17-May-2022	----	----	----		23-May-2022	28 days	6 days	✓
Total Metals : Total Mercury in Water by CVAAS										
Glass vial total (hydrochloric acid) R7	E508	17-May-2022	----	----	----		23-May-2022	28 days	6 days	✓
Total Metals : Total Mercury in Water by CVAAS										
Glass vial total (hydrochloric acid) R9	E508	17-May-2022	----	----	----		23-May-2022	28 days	6 days	✓
Total Metals : Total Mercury in Water by CVAAS										
Glass vial total (hydrochloric acid) SL	E508	17-May-2022	----	----	----		23-May-2022	28 days	6 days	✓
Total Metals : Total Mercury in Water by CVAAS										
Glass vial total (hydrochloric acid) Travel Blank	E508	18-May-2022	----	----	----		23-May-2022	28 days	6 days	✓
Total Metals : Total Mercury in Water by CVAAS										
Glass vial total (hydrochloric acid) CC-206	E508	16-May-2022	----	----	----		23-May-2022	28 days	7 days	✓

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Total Metals : Total Mercury in Water by CVAAS										
Glass vial total (hydrochloric acid) E2	E508	16-May-2022	----	----	----		23-May-2022	28 days	7 days	✓
Total Metals : Total Mercury in Water by CVAAS										
Glass vial total (hydrochloric acid) E3	E508	16-May-2022	----	----	----		23-May-2022	28 days	7 days	✓
Total Metals : Total Mercury in Water by CVAAS										
Glass vial total (hydrochloric acid) E4	E508	16-May-2022	----	----	----		23-May-2022	28 days	7 days	✓
Total Metals : Total Mercury in Water by CVAAS										
Glass vial total (hydrochloric acid) E7	E508	16-May-2022	----	----	----		23-May-2022	28 days	7 days	✓
Total Metals : Total Mercury in Water by CVAAS										
Glass vial total (hydrochloric acid) E8	E508	16-May-2022	----	----	----		23-May-2022	28 days	7 days	✓
Total Metals : Total Mercury in Water by CVAAS										
Glass vial total (hydrochloric acid) GWCC-5	E508	16-May-2022	----	----	----		23-May-2022	28 days	7 days	✓
Total Metals : Total Mercury in Water by CVAAS										
Glass vial total (hydrochloric acid) R4	E508	16-May-2022	----	----	----		23-May-2022	28 days	7 days	✓
Total Metals : Total Mercury in Water by CVAAS										
Glass vial total (hydrochloric acid) R6	E508	16-May-2022	----	----	----		23-May-2022	28 days	7 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE - total (lab preserved) CC-201	E420	17-May-2022	----	----	----		27-May-2022	180 days	10 days	✓

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE - total (lab preserved) E1	E420	17-May-2022	----	----	----		27-May-2022	180 days	10 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE - total (lab preserved) E1(H)	E420	17-May-2022	----	----	----		27-May-2022	180 days	10 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE - total (lab preserved) Field Blank	E420	17-May-2022	----	----	----		27-May-2022	180 days	10 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE - total (lab preserved) GWCC-1	E420	17-May-2022	----	----	----		27-May-2022	180 days	10 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE - total (lab preserved) GWCC-2	E420	17-May-2022	----	----	----		27-May-2022	180 days	10 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE - total (lab preserved) GWCC-3	E420	17-May-2022	----	----	----		27-May-2022	180 days	10 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE - total (lab preserved) GWCC-4	E420	17-May-2022	----	----	----		27-May-2022	180 days	10 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE - total (lab preserved) R11	E420	17-May-2022	----	----	----		27-May-2022	180 days	10 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE - total (lab preserved) R3	E420	17-May-2022	----	----	----		27-May-2022	180 days	10 days	✓

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE - total (lab preserved) R7	E420	17-May-2022	----	----	----		27-May-2022	180 days	10 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE - total (lab preserved) R9	E420	17-May-2022	----	----	----		27-May-2022	180 days	10 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE - total (lab preserved) SL	E420	17-May-2022	----	----	----		27-May-2022	180 days	10 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE - total (lab preserved) CC-206	E420	16-May-2022	----	----	----		27-May-2022	180 days	11 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE - total (lab preserved) E2	E420	16-May-2022	----	----	----		27-May-2022	180 days	11 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE - total (lab preserved) E3	E420	16-May-2022	----	----	----		27-May-2022	180 days	11 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE - total (lab preserved) E4	E420	16-May-2022	----	----	----		27-May-2022	180 days	11 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE - total (lab preserved) E7	E420	16-May-2022	----	----	----		27-May-2022	180 days	11 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE - total (lab preserved) E8	E420	16-May-2022	----	----	----		27-May-2022	180 days	11 days	✓

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE - total (lab preserved) GWCC-5	E420	16-May-2022	----	----	----		27-May-2022	180 days	11 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE - total (lab preserved) R4	E420	16-May-2022	----	----	----		27-May-2022	180 days	11 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE - total (lab preserved) R6	E420	16-May-2022	----	----	----		27-May-2022	180 days	11 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE - total (lab preserved) Travel Blank	E420	18-May-2022	----	----	----		10-Jun-2022	180 days	24 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE - total (lab preserved) R1	E420	18-May-2022	----	----	----		27-May-2022	180 days	9 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE - total (lab preserved) R2	E420	18-May-2022	----	----	----		27-May-2022	180 days	9 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE - total (lab preserved) R8	E420	18-May-2022	----	----	----		27-May-2022	180 days	9 days	✓

Legend & Qualifier Definitions

EHT: Exceeded ALS recommended hold time prior to analysis.

Rec. HT: ALS recommended hold time (see units).

Quality Control Parameter Frequency Compliance

The following report summarizes the frequency of laboratory QC samples analyzed within the analytical batches (QC lots) in which the submitted samples were processed. The actual frequency should be greater than or equal to the expected frequency.

Matrix: **Water**

Evaluation: ✗ = QC frequency outside specification; ✓ = QC frequency within specification.

Quality Control Sample Type			Count		Frequency (%)		
Analytical Methods	*Method*	*QC Lot #*	*QC*	*Regular*	*Actual*	*Expected*	*Evaluation*
Laboratory Duplicates (DUP)							
Ammonia by Fluorescence	E298	501327	2	26	7.6	5.0	✓
Bromide in Water by IC (Low Level)	E235.Br-L	494683	2	28	7.1	5.0	✓
Chloride in Water by IC	E235.Cl	494682	2	28	7.1	5.0	✓
Conductivity in Water	E100	494680	1	27	3.7	5.0	✗
Dissolved Hexavalent Chromium (Cr VI) by IC	E532A	524212	2	40	5.0	5.0	✓
Dissolved Mercury in Water by CVAAS	E509	496965	2	40	5.0	5.0	✓
Dissolved Metals in Water by CRC ICPMS	E421	501411	2	38	5.2	5.0	✓
Dissolved Organic Carbon by Combustion (Low Level)	E358-L	501325	2	25	8.0	5.0	✓
Fluoride in Water by IC	E235.F	494681	2	28	7.1	5.0	✓
Nitrate in Water by IC (Low Level)	E235.NO3-L	494684	2	28	7.1	5.0	✓
Nitrite in Water by IC (Low Level)	E235.NO2-L	494685	2	30	6.6	5.0	✓
pH by Meter	E108	494679	1	29	3.4	5.0	✗
Sulfate in Water by IC	E235.SO4	494686	2	28	7.1	5.0	✓
Total Hexavalent Chromium (Cr VI) by IC	E532	524213	2	40	5.0	5.0	✓
Total Mercury in Water by CVAAS	E508	496990	2	40	5.0	5.0	✓
Total Metals in Water by CRC ICPMS	E420	500922	3	59	5.0	5.0	✓
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	501326	2	26	7.6	5.0	✓
Laboratory Control Samples (LCS)							
Ammonia by Fluorescence	E298	501327	2	26	7.6	5.0	✓
Bromide in Water by IC (Low Level)	E235.Br-L	494683	2	28	7.1	5.0	✓
Chloride in Water by IC	E235.Cl	494682	2	28	7.1	5.0	✓
Conductivity in Water	E100	494680	2	27	7.4	5.0	✓
Dissolved Hexavalent Chromium (Cr VI) by IC	E532A	524212	2	40	5.0	5.0	✓
Dissolved Mercury in Water by CVAAS	E509	496965	2	40	5.0	5.0	✓
Dissolved Metals in Water by CRC ICPMS	E421	501411	2	38	5.2	5.0	✓
Dissolved Organic Carbon by Combustion (Low Level)	E358-L	501325	2	25	8.0	5.0	✓
Fluoride in Water by IC	E235.F	494681	2	28	7.1	5.0	✓
Nitrate in Water by IC (Low Level)	E235.NO3-L	494684	2	28	7.1	5.0	✓
Nitrite in Water by IC (Low Level)	E235.NO2-L	494685	2	30	6.6	5.0	✓
pH by Meter	E108	494679	2	29	6.9	5.0	✓
Sulfate in Water by IC	E235.SO4	494686	2	28	7.1	5.0	✓
Total Hexavalent Chromium (Cr VI) by IC	E532	524213	2	40	5.0	5.0	✓
Total Mercury in Water by CVAAS	E508	496990	2	40	5.0	5.0	✓
Total Metals in Water by CRC ICPMS	E420	500922	3	59	5.0	5.0	✓
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	501326	2	26	7.6	5.0	✓
Method Blanks (MB)							
Ammonia by Fluorescence	E298	501327	2	26	7.6	5.0	✓

Matrix: **Water**

Evaluation: × = QC frequency outside specification; ✓ = QC frequency within specification.

Quality Control Sample Type			Count		Frequency (%)		
Analytical Methods	*Method*	*QC Lot #*	*QC*	*Regular*	*Actual*	*Expected*	*Evaluation*
Method Blanks (MB) - Continued							
Bromide in Water by IC (Low Level)	E235.Br-L	494683	2	28	7.1	5.0	✓
Chloride in Water by IC	E235.Cl	494682	2	28	7.1	5.0	✓
Conductivity in Water	E100	494680	2	27	7.4	5.0	✓
Dissolved Hexavalent Chromium (Cr VI) by IC	E532A	524212	2	40	5.0	5.0	✓
Dissolved Mercury in Water by CVAAS	E509	496965	2	40	5.0	5.0	✓
Dissolved Metals in Water by CRC ICPMS	E421	501411	2	38	5.2	5.0	✓
Dissolved Organic Carbon by Combustion (Low Level)	E358-L	501325	2	25	8.0	5.0	✓
Fluoride in Water by IC	E235.F	494681	2	28	7.1	5.0	✓
Nitrate in Water by IC (Low Level)	E235.NO3-L	494684	2	28	7.1	5.0	✓
Nitrite in Water by IC (Low Level)	E235.NO2-L	494685	2	30	6.6	5.0	✓
Sulfate in Water by IC	E235.SO4	494686	2	28	7.1	5.0	✓
Total Hexavalent Chromium (Cr VI) by IC	E532	524213	2	40	5.0	5.0	✓
Total Mercury in Water by CVAAS	E508	496990	2	40	5.0	5.0	✓
Total Metals in Water by CRC ICPMS	E420	500922	3	59	5.0	5.0	✓
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	501326	2	26	7.6	5.0	✓
Matrix Spikes (MS)							
Ammonia by Fluorescence	E298	501327	2	26	7.6	5.0	✓
Bromide in Water by IC (Low Level)	E235.Br-L	494683	2	28	7.1	5.0	✓
Chloride in Water by IC	E235.Cl	494682	2	28	7.1	5.0	✓
Dissolved Hexavalent Chromium (Cr VI) by IC	E532A	524212	2	40	5.0	5.0	✓
Dissolved Mercury in Water by CVAAS	E509	496965	2	40	5.0	5.0	✓
Dissolved Metals in Water by CRC ICPMS	E421	501411	2	38	5.2	5.0	✓
Dissolved Organic Carbon by Combustion (Low Level)	E358-L	501325	2	25	8.0	5.0	✓
Fluoride in Water by IC	E235.F	494681	2	28	7.1	5.0	✓
Nitrate in Water by IC (Low Level)	E235.NO3-L	494684	2	28	7.1	5.0	✓
Nitrite in Water by IC (Low Level)	E235.NO2-L	494685	2	30	6.6	5.0	✓
Sulfate in Water by IC	E235.SO4	494686	2	28	7.1	5.0	✓
Total Hexavalent Chromium (Cr VI) by IC	E532	524213	2	40	5.0	5.0	✓
Total Mercury in Water by CVAAS	E508	496990	2	40	5.0	5.0	✓
Total Metals in Water by CRC ICPMS	E420	500922	3	59	5.0	5.0	✓
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	501326	2	26	7.6	5.0	✓

Methodology References and Summaries

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Reference methods may incorporate modifications to improve performance (indicated by "mod").

Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Conductivity in Water	E100 Vancouver - Environmental	Water	APHA 2510 (mod)	Conductivity, also known as Electrical Conductivity (EC) or Specific Conductance, is measured by immersion of a conductivity cell with platinum electrodes into a water sample. Conductivity measurements are temperature-compensated to 25°C.
pH by Meter	E108 Vancouver - Environmental	Water	APHA 4500-H (mod)	pH is determined by potentiometric measurement with a pH electrode, and is conducted at ambient laboratory temperature (normally 20 ± 5°C). For high accuracy test results, pH should be measured in the field within the recommended 15 minute hold time.
Bromide in Water by IC (Low Level)	E235.Br-L Vancouver - Environmental	Water	EPA 300.1 (mod)	Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.
Chloride in Water by IC	E235.Cl Vancouver - Environmental	Water	EPA 300.1 (mod)	Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.
Fluoride in Water by IC	E235.F Vancouver - Environmental	Water	EPA 300.1 (mod)	Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.
Nitrite in Water by IC (Low Level)	E235.NO2-L Vancouver - Environmental	Water	EPA 300.1 (mod)	Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.
Nitrate in Water by IC (Low Level)	E235.NO3-L Vancouver - Environmental	Water	EPA 300.1 (mod)	Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.
Sulfate in Water by IC	E235.SO4 Vancouver - Environmental	Water	EPA 300.1 (mod)	Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.
Ammonia by Fluorescence	E298 Vancouver - Environmental	Water	J. Environ. Monit., 2005, 7, 37-42 (mod)	Ammonia in water is analyzed by flow-injection analysis with fluorescence detection after reaction with orthophthaldialdehyde (OPA).

Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Dissolved Organic Carbon by Combustion (Low Level)	E358-L Vancouver - Environmental	Water	APHA 5310 B (mod)	Dissolved Organic Carbon (Non-Purgeable), also known as NPOC (dissolved), is a direct measurement of DOC after a filtered (0.45 micron) sample has been acidified and purged to remove inorganic carbon (IC). Analysis is by high temperature combustion with infrared detection of CO2. NPOC does not include volatile organic species that are purged off with IC. For samples where the majority of DC (dissolved carbon) is comprised of IC (which is common), this method is more accurate and more reliable than the DOC by subtraction method (i.e. DC minus DIC).
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U Vancouver - Environmental	Water	APHA 4500-P E (mod).	Total Phosphorus is determined colourimetrically using a discrete analyzer after heated persulfate digestion of the sample.
Total Metals in Water by CRC ICPMS	E420 Vancouver - Environmental	Water	EPA 200.2/6020B (mod)	Water samples are digested with nitric and hydrochloric acids, and analyzed by Collision/Reaction Cell ICPMS. Method Limitation (re: Sulfur): Sulfide and volatile sulfur species may not be recovered by this method.
Dissolved Metals in Water by CRC ICPMS	E421 Vancouver - Environmental	Water	APHA 3030B/EPA 6020B (mod)	Water samples are filtered (0.45 um), preserved with nitric acid, and analyzed by Collision/Reaction Cell ICPMS. Method Limitation (re: Sulfur): Sulfide and volatile sulfur species may not be recovered by this method.
Total Mercury in Water by CVAAS	E508 Vancouver - Environmental	Water	EPA 1631E (mod)	Water samples undergo a cold-oxidation using bromine monochloride prior to reduction with stannous chloride, and analyzed by CVAAS
Dissolved Mercury in Water by CVAAS	E509 Vancouver - Environmental	Water	APHA 3030B/EPA 1631E (mod)	Water samples are filtered (0.45 um), preserved with HCl, then undergo a cold-oxidation using bromine monochloride prior to reduction with stannous chloride, and analyzed by CVAAS.
Total Hexavalent Chromium (Cr VI) by IC	E532 Vancouver - Environmental	Water	APHA 3500-Cr C (Ion Chromatography)	Hexavalent Chromium is measured by Ion chromatography-Post column reaction and UV detection. Results are based on an un-filtered, field-preserved sample.
Dissolved Hexavalent Chromium (Cr VI) by IC	E532A Vancouver - Environmental	Water	APHA 3500-Cr C (Ion Chromatography)	Hexavalent Chromium is measured by Ion chromatography-Post column reaction and UV detection. sample pretreatment involved field or lab filtration following by sample preservation.
Dissolved Hardness (Calculated)	EC100 Vancouver - Environmental	Water	APHA 2340B	“Hardness (as CaCO3), dissolved” is calculated from the sum of dissolved Calcium and Magnesium concentrations, expressed in CaCO3 equivalents. “Total Hardness” refers to the sum of Calcium and Magnesium Hardness. Hardness is normally or preferentially calculated from dissolved Calcium and Magnesium concentrations, because it is a property of water due to dissolved divalent cations.

Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Hardness (Calculated) from Total Ca/Mg	EC100A Vancouver - Environmental	Water	APHA 2340B	"Hardness (as CaCO3), from total Ca/Mg" is calculated from the sum of total Calcium and Magnesium concentrations, expressed in CaCO3 equivalents. "Total Hardness" refers to the sum of Calcium and Magnesium Hardness. Hardness is normally or preferentially calculated from dissolved Calcium and Magnesium concentrations, because it is a property of water due to dissolved divalent cations. Hardness from total Ca/Mg is normally comparable to Dissolved Hardness in non-turbid waters.
Total Trivalent Chromium (Cr III) by Calculation	EC535 Vancouver - Environmental	Water	APHA 3030B/6020A/EPA 7196A (mod)	Chromium (III)-Total is calculated as the difference between the total chromium and the total hexavalent chromium (Cr(VI)) results.The Limit of Reporting for Chromium (III) varies as a function of the test results.
Dissolved Trivalent Chromium (Cr III) by Calculation	EC535A Vancouver - Environmental	Water	APHA 3030B/6020A/EPA 7196A (mod)	Dissolved Chromium (III) is calculated as the difference between Dissolved Chromium and Dissolved Hexavalent Chromium (Cr VI) results. The Limit of Reporting for Chromium (III) varies as a function of the test results.
Asbestos by Transmission Electron Microscopy (TEM) in counts/sample	EPA 100.2 Cincinnati - Environmental - 4388 Glendale-Milford Road Cincinnati Ohio United States 45242	Water	EPA 100.2	Asbestos fibers are identified by using morphology, selected area electron diffraction (SAED) and energy dispersive x-ray analysis (EDXA).
Asbestos by Transmission Electron Microscopy (TEM) in million fibres/L	EPA 100.2mf Cincinnati - Environmental - 4388 Glendale-Milford Road Cincinnati Ohio United States 45242	Water	EPA 100.2	Asbestos fibers are identified by using morphology, selected area electron diffraction (SAED) and energy dispersive x-ray analysis (EDXA).
TSS with Asbestos Control by Gravimetry	EPA 160.2 Cincinnati - Environmental - 4388 Glendale-Milford Road Cincinnati Ohio United States 45242	Water	EPA 160.2	A well-mixed sample is filtered through a glass fiber filter, and the residue retained on the filter is dried to a constant weight at 103-105°C

Preparation Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Preparation for Ammonia	EP298 Vancouver - Environmental	Water		Sample preparation for Preserved Nutrients Water Quality Analysis.
Preparation for Dissolved Organic Carbon for Combustion	EP358 Vancouver - Environmental	Water	APHA 5310 B (mod)	Preparation for Dissolved Organic Carbon

Preparation Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Digestion for Total Phosphorus in water	EP372 Vancouver - Environmental	Water	APHA 4500-P E (mod).	Samples are heated with a persulfate digestion reagent.
Dissolved Metals Water Filtration	EP421 Vancouver - Environmental	Water	APHA 3030B	Water samples are filtered (0.45 um), and preserved with HNO3.
Dissolved Mercury Water Filtration	EP509 Vancouver - Environmental	Water	APHA 3030B	Water samples are filtered (0.45 um), and preserved with HCl.

ALS Environmental

QUALITY CONTROL REPORT

Work Order	: **VA22B0989**	Page	: 1 of 34
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Project	: 20Y0150 Clinton Creek	Date Samples Received	: 19-May-2022 11:10
PO	: ----	Date Analysis Commenced	: 20-May-2022
C-O-C number	: ----	Issue Date	: 21-Jun-2022 17:04
Sampler	: JMF JMG EW		
Site	: ----		
Quote number	: Q77741		
No. of samples received	: 26		
No. of samples analysed	: 26		

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percent Difference (RPD) and Data Quality Objectives
- Matrix Spike (MS) Report; Recovery and Data Quality Objectives
- Method Blank (MB) Report; Recovery and Data Quality Objectives
- Laboratory Control Sample (LCS) Report; Recovery and Data Quality Objectives

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

Signatories	*Position*	*Laboratory Department*
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General Comments

The ALS Quality Control (QC) report is optionally provided to ALS clients upon request. ALS test methods include comprehensive QC checks with every analysis to ensure our high standards of quality are met. Each QC result has a known or expected target value, which is compared against predetermined Data Quality Objectives (DQOs) to provide confidence in the accuracy of associated test results. This report contains detailed results for all QC results applicable to this sample submission. Please refer to the ALS Quality Control Interpretation report (QCI) for applicable method references and methodology summaries.

Key :

Anonymous = Refers to samples which are not part of this work order, but which formed part of the QC process lot.
CAS Number = Chemical Abstracts Service number is a unique identifier assigned to discrete substances.
DQO = Data Quality Objective.
LOR = Limit of Reporting (detection limit).
RPD = Relative Percent Difference
# = Indicates a QC result that did not meet the ALS DQO.

Workorder Comments

TSS analysis performed by the ALS Cincinnati OH laboratory for Health & Safety reasons due to possibility of Asbestos content present during the filter drying process. Note: The required Asbestos analysis (TEM) for selected samples will also be sent to ALS Cincinnati.
Holding times are displayed as "---" if no guidance exists from CCME, Canadian provinces, or broadly recognized international references.

Laboratory Duplicate (DUP) Report

A Laboratory Duplicate (DUP) is a randomly selected intralaboratory replicate sample. Laboratory Duplicates provide information regarding method precision and sample heterogeneity. ALS DQOs for Laboratory Duplicates are expressed as test-specific limits for Relative Percent Difference (RPD), or as an absolute difference limit of 2 times the LOR for low concentration duplicates within ~ 4-10 times the LOR (cut-off is test-specific).

Sub-Matrix: **Water**

					Laboratory Duplicate (DUP) Report						
Laboratory sample ID	*Client sample ID*	*Analyte*	*CAS Number*	*Method*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD(%) or Difference*	*Duplicate Limits*	*Qualifier*
Physical Tests (QC Lot: 494679)											
VA22B0989-001	CC-206	pH	----	E108	0.10	pH units	7.80	7.80	0.00%	4%	----
Physical Tests (QC Lot: 494680)											
VA22B0989-001	CC-206	conductivity	----	E100	2.0	µS/cm	276	278	0.722%	10%	----
Anions and Nutrients (QC Lot: 494681)											
VA22B0989-001	CC-206	fluoride	16984-48-8	E235.F	0.020	mg/L	0.069	0.068	0.0009	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 494682)											
VA22B0989-001	CC-206	chloride	16887-00-6	E235.Cl	0.50	mg/L	<0.50	<0.50	0	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 494683)											
VA22B0989-001	CC-206	bromide	24959-67-9	E235.Br-L	0.050	mg/L	<0.050	<0.050	0	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 494684)											
VA22B0989-001	CC-206	nitrate (as N)	14797-55-8	E235.NO3-L	0.0050	mg/L	0.0342	0.0338	0.0004	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 494685)											
VA22B0989-001	CC-206	nitrite (as N)	14797-65-0	E235.NO2-L	0.0010	mg/L	<0.0010	<0.0010	0	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 494686)											
VA22B0989-001	CC-206	sulfate (as SO4)	14808-79-8	E235.SO4	0.30	mg/L	90.2	90.5	0.432%	20%	----
Anions and Nutrients (QC Lot: 494692)											
VA22A9833-001	Anonymous	fluoride	16984-48-8	E235.F	0.200	mg/L	<0.200	<0.200	0	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 494693)											
VA22A9833-001	Anonymous	sulfate (as SO4)	14808-79-8	E235.SO4	3.00	mg/L	<3.00	<3.00	0	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 494694)											
VA22A9833-001	Anonymous	chloride	16887-00-6	E235.Cl	5.00	mg/L	545	558	2.40%	20%	----
Anions and Nutrients (QC Lot: 494695)											
VA22A9833-001	Anonymous	bromide	24959-67-9	E235.Br-L	0.500	mg/L	<0.500	<0.500	0	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 494696)											
VA22A9833-001	Anonymous	nitrite (as N)	14797-65-0	E235.NO2-L	0.0100	mg/L	0.0576	0.0606	0.0030	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 494697)											
VA22A9833-001	Anonymous	nitrate (as N)	14797-55-8	E235.NO3-L	0.0500	mg/L	4.08	4.25	4.19%	20%	----
Anions and Nutrients (QC Lot: 501326)											
VA22B0989-001	CC-206	phosphorus, total	7723-14-0	E372-U	0.0020	mg/L	0.0630	0.0639	1.42%	20%	----
Anions and Nutrients (QC Lot: 501327)											
VA22B0989-001	CC-206	ammonia, total (as N)	7664-41-7	E298	0.0050	mg/L	0.0224	0.0200	0.0024	Diff <2x LOR	----

Sub-Matrix: **Water**

					Laboratory Duplicate (DUP) Report						
Laboratory sample ID	*Client sample ID*	*Analyte*	*CAS Number*	*Method*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD(%) or Difference*	*Duplicate Limits*	*Qualifier*
Anions and Nutrients (QC Lot: 501374)											
VA22B0989-021	CC-201	phosphorus, total	7723-14-0	E372-U	0.0020	mg/L	0.0500	0.0505	0.976%	20%	----
Anions and Nutrients (QC Lot: 501375)											
VA22B0989-021	CC-201	ammonia, total (as N)	7664-41-7	E298	0.0050	mg/L	0.0091	0.0106	0.0015	Diff <2x LOR	----
Organic / Inorganic Carbon (QC Lot: 501325)											
VA22B0989-001	CC-206	carbon, dissolved organic [DOC]	----	E358-L	0.50	mg/L	38.2	40.9	6.87%	20%	----
Organic / Inorganic Carbon (QC Lot: 501373)											
VA22B0989-021	CC-201	carbon, dissolved organic [DOC]	----	E358-L	0.50	mg/L	36.8	38.0	3.24%	20%	----
Total Metals (QC Lot: 496990)											
CG2205916-001	Anonymous	mercury, total	7439-97-6	E508	0.0000050	mg/L	<0.0000050	<0.0000050	0	Diff <2x LOR	----
Total Metals (QC Lot: 496991)											
VA22B0989-008	E2	mercury, total	7439-97-6	E508	0.0000050	mg/L	0.0000118	0.0000162	0.0000044	Diff <2x LOR	----
Total Metals (QC Lot: 500922)											
VA22B0989-001	CC-206	aluminum, total	7429-90-5	E420	0.0030	mg/L	0.835	0.805	3.68%	20%	----
		antimony, total	7440-36-0	E420	0.00010	mg/L	0.00048	0.00048	0.000007	Diff <2x LOR	----
		arsenic, total	7440-38-2	E420	0.00010	mg/L	0.00197	0.00182	7.68%	20%	----
		barium, total	7440-39-3	E420	0.00010	mg/L	0.0530	0.0511	3.73%	20%	----
		beryllium, total	7440-41-7	E420	0.000100	mg/L	<0.000100	<0.000100	0	Diff <2x LOR	----
		bismuth, total	7440-69-9	E420	0.000050	mg/L	<0.000050	<0.000050	0	Diff <2x LOR	----
		boron, total	7440-42-8	E420	0.010	mg/L	0.014	0.014	0.00003	Diff <2x LOR	----
		cadmium, total	7440-43-9	E420	0.0000050	mg/L	0.000133	0.000120	10.1%	20%	----
		calcium, total	7440-70-2	E420	0.050	mg/L	29.7	28.8	3.18%	20%	----
		cesium, total	7440-46-2	E420	0.000010	mg/L	0.000496	0.000491	1.18%	20%	----
		chromium, total	7440-47-3	E420	0.00050	mg/L	0.0108	0.00985	9.23%	20%	----
		cobalt, total	7440-48-4	E420	0.00010	mg/L	0.00164	0.00163	0.879%	20%	----
		copper, total	7440-50-8	E420	0.00050	mg/L	0.00509	0.00504	1.08%	20%	----
		iron, total	7439-89-6	E420	0.010	mg/L	1.95	1.90	2.97%	20%	----
		lead, total	7439-92-1	E420	0.000050	mg/L	0.00145	0.00142	2.52%	20%	----
		lithium, total	7439-93-2	E420	0.0010	mg/L	0.0033	0.0032	0.00009	Diff <2x LOR	----
		magnesium, total	7439-95-4	E420	0.0050	mg/L	19.7	18.6	5.94%	20%	----
		manganese, total	7439-96-5	E420	0.00010	mg/L	0.157	0.154	1.77%	20%	----
		molybdenum, total	7439-98-7	E420	0.000050	mg/L	0.000798	0.000800	0.275%	20%	----
		nickel, total	7440-02-0	E420	0.00050	mg/L	0.0239	0.0235	1.81%	20%	----
		phosphorus, total	7723-14-0	E420	0.050	mg/L	0.073	0.065	0.008	Diff <2x LOR	----
		potassium, total	7440-09-7	E420	0.050	mg/L	1.06	1.03	2.70%	20%	----
		rubidium, total	7440-17-7	E420	0.00020	mg/L	0.00158	0.00159	0.00002	Diff <2x LOR	----

Sub-Matrix: **Water**

					Laboratory Duplicate (DUP) Report						
Laboratory sample ID	*Client sample ID*	*Analyte*	*CAS Number*	*Method*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD(%) or Difference*	*Duplicate Limits*	*Qualifier*
Total Metals (QC Lot: 500922) - continued											
VA22B0989-001	CC-206	selenium, total	7782-49-2	E420	0.000050	mg/L	0.00187	0.00178	5.02%	20%	----
		silicon, total	7440-21-3	E420	0.10	mg/L	4.69	4.50	4.04%	20%	----
		silver, total	7440-22-4	E420	0.000010	mg/L	0.000037	0.000036	0.0000009	Diff <2x LOR	----
		sodium, total	7440-23-5	E420	0.050	mg/L	1.57	1.60	2.26%	20%	----
		strontium, total	7440-24-6	E420	0.00020	mg/L	0.154	0.151	1.72%	20%	----
		sulfur, total	7704-34-9	E420	0.50	mg/L	32.2	31.5	2.50%	20%	----
		tellurium, total	13494-80-9	E420	0.00020	mg/L	<0.00020	<0.00020	0	Diff <2x LOR	----
		thallium, total	7440-28-0	E420	0.000010	mg/L	0.000023	0.000022	0.000001	Diff <2x LOR	----
		thorium, total	7440-29-1	E420	0.00010	mg/L	0.00023	0.00025	0.00002	Diff <2x LOR	----
		tin, total	7440-31-5	E420	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	----
		titanium, total	7440-32-6	E420	0.00030	mg/L	0.0198	0.0172	13.7%	20%	----
		tungsten, total	7440-33-7	E420	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	----
		uranium, total	7440-61-1	E420	0.000010	mg/L	0.00103	0.00102	1.32%	20%	----
		vanadium, total	7440-62-2	E420	0.00050	mg/L	0.00245	0.00232	0.00013	Diff <2x LOR	----
		zinc, total	7440-66-6	E420	0.0030	mg/L	0.0098	0.0097	0.00009	Diff <2x LOR	----
		zirconium, total	7440-67-7	E420	0.00020	mg/L	0.00101	0.00100	0.000008	Diff <2x LOR	----
Total Metals (QC Lot: 501104)											
VA22B1023-001	Anonymous	aluminum, total	7429-90-5	E420	0.0060	mg/L	0.0075	0.0074	0.00007	Diff <2x LOR	----
		antimony, total	7440-36-0	E420	0.00020	mg/L	0.00082	0.00081	0.00001	Diff <2x LOR	----
		arsenic, total	7440-38-2	E420	0.00020	mg/L	<0.00020	<0.00020	0	Diff <2x LOR	----
		barium, total	7440-39-3	E420	0.00020	mg/L	0.0258	0.0253	1.95%	20%	----
		beryllium, total	7440-41-7	E420	0.000040	mg/L	<0.000040	<0.000040	0	Diff <2x LOR	----
		bismuth, total	7440-69-9	E420	0.000100	mg/L	<0.000100	<0.000100	0	Diff <2x LOR	----
		boron, total	7440-42-8	E420	0.020	mg/L	<0.020	<0.020	0	Diff <2x LOR	----
		cadmium, total	7440-43-9	E420	0.0000100	mg/L	0.000918	0.000912	0.719%	20%	----
		calcium, total	7440-70-2	E420	0.100	mg/L	321	307	4.31%	20%	----
		cesium, total	7440-46-2	E420	0.000020	mg/L	0.000023	0.000021	0.000002	Diff <2x LOR	----
		chromium, total	7440-47-3	E420	0.00100	mg/L	<0.00100	<0.00100	0	Diff <2x LOR	----
		cobalt, total	7440-48-4	E420	0.00020	mg/L	0.00046	0.00046	0.000002	Diff <2x LOR	----
		copper, total	7440-50-8	E420	0.00100	mg/L	<0.00100	<0.00100	0	Diff <2x LOR	----
		iron, total	7439-89-6	E420	0.020	mg/L	<0.020	<0.020	0	Diff <2x LOR	----
		lead, total	7439-92-1	E420	0.000100	mg/L	<0.000100	<0.000100	0	Diff <2x LOR	----
		lithium, total	7439-93-2	E420	0.0020	mg/L	0.0708	0.0682	3.80%	20%	----
		magnesium, total	7439-95-4	E420	0.200	mg/L	231	226	2.22%	20%	----
		manganese, total	7439-96-5	E420	0.00020	mg/L	0.00370	0.00363	1.85%	20%	----

Sub-Matrix: **Water**

					Laboratory Duplicate (DUP) Report						
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	LOR	Unit	Original Result	Duplicate Result	RPD(%) or Difference	Duplicate Limits	Qualifier
Total Metals (QC Lot: 501104) - continued											
VA22B1023-001	Anonymous	molybdenum, total	7439-98-7	E420	0.000100	mg/L	0.00507	0.00513	1.14%	20%	----
		nickel, total	7440-02-0	E420	0.00100	mg/L	0.0433	0.0422	2.56%	20%	----
		phosphorus, total	7723-14-0	E420	0.100	mg/L	<0.100	<0.100	0	Diff <2x LOR	----
		potassium, total	7440-09-7	E420	0.100	mg/L	4.60	4.46	2.96%	20%	----
		rubidium, total	7440-17-7	E420	0.00040	mg/L	0.00336	0.00329	0.00007	Diff <2x LOR	----
		selenium, total	7782-49-2	E420	0.000100	mg/L	453 µg/L	0.451	0.421%	20%	----
		silicon, total	7440-21-3	E420	0.20	mg/L	2.22	2.23	0.525%	20%	----
		silver, total	7440-22-4	E420	0.000020	mg/L	<0.000020	<0.000020	0	Diff <2x LOR	----
		sodium, total	7440-23-5	E420	0.100	mg/L	2.36	2.26	4.19%	20%	----
		strontium, total	7440-24-6	E420	0.00040	mg/L	0.191	0.194	1.51%	20%	----
		sulfur, total	7704-34-9	E420	1.00	mg/L	468	463	1.15%	20%	----
		tellurium, total	13494-80-9	E420	0.00040	mg/L	<0.00040	<0.00040	0	Diff <2x LOR	----
		thallium, total	7440-28-0	E420	0.000020	mg/L	0.000044	0.000043	0.0000008	Diff <2x LOR	----
		thorium, total	7440-29-1	E420	0.00020	mg/L	<0.00020	<0.00020	0	Diff <2x LOR	----
		tin, total	7440-31-5	E420	0.00020	mg/L	<0.00020	<0.00020	0	Diff <2x LOR	----
		titanium, total	7440-32-6	E420	0.0200	mg/L	<0.0200	<0.0200	0	Diff <2x LOR	----
		tungsten, total	7440-33-7	E420	0.00020	mg/L	<0.00020	<0.00020	0	Diff <2x LOR	----
		uranium, total	7440-61-1	E420	0.000020	mg/L	0.0133	0.0131	1.20%	20%	----
		vanadium, total	7440-62-2	E420	0.00100	mg/L	<0.00100	<0.00100	0	Diff <2x LOR	----
		zinc, total	7440-66-6	E420	0.0060	mg/L	0.0512	0.0498	0.0014	Diff <2x LOR	----
		zirconium, total	7440-67-7	E420	0.00040	mg/L	<0.00040	<0.00040	0	Diff <2x LOR	----
Total Metals (QC Lot: 516951)											
KS2201979-001	Anonymous	aluminum, total	7429-90-5	E420	0.0030	mg/L	0.0177	0.0198	0.0021	Diff <2x LOR	----
		antimony, total	7440-36-0	E420	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	----
		arsenic, total	7440-38-2	E420	0.00010	mg/L	0.00399	0.00394	1.23%	20%	----
		barium, total	7440-39-3	E420	0.00010	mg/L	0.0588	0.0598	1.74%	20%	----
		beryllium, total	7440-41-7	E420	0.000100	mg/L	<0.000100	<0.000100	0	Diff <2x LOR	----
		bismuth, total	7440-69-9	E420	0.000050	mg/L	<0.000050	<0.000050	0	Diff <2x LOR	----
		boron, total	7440-42-8	E420	0.010	mg/L	0.061	0.067	0.006	Diff <2x LOR	----
		cadmium, total	7440-43-9	E420	0.0000050	mg/L	<0.0000050	<0.0000050	0	Diff <2x LOR	----
		calcium, total	7440-70-2	E420	0.050	mg/L	63.3	68.2	7.36%	20%	----
		cesium, total	7440-46-2	E420	0.000010	mg/L	0.000030	0.000031	0.0000009	Diff <2x LOR	----
		chromium, total	7440-47-3	E420	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		cobalt, total	7440-48-4	E420	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	----
		copper, total	7440-50-8	E420	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----

Sub-Matrix: **Water**

					Laboratory Duplicate (DUP) Report						
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	LOR	Unit	Original Result	Duplicate Result	RPD(%) or Difference	Duplicate Limits	Qualifier
Total Metals (QC Lot: 516951) - continued											
KS2201979-001	Anonymous	iron, total	7439-89-6	E420	0.010	mg/L	2.02	2.07	2.04%	20%	----
		lead, total	7439-92-1	E420	0.000050	mg/L	0.000080	0.000089	0.000009	Diff <2x LOR	----
		lithium, total	7439-93-2	E420	0.0010	mg/L	0.0070	0.0076	0.0006	Diff <2x LOR	----
		magnesium, total	7439-95-4	E420	0.0050	mg/L	55.6	56.0	0.781%	20%	----
		manganese, total	7439-96-5	E420	0.00010	mg/L	0.135	0.136	0.791%	20%	----
		molybdenum, total	7439-98-7	E420	0.000050	mg/L	0.00872	0.00937	7.15%	20%	----
		nickel, total	7440-02-0	E420	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		phosphorus, total	7723-14-0	E420	0.050	mg/L	0.063	0.074	0.012	Diff <2x LOR	----
		potassium, total	7440-09-7	E420	0.050	mg/L	8.42	8.42	0.0334%	20%	----
		rubidium, total	7440-17-7	E420	0.00020	mg/L	0.00848	0.00835	1.53%	20%	----
		selenium, total	7782-49-2	E420	0.000050	mg/L	<0.000050	<0.000050	0	Diff <2x LOR	----
		silicon, total	7440-21-3	E420	0.10	mg/L	15.5	15.8	1.95%	20%	----
		silver, total	7440-22-4	E420	0.000010	mg/L	<0.000010	<0.000010	0	Diff <2x LOR	----
		sodium, total	7440-23-5	E420	0.050	mg/L	88.1	90.4	2.64%	20%	----
		strontium, total	7440-24-6	E420	0.00020	mg/L	1.51	1.68	10.8%	20%	----
		sulfur, total	7704-34-9	E420	0.50	mg/L	105	107	2.24%	20%	----
		tellurium, total	13494-80-9	E420	0.00020	mg/L	0.00027	0.00027	0.000004	Diff <2x LOR	----
		thallium, total	7440-28-0	E420	0.000010	mg/L	<0.000010	<0.000010	0	Diff <2x LOR	----
		thorium, total	7440-29-1	E420	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	----
		tin, total	7440-31-5	E420	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	----
		titanium, total	7440-32-6	E420	0.00030	mg/L	0.00063	0.00110	0.00047	Diff <2x LOR	----
		tungsten, total	7440-33-7	E420	0.00010	mg/L	0.00021	0.00022	0.00001	Diff <2x LOR	----
		uranium, total	7440-61-1	E420	0.000010	mg/L	0.00125	0.00135	8.26%	20%	----
		vanadium, total	7440-62-2	E420	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		zinc, total	7440-66-6	E420	0.0030	mg/L	<0.0030	<0.0030	0	Diff <2x LOR	----
		zirconium, total	7440-67-7	E420	0.00020	mg/L	<0.00020	<0.00020	0	Diff <2x LOR	----
Dissolved Metals (QC Lot: 496965)											
CG2205913-001	Anonymous	mercury, dissolved	7439-97-6	E509	0.0000050	mg/L	<0.0000050	<0.0000050	0	Diff <2x LOR	----
Dissolved Metals (QC Lot: 496966)											
VA22B0989-007	E3	mercury, dissolved	7439-97-6	E509	0.0000050	mg/L	0.0000096	0.0000067	0.0000030	Diff <2x LOR	----
Dissolved Metals (QC Lot: 501411)											
VA22B0989-001	CC-206	aluminum, dissolved	7429-90-5	E421	0.0010	mg/L	0.337	0.338	0.113%	20%	----
		antimony, dissolved	7440-36-0	E421	0.00010	mg/L	0.00028	0.00028	0.00000008	Diff <2x LOR	----
		arsenic, dissolved	7440-38-2	E421	0.00010	mg/L	0.00114	0.00115	1.69%	20%	----
		barium, dissolved	7440-39-3	E421	0.00010	mg/L	0.0392	0.0396	1.15%	20%	----

Sub-Matrix: **Water**

					Laboratory Duplicate (DUP) Report						
Laboratory sample ID	*Client sample ID*	*Analyte*	*CAS Number*	*Method*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD(%) or Difference*	*Duplicate Limits*	*Qualifier*
Dissolved Metals (QC Lot: 501411) - continued											
VA22B0989-001	CC-206	beryllium, dissolved	7440-41-7	E421	0.000100	mg/L	<0.000100	<0.000100	0	Diff <2x LOR	----
		bismuth, dissolved	7440-69-9	E421	0.000050	mg/L	<0.000050	<0.000050	0	Diff <2x LOR	----
		boron, dissolved	7440-42-8	E421	0.010	mg/L	0.013	0.013	0.00006	Diff <2x LOR	----
		cadmium, dissolved	7440-43-9	E421	0.0000050	mg/L	0.0000830	0.0000886	6.45%	20%	----
		calcium, dissolved	7440-70-2	E421	0.050	mg/L	27.9	27.8	0.433%	20%	----
		cesium, dissolved	7440-46-2	E421	0.000010	mg/L	0.000239	0.000245	2.80%	20%	----
		chromium, dissolved	7440-47-3	E421	0.00050	mg/L	0.00508	0.00501	1.38%	20%	----
		cobalt, dissolved	7440-48-4	E421	0.00010	mg/L	0.00087	0.00087	0.0000008	Diff <2x LOR	----
		copper, dissolved	7440-50-8	E421	0.00020	mg/L	0.00364	0.00376	3.43%	20%	----
		iron, dissolved	7439-89-6	E421	0.010	mg/L	0.800	0.803	0.328%	20%	----
		lead, dissolved	7439-92-1	E421	0.000050	mg/L	0.000654	0.000644	1.59%	20%	----
		lithium, dissolved	7439-93-2	E421	0.0010	mg/L	0.0026	0.0026	0.00004	Diff <2x LOR	----
		magnesium, dissolved	7439-95-4	E421	0.0050	mg/L	17.8	18.1	1.68%	20%	----
		manganese, dissolved	7439-96-5	E421	0.00010	mg/L	0.111	0.112	0.705%	20%	----
		molybdenum, dissolved	7439-98-7	E421	0.000050	mg/L	0.000576	0.000572	0.618%	20%	----
		nickel, dissolved	7440-02-0	E421	0.00050	mg/L	0.0146	0.0147	1.16%	20%	----
		phosphorus, dissolved	7723-14-0	E421	0.050	mg/L	<0.050	<0.050	0	Diff <2x LOR	----
		potassium, dissolved	7440-09-7	E421	0.050	mg/L	0.942	0.948	0.562%	20%	----
		rubidium, dissolved	7440-17-7	E421	0.00020	mg/L	0.00088	0.00084	0.00003	Diff <2x LOR	----
		selenium, dissolved	7782-49-2	E421	0.000050	mg/L	0.00183	0.00174	4.63%	20%	----
		silicon, dissolved	7440-21-3	E421	0.050	mg/L	3.25	3.20	1.48%	20%	----
		silver, dissolved	7440-22-4	E421	0.000010	mg/L	0.000012	0.000013	0.0000010	Diff <2x LOR	----
		sodium, dissolved	7440-23-5	E421	0.050	mg/L	1.50	1.46	2.56%	20%	----
		strontium, dissolved	7440-24-6	E421	0.00020	mg/L	0.147	0.147	0.327%	20%	----
		sulfur, dissolved	7704-34-9	E421	0.50	mg/L	29.6	29.8	0.701%	20%	----
		tellurium, dissolved	13494-80-9	E421	0.00020	mg/L	<0.00020	<0.00020	0	Diff <2x LOR	----
		thallium, dissolved	7440-28-0	E421	0.000010	mg/L	<0.000010	<0.000010	0	Diff <2x LOR	----
		thorium, dissolved	7440-29-1	E421	0.00010	mg/L	0.00012	0.00011	0.00001	Diff <2x LOR	----
		tin, dissolved	7440-31-5	E421	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	----
		titanium, dissolved	7440-32-6	E421	0.00030	mg/L	0.00655	0.00594	9.80%	20%	----
		tungsten, dissolved	7440-33-7	E421	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	----
		uranium, dissolved	7440-61-1	E421	0.000010	mg/L	0.000895	0.000893	0.212%	20%	----
		vanadium, dissolved	7440-62-2	E421	0.00050	mg/L	0.00102	0.00107	0.00004	Diff <2x LOR	----
		zinc, dissolved	7440-66-6	E421	0.0010	mg/L	0.0044	0.0044	0.00008	Diff <2x LOR	----
		zirconium, dissolved	7440-67-7	E421	0.00020	mg/L	0.00105	0.00110	0.00005	Diff <2x LOR	----

Sub-Matrix: **Water**

					Laboratory Duplicate (DUP) Report						
Laboratory sample ID	*Client sample ID*	*Analyte*	*CAS Number*	*Method*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD(%) or Difference*	*Duplicate Limits*	*Qualifier*
Dissolved Metals (QC Lot: 501413)											
VA22B0300-001	Anonymous	aluminum, dissolved	7429-90-5	E421	0.0010	mg/L	0.0018	0.0015	0.0003	Diff <2x LOR	----
		antimony, dissolved	7440-36-0	E421	0.00010	mg/L	0.00016	0.00016	0.0000009	Diff <2x LOR	----
		arsenic, dissolved	7440-38-2	E421	0.00010	mg/L	0.00141	0.00146	3.37%	20%	----
		barium, dissolved	7440-39-3	E421	0.00010	mg/L	0.0118	0.0119	0.810%	20%	----
		beryllium, dissolved	7440-41-7	E421	0.000100	mg/L	<0.000100	<0.000100	0	Diff <2x LOR	----
		bismuth, dissolved	7440-69-9	E421	0.000050	mg/L	<0.000050	<0.000050	0	Diff <2x LOR	----
		boron, dissolved	7440-42-8	E421	0.010	mg/L	0.019	0.020	0.0003	Diff <2x LOR	----
		cadmium, dissolved	7440-43-9	E421	0.0000100	mg/L	<0.0000100	<0.0000100	0	Diff <2x LOR	----
		calcium, dissolved	7440-70-2	E421	0.050	mg/L	27.3	28.0	2.73%	20%	----
		cesium, dissolved	7440-46-2	E421	0.000010	mg/L	<0.000010	<0.000010	0	Diff <2x LOR	----
		chromium, dissolved	7440-47-3	E421	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		cobalt, dissolved	7440-48-4	E421	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	----
		copper, dissolved	7440-50-8	E421	0.00020	mg/L	<0.00020	<0.00020	0	Diff <2x LOR	----
		iron, dissolved	7439-89-6	E421	0.010	mg/L	<0.010	<0.010	0	Diff <2x LOR	----
		lead, dissolved	7439-92-1	E421	0.000050	mg/L	<0.000050	<0.000050	0	Diff <2x LOR	----
		lithium, dissolved	7439-93-2	E421	0.0010	mg/L	0.0014	0.0014	0.000002	Diff <2x LOR	----
		magnesium, dissolved	7439-95-4	E421	0.0050	mg/L	14.3	14.0	2.18%	20%	----
		manganese, dissolved	7439-96-5	E421	0.00010	mg/L	0.00053	0.00054	0.00002	Diff <2x LOR	----
		molybdenum, dissolved	7439-98-7	E421	0.000050	mg/L	0.0120	0.0122	1.87%	20%	----
		nickel, dissolved	7440-02-0	E421	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		phosphorus, dissolved	7723-14-0	E421	0.050	mg/L	<0.050	<0.050	0	Diff <2x LOR	----
		potassium, dissolved	7440-09-7	E421	0.050	mg/L	4.29	4.29	0.148%	20%	----
		rubidium, dissolved	7440-17-7	E421	0.00020	mg/L	0.00047	0.00050	0.00002	Diff <2x LOR	----
		selenium, dissolved	7782-49-2	E421	0.000050	mg/L	0.000680	0.000717	5.30%	20%	----
		silicon, dissolved	7440-21-3	E421	0.050	mg/L	7.77	7.66	1.37%	20%	----
		silver, dissolved	7440-22-4	E421	0.000010	mg/L	<0.000010	<0.000010	0	Diff <2x LOR	----
		sodium, dissolved	7440-23-5	E421	0.050	mg/L	20.9	20.8	0.0539%	20%	----
		strontium, dissolved	7440-24-6	E421	0.00020	mg/L	0.125	0.127	1.30%	20%	----
		sulfur, dissolved	7704-34-9	E421	0.50	mg/L	3.66	3.91	0.26	Diff <2x LOR	----
		tellurium, dissolved	13494-80-9	E421	0.00020	mg/L	<0.00020	<0.00020	0	Diff <2x LOR	----
		thallium, dissolved	7440-28-0	E421	0.000010	mg/L	<0.000010	<0.000010	0	Diff <2x LOR	----
		thorium, dissolved	7440-29-1	E421	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	----
		tin, dissolved	7440-31-5	E421	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	----
		titanium, dissolved	7440-32-6	E421	0.00030	mg/L	<0.00030	<0.00030	0	Diff <2x LOR	----
		tungsten, dissolved	7440-33-7	E421	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	----

Sub-Matrix: **Water**

					Laboratory Duplicate (DUP) Report						
Laboratory sample ID	*Client sample ID*	*Analyte*	*CAS Number*	*Method*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD(%) or Difference*	*Duplicate Limits*	*Qualifier*
Dissolved Metals (QC Lot: 501413) - continued											
VA22B0300-001	Anonymous	uranium, dissolved	7440-61-1	E421	0.000010	mg/L	0.00326	0.00325	0.440%	20%	----
		vanadium, dissolved	7440-62-2	E421	0.00050	mg/L	0.00064	0.00067	0.00003	Diff <2x LOR	----
		zinc, dissolved	7440-66-6	E421	0.0010	mg/L	<0.0010	<0.0010	0	Diff <2x LOR	----
		zirconium, dissolved	7440-67-7	E421	0.00020	mg/L	<0.00020	<0.00020	0	Diff <2x LOR	----
Speciated Metals (QC Lot: 524212)											
VA22A9912-007	Anonymous	chromium, hexavalent [Cr VI], dissolved	18540-29-9	E532A	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
Speciated Metals (QC Lot: 524213)											
VA22B0989-005	E8	chromium, hexavalent [Cr VI], total	18540-29-9	E532	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
Speciated Metals (QC Lot: 524738)											
KS2202074-001	Anonymous	chromium, hexavalent [Cr VI], total	18540-29-9	E532	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
Speciated Metals (QC Lot: 524739)											
KS2202080-001	Anonymous	chromium, hexavalent [Cr VI], dissolved	18540-29-9	E532A	0.00250	mg/L	<0.00250	<0.00250	0	Diff <2x LOR	----

Method Blank (MB) Report

A Method Blank is an analyte-free matrix that undergoes sample processing identical to that carried out for test samples. Method Blank results are used to monitor and control for potential contamination from the laboratory environment and reagents. For most tests, the DQO for Method Blanks is for the result to be < LOR.

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Physical Tests (QCLot: 494680)						
conductivity	----	E100	1	µS/cm	1.2	----
Physical Tests (QCLot: 494690)						
conductivity	----	E100	1	µS/cm	<1.0	----
Anions and Nutrients (QCLot: 494681)						
fluoride	16984-48-8	E235.F	0.02	mg/L	<0.020	----
Anions and Nutrients (QCLot: 494682)						
chloride	16887-00-6	E235.Cl	0.5	mg/L	<0.50	----
Anions and Nutrients (QCLot: 494683)						
bromide	24959-67-9	E235.Br-L	0.05	mg/L	<0.050	----
Anions and Nutrients (QCLot: 494684)						
nitrate (as N)	14797-55-8	E235.NO3-L	0.005	mg/L	<0.0050	----
Anions and Nutrients (QCLot: 494685)						
nitrite (as N)	14797-65-0	E235.NO2-L	0.001	mg/L	<0.0010	----
Anions and Nutrients (QCLot: 494686)						
sulfate (as SO4)	14808-79-8	E235.SO4	0.3	mg/L	<0.30	----
Anions and Nutrients (QCLot: 494692)						
fluoride	16984-48-8	E235.F	0.02	mg/L	<0.020	----
Anions and Nutrients (QCLot: 494693)						
sulfate (as SO4)	14808-79-8	E235.SO4	0.3	mg/L	<0.30	----
Anions and Nutrients (QCLot: 494694)						
chloride	16887-00-6	E235.Cl	0.5	mg/L	<0.50	----
Anions and Nutrients (QCLot: 494695)						
bromide	24959-67-9	E235.Br-L	0.05	mg/L	<0.050	----
Anions and Nutrients (QCLot: 494696)						
nitrite (as N)	14797-65-0	E235.NO2-L	0.001	mg/L	<0.0010	----
Anions and Nutrients (QCLot: 494697)						
nitrate (as N)	14797-55-8	E235.NO3-L	0.005	mg/L	# 0.0099	B
Anions and Nutrients (QCLot: 501326)						
phosphorus, total	7723-14-0	E372-U	0.002	mg/L	<0.0020	----
Anions and Nutrients (QCLot: 501327)						
ammonia, total (as N)	7664-41-7	E298	0.005	mg/L	<0.0050	----
Anions and Nutrients (QCLot: 501374)						
phosphorus, total	7723-14-0	E372-U	0.002	mg/L	<0.0020	----

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Anions and Nutrients (QCLot: 501375)						
ammonia, total (as N)	7664-41-7	E298	0.005	mg/L	<0.0050	----
Organic / Inorganic Carbon (QCLot: 501325)						
carbon, dissolved organic [DOC]	----	E358-L	0.5	mg/L	<0.50	----
Organic / Inorganic Carbon (QCLot: 501373)						
carbon, dissolved organic [DOC]	----	E358-L	0.5	mg/L	<0.50	----
Total Metals (QCLot: 496990)						
mercury, total	7439-97-6	E508	0.000005	mg/L	<0.0000050	----
Total Metals (QCLot: 496991)						
mercury, total	7439-97-6	E508	0.000005	mg/L	<0.0000050	----
Total Metals (QCLot: 500922)						
aluminum, total	7429-90-5	E420	0.003	mg/L	<0.0030	----
antimony, total	7440-36-0	E420	0.0001	mg/L	<0.00010	----
arsenic, total	7440-38-2	E420	0.0001	mg/L	<0.00010	----
barium, total	7440-39-3	E420	0.0001	mg/L	<0.00010	----
beryllium, total	7440-41-7	E420	0.00002	mg/L	<0.000020	----
bismuth, total	7440-69-9	E420	0.00005	mg/L	<0.000050	----
boron, total	7440-42-8	E420	0.01	mg/L	<0.010	----
cadmium, total	7440-43-9	E420	0.000005	mg/L	<0.0000050	----
calcium, total	7440-70-2	E420	0.05	mg/L	<0.050	----
cesium, total	7440-46-2	E420	0.00001	mg/L	<0.000010	----
chromium, total	7440-47-3	E420	0.0005	mg/L	<0.00050	----
cobalt, total	7440-48-4	E420	0.0001	mg/L	<0.00010	----
copper, total	7440-50-8	E420	0.0005	mg/L	<0.00050	----
iron, total	7439-89-6	E420	0.01	mg/L	<0.010	----
lead, total	7439-92-1	E420	0.00005	mg/L	<0.000050	----
lithium, total	7439-93-2	E420	0.001	mg/L	<0.0010	----
magnesium, total	7439-95-4	E420	0.005	mg/L	<0.0050	----
manganese, total	7439-96-5	E420	0.0001	mg/L	<0.00010	----
molybdenum, total	7439-98-7	E420	0.00005	mg/L	<0.000050	----
nickel, total	7440-02-0	E420	0.0005	mg/L	<0.00050	----
phosphorus, total	7723-14-0	E420	0.05	mg/L	<0.050	----
potassium, total	7440-09-7	E420	0.05	mg/L	<0.050	----
rubidium, total	7440-17-7	E420	0.0002	mg/L	<0.00020	----
selenium, total	7782-49-2	E420	0.00005	mg/L	<0.000050	----
silicon, total	7440-21-3	E420	0.1	mg/L	<0.10	----
silver, total	7440-22-4	E420	0.00001	mg/L	<0.000010	----

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Total Metals (QCLot: 500922) - continued						
sodium, total	7440-23-5	E420	0.05	mg/L	<0.050	----
strontium, total	7440-24-6	E420	0.0002	mg/L	<0.00020	----
sulfur, total	7704-34-9	E420	0.5	mg/L	<0.50	----
tellurium, total	13494-80-9	E420	0.0002	mg/L	<0.00020	----
thallium, total	7440-28-0	E420	0.00001	mg/L	<0.000010	----
thorium, total	7440-29-1	E420	0.0001	mg/L	<0.00010	----
tin, total	7440-31-5	E420	0.0001	mg/L	<0.00010	----
titanium, total	7440-32-6	E420	0.0003	mg/L	<0.00030	----
tungsten, total	7440-33-7	E420	0.0001	mg/L	<0.00010	----
uranium, total	7440-61-1	E420	0.00001	mg/L	<0.000010	----
vanadium, total	7440-62-2	E420	0.0005	mg/L	<0.00050	----
zinc, total	7440-66-6	E420	0.003	mg/L	<0.0030	----
zirconium, total	7440-67-7	E420	0.0002	mg/L	<0.00020	----
Total Metals (QCLot: 501104)						
aluminum, total	7429-90-5	E420	0.003	mg/L	<0.0030	----
antimony, total	7440-36-0	E420	0.0001	mg/L	<0.00010	----
arsenic, total	7440-38-2	E420	0.0001	mg/L	<0.00010	----
barium, total	7440-39-3	E420	0.0001	mg/L	<0.00010	----
beryllium, total	7440-41-7	E420	0.00002	mg/L	<0.000020	----
bismuth, total	7440-69-9	E420	0.00005	mg/L	<0.000050	----
boron, total	7440-42-8	E420	0.01	mg/L	<0.010	----
cadmium, total	7440-43-9	E420	0.000005	mg/L	<0.0000050	----
calcium, total	7440-70-2	E420	0.05	mg/L	<0.050	----
cesium, total	7440-46-2	E420	0.00001	mg/L	<0.000010	----
chromium, total	7440-47-3	E420	0.0005	mg/L	<0.00050	----
cobalt, total	7440-48-4	E420	0.0001	mg/L	<0.00010	----
copper, total	7440-50-8	E420	0.0005	mg/L	<0.00050	----
iron, total	7439-89-6	E420	0.01	mg/L	<0.010	----
lead, total	7439-92-1	E420	0.00005	mg/L	<0.000050	----
lithium, total	7439-93-2	E420	0.001	mg/L	<0.0010	----
magnesium, total	7439-95-4	E420	0.005	mg/L	<0.0050	----
manganese, total	7439-96-5	E420	0.0001	mg/L	<0.00010	----
molybdenum, total	7439-98-7	E420	0.00005	mg/L	<0.000050	----
nickel, total	7440-02-0	E420	0.0005	mg/L	<0.00050	----
phosphorus, total	7723-14-0	E420	0.05	mg/L	<0.050	----
potassium, total	7440-09-7	E420	0.05	mg/L	<0.050	----

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Total Metals (QCLot: 501104) - continued						
rubidium, total	7440-17-7	E420	0.0002	mg/L	<0.00020	----
selenium, total	7782-49-2	E420	0.00005	mg/L	<0.000050	----
silicon, total	7440-21-3	E420	0.1	mg/L	<0.10	----
silver, total	7440-22-4	E420	0.00001	mg/L	<0.000010	----
sodium, total	7440-23-5	E420	0.05	mg/L	<0.050	----
strontium, total	7440-24-6	E420	0.0002	mg/L	<0.00020	----
sulfur, total	7704-34-9	E420	0.5	mg/L	<0.50	----
tellurium, total	13494-80-9	E420	0.0002	mg/L	<0.00020	----
thallium, total	7440-28-0	E420	0.00001	mg/L	<0.000010	----
thorium, total	7440-29-1	E420	0.0001	mg/L	<0.00010	----
tin, total	7440-31-5	E420	0.0001	mg/L	<0.00010	----
titanium, total	7440-32-6	E420	0.0003	mg/L	<0.00030	----
tungsten, total	7440-33-7	E420	0.0001	mg/L	<0.00010	----
uranium, total	7440-61-1	E420	0.00001	mg/L	<0.000010	----
vanadium, total	7440-62-2	E420	0.0005	mg/L	<0.00050	----
zinc, total	7440-66-6	E420	0.003	mg/L	<0.0030	----
zirconium, total	7440-67-7	E420	0.0002	mg/L	<0.00020	----
Total Metals (QCLot: 516951)						
aluminum, total	7429-90-5	E420	0.003	mg/L	<0.0030	----
antimony, total	7440-36-0	E420	0.0001	mg/L	<0.00010	----
arsenic, total	7440-38-2	E420	0.0001	mg/L	<0.00010	----
barium, total	7440-39-3	E420	0.0001	mg/L	<0.00010	----
beryllium, total	7440-41-7	E420	0.00002	mg/L	<0.000020	----
bismuth, total	7440-69-9	E420	0.00005	mg/L	<0.000050	----
boron, total	7440-42-8	E420	0.01	mg/L	<0.010	----
cadmium, total	7440-43-9	E420	0.000005	mg/L	<0.0000050	----
calcium, total	7440-70-2	E420	0.05	mg/L	<0.050	----
cesium, total	7440-46-2	E420	0.00001	mg/L	<0.000010	----
chromium, total	7440-47-3	E420	0.0005	mg/L	<0.00050	----
cobalt, total	7440-48-4	E420	0.0001	mg/L	<0.00010	----
copper, total	7440-50-8	E420	0.0005	mg/L	<0.00050	----
iron, total	7439-89-6	E420	0.01	mg/L	<0.010	----
lead, total	7439-92-1	E420	0.00005	mg/L	<0.000050	----
lithium, total	7439-93-2	E420	0.001	mg/L	<0.0010	----
magnesium, total	7439-95-4	E420	0.005	mg/L	<0.0050	----
manganese, total	7439-96-5	E420	0.0001	mg/L	<0.00010	----

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Total Metals (QCLot: 516951) - continued						
molybdenum, total	7439-98-7	E420	0.00005	mg/L	<0.000050	----
nickel, total	7440-02-0	E420	0.0005	mg/L	<0.00050	----
phosphorus, total	7723-14-0	E420	0.05	mg/L	<0.050	----
potassium, total	7440-09-7	E420	0.05	mg/L	<0.050	----
rubidium, total	7440-17-7	E420	0.0002	mg/L	<0.00020	----
selenium, total	7782-49-2	E420	0.00005	mg/L	<0.000050	----
silicon, total	7440-21-3	E420	0.1	mg/L	<0.10	----
silver, total	7440-22-4	E420	0.00001	mg/L	<0.000010	----
sodium, total	7440-23-5	E420	0.05	mg/L	<0.050	----
strontium, total	7440-24-6	E420	0.0002	mg/L	<0.00020	----
sulfur, total	7704-34-9	E420	0.5	mg/L	<0.50	----
tellurium, total	13494-80-9	E420	0.0002	mg/L	<0.00020	----
thallium, total	7440-28-0	E420	0.00001	mg/L	<0.000010	----
thorium, total	7440-29-1	E420	0.0001	mg/L	<0.00010	----
tin, total	7440-31-5	E420	0.0001	mg/L	<0.00010	----
titanium, total	7440-32-6	E420	0.0003	mg/L	<0.00030	----
tungsten, total	7440-33-7	E420	0.0001	mg/L	<0.00010	----
uranium, total	7440-61-1	E420	0.00001	mg/L	<0.000010	----
vanadium, total	7440-62-2	E420	0.0005	mg/L	<0.00050	----
zinc, total	7440-66-6	E420	0.003	mg/L	<0.0030	----
zirconium, total	7440-67-7	E420	0.0002	mg/L	<0.00020	----
Dissolved Metals (QCLot: 496965)						
mercury, dissolved	7439-97-6	E509	0.000005	mg/L	<0.0000050	----
Dissolved Metals (QCLot: 496966)						
mercury, dissolved	7439-97-6	E509	0.000005	mg/L	<0.0000050	----
Dissolved Metals (QCLot: 501411)						
aluminum, dissolved	7429-90-5	E421	0.001	mg/L	<0.0010	----
antimony, dissolved	7440-36-0	E421	0.0001	mg/L	<0.00010	----
arsenic, dissolved	7440-38-2	E421	0.0001	mg/L	<0.00010	----
barium, dissolved	7440-39-3	E421	0.0001	mg/L	<0.00010	----
beryllium, dissolved	7440-41-7	E421	0.00002	mg/L	<0.000020	----
bismuth, dissolved	7440-69-9	E421	0.00005	mg/L	<0.000050	----
boron, dissolved	7440-42-8	E421	0.01	mg/L	<0.010	----
cadmium, dissolved	7440-43-9	E421	0.000005	mg/L	<0.0000050	----
calcium, dissolved	7440-70-2	E421	0.05	mg/L	<0.050	----
cesium, dissolved	7440-46-2	E421	0.00001	mg/L	<0.000010	----

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Dissolved Metals (QCLot: 501411) - continued						
chromium, dissolved	7440-47-3	E421	0.0005	mg/L	<0.00050	----
cobalt, dissolved	7440-48-4	E421	0.0001	mg/L	<0.00010	----
copper, dissolved	7440-50-8	E421	0.0002	mg/L	<0.00020	----
iron, dissolved	7439-89-6	E421	0.01	mg/L	<0.010	----
lead, dissolved	7439-92-1	E421	0.00005	mg/L	<0.000050	----
lithium, dissolved	7439-93-2	E421	0.001	mg/L	<0.0010	----
magnesium, dissolved	7439-95-4	E421	0.005	mg/L	<0.0050	----
manganese, dissolved	7439-96-5	E421	0.0001	mg/L	<0.00010	----
molybdenum, dissolved	7439-98-7	E421	0.00005	mg/L	<0.000050	----
nickel, dissolved	7440-02-0	E421	0.0005	mg/L	<0.00050	----
phosphorus, dissolved	7723-14-0	E421	0.05	mg/L	<0.050	----
potassium, dissolved	7440-09-7	E421	0.05	mg/L	<0.050	----
rubidium, dissolved	7440-17-7	E421	0.0002	mg/L	<0.00020	----
selenium, dissolved	7782-49-2	E421	0.00005	mg/L	<0.000050	----
silicon, dissolved	7440-21-3	E421	0.05	mg/L	<0.050	----
silver, dissolved	7440-22-4	E421	0.00001	mg/L	<0.000010	----
sodium, dissolved	7440-23-5	E421	0.05	mg/L	<0.050	----
strontium, dissolved	7440-24-6	E421	0.0002	mg/L	<0.00020	----
sulfur, dissolved	7704-34-9	E421	0.5	mg/L	<0.50	----
tellurium, dissolved	13494-80-9	E421	0.0002	mg/L	<0.00020	----
thallium, dissolved	7440-28-0	E421	0.00001	mg/L	<0.000010	----
thorium, dissolved	7440-29-1	E421	0.0001	mg/L	<0.00010	----
tin, dissolved	7440-31-5	E421	0.0001	mg/L	<0.00010	----
titanium, dissolved	7440-32-6	E421	0.0003	mg/L	<0.00030	----
tungsten, dissolved	7440-33-7	E421	0.0001	mg/L	<0.00010	----
uranium, dissolved	7440-61-1	E421	0.00001	mg/L	<0.000010	----
vanadium, dissolved	7440-62-2	E421	0.0005	mg/L	<0.00050	----
zinc, dissolved	7440-66-6	E421	0.001	mg/L	<0.0010	----
zirconium, dissolved	7440-67-7	E421	0.0002	mg/L	<0.00020	----
Dissolved Metals (QCLot: 501413)						
aluminum, dissolved	7429-90-5	E421	0.001	mg/L	<0.0010	MBRR
antimony, dissolved	7440-36-0	E421	0.0001	mg/L	<0.00010	----
arsenic, dissolved	7440-38-2	E421	0.0001	mg/L	<0.00010	----
barium, dissolved	7440-39-3	E421	0.0001	mg/L	<0.00010	----
beryllium, dissolved	7440-41-7	E421	0.00002	mg/L	<0.000020	----
bismuth, dissolved	7440-69-9	E421	0.00005	mg/L	<0.000050	----

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Dissolved Metals (QCLot: 501413) - continued						
boron, dissolved	7440-42-8	E421	0.01	mg/L	<0.010	----
cadmium, dissolved	7440-43-9	E421	0.000005	mg/L	<0.0000050	----
calcium, dissolved	7440-70-2	E421	0.05	mg/L	<0.050	----
cesium, dissolved	7440-46-2	E421	0.00001	mg/L	<0.000010	----
chromium, dissolved	7440-47-3	E421	0.0005	mg/L	<0.00050	----
cobalt, dissolved	7440-48-4	E421	0.0001	mg/L	<0.00010	----
copper, dissolved	7440-50-8	E421	0.0002	mg/L	<0.00020	----
iron, dissolved	7439-89-6	E421	0.01	mg/L	<0.010	----
lead, dissolved	7439-92-1	E421	0.00005	mg/L	<0.000050	----
lithium, dissolved	7439-93-2	E421	0.001	mg/L	<0.0010	----
magnesium, dissolved	7439-95-4	E421	0.005	mg/L	<0.0050	----
manganese, dissolved	7439-96-5	E421	0.0001	mg/L	<0.00010	----
molybdenum, dissolved	7439-98-7	E421	0.00005	mg/L	<0.000050	----
nickel, dissolved	7440-02-0	E421	0.0005	mg/L	<0.00050	----
phosphorus, dissolved	7723-14-0	E421	0.05	mg/L	<0.050	----
potassium, dissolved	7440-09-7	E421	0.05	mg/L	<0.050	----
rubidium, dissolved	7440-17-7	E421	0.0002	mg/L	<0.00020	----
selenium, dissolved	7782-49-2	E421	0.00005	mg/L	<0.000050	----
silicon, dissolved	7440-21-3	E421	0.05	mg/L	<0.050	----
silver, dissolved	7440-22-4	E421	0.00001	mg/L	<0.000010	----
sodium, dissolved	7440-23-5	E421	0.05	mg/L	<0.050	----
strontium, dissolved	7440-24-6	E421	0.0002	mg/L	<0.00020	----
sulfur, dissolved	7704-34-9	E421	0.5	mg/L	<0.50	----
tellurium, dissolved	13494-80-9	E421	0.0002	mg/L	<0.00020	----
thallium, dissolved	7440-28-0	E421	0.00001	mg/L	<0.000010	----
thorium, dissolved	7440-29-1	E421	0.0001	mg/L	<0.00010	----
tin, dissolved	7440-31-5	E421	0.0001	mg/L	<0.00010	----
titanium, dissolved	7440-32-6	E421	0.0003	mg/L	<0.00030	----
tungsten, dissolved	7440-33-7	E421	0.0001	mg/L	<0.00010	----
uranium, dissolved	7440-61-1	E421	0.00001	mg/L	<0.000010	----
vanadium, dissolved	7440-62-2	E421	0.0005	mg/L	<0.00050	----
zinc, dissolved	7440-66-6	E421	0.001	mg/L	<0.0010	----
zirconium, dissolved	7440-67-7	E421	0.0002	mg/L	<0.00020	----
Speciated Metals (QCLot: 524212)						
chromium, hexavalent [Cr VI], dissolved	18540-29-9	E532A	0.0005	mg/L	<0.00050	----
Speciated Metals (QCLot: 524213)						

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Speciated Metals (QCLot: 524213) - continued						
chromium, hexavalent [Cr VI], total	18540-29-9	E532	0.0005	mg/L	<0.00050	----
Speciated Metals (QCLot: 524738)						
chromium, hexavalent [Cr VI], total	18540-29-9	E532	0.0005	mg/L	<0.00050	----
Speciated Metals (QCLot: 524739)						
chromium, hexavalent [Cr VI], dissolved	18540-29-9	E532A	0.0005	mg/L	<0.00050	----

Qualifiers

Qualifier	Description
B	*Method Blank exceeds ALS DQO. Associated sample results which are < Limit of Reporting or > 5 times blank level are considered reliable.*
MBRR	*Initial MB for this submission had positive results for flagged analyte (data not shown). Low level samples were repeated with new QC (2nd MB results shown). High level results (>5x initial MB level) and non-detect results were reported and are defensible*

Laboratory Control Sample (LCS) Report

A Laboratory Control Sample (LCS) is an analyte-free matrix that has been fortified (spiked) with test analytes at known concentration and processed in an identical manner to test samples. LCS results are expressed as percent recovery, and are used to monitor and control test method accuracy and precision, independent of test sample matrix.

Sub-Matrix: **Water**

					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Concentration	LCS	Low	High	Qualifier
Physical Tests (QCLot: 494679)									
pH	----	E108	----	pH units	7 pH units	99.7	98.0	102	----
Physical Tests (QCLot: 494680)									
conductivity	----	E100	1	µS/cm	146.9 µS/cm	97.2	90.0	110	----
Physical Tests (QCLot: 494689)									
pH	----	E108	----	pH units	7 pH units	99.8	98.0	102	----
Physical Tests (QCLot: 494690)									
conductivity	----	E100	1	µS/cm	146.9 µS/cm	99.0	90.0	110	----
Anions and Nutrients (QCLot: 494681)									
fluoride	16984-48-8	E235.F	0.02	mg/L	1 mg/L	101	90.0	110	----
Anions and Nutrients (QCLot: 494682)									
chloride	16887-00-6	E235.Cl	0.5	mg/L	100 mg/L	101	90.0	110	----
Anions and Nutrients (QCLot: 494683)									
bromide	24959-67-9	E235.Br-L	0.05	mg/L	0.5 mg/L	98.9	85.0	115	----
Anions and Nutrients (QCLot: 494684)									
nitrate (as N)	14797-55-8	E235.NO3-L	0.005	mg/L	2.5 mg/L	102	90.0	110	----
Anions and Nutrients (QCLot: 494685)									
nitrite (as N)	14797-65-0	E235.NO2-L	0.001	mg/L	0.5 mg/L	103	90.0	110	----
Anions and Nutrients (QCLot: 494686)									
sulfate (as SO4)	14808-79-8	E235.SO4	0.3	mg/L	100 mg/L	103	90.0	110	----
Anions and Nutrients (QCLot: 494692)									
fluoride	16984-48-8	E235.F	0.02	mg/L	1 mg/L	103	90.0	110	----
Anions and Nutrients (QCLot: 494693)									
sulfate (as SO4)	14808-79-8	E235.SO4	0.3	mg/L	100 mg/L	102	90.0	110	----
Anions and Nutrients (QCLot: 494694)									
chloride	16887-00-6	E235.Cl	0.5	mg/L	100 mg/L	102	90.0	110	----
Anions and Nutrients (QCLot: 494695)									
bromide	24959-67-9	E235.Br-L	0.05	mg/L	0.5 mg/L	99.0	85.0	115	----
Anions and Nutrients (QCLot: 494696)									
nitrite (as N)	14797-65-0	E235.NO2-L	0.001	mg/L	0.5 mg/L	102	90.0	110	----
Anions and Nutrients (QCLot: 494697)									
nitrate (as N)	14797-55-8	E235.NO3-L	0.005	mg/L	2.5 mg/L	103	90.0	110	----
Anions and Nutrients (QCLot: 501326)									

Sub-Matrix: **Water**

					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Concentration	LCS	Low	High	Qualifier
Anions and Nutrients (QCLot: 501326) - continued									
phosphorus, total	7723-14-0	E372-U	0.002	mg/L	0.05 mg/L	93.9	80.0	120	----
Anions and Nutrients (QCLot: 501327)									
ammonia, total (as N)	7664-41-7	E298	0.005	mg/L	0.2 mg/L	96.6	85.0	115	----
Anions and Nutrients (QCLot: 501374)									
phosphorus, total	7723-14-0	E372-U	0.002	mg/L	0.05 mg/L	91.4	80.0	120	----
Anions and Nutrients (QCLot: 501375)									
ammonia, total (as N)	7664-41-7	E298	0.005	mg/L	0.2 mg/L	99.2	85.0	115	----
Organic / Inorganic Carbon (QCLot: 501325)									
carbon, dissolved organic [DOC]	----	E358-L	0.5	mg/L	8.57 mg/L	112	80.0	120	----
Organic / Inorganic Carbon (QCLot: 501373)									
carbon, dissolved organic [DOC]	----	E358-L	0.5	mg/L	8.57 mg/L	100	80.0	120	----
Total Metals (QCLot: 496990)									
mercury, total	7439-97-6	E508	0.000005	mg/L	0.0001 mg/L	105	80.0	120	----
Total Metals (QCLot: 496991)									
mercury, total	7439-97-6	E508	0.000005	mg/L	0.0001 mg/L	108	80.0	120	----
Total Metals (QCLot: 500922)									
aluminum, total	7429-90-5	E420	0.003	mg/L	2 mg/L	104	80.0	120	----
antimony, total	7440-36-0	E420	0.0001	mg/L	1 mg/L	105	80.0	120	----
arsenic, total	7440-38-2	E420	0.0001	mg/L	1 mg/L	102	80.0	120	----
barium, total	7440-39-3	E420	0.0001	mg/L	0.25 mg/L	101	80.0	120	----
beryllium, total	7440-41-7	E420	0.00002	mg/L	0.1 mg/L	101	80.0	120	----
bismuth, total	7440-69-9	E420	0.00005	mg/L	1 mg/L	104	80.0	120	----
boron, total	7440-42-8	E420	0.01	mg/L	1 mg/L	95.5	80.0	120	----
cadmium, total	7440-43-9	E420	0.000005	mg/L	0.1 mg/L	101	80.0	120	----
calcium, total	7440-70-2	E420	0.05	mg/L	50 mg/L	103	80.0	120	----
cesium, total	7440-46-2	E420	0.00001	mg/L	0.05 mg/L	102	80.0	120	----
chromium, total	7440-47-3	E420	0.0005	mg/L	0.25 mg/L	99.3	80.0	120	----
cobalt, total	7440-48-4	E420	0.0001	mg/L	0.25 mg/L	98.8	80.0	120	----
copper, total	7440-50-8	E420	0.0005	mg/L	0.25 mg/L	98.0	80.0	120	----
iron, total	7439-89-6	E420	0.01	mg/L	1 mg/L	114	80.0	120	----
lead, total	7439-92-1	E420	0.00005	mg/L	0.5 mg/L	102	80.0	120	----
lithium, total	7439-93-2	E420	0.001	mg/L	0.25 mg/L	98.8	80.0	120	----
magnesium, total	7439-95-4	E420	0.005	mg/L	50 mg/L	98.8	80.0	120	----
manganese, total	7439-96-5	E420	0.0001	mg/L	0.25 mg/L	102	80.0	120	----
molybdenum, total	7439-98-7	E420	0.00005	mg/L	0.25 mg/L	103	80.0	120	----

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Laboratory Control Sample (LCS) Report: Spike Concentration	Recovery (%): LCS	Recovery Limits (%): Low	Recovery Limits (%): High	Qualifier
Total Metals (QCLot: 500922) - continued									
nickel, total	7440-02-0	E420	0.0005	mg/L	0.5 mg/L	102	80.0	120	----
phosphorus, total	7723-14-0	E420	0.05	mg/L	10 mg/L	102	80.0	120	----
potassium, total	7440-09-7	E420	0.05	mg/L	50 mg/L	107	80.0	120	----
rubidium, total	7440-17-7	E420	0.0002	mg/L	0.1 mg/L	106	80.0	120	----
selenium, total	7782-49-2	E420	0.00005	mg/L	1 mg/L	104	80.0	120	----
silicon, total	7440-21-3	E420	0.1	mg/L	10 mg/L	102	80.0	120	----
silver, total	7440-22-4	E420	0.00001	mg/L	0.1 mg/L	94.3	80.0	120	----
sodium, total	7440-23-5	E420	0.05	mg/L	50 mg/L	105	80.0	120	----
strontium, total	7440-24-6	E420	0.0002	mg/L	0.25 mg/L	102	80.0	120	----
sulfur, total	7704-34-9	E420	0.5	mg/L	50 mg/L	92.0	80.0	120	----
tellurium, total	13494-80-9	E420	0.0002	mg/L	0.1 mg/L	96.8	80.0	120	----
thallium, total	7440-28-0	E420	0.00001	mg/L	1 mg/L	102	80.0	120	----
thorium, total	7440-29-1	E420	0.0001	mg/L	0.1 mg/L	105	80.0	120	----
tin, total	7440-31-5	E420	0.0001	mg/L	0.5 mg/L	99.2	80.0	120	----
titanium, total	7440-32-6	E420	0.0003	mg/L	0.25 mg/L	98.1	80.0	120	----
tungsten, total	7440-33-7	E420	0.0001	mg/L	0.1 mg/L	100	80.0	120	----
uranium, total	7440-61-1	E420	0.00001	mg/L	0.005 mg/L	108	80.0	120	----
vanadium, total	7440-62-2	E420	0.0005	mg/L	0.5 mg/L	104	80.0	120	----
zinc, total	7440-66-6	E420	0.003	mg/L	0.5 mg/L	98.1	80.0	120	----
zirconium, total	7440-67-7	E420	0.0002	mg/L	0.1 mg/L	99.3	80.0	120	----
Total Metals (QCLot: 501104)									
aluminum, total	7429-90-5	E420	0.003	mg/L	2 mg/L	101	80.0	120	----
antimony, total	7440-36-0	E420	0.0001	mg/L	1 mg/L	103	80.0	120	----
arsenic, total	7440-38-2	E420	0.0001	mg/L	1 mg/L	102	80.0	120	----
barium, total	7440-39-3	E420	0.0001	mg/L	0.25 mg/L	99.7	80.0	120	----
beryllium, total	7440-41-7	E420	0.00002	mg/L	0.1 mg/L	98.6	80.0	120	----
bismuth, total	7440-69-9	E420	0.00005	mg/L	1 mg/L	105	80.0	120	----
boron, total	7440-42-8	E420	0.01	mg/L	1 mg/L	92.5	80.0	120	----
cadmium, total	7440-43-9	E420	0.000005	mg/L	0.1 mg/L	102	80.0	120	----
calcium, total	7440-70-2	E420	0.05	mg/L	50 mg/L	99.4	80.0	120	----
cesium, total	7440-46-2	E420	0.00001	mg/L	0.05 mg/L	103	80.0	120	----
chromium, total	7440-47-3	E420	0.0005	mg/L	0.25 mg/L	99.2	80.0	120	----
cobalt, total	7440-48-4	E420	0.0001	mg/L	0.25 mg/L	100.0	80.0	120	----
copper, total	7440-50-8	E420	0.0005	mg/L	0.25 mg/L	99.5	80.0	120	----
iron, total	7439-89-6	E420	0.01	mg/L	1 mg/L	111	80.0	120	----
lead, total	7439-92-1	E420	0.00005	mg/L	0.5 mg/L	100	80.0	120	----
lithium, total	7439-93-2	E420	0.001	mg/L	0.25 mg/L	97.1	80.0	120	----

Sub-Matrix: **Water**

					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Concentration	LCS	Low	High	Qualifier
Total Metals (QCLot: 501104) - continued									
magnesium, total	7439-95-4	E420	0.005	mg/L	50 mg/L	96.2	80.0	120	----
manganese, total	7439-96-5	E420	0.0001	mg/L	0.25 mg/L	102	80.0	120	----
molybdenum, total	7439-98-7	E420	0.00005	mg/L	0.25 mg/L	103	80.0	120	----
nickel, total	7440-02-0	E420	0.0005	mg/L	0.5 mg/L	102	80.0	120	----
phosphorus, total	7723-14-0	E420	0.05	mg/L	10 mg/L	101	80.0	120	----
potassium, total	7440-09-7	E420	0.05	mg/L	50 mg/L	107	80.0	120	----
rubidium, total	7440-17-7	E420	0.0002	mg/L	0.1 mg/L	106	80.0	120	----
selenium, total	7782-49-2	E420	0.00005	mg/L	1 mg/L	101	80.0	120	----
silicon, total	7440-21-3	E420	0.1	mg/L	10 mg/L	103	80.0	120	----
silver, total	7440-22-4	E420	0.00001	mg/L	0.1 mg/L	93.0	80.0	120	----
sodium, total	7440-23-5	E420	0.05	mg/L	50 mg/L	104	80.0	120	----
strontium, total	7440-24-6	E420	0.0002	mg/L	0.25 mg/L	103	80.0	120	----
sulfur, total	7704-34-9	E420	0.5	mg/L	50 mg/L	91.3	80.0	120	----
tellurium, total	13494-80-9	E420	0.0002	mg/L	0.1 mg/L	101	80.0	120	----
thallium, total	7440-28-0	E420	0.00001	mg/L	1 mg/L	100	80.0	120	----
thorium, total	7440-29-1	E420	0.0001	mg/L	0.1 mg/L	101	80.0	120	----
tin, total	7440-31-5	E420	0.0001	mg/L	0.5 mg/L	97.5	80.0	120	----
titanium, total	7440-32-6	E420	0.0003	mg/L	0.25 mg/L	95.5	80.0	120	----
tungsten, total	7440-33-7	E420	0.0001	mg/L	0.1 mg/L	99.4	80.0	120	----
uranium, total	7440-61-1	E420	0.00001	mg/L	0.005 mg/L	105	80.0	120	----
vanadium, total	7440-62-2	E420	0.0005	mg/L	0.5 mg/L	104	80.0	120	----
zinc, total	7440-66-6	E420	0.003	mg/L	0.5 mg/L	102	80.0	120	----
zirconium, total	7440-67-7	E420	0.0002	mg/L	0.1 mg/L	97.9	80.0	120	----
Total Metals (QCLot: 516951)									
aluminum, total	7429-90-5	E420	0.003	mg/L	2 mg/L	105	80.0	120	----
antimony, total	7440-36-0	E420	0.0001	mg/L	1 mg/L	102	80.0	120	----
arsenic, total	7440-38-2	E420	0.0001	mg/L	1 mg/L	104	80.0	120	----
barium, total	7440-39-3	E420	0.0001	mg/L	0.25 mg/L	104	80.0	120	----
beryllium, total	7440-41-7	E420	0.00002	mg/L	0.1 mg/L	93.4	80.0	120	----
bismuth, total	7440-69-9	E420	0.00005	mg/L	1 mg/L	98.0	80.0	120	----
boron, total	7440-42-8	E420	0.01	mg/L	1 mg/L	93.0	80.0	120	----
cadmium, total	7440-43-9	E420	0.000005	mg/L	0.1 mg/L	102	80.0	120	----
calcium, total	7440-70-2	E420	0.05	mg/L	50 mg/L	98.6	80.0	120	----
cesium, total	7440-46-2	E420	0.00001	mg/L	0.05 mg/L	99.3	80.0	120	----
chromium, total	7440-47-3	E420	0.0005	mg/L	0.25 mg/L	100	80.0	120	----
cobalt, total	7440-48-4	E420	0.0001	mg/L	0.25 mg/L	102	80.0	120	----
copper, total	7440-50-8	E420	0.0005	mg/L	0.25 mg/L	102	80.0	120	----

Sub-Matrix: **Water**

					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Concentration	LCS	Low	High	Qualifier
Total Metals (QCLot: 516951) - continued									
iron, total	7439-89-6	E420	0.01	mg/L	1 mg/L	107	80.0	120	----
lead, total	7439-92-1	E420	0.00005	mg/L	0.5 mg/L	98.7	80.0	120	----
lithium, total	7439-93-2	E420	0.001	mg/L	0.25 mg/L	96.9	80.0	120	----
magnesium, total	7439-95-4	E420	0.005	mg/L	50 mg/L	106	80.0	120	----
manganese, total	7439-96-5	E420	0.0001	mg/L	0.25 mg/L	102	80.0	120	----
molybdenum, total	7439-98-7	E420	0.00005	mg/L	0.25 mg/L	103	80.0	120	----
nickel, total	7440-02-0	E420	0.0005	mg/L	0.5 mg/L	100	80.0	120	----
phosphorus, total	7723-14-0	E420	0.05	mg/L	10 mg/L	107	80.0	120	----
potassium, total	7440-09-7	E420	0.05	mg/L	50 mg/L	104	80.0	120	----
rubidium, total	7440-17-7	E420	0.0002	mg/L	0.1 mg/L	103	80.0	120	----
selenium, total	7782-49-2	E420	0.00005	mg/L	1 mg/L	103	80.0	120	----
silicon, total	7440-21-3	E420	0.1	mg/L	10 mg/L	103	80.0	120	----
silver, total	7440-22-4	E420	0.00001	mg/L	0.1 mg/L	98.6	80.0	120	----
sodium, total	7440-23-5	E420	0.05	mg/L	50 mg/L	104	80.0	120	----
strontium, total	7440-24-6	E420	0.0002	mg/L	0.25 mg/L	99.2	80.0	120	----
sulfur, total	7704-34-9	E420	0.5	mg/L	50 mg/L	88.5	80.0	120	----
tellurium, total	13494-80-9	E420	0.0002	mg/L	0.1 mg/L	95.4	80.0	120	----
thallium, total	7440-28-0	E420	0.00001	mg/L	1 mg/L	100	80.0	120	----
thorium, total	7440-29-1	E420	0.0001	mg/L	0.1 mg/L	94.9	80.0	120	----
tin, total	7440-31-5	E420	0.0001	mg/L	0.5 mg/L	100.0	80.0	120	----
titanium, total	7440-32-6	E420	0.0003	mg/L	0.25 mg/L	99.0	80.0	120	----
tungsten, total	7440-33-7	E420	0.0001	mg/L	0.1 mg/L	100	80.0	120	----
uranium, total	7440-61-1	E420	0.00001	mg/L	0.005 mg/L	100	80.0	120	----
vanadium, total	7440-62-2	E420	0.0005	mg/L	0.5 mg/L	105	80.0	120	----
zinc, total	7440-66-6	E420	0.003	mg/L	0.5 mg/L	104	80.0	120	----
zirconium, total	7440-67-7	E420	0.0002	mg/L	0.1 mg/L	95.3	80.0	120	----
mercury, dissolved	7439-97-6	E509	0.000005	mg/L	0.0001 mg/L	103	80.0	120	----
mercury, dissolved	7439-97-6	E509	0.000005	mg/L	0.0001 mg/L	108	80.0	120	----
Dissolved Metals (QCLot: 501411)									
aluminum, dissolved	7429-90-5	E421	0.001	mg/L	2 mg/L	99.6	80.0	120	----
antimony, dissolved	7440-36-0	E421	0.0001	mg/L	1 mg/L	99.7	80.0	120	----
arsenic, dissolved	7440-38-2	E421	0.0001	mg/L	1 mg/L	100	80.0	120	----
barium, dissolved	7440-39-3	E421	0.0001	mg/L	0.25 mg/L	98.4	80.0	120	----
beryllium, dissolved	7440-41-7	E421	0.00002	mg/L	0.1 mg/L	99.4	80.0	120	----
bismuth, dissolved	7440-69-9	E421	0.00005	mg/L	1 mg/L	103	80.0	120	----
boron, dissolved	7440-42-8	E421	0.01	mg/L	1 mg/L	93.0	80.0	120	----
cadmium, dissolved	7440-43-9	E421	0.000005	mg/L	0.1 mg/L	99.8	80.0	120	----

Sub-Matrix: **Water**

					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Concentration	LCS	Low	High	Qualifier
Dissolved Metals (QCLot: 501411) - continued									
calcium, dissolved	7440-70-2	E421	0.05	mg/L	50 mg/L	100	80.0	120	----
cesium, dissolved	7440-46-2	E421	0.00001	mg/L	0.05 mg/L	100	80.0	120	----
chromium, dissolved	7440-47-3	E421	0.0005	mg/L	0.25 mg/L	96.6	80.0	120	----
cobalt, dissolved	7440-48-4	E421	0.0001	mg/L	0.25 mg/L	96.8	80.0	120	----
copper, dissolved	7440-50-8	E421	0.0002	mg/L	0.25 mg/L	97.0	80.0	120	----
iron, dissolved	7439-89-6	E421	0.01	mg/L	1 mg/L	106	80.0	120	----
lead, dissolved	7439-92-1	E421	0.00005	mg/L	0.5 mg/L	101	80.0	120	----
lithium, dissolved	7439-93-2	E421	0.001	mg/L	0.25 mg/L	97.0	80.0	120	----
magnesium, dissolved	7439-95-4	E421	0.005	mg/L	50 mg/L	98.1	80.0	120	----
manganese, dissolved	7439-96-5	E421	0.0001	mg/L	0.25 mg/L	101	80.0	120	----
molybdenum, dissolved	7439-98-7	E421	0.00005	mg/L	0.25 mg/L	101	80.0	120	----
nickel, dissolved	7440-02-0	E421	0.0005	mg/L	0.5 mg/L	100	80.0	120	----
phosphorus, dissolved	7723-14-0	E421	0.05	mg/L	10 mg/L	101	80.0	120	----
potassium, dissolved	7440-09-7	E421	0.05	mg/L	50 mg/L	107	80.0	120	----
rubidium, dissolved	7440-17-7	E421	0.0002	mg/L	0.1 mg/L	102	80.0	120	----
selenium, dissolved	7782-49-2	E421	0.00005	mg/L	1 mg/L	103	80.0	120	----
silicon, dissolved	7440-21-3	E421	0.05	mg/L	10 mg/L	103	80.0	120	----
silver, dissolved	7440-22-4	E421	0.00001	mg/L	0.1 mg/L	92.5	80.0	120	----
sodium, dissolved	7440-23-5	E421	0.05	mg/L	50 mg/L	102	80.0	120	----
strontium, dissolved	7440-24-6	E421	0.0002	mg/L	0.25 mg/L	102	80.0	120	----
sulfur, dissolved	7704-34-9	E421	0.5	mg/L	50 mg/L	97.6	80.0	120	----
tellurium, dissolved	13494-80-9	E421	0.0002	mg/L	0.1 mg/L	93.0	80.0	120	----
thallium, dissolved	7440-28-0	E421	0.00001	mg/L	1 mg/L	103	80.0	120	----
thorium, dissolved	7440-29-1	E421	0.0001	mg/L	0.1 mg/L	101	80.0	120	----
tin, dissolved	7440-31-5	E421	0.0001	mg/L	0.5 mg/L	97.1	80.0	120	----
titanium, dissolved	7440-32-6	E421	0.0003	mg/L	0.25 mg/L	97.7	80.0	120	----
tungsten, dissolved	7440-33-7	E421	0.0001	mg/L	0.1 mg/L	98.3	80.0	120	----
uranium, dissolved	7440-61-1	E421	0.00001	mg/L	0.005 mg/L	108	80.0	120	----
vanadium, dissolved	7440-62-2	E421	0.0005	mg/L	0.5 mg/L	102	80.0	120	----
zinc, dissolved	7440-66-6	E421	0.001	mg/L	0.5 mg/L	95.2	80.0	120	----
zirconium, dissolved	7440-67-7	E421	0.0002	mg/L	0.1 mg/L	97.2	80.0	120	----
Dissolved Metals (QCLot: 501413)									
aluminum, dissolved	7429-90-5	E421	0.001	mg/L	2 mg/L	98.7	80.0	120	----
antimony, dissolved	7440-36-0	E421	0.0001	mg/L	1 mg/L	99.8	80.0	120	----
arsenic, dissolved	7440-38-2	E421	0.0001	mg/L	1 mg/L	98.4	80.0	120	----
barium, dissolved	7440-39-3	E421	0.0001	mg/L	0.25 mg/L	96.4	80.0	120	----
beryllium, dissolved	7440-41-7	E421	0.00002	mg/L	0.1 mg/L	94.9	80.0	120	----

Sub-Matrix: **Water**

					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Concentration	LCS	Low	High	Qualifier
Dissolved Metals (QCLot: 501413) - continued									
bismuth, dissolved	7440-69-9	E421	0.00005	mg/L	1 mg/L	101	80.0	120	----
boron, dissolved	7440-42-8	E421	0.01	mg/L	1 mg/L	88.4	80.0	120	----
cadmium, dissolved	7440-43-9	E421	0.000005	mg/L	0.1 mg/L	98.5	80.0	120	----
calcium, dissolved	7440-70-2	E421	0.05	mg/L	50 mg/L	96.2	80.0	120	----
cesium, dissolved	7440-46-2	E421	0.00001	mg/L	0.05 mg/L	96.5	80.0	120	----
chromium, dissolved	7440-47-3	E421	0.0005	mg/L	0.25 mg/L	96.4	80.0	120	----
cobalt, dissolved	7440-48-4	E421	0.0001	mg/L	0.25 mg/L	94.7	80.0	120	----
copper, dissolved	7440-50-8	E421	0.0002	mg/L	0.25 mg/L	93.8	80.0	120	----
iron, dissolved	7439-89-6	E421	0.01	mg/L	1 mg/L	103	80.0	120	----
lead, dissolved	7439-92-1	E421	0.00005	mg/L	0.5 mg/L	96.5	80.0	120	----
lithium, dissolved	7439-93-2	E421	0.001	mg/L	0.25 mg/L	94.6	80.0	120	----
magnesium, dissolved	7439-95-4	E421	0.005	mg/L	50 mg/L	96.3	80.0	120	----
manganese, dissolved	7439-96-5	E421	0.0001	mg/L	0.25 mg/L	97.0	80.0	120	----
molybdenum, dissolved	7439-98-7	E421	0.00005	mg/L	0.25 mg/L	100	80.0	120	----
nickel, dissolved	7440-02-0	E421	0.0005	mg/L	0.5 mg/L	98.1	80.0	120	----
phosphorus, dissolved	7723-14-0	E421	0.05	mg/L	10 mg/L	106	80.0	120	----
potassium, dissolved	7440-09-7	E421	0.05	mg/L	50 mg/L	103	80.0	120	----
rubidium, dissolved	7440-17-7	E421	0.0002	mg/L	0.1 mg/L	101	80.0	120	----
selenium, dissolved	7782-49-2	E421	0.00005	mg/L	1 mg/L	101	80.0	120	----
silicon, dissolved	7440-21-3	E421	0.05	mg/L	10 mg/L	104	80.0	120	----
silver, dissolved	7440-22-4	E421	0.00001	mg/L	0.1 mg/L	92.0	80.0	120	----
sodium, dissolved	7440-23-5	E421	0.05	mg/L	50 mg/L	102	80.0	120	----
strontium, dissolved	7440-24-6	E421	0.0002	mg/L	0.25 mg/L	98.6	80.0	120	----
sulfur, dissolved	7704-34-9	E421	0.5	mg/L	50 mg/L	96.5	80.0	120	----
tellurium, dissolved	13494-80-9	E421	0.0002	mg/L	0.1 mg/L	98.2	80.0	120	----
thallium, dissolved	7440-28-0	E421	0.00001	mg/L	1 mg/L	100	80.0	120	----
thorium, dissolved	7440-29-1	E421	0.0001	mg/L	0.1 mg/L	98.9	80.0	120	----
tin, dissolved	7440-31-5	E421	0.0001	mg/L	0.5 mg/L	96.0	80.0	120	----
titanium, dissolved	7440-32-6	E421	0.0003	mg/L	0.25 mg/L	95.1	80.0	120	----
tungsten, dissolved	7440-33-7	E421	0.0001	mg/L	0.1 mg/L	95.5	80.0	120	----
uranium, dissolved	7440-61-1	E421	0.00001	mg/L	0.005 mg/L	105	80.0	120	----
vanadium, dissolved	7440-62-2	E421	0.0005	mg/L	0.5 mg/L	99.0	80.0	120	----
zinc, dissolved	7440-66-6	E421	0.001	mg/L	0.5 mg/L	93.0	80.0	120	----
zirconium, dissolved	7440-67-7	E421	0.0002	mg/L	0.1 mg/L	95.8	80.0	120	----
Speciated Metals (QCLot: 524212)									
chromium, hexavalent [Cr VI], dissolved	18540-29-9	E532A	0.0005	mg/L	0.25 mg/L	100	80.0	120	----

Sub-Matrix: **Water**

					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Concentration	LCS	Low	High	Qualifier
Speciated Metals (QCLot: 524213)									
chromium, hexavalent [Cr VI], total	18540-29-9	E532	0.0005	mg/L	0.25 mg/L	100	90.0	110	----
Speciated Metals (QCLot: 524738)									
chromium, hexavalent [Cr VI], total	18540-29-9	E532	0.0005	mg/L	0.25 mg/L	100	90.0	110	----
Speciated Metals (QCLot: 524739)									
chromium, hexavalent [Cr VI], dissolved	18540-29-9	E532A	0.0005	mg/L	0.25 mg/L	100	80.0	120	----

Matrix Spike (MS) Report

A Matrix Spike (MS) is a randomly selected intra-laboratory replicate sample that has been fortified (spiked) with test analytes at known concentration, and processed in an identical manner to test samples. Matrix Spikes provide information regarding analyte recovery and potential matrix effects. MS DQO exceedances due to sample matrix may sometimes be unavoidable; in such cases, test results for the associated sample (or similar samples) may be subject to bias. ND – Recovery not determined, background level >= 1x spike level.

Sub-Matrix: **Water**

					Matrix Spike (MS) Report					
					Spike		Recovery (%)	Recovery Limits (%)		
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Concentration	Target	MS	Low	High	Qualifier
Anions and Nutrients (QCLot: 494681)										
VA22B0989-002	E4	fluoride	16984-48-8	E235.F	1.08 mg/L	1 mg/L	108	75.0	125	----
Anions and Nutrients (QCLot: 494682)										
VA22B0989-002	E4	chloride	16887-00-6	E235.Cl	108 mg/L	100 mg/L	108	75.0	125	----
Anions and Nutrients (QCLot: 494683)										
VA22B0989-002	E4	bromide	24959-67-9	E235.Br-L	0.532 mg/L	0.5 mg/L	106	75.0	125	----
Anions and Nutrients (QCLot: 494684)										
VA22B0989-002	E4	nitrate (as N)	14797-55-8	E235.NO3-L	2.72 mg/L	2.5 mg/L	109	75.0	125	----
Anions and Nutrients (QCLot: 494685)										
VA22B0989-002	E4	nitrite (as N)	14797-65-0	E235.NO2-L	0.540 mg/L	0.5 mg/L	108	75.0	125	----
Anions and Nutrients (QCLot: 494686)										
VA22B0989-002	E4	sulfate (as SO4)	14808-79-8	E235.SO4	104 mg/L	100 mg/L	104	75.0	125	----
Anions and Nutrients (QCLot: 494692)										
VA22B0235-001	Anonymous	fluoride	16984-48-8	E235.F	1.10 mg/L	1 mg/L	110	75.0	125	----
Anions and Nutrients (QCLot: 494693)										
VA22B0235-001	Anonymous	sulfate (as SO4)	14808-79-8	E235.SO4	110 mg/L	100 mg/L	110	75.0	125	----
Anions and Nutrients (QCLot: 494694)										
VA22B0235-001	Anonymous	chloride	16887-00-6	E235.Cl	110 mg/L	100 mg/L	110	75.0	125	----
Anions and Nutrients (QCLot: 494695)										
VA22B0235-001	Anonymous	bromide	24959-67-9	E235.Br-L	0.532 mg/L	0.5 mg/L	106	75.0	125	----
Anions and Nutrients (QCLot: 494696)										
VA22B0235-001	Anonymous	nitrite (as N)	14797-65-0	E235.NO2-L	0.535 mg/L	0.5 mg/L	107	75.0	125	----
Anions and Nutrients (QCLot: 494697)										
VA22B0235-001	Anonymous	nitrate (as N)	14797-55-8	E235.NO3-L	2.76 mg/L	2.5 mg/L	110	75.0	125	----
Anions and Nutrients (QCLot: 501326)										
VA22B0989-002	E4	phosphorus, total	7723-14-0	E372-U	ND mg/L	0.05 mg/L	ND	70.0	130	----
Anions and Nutrients (QCLot: 501327)										
VA22B0989-002	E4	ammonia, total (as N)	7664-41-7	E298	0.102 mg/L	0.1 mg/L	102	75.0	125	----
Anions and Nutrients (QCLot: 501374)										

Sub-Matrix: **Water**

					Matrix Spike (MS) Report					
					Spike		Recovery (%)	Recovery Limits (%)		
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Concentration	Target	MS	Low	High	Qualifier
Anions and Nutrients (QCLot: 501374) - continued										
VA22B0989-022	Field Blank	phosphorus, total	7723-14-0	E372-U	0.0482 mg/L	0.05 mg/L	96.4	70.0	130	----
Anions and Nutrients (QCLot: 501375)										
VA22B0989-022	Field Blank	ammonia, total (as N)	7664-41-7	E298	0.0996 mg/L	0.1 mg/L	99.6	75.0	125	----
Organic / Inorganic Carbon (QCLot: 501325)										
VA22B0989-002	E4	carbon, dissolved organic [DOC]	----	E358-L	ND mg/L	5 mg/L	ND	70.0	130	----
Organic / Inorganic Carbon (QCLot: 501373)										
VA22B0989-022	Field Blank	carbon, dissolved organic [DOC]	----	E358-L	4.88 mg/L	5 mg/L	97.6	70.0	130	----
Total Metals (QCLot: 496990)										
CG2205916-002	Anonymous	mercury, total	7439-97-6	E508	0.0000941 mg/L	0.0001 mg/L	94.1	70.0	130	----
Total Metals (QCLot: 496991)										
VA22B0989-009	GWCC-5	mercury, total	7439-97-6	E508	0.0000947 mg/L	0.0001 mg/L	94.7	70.0	130	----
Total Metals (QCLot: 500922)										
VA22B0989-002	E4	aluminum, total	7429-90-5	E420	ND mg/L	0.2 mg/L	ND	70.0	130	----
		antimony, total	7440-36-0	E420	0.0190 mg/L	0.02 mg/L	95.0	70.0	130	----
		arsenic, total	7440-38-2	E420	0.0200 mg/L	0.02 mg/L	100	70.0	130	----
		barium, total	7440-39-3	E420	ND mg/L	0.02 mg/L	ND	70.0	130	----
		beryllium, total	7440-41-7	E420	0.0403 mg/L	0.04 mg/L	101	70.0	130	----
		bismuth, total	7440-69-9	E420	0.0101 mg/L	0.01 mg/L	101	70.0	130	----
		boron, total	7440-42-8	E420	0.097 mg/L	0.1 mg/L	96.8	70.0	130	----
		cadmium, total	7440-43-9	E420	0.00397 mg/L	0.004 mg/L	99.3	70.0	130	----
		calcium, total	7440-70-2	E420	ND mg/L	4 mg/L	ND	70.0	130	----
		cesium, total	7440-46-2	E420	0.01000 mg/L	0.01 mg/L	100.0	70.0	130	----
		chromium, total	7440-47-3	E420	0.0388 mg/L	0.04 mg/L	96.9	70.0	130	----
		cobalt, total	7440-48-4	E420	0.0195 mg/L	0.02 mg/L	97.3	70.0	130	----
		copper, total	7440-50-8	E420	0.0189 mg/L	0.02 mg/L	94.7	70.0	130	----
		iron, total	7439-89-6	E420	2.00 mg/L	2 mg/L	100.0	70.0	130	----
		lead, total	7439-92-1	E420	0.0196 mg/L	0.02 mg/L	98.2	70.0	130	----
		lithium, total	7439-93-2	E420	0.0963 mg/L	0.1 mg/L	96.3	70.0	130	----
		magnesium, total	7439-95-4	E420	ND mg/L	1 mg/L	ND	70.0	130	----
		manganese, total	7439-96-5	E420	ND mg/L	0.02 mg/L	ND	70.0	130	----
		molybdenum, total	7439-98-7	E420	0.0201 mg/L	0.02 mg/L	100	70.0	130	----
		nickel, total	7440-02-0	E420	0.0381 mg/L	0.04 mg/L	95.3	70.0	130	----
		phosphorus, total	7723-14-0	E420	10.6 mg/L	10 mg/L	106	70.0	130	----
		potassium, total	7440-09-7	E420	3.94 mg/L	4 mg/L	98.4	70.0	130	----
		rubidium, total	7440-17-7	E420	0.0207 mg/L	0.02 mg/L	103	70.0	130	----

Sub-Matrix: **Water**

					Matrix Spike (MS) Report					
					Spike		Recovery (%)	Recovery Limits (%)		
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Concentration	Target	MS	Low	High	Qualifier
Total Metals (QCLot: 500922) - continued										
VA22B0989-002	E4	selenium, total	7782-49-2	E420	0.0425 mg/L	0.04 mg/L	106	70.0	130	----
		silicon, total	7440-21-3	E420	9.56 mg/L	10 mg/L	95.6	70.0	130	----
		silver, total	7440-22-4	E420	0.00405 mg/L	0.004 mg/L	101	70.0	130	----
		sodium, total	7440-23-5	E420	2.07 mg/L	2 mg/L	104	70.0	130	----
		strontium, total	7440-24-6	E420	ND mg/L	0.02 mg/L	ND	70.0	130	----
		sulfur, total	7704-34-9	E420	ND mg/L	20 mg/L	ND	70.0	130	----
		tellurium, total	13494-80-9	E420	0.0379 mg/L	0.04 mg/L	94.9	70.0	130	----
		thallium, total	7440-28-0	E420	0.00386 mg/L	0.004 mg/L	96.5	70.0	130	----
		thorium, total	7440-29-1	E420	0.0217 mg/L	0.02 mg/L	108	70.0	130	----
		tin, total	7440-31-5	E420	0.0189 mg/L	0.02 mg/L	94.6	70.0	130	----
		titanium, total	7440-32-6	E420	0.0394 mg/L	0.04 mg/L	98.6	70.0	130	----
		tungsten, total	7440-33-7	E420	0.0197 mg/L	0.02 mg/L	98.4	70.0	130	----
		uranium, total	7440-61-1	E420	0.00426 mg/L	0.004 mg/L	106	70.0	130	----
		vanadium, total	7440-62-2	E420	0.103 mg/L	0.1 mg/L	103	70.0	130	----
		zinc, total	7440-66-6	E420	0.395 mg/L	0.4 mg/L	98.7	70.0	130	----
		zirconium, total	7440-67-7	E420	0.0393 mg/L	0.04 mg/L	98.3	70.0	130	----
Total Metals (QCLot: 501104)										
VA22B1023-003	Anonymous	aluminum, total	7429-90-5	E420	0.387 mg/L	0.4 mg/L	96.7	70.0	130	----
		antimony, total	7440-36-0	E420	0.0400 mg/L	0.04 mg/L	100	70.0	130	----
		arsenic, total	7440-38-2	E420	0.0399 mg/L	0.04 mg/L	99.7	70.0	130	----
		barium, total	7440-39-3	E420	0.0390 mg/L	0.04 mg/L	97.4	70.0	130	----
		beryllium, total	7440-41-7	E420	0.0733 mg/L	0.08 mg/L	91.6	70.0	130	----
		bismuth, total	7440-69-9	E420	0.0187 mg/L	0.02 mg/L	93.7	70.0	130	----
		boron, total	7440-42-8	E420	0.178 mg/L	0.2 mg/L	89.1	70.0	130	----
		cadmium, total	7440-43-9	E420	0.00781 mg/L	0.008 mg/L	97.6	70.0	130	----
		calcium, total	7440-70-2	E420	ND mg/L	8 mg/L	ND	70.0	130	----
		cesium, total	7440-46-2	E420	0.0202 mg/L	0.02 mg/L	101	70.0	130	----
		chromium, total	7440-47-3	E420	0.0971 mg/L	0.08 mg/L	121	70.0	130	----
		cobalt, total	7440-48-4	E420	0.0376 mg/L	0.04 mg/L	94.1	70.0	130	----
		copper, total	7440-50-8	E420	0.0366 mg/L	0.04 mg/L	91.5	70.0	130	----
		iron, total	7439-89-6	E420	4.17 mg/L	4 mg/L	104	70.0	130	----
		lead, total	7439-92-1	E420	0.0369 mg/L	0.04 mg/L	92.2	70.0	130	----
		lithium, total	7439-93-2	E420	ND mg/L	0.2 mg/L	ND	70.0	130	----
		magnesium, total	7439-95-4	E420	ND mg/L	2 mg/L	ND	70.0	130	----
		manganese, total	7439-96-5	E420	0.0411 mg/L	0.04 mg/L	103	70.0	130	----
		molybdenum, total	7439-98-7	E420	0.0414 mg/L	0.04 mg/L	103	70.0	130	----

Sub-Matrix: **Water**

					Matrix Spike (MS) Report					
					Spike		Recovery (%)	Recovery Limits (%)		
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Concentration	Target	MS	Low	High	Qualifier
Total Metals (QCLot: 501104) - continued										
VA22B1023-003	Anonymous	nickel, total	7440-02-0	E420	0.0736 mg/L	0.08 mg/L	92.0	70.0	130	----
		phosphorus, total	7723-14-0	E420	19.9 mg/L	20 mg/L	99.4	70.0	130	----
		potassium, total	7440-09-7	E420	7.09 mg/L	8 mg/L	88.6	70.0	130	----
		rubidium, total	7440-17-7	E420	0.0410 mg/L	0.04 mg/L	103	70.0	130	----
		selenium, total	7782-49-2	E420	ND mg/L	0.08 mg/L	ND	70.0	130	----
		silicon, total	7440-21-3	E420	19.0 mg/L	20 mg/L	94.9	70.0	130	----
		silver, total	7440-22-4	E420	0.00797 mg/L	0.008 mg/L	99.7	70.0	130	----
		sodium, total	7440-23-5	E420	ND mg/L	4 mg/L	ND	70.0	130	----
		strontium, total	7440-24-6	E420	ND mg/L	0.04 mg/L	ND	70.0	130	----
		sulfur, total	7704-34-9	E420	ND mg/L	40 mg/L	ND	70.0	130	----
		tellurium, total	13494-80-9	E420	0.0776 mg/L	0.08 mg/L	97.0	70.0	130	----
		thallium, total	7440-28-0	E420	0.00736 mg/L	0.008 mg/L	92.0	70.0	130	----
		thorium, total	7440-29-1	E420	0.0422 mg/L	0.04 mg/L	106	70.0	130	----
		tin, total	7440-31-5	E420	0.0392 mg/L	0.04 mg/L	97.9	70.0	130	----
		titanium, total	7440-32-6	E420	0.0778 mg/L	0.08 mg/L	97.2	70.0	130	----
		tungsten, total	7440-33-7	E420	0.0386 mg/L	0.04 mg/L	96.6	70.0	130	----
		uranium, total	7440-61-1	E420	ND mg/L	0.008 mg/L	ND	70.0	130	----
		vanadium, total	7440-62-2	E420	0.204 mg/L	0.2 mg/L	102	70.0	130	----
		zinc, total	7440-66-6	E420	0.743 mg/L	0.8 mg/L	92.9	70.0	130	----
		zirconium, total	7440-67-7	E420	0.0826 mg/L	0.08 mg/L	103	70.0	130	----
Total Metals (QCLot: 516951)										
VA22B0989-026	Travel Blank	aluminum, total	7429-90-5	E420	0.198 mg/L	0.2 mg/L	99.1	70.0	130	----
		antimony, total	7440-36-0	E420	0.0201 mg/L	0.02 mg/L	100	70.0	130	----
		arsenic, total	7440-38-2	E420	0.0198 mg/L	0.02 mg/L	99.0	70.0	130	----
		barium, total	7440-39-3	E420	0.0199 mg/L	0.02 mg/L	99.6	70.0	130	----
		beryllium, total	7440-41-7	E420	0.0391 mg/L	0.04 mg/L	97.7	70.0	130	----
		bismuth, total	7440-69-9	E420	0.0100 mg/L	0.01 mg/L	100	70.0	130	----
		boron, total	7440-42-8	E420	0.100 mg/L	0.1 mg/L	99.6	70.0	130	----
		cadmium, total	7440-43-9	E420	0.00399 mg/L	0.004 mg/L	99.6	70.0	130	----
		calcium, total	7440-70-2	E420	3.90 mg/L	4 mg/L	97.6	70.0	130	----
		cesium, total	7440-46-2	E420	0.0101 mg/L	0.01 mg/L	101	70.0	130	----
		chromium, total	7440-47-3	E420	0.0391 mg/L	0.04 mg/L	97.7	70.0	130	----
		cobalt, total	7440-48-4	E420	0.0202 mg/L	0.02 mg/L	101	70.0	130	----
		copper, total	7440-50-8	E420	0.0200 mg/L	0.02 mg/L	99.9	70.0	130	----
		iron, total	7439-89-6	E420	1.99 mg/L	2 mg/L	99.7	70.0	130	----
		lead, total	7439-92-1	E420	0.0197 mg/L	0.02 mg/L	98.4	70.0	130	----

Sub-Matrix: **Water**

					Matrix Spike (MS) Report					
					Spike		Recovery (%)	Recovery Limits (%)		
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Concentration	Target	MS	Low	High	Qualifier
Total Metals (QCLot: 516951) - continued										
VA22B0989-026	Travel Blank	lithium, total	7439-93-2	E420	0.100 mg/L	0.1 mg/L	100	70.0	130	----
		magnesium, total	7439-95-4	E420	1.03 mg/L	1 mg/L	103	70.0	130	----
		manganese, total	7439-96-5	E420	0.0201 mg/L	0.02 mg/L	100	70.0	130	----
		molybdenum, total	7439-98-7	E420	0.0201 mg/L	0.02 mg/L	100	70.0	130	----
		nickel, total	7440-02-0	E420	0.0398 mg/L	0.04 mg/L	99.6	70.0	130	----
		phosphorus, total	7723-14-0	E420	9.63 mg/L	10 mg/L	96.3	70.0	130	----
		potassium, total	7440-09-7	E420	4.00 mg/L	4 mg/L	99.9	70.0	130	----
		rubidium, total	7440-17-7	E420	0.0204 mg/L	0.02 mg/L	102	70.0	130	----
		selenium, total	7782-49-2	E420	0.0406 mg/L	0.04 mg/L	102	70.0	130	----
		silicon, total	7440-21-3	E420	9.46 mg/L	10 mg/L	94.6	70.0	130	----
		silver, total	7440-22-4	E420	0.00418 mg/L	0.004 mg/L	105	70.0	130	----
		sodium, total	7440-23-5	E420	1.97 mg/L	2 mg/L	98.4	70.0	130	----
		strontium, total	7440-24-6	E420	0.0200 mg/L	0.02 mg/L	99.9	70.0	130	----
		sulfur, total	7704-34-9	E420	20.2 mg/L	20 mg/L	101	70.0	130	----
		tellurium, total	13494-80-9	E420	0.0376 mg/L	0.04 mg/L	93.9	70.0	130	----
		thallium, total	7440-28-0	E420	0.00393 mg/L	0.004 mg/L	98.2	70.0	130	----
		thorium, total	7440-29-1	E420	0.0200 mg/L	0.02 mg/L	99.9	70.0	130	----
		tin, total	7440-31-5	E420	0.0198 mg/L	0.02 mg/L	99.0	70.0	130	----
		titanium, total	7440-32-6	E420	0.0394 mg/L	0.04 mg/L	98.6	70.0	130	----
		tungsten, total	7440-33-7	E420	0.0193 mg/L	0.02 mg/L	96.4	70.0	130	----
		uranium, total	7440-61-1	E420	0.00392 mg/L	0.004 mg/L	98.0	70.0	130	----
		vanadium, total	7440-62-2	E420	0.100 mg/L	0.1 mg/L	100	70.0	130	----
		zinc, total	7440-66-6	E420	0.410 mg/L	0.4 mg/L	102	70.0	130	----
		zirconium, total	7440-67-7	E420	0.0389 mg/L	0.04 mg/L	97.2	70.0	130	----
Dissolved Metals (QCLot: 496965)										
CG2205916-001	Anonymous	mercury, dissolved	7439-97-6	E509	0.0000953 mg/L	0.0001 mg/L	95.3	70.0	130	----
Dissolved Metals (QCLot: 496966)										
VA22B0989-008	E2	mercury, dissolved	7439-97-6	E509	0.0000984 mg/L	0.0001 mg/L	98.4	70.0	130	----
Dissolved Metals (QCLot: 501411)										
VA22B0989-002	E4	aluminum, dissolved	7429-90-5	E421	ND mg/L	0.2 mg/L	ND	70.0	130	----
		antimony, dissolved	7440-36-0	E421	0.0196 mg/L	0.02 mg/L	98.3	70.0	130	----
		arsenic, dissolved	7440-38-2	E421	0.0205 mg/L	0.02 mg/L	103	70.0	130	----
		barium, dissolved	7440-39-3	E421	ND mg/L	0.02 mg/L	ND	70.0	130	----
		beryllium, dissolved	7440-41-7	E421	0.0410 mg/L	0.04 mg/L	102	70.0	130	----
		bismuth, dissolved	7440-69-9	E421	0.00986 mg/L	0.01 mg/L	98.6	70.0	130	----
		boron, dissolved	7440-42-8	E421	0.097 mg/L	0.1 mg/L	97.3	70.0	130	----

Sub-Matrix: **Water**

					Matrix Spike (MS) Report					
					Spike		Recovery (%)	Recovery Limits (%)		
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Concentration	Target	MS	Low	High	Qualifier
Dissolved Metals (QCLot: 501411) - continued										
VA22B0989-002	E4	cadmium, dissolved	7440-43-9	E421	0.00405 mg/L	0.004 mg/L	101	70.0	130	----
		calcium, dissolved	7440-70-2	E421	ND mg/L	4 mg/L	ND	70.0	130	----
		cesium, dissolved	7440-46-2	E421	0.0103 mg/L	0.01 mg/L	103	70.0	130	----
		chromium, dissolved	7440-47-3	E421	0.0400 mg/L	0.04 mg/L	99.9	70.0	130	----
		cobalt, dissolved	7440-48-4	E421	0.0198 mg/L	0.02 mg/L	99.1	70.0	130	----
		copper, dissolved	7440-50-8	E421	0.0199 mg/L	0.02 mg/L	99.6	70.0	130	----
		iron, dissolved	7439-89-6	E421	2.05 mg/L	2 mg/L	103	70.0	130	----
		lead, dissolved	7439-92-1	E421	0.0194 mg/L	0.02 mg/L	97.3	70.0	130	----
		lithium, dissolved	7439-93-2	E421	0.0974 mg/L	0.1 mg/L	97.4	70.0	130	----
		magnesium, dissolved	7439-95-4	E421	ND mg/L	1 mg/L	ND	70.0	130	----
		manganese, dissolved	7439-96-5	E421	ND mg/L	0.02 mg/L	ND	70.0	130	----
		molybdenum, dissolved	7439-98-7	E421	0.0208 mg/L	0.02 mg/L	104	70.0	130	----
		nickel, dissolved	7440-02-0	E421	0.0407 mg/L	0.04 mg/L	102	70.0	130	----
		phosphorus, dissolved	7723-14-0	E421	10.5 mg/L	10 mg/L	105	70.0	130	----
		potassium, dissolved	7440-09-7	E421	4.08 mg/L	4 mg/L	102	70.0	130	----
		rubidium, dissolved	7440-17-7	E421	0.0211 mg/L	0.02 mg/L	106	70.0	130	----
		selenium, dissolved	7782-49-2	E421	0.0438 mg/L	0.04 mg/L	110	70.0	130	----
		silicon, dissolved	7440-21-3	E421	9.53 mg/L	10 mg/L	95.3	70.0	130	----
		silver, dissolved	7440-22-4	E421	0.00409 mg/L	0.004 mg/L	102	70.0	130	----
		sodium, dissolved	7440-23-5	E421	1.98 mg/L	2 mg/L	99.2	70.0	130	----
		strontium, dissolved	7440-24-6	E421	ND mg/L	0.02 mg/L	ND	70.0	130	----
		sulfur, dissolved	7704-34-9	E421	ND mg/L	20 mg/L	ND	70.0	130	----
		tellurium, dissolved	13494-80-9	E421	0.0388 mg/L	0.04 mg/L	96.9	70.0	130	----
		thallium, dissolved	7440-28-0	E421	0.00383 mg/L	0.004 mg/L	95.8	70.0	130	----
		thorium, dissolved	7440-29-1	E421	0.0216 mg/L	0.02 mg/L	108	70.0	130	----
		tin, dissolved	7440-31-5	E421	0.0191 mg/L	0.02 mg/L	95.6	70.0	130	----
		titanium, dissolved	7440-32-6	E421	0.0390 mg/L	0.04 mg/L	97.5	70.0	130	----
		tungsten, dissolved	7440-33-7	E421	0.0194 mg/L	0.02 mg/L	96.9	70.0	130	----
		uranium, dissolved	7440-61-1	E421	0.00423 mg/L	0.004 mg/L	106	70.0	130	----
		vanadium, dissolved	7440-62-2	E421	0.105 mg/L	0.1 mg/L	105	70.0	130	----
		zinc, dissolved	7440-66-6	E421	0.398 mg/L	0.4 mg/L	99.6	70.0	130	----
		zirconium, dissolved	7440-67-7	E421	0.0410 mg/L	0.04 mg/L	102	70.0	130	----
Dissolved Metals (QCLot: 501413)										
VA22B0300-002	Anonymous	aluminum, dissolved	7429-90-5	E421	0.195 mg/L	0.2 mg/L	97.6	70.0	130	----
		antimony, dissolved	7440-36-0	E421	0.0197 mg/L	0.02 mg/L	98.7	70.0	130	----
		arsenic, dissolved	7440-38-2	E421	0.0198 mg/L	0.02 mg/L	99.0	70.0	130	----

Sub-Matrix: **Water**

					Matrix Spike (MS) Report					
					Spike		Recovery (%)	Recovery Limits (%)		
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Concentration	Target	MS	Low	High	Qualifier
Dissolved Metals (QCLot: 501413) - continued										
VA22B0300-002	Anonymous	barium, dissolved	7440-39-3	E421	ND mg/L	0.02 mg/L	ND	70.0	130	----
		beryllium, dissolved	7440-41-7	E421	0.0397 mg/L	0.04 mg/L	99.3	70.0	130	----
		bismuth, dissolved	7440-69-9	E421	0.00913 mg/L	0.01 mg/L	91.3	70.0	130	----
		boron, dissolved	7440-42-8	E421	0.096 mg/L	0.1 mg/L	96.3	70.0	130	----
		cadmium, dissolved	7440-43-9	E421	0.00398 mg/L	0.004 mg/L	99.5	70.0	130	----
		calcium, dissolved	7440-70-2	E421	ND mg/L	4 mg/L	ND	70.0	130	----
		cesium, dissolved	7440-46-2	E421	0.00995 mg/L	0.01 mg/L	99.5	70.0	130	----
		chromium, dissolved	7440-47-3	E421	0.0390 mg/L	0.04 mg/L	97.5	70.0	130	----
		cobalt, dissolved	7440-48-4	E421	0.0188 mg/L	0.02 mg/L	93.9	70.0	130	----
		copper, dissolved	7440-50-8	E421	0.0182 mg/L	0.02 mg/L	91.0	70.0	130	----
		iron, dissolved	7439-89-6	E421	1.98 mg/L	2 mg/L	98.8	70.0	130	----
		lead, dissolved	7439-92-1	E421	0.0186 mg/L	0.02 mg/L	92.9	70.0	130	----
		lithium, dissolved	7439-93-2	E421	0.0951 mg/L	0.1 mg/L	95.1	70.0	130	----
		magnesium, dissolved	7439-95-4	E421	ND mg/L	1 mg/L	ND	70.0	130	----
		manganese, dissolved	7439-96-5	E421	ND mg/L	0.02 mg/L	ND	70.0	130	----
		molybdenum, dissolved	7439-98-7	E421	ND mg/L	0.02 mg/L	ND	70.0	130	----
		nickel, dissolved	7440-02-0	E421	0.0384 mg/L	0.04 mg/L	96.0	70.0	130	----
		phosphorus, dissolved	7723-14-0	E421	9.67 mg/L	10 mg/L	96.7	70.0	130	----
		potassium, dissolved	7440-09-7	E421	ND mg/L	4 mg/L	ND	70.0	130	----
		rubidium, dissolved	7440-17-7	E421	0.0203 mg/L	0.02 mg/L	102	70.0	130	----
		selenium, dissolved	7782-49-2	E421	0.0406 mg/L	0.04 mg/L	102	70.0	130	----
		silicon, dissolved	7440-21-3	E421	9.35 mg/L	10 mg/L	93.5	70.0	130	----
		silver, dissolved	7440-22-4	E421	0.00405 mg/L	0.004 mg/L	101	70.0	130	----
		sodium, dissolved	7440-23-5	E421	ND mg/L	2 mg/L	ND	70.0	130	----
		strontium, dissolved	7440-24-6	E421	ND mg/L	0.02 mg/L	ND	70.0	130	----
		sulfur, dissolved	7704-34-9	E421	19.6 mg/L	20 mg/L	97.9	70.0	130	----
		tellurium, dissolved	13494-80-9	E421	0.0384 mg/L	0.04 mg/L	96.1	70.0	130	----
		thallium, dissolved	7440-28-0	E421	0.00360 mg/L	0.004 mg/L	90.1	70.0	130	----
		thorium, dissolved	7440-29-1	E421	0.0211 mg/L	0.02 mg/L	106	70.0	130	----
		tin, dissolved	7440-31-5	E421	0.0192 mg/L	0.02 mg/L	96.3	70.0	130	----
		titanium, dissolved	7440-32-6	E421	0.0392 mg/L	0.04 mg/L	98.0	70.0	130	----
		tungsten, dissolved	7440-33-7	E421	0.0193 mg/L	0.02 mg/L	96.4	70.0	130	----
		uranium, dissolved	7440-61-1	E421	ND mg/L	0.004 mg/L	ND	70.0	130	----
		vanadium, dissolved	7440-62-2	E421	0.101 mg/L	0.1 mg/L	101	70.0	130	----
		zinc, dissolved	7440-66-6	E421	0.382 mg/L	0.4 mg/L	95.5	70.0	130	----
		zirconium, dissolved	7440-67-7	E421	0.0402 mg/L	0.04 mg/L	100	70.0	130	----

Sub-Matrix: **Water**

					Matrix Spike (MS) Report					
					Spike		Recovery (%)	Recovery Limits (%)		
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Concentration	Target	MS	Low	High	Qualifier
Speciated Metals (QCLot: 524212)										
VA22A9912-011	Anonymous	chromium, hexavalent [Cr VI], dissolved	18540-29-9	E532A	1.31 mg/L	1.25 mg/L	105	70.0	130	----
Speciated Metals (QCLot: 524213)										
VA22B0989-006	R6	chromium, hexavalent [Cr VI], total	18540-29-9	E532	0.254 mg/L	0.25 mg/L	102	85.0	115	----
Speciated Metals (QCLot: 524738)										
KS2202074-002	Anonymous	chromium, hexavalent [Cr VI], total	18540-29-9	E532	0.257 mg/L	0.25 mg/L	103	85.0	115	----
Speciated Metals (QCLot: 524739)										
KS2202080-002	Anonymous	chromium, hexavalent [Cr VI], dissolved	18540-29-9	E532A	0.260 mg/L	0.25 mg/L	104	70.0	130	----

31-May-2022

Heather McKenzie
ALS Environmental
8081 Lougheed HWY
Suite 100
Burnaby, BC V5A 1W9

Re: **VA22B0989** Work Order: **22050912**

Dear Heather,

ALS Environmental received 26 samples on 25-May-2022 10:10 AM for the analyses presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested.

QC sample results for this data met laboratory specifications. Any exceptions are noted in the Case Narrative, or noted with qualifiers in the report or QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained from ALS Laboratory Group. Samples will be disposed in 30 days unless storage arrangements are made.

The total number of pages in this report is 15.

If you have any questions regarding this report, please feel free to contact me.

Sincerely,

Shawn Smythe

Electronically approved by: Joe Ribar

Shawn Smythe
Project Manager

Report of Laboratory Analysis

ALS Environmental

Date: 31-May-22

Client: ALS Environmental
Project: VA22B0989
Work Order: **22050912**

Work Order Sample Summary

Lab Samp ID	Client Sample ID	Matrix	Tag Number	Collection Date	Date Received	Hold
22050912-01	VA22B0989-001	Water		5/16/2022 16:30	5/25/2022 10:10	☐
22050912-02	VA22B0989-002	Water		5/16/2022 16:20	5/25/2022 10:10	☐
22050912-03	VA22B0989-003	Water		5/16/2022 17:10	5/25/2022 10:10	☐
22050912-04	VA22B0989-004	Water		5/16/2022 14:10	5/25/2022 10:10	☐
22050912-05	VA22B0989-005	Water		5/16/2022 13:10	5/25/2022 10:10	☐
22050912-06	VA22B0989-006	Water		5/16/2022 15:00	5/25/2022 10:10	☐
22050912-07	VA22B0989-007	Water		5/16/2022 19:10	5/25/2022 10:10	☐
22050912-08	VA22B0989-008	Water		5/16/2022 18:40	5/25/2022 10:10	☐
22050912-09	VA22B0989-009	Water		5/16/2022 19:45	5/25/2022 10:10	☐
22050912-10	VA22B0989-010	Water		5/17/2022 16:35	5/25/2022 10:10	☐
22050912-11	VA22B0989-011	Water		5/17/2022 18:00	5/25/2022 10:10	☐
22050912-12	VA22B0989-012	Water		5/17/2022 15:30	5/25/2022 10:10	☐
22050912-13	VA22B0989-013	Water		5/17/2022 15:35	5/25/2022 10:10	☐
22050912-14	VA22B0989-014	Water		5/17/2022 15:50	5/25/2022 10:10	☐
22050912-15	VA22B0989-015	Water		5/17/2022 16:00	5/25/2022 10:10	☐
22050912-16	VA22B0989-016	Water		5/17/2022 19:40	5/25/2022 10:10	☐
22050912-17	VA22B0989-017	Water		5/17/2022 15:00	5/25/2022 10:10	☐
22050912-18	VA22B0989-018	Water		5/17/2022 14:00	5/25/2022 10:10	☐
22050912-19	VA22B0989-019	Water		5/17/2022 20:10	5/25/2022 10:10	☐
22050912-20	VA22B0989-020	Water		5/17/2022 21:20	5/25/2022 10:10	☐
22050912-21	VA22B0989-021	Water		5/17/2022 14:50	5/25/2022 10:10	☐
22050912-22	VA22B0989-022	Water		5/17/2022 16:50	5/25/2022 10:10	☐
22050912-23	VA22B0989-023	Water		5/18/2022 13:40	5/25/2022 10:10	☐
22050912-24	VA22B0989-024	Water		5/18/2022 15:30	5/25/2022 10:10	☐
22050912-25	VA22B0989-025	Water		5/18/2022 16:00	5/25/2022 10:10	☐
22050912-26	VA22B0989-026	Water		5/18/2022 03:00	5/25/2022 10:10	☐

ALS Environmental

Date: 31-May-22

Client: ALS Environmental
Project: VA22B0989
Work Order: 22050912

Case Narrative

ALS Environmental

Date: *31-May-22*

Client: ALS Environmental
Project: VA22B0989

Work Order: 22050912

Lab ID: 22050912-01A
Collection Date: 5/16/2022 4:30:00 PM
Client Sample ID: VA22B0989-001
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
TOTAL SUSPENDED SOLIDS			**E160.2**			Analyst: **AJ**
Total suspended solids	**45**	H	**4.0**	**mg/L**	1	5/26/2022

Lab ID: 22050912-02A
Collection Date: 5/16/2022 4:20:00 PM
Client Sample ID: VA22B0989-002
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
TOTAL SUSPENDED SOLIDS			**E160.2**			Analyst: **AJ**
Total suspended solids	**45**	H	**4.0**	**mg/L**	1	5/26/2022

Lab ID: 22050912-03A
Collection Date: 5/16/2022 5:10:00 PM
Client Sample ID: VA22B0989-003
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
TOTAL SUSPENDED SOLIDS			**E160.2**			Analyst: **AJ**
Total suspended solids	**130**	H	**4.0**	**mg/L**	1	5/26/2022

Lab ID: 22050912-04A
Collection Date: 5/16/2022 2:10:00 PM
Client Sample ID: VA22B0989-004
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
TOTAL SUSPENDED SOLIDS			**E160.2**			Analyst: **AJ**
Total suspended solids	**75**	H	**4.0**	**mg/L**	1	5/26/2022

Lab ID: 22050912-05A
Collection Date: 5/16/2022 1:10:00 PM
Client Sample ID: VA22B0989-005
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
TOTAL SUSPENDED SOLIDS			**E160.2**			Analyst: **AJ**
Total suspended solids	**85**	H	**4.0**	**mg/L**	1	5/26/2022

Note:

Client: ALS Environmental
Project: VA22B0989

Work Order: 22050912

Lab ID: 22050912-06A
Collection Date: 5/16/2022 3:00:00 PM
Client Sample ID: VA22B0989-006
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
TOTAL SUSPENDED SOLIDS			**E160.2**			Analyst: **AJ**
Total suspended solids	**150**	H	**4.0**	**mg/L**	1	5/26/2022

Lab ID: 22050912-07A
Collection Date: 5/16/2022 7:10:00 PM
Client Sample ID: VA22B0989-007
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
TOTAL SUSPENDED SOLIDS			**E160.2**			Analyst: **AJ**
Total suspended solids	**160**	H	**4.0**	**mg/L**	1	5/26/2022

Lab ID: 22050912-07B
Collection Date: 5/16/2022 7:10:00 PM
Client Sample ID: VA22B0989-007
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed

Lab ID: 22050912-08A
Collection Date: 5/16/2022 6:40:00 PM
Client Sample ID: VA22B0989-008
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
TOTAL SUSPENDED SOLIDS			**E160.2**			Analyst: **AJ**
Total suspended solids	**22**	H	**4.0**	**mg/L**	1	5/26/2022

Lab ID: 22050912-08B
Collection Date: 5/16/2022 6:40:00 PM
Client Sample ID: VA22B0989-008
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed

Note:

Client: ALS Environmental
Project: VA22B0989

Work Order: 22050912

Lab ID: 22050912-09A
Collection Date: 5/16/2022 7:45:00 PM
Client Sample ID: VA22B0989-009
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
TOTAL SUSPENDED SOLIDS			**E160.2**			Analyst: **AJ**
Total suspended solids	ND	H	4.0	mg/L	1	5/26/2022

Lab ID: 22050912-10A
Collection Date: 5/17/2022 4:35:00 PM
Client Sample ID: VA22B0989-010
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
TOTAL SUSPENDED SOLIDS			**E160.2**			Analyst: **AJ**
Total suspended solids	**150**	H	**4.0**	**mg/L**	1	5/26/2022

Lab ID: 22050912-11A
Collection Date: 5/17/2022 6:00:00 PM
Client Sample ID: VA22B0989-011
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
TOTAL SUSPENDED SOLIDS			**E160.2**			Analyst: **AJ**
Total suspended solids	**270**	H	**4.0**	**mg/L**	1	5/26/2022

Lab ID: 22050912-11B
Collection Date: 5/17/2022 6:00:00 PM
Client Sample ID: VA22B0989-011
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed

Lab ID: 22050912-12A
Collection Date: 5/17/2022 3:30:00 PM
Client Sample ID: VA22B0989-012
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
TOTAL SUSPENDED SOLIDS			**E160.2**			Analyst: **AJ**
Total suspended solids	**6.3**	H	**4.0**	**mg/L**	1	5/26/2022

Note:

Client: ALS Environmental
Project: VA22B0989

Work Order: 22050912

Lab ID: 22050912-13A
Collection Date: 5/17/2022 3:35:00 PM
Client Sample ID: VA22B0989-013
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
TOTAL SUSPENDED SOLIDS			**E160.2**			Analyst: **AJ**
Total suspended solids	ND	H	4.0	mg/L	1	5/26/2022

Lab ID: 22050912-14A
Collection Date: 5/17/2022 3:50:00 PM
Client Sample ID: VA22B0989-014
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
TOTAL SUSPENDED SOLIDS			**E160.2**			Analyst: **AJ**
Total suspended solids	ND	H	4.0	mg/L	1	5/26/2022

Lab ID: 22050912-15A
Collection Date: 5/17/2022 4:00:00 PM
Client Sample ID: VA22B0989-015
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
TOTAL SUSPENDED SOLIDS			**E160.2**			Analyst: **AJ**
Total suspended solids	ND	H	4.0	mg/L	1	5/26/2022

Lab ID: 22050912-16A
Collection Date: 5/17/2022 7:40:00 PM
Client Sample ID: VA22B0989-016
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
TOTAL SUSPENDED SOLIDS			**E160.2**			Analyst: **AJ**
Total suspended solids	**17**	H	**4.0**	**mg/L**	1	5/27/2022

Lab ID: 22050912-17A
Collection Date: 5/17/2022 3:00:00 PM
Client Sample ID: VA22B0989-017
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
TOTAL SUSPENDED SOLIDS			**E160.2**			Analyst: **AJ**
Total suspended solids	**34**	H	**4.0**	**mg/L**	1	5/27/2022

Note:

Client: ALS Environmental **Work Order:** 22050912
Project: VA22B0989

Lab ID: 22050912-18A **Collection Date:** 5/17/2022 2:00:00 PM
Client Sample ID: VA22B0989-018 **Matrix:** WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
TOTAL SUSPENDED SOLIDS			**E160.2**			Analyst: **AJ**
Total suspended solids	**16**	H	**4.0**	**mg/L**	1	5/27/2022

Lab ID: 22050912-19A **Collection Date:** 5/17/2022 8:10:00 PM
Client Sample ID: VA22B0989-019 **Matrix:** WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
TOTAL SUSPENDED SOLIDS			**E160.2**			Analyst: **AJ**
Total suspended solids	**270**	H	**4.0**	**mg/L**	1	5/27/2022

Lab ID: 22050912-20A **Collection Date:** 5/17/2022 9:20:00 PM
Client Sample ID: VA22B0989-020 **Matrix:** WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
TOTAL SUSPENDED SOLIDS			**E160.2**			Analyst: **AJ**
Total suspended solids	**560**	H	**4.0**	**mg/L**	1	5/27/2022

Lab ID: 22050912-21A **Collection Date:** 5/17/2022 2:50:00 PM
Client Sample ID: VA22B0989-021 **Matrix:** WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
TOTAL SUSPENDED SOLIDS			**E160.2**			Analyst: **AJ**
Total suspended solids	**19**	H	**4.0**	**mg/L**	1	5/27/2022

Lab ID: 22050912-22A **Collection Date:** 5/17/2022 4:50:00 PM
Client Sample ID: VA22B0989-022 **Matrix:** WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
TOTAL SUSPENDED SOLIDS			**E160.2**			Analyst: **AJ**
Total suspended solids	ND	H	4.0	mg/L	1	5/27/2022

Note:

Client: ALS Environmental
Project: VA22B0989

Work Order: 22050912

Lab ID: 22050912-23A
Collection Date: 5/18/2022 1:40:00 PM
Client Sample ID: VA22B0989-023
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
TOTAL SUSPENDED SOLIDS			**E160.2**			Analyst: **AJ**
Total suspended solids	**100**	H	**4.0**	**mg/L**	1	5/27/2022

Lab ID: 22050912-23B
Collection Date: 5/18/2022 1:40:00 PM
Client Sample ID: VA22B0989-023
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed

Lab ID: 22050912-24A
Collection Date: 5/18/2022 3:30:00 PM
Client Sample ID: VA22B0989-024
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
TOTAL SUSPENDED SOLIDS			**E160.2**			Analyst: **AJ**
Total suspended solids	**630**	H	**4.0**	**mg/L**	1	5/27/2022

Lab ID: 22050912-25A
Collection Date: 5/18/2022 4:00:00 PM
Client Sample ID: VA22B0989-025
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
TOTAL SUSPENDED SOLIDS			**E160.2**			Analyst: **AJ**
Total suspended solids	**56**	H	**4.0**	**mg/L**	1	5/27/2022

Lab ID: 22050912-26A
Collection Date: 5/18/2022 3:00:00 AM
Client Sample ID: VA22B0989-026
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
TOTAL SUSPENDED SOLIDS			**E160.2**			Analyst: **AJ**
Total suspended solids	ND	H	4.0	mg/L	1	5/27/2022

Note:

ALS Environmental

Date: 31-May-22

Client: ALS Environmental
Project: VA22B0989
WorkOrder: **22050912**

QUALIFIERS, ACRONYMS, UNITS

Qualifier	Description
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte detected below quantitation limit
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL

Acronym	Description
DUP	Method Duplicate
E	EPA Method
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
MBLK	Method Blank
MDL	Method Detection Limit
MQL	Method Quantitation Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PDS	Post Digestion Spike
PQL	Practical Quantitaion Limit
SDL	Sample Detection Limit
SW	SW-846 Method

Units Reported	Description
%	
mg/L	

ALS Environmental

Sample Receipt Checklist

Client Name: **ALS-VANCOUVER** Date/Time Received: **25-May-22 10:10**

Work Order: **22050912** Received by: **HXP**

Checklist completed by Alec Bolender 25-May-22 Reviewed by:

eSignature | Date | eSignature | Date

Matrices: water

Carrier name: DHL

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☐	No ☐	Not Present ☑
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	
Sample(s) received on ice?	Yes ☑	No ☐	
Temperature(s)/Thermometer(s):	4.8	119059	
Cooler(s)/Kit(s):			
Date/Time sample(s) sent to storage:			
Water - VOA vials have zero headspace?	Yes ☐	No ☐	No VOA vials submitted ☑
Water - pH acceptable upon receipt?	Yes ☐	No ☐	N/A ☑
pH adjusted?	Yes ☐	No ☐	N/A ☑
pH adjusted by:	-		

Login Notes:

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

CorrectiveAction:

QC BATCH REPORT

Batch ID: **R204587** Instrument ID **BAL1** Method: **E160.2**

MBLK Sample ID: **MBLK-R204587** Units: **mg/L** Analysis Date: **5/26/2022**

Client ID: Run ID: **BAL1_220526A** SeqNo: **2745948** Prep Date: **5/26/2022** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Total suspended solids	ND	4.0								

LCS Sample ID: **LCS-R204587** Units: **mg/L** Analysis Date: **5/26/2022**

Client ID: Run ID: **BAL1_220526A** SeqNo: **2745947** Prep Date: **5/26/2022** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Total suspended solids	1050	4.0	1000	0	105	70-130	0			

DUP Sample ID: **22050912-01aDUP** Units: **mg/L** Analysis Date: **5/26/2022**

Client ID: **VA22B0989-001** Run ID: **BAL1_220526A** SeqNo: **2745931** Prep Date: **5/26/2022** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Total suspended solids	50.09	4.0	0	0	0		45.07	10.6	20	

DUP Sample ID: **22050912-11aDUP** Units: **mg/L** Analysis Date: **5/26/2022**

Client ID: **VA22B0989-011** Run ID: **BAL1_220526A** SeqNo: **2745942** Prep Date: **5/26/2022** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Total suspended solids	277.5	4.0	0	0	0		265.4	4.46	20	

The following samples were analyzed in this batch:

22050912-01a	22050912-02a	22050912-03a
22050912-04a	22050912-05a	22050912-06a
22050912-07a	22050912-08a	22050912-09a
22050912-10a	22050912-11a	22050912-12a
22050912-13a	22050912-14a	22050912-15a

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: ALS Environmental
Work Order: 22050912
Project: VA22B0989

QC BATCH REPORT

Batch ID: **R204611** Instrument ID **BAL1** Method: **E160.2**

MBLK Sample ID: **MBLK-R204611** Units: **mg/L** Analysis Date: **5/27/2022**
Client ID: Run ID: **BAL1_220527A** SeqNo: **2746534** Prep Date: **5/26/2022** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Total suspended solids	ND	4.0								

LCS Sample ID: **LCS-R204611** Units: **mg/L** Analysis Date: **5/27/2022**
Client ID: Run ID: **BAL1_220527A** SeqNo: **2746533** Prep Date: **5/26/2022** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Total suspended solids	1007	4.0	1000	0	101	70-130	0			

DUP Sample ID: **22050912-26aDup** Units: **mg/L** Analysis Date: **5/27/2022**
Client ID: **VA22B0989-026** Run ID: **BAL1_220527A** SeqNo: **2746532** Prep Date: **5/26/2022** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Total suspended solids	ND	4.0	0	0	0		0	0	20	

The following samples were analyzed in this batch:

22050912-16a	22050912-17a	22050912-18a
22050912-19a	22050912-20a	22050912-21a
22050912-22a	22050912-23a	22050912-24a
22050912-25a	22050912-26a	

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Chain of Custody

Vancouver - Environmental
8081 Lougheed Highway
Burnaby BC Canada V5A 1W9

22050912

55091

Destination Lab:	**USA - Cincinnati**
Address:	4388 Glendale-Milford Road Cincinnati OH United States 45242
Client:	EDI Environmental Dynamics Inc.
Work Order Number:	**VA22B0989**
Original Receipt Date/Time	Instructions Received
19/05/2022 14:10	

Relinquished By

Date/Time

Received By

Date/Time
5-25-22 10:10

Receipt Temp
DHL
4.8°C w/119089

Return as Indicated: Results: alsev.datasublet@alsglobal.com Invoice: alsev.datasublet@alsglobal.com Electronic Data: alsev.datasublet@alsglobal.com

Attention: Heather McKenzie

ALS Sample ID	Client ID	Matrix	Container Type	Test Codes	Method Description	Due Date	Sampling Date and Time	Remarks
VA22B0989-001	CC-206	Water	HDPE	EPA 160.2	TSS with Asbestos Control by Gravimetry	10-06-2022	16/05/2022 16:30	
VA22B0989-002	E4	Water	HDPE	EPA 160.2	TSS with Asbestos Control by Gravimetry	10-06-2022	16/05/2022 16:20	
VA22B0989-003	R4	Water	HDPE	EPA 160.2	TSS with Asbestos Control by Gravimetry	10-06-2022	16/05/2022 17:10	
VA22B0989-004	E7	Water	HDPE	EPA 160.2	TSS with Asbestos Control by Gravimetry	10-06-2022	16/05/2022 14:10	
VA22B0989-005	E8	Water	HDPE	EPA 160.2	TSS with Asbestos Control by Gravimetry	10-06-2022	16/05/2022 13:10	
VA22B0989-006	R6	Water	HDPE	EPA 160.2	TSS with Asbestos Control by Gravimetry	10-06-2022	16/05/2022 15:00	
VA22B0989-007	E3	Water	HDPE	EPA 160.2	TSS with Asbestos Control by Gravimetry	10-06-2022	16/05/2022 19:10	
VA22B0989-007	E3	Water	HDPE	EPA 100.2	Asbestos by Transmission Electron Microscopy (TEM) in counts/sample	10-06-2022	16/05/2022 19:10	
VA22B0989-008	E2	Water	HDPE	EPA 160.2	TSS with Asbestos Control by Gravimetry	10-06-2022	16/05/2022 18:40	
VA22B0989-008	E2	Water	HDPE	EPA 100.2	Asbestos by Transmission Electron Microscopy (TEM) in counts/sample	10-06-2022	16/05/2022 18:40	
VA22B0989-009	GWCC-5	Water	HDPE	EPA 160.2	TSS with Asbestos Control by Gravimetry	10-06-2022	16/05/2022 19:45	
VA22B0989-010	R11	Water	HDPE	EPA 160.2	TSS with Asbestos Control by Gravimetry	10-06-2022	17/05/2022 16:35	
VA22B0989-011	R3	Water	HDPE	EPA 160.2	TSS with Asbestos Control by Gravimetry	10-06-2022	17/05/2022 18:00	
VA22B0989-011	R3	Water	HDPE	EPA 100.2mf	Asbestos by Transmission Electron Microscopy (TEM) in million fibres/L	10-06-2022	17/05/2022 18:00	
VA22B0989-012	GWCC-1	Water	HDPE	EPA 160.2	TSS with Asbestos Control by Gravimetry	10-06-2022	17/05/2022 15:30	

ALS Sample ID	Client ID	Matrix	Container Type	Test Codes	Method Description	Due Date	Sampling Date and Time	Remarks
VA22B0989-013	GWCC-2	Water	HDPE	EPA 160.2	TSS with Asbestos Control by Gravimetry	10-06-2022	17/05/2022 15:35	
VA22B0989-014	GWCC-3	Water	HDPE	EPA 160.2	TSS with Asbestos Control by Gravimetry	10-06-2022	17/05/2022 15:50	
VA22B0989-015	GWCC-4	Water	HDPE	EPA 160.2	TSS with Asbestos Control by Gravimetry	10-06-2022	17/05/2022 16:00	
VA22B0989-016	SL	Water	HDPE	EPA 160.2	TSS with Asbestos Control by Gravimetry	10-06-2022	17/05/2022 19:40	
VA22B0989-017	E1	Water	HDPE	EPA 160.2	TSS with Asbestos Control by Gravimetry	10-06-2022	17/05/2022 15:00	
VA22B0989-018	E1(H)	Water	HDPE	EPA 160.2	TSS with Asbestos Control by Gravimetry	10-06-2022	17/05/2022 14:00	
VA22B0989-019	R7	Water	HDPE	EPA 160.2	TSS with Asbestos Control by Gravimetry	10-06-2022	17/05/2022 20:10	
VA22B0989-020	R9	Water	HDPE	EPA 160.2	TSS with Asbestos Control by Gravimetry	10-06-2022	17/05/2022 21:20	
VA22B0989-021	CC-201	Water	HDPE	EPA 160.2	TSS with Asbestos Control by Gravimetry	10-06-2022	17/05/2022 14:50	
VA22B0989-022	Field Blank	Water	HDPE	EPA 160.2	TSS with Asbestos Control by Gravimetry	10-06-2022	17/05/2022 16:50	
VA22B0989-023	R1	Water	HDPE	EPA 160.2	TSS with Asbestos Control by Gravimetry	10-06-2022	18/05/2022 13:40	
VA22B0989-023	R1	Water	HDPE	EPA 100.2mf	Asbestos by Transmission Electron Microscopy (TEM) in million fibres/L	10-06-2022	18/05/2022 13:40	
VA22B0989-024	R2	Water	HDPE	EPA 160.2	TSS with Asbestos Control by Gravimetry	10-06-2022	18/05/2022 15:30	
VA22B0989-025	R8	Water	HDPE	EPA 160.2	TSS with Asbestos Control by Gravimetry	10-06-2022	18/05/2022 16:00	
VA22B0989-026	Travel Blank	Water	HDPE	EPA 160.2	TSS with Asbestos Control by Gravimetry	10-06-2022	18/05/2022 03:00	

220509 12

Contact: Heather McKenzie
Company: ALS Environmental
Address: 8081 Lougheed HWY, Suite 100
Burnaby, BC V5A 1W9

Project: VA22B0989
PO Number: VA22B0989
ALS Work Order: 22050912

NARRATIVE: Analysis performed on FEI Tecnai TEM equipped with EDAX Octane T Plus Silicon Drift Detector and Z2 Analyzer. Fiber morphology, selected area electron diffraction (SAED), and energy dispersive x-ray analysis (EDXA) used to determine species. All sample collection is performed outside of ALS Cincinnati is therefore the sole responsibility of the client. Contact your local authority for information on method selection, sampling instructions, and reporting requirements prior to submission.

NOTICE: All US EPA Public Water System (PWS) drinking water compliance samples must be filtered by the laboratory within 48 hours of sampling. ALS cannot report analytical results directly to the EPA unless all of the information required by the state EPA agency is provided via the COC at the time of receipt. Report revisions resulting from failure to provide this information via the COC will result in additional administrative fees. ALS is not responsible for late or inaccurate EPA reporting as a result of client sample collection errors or sample information omissions. Water samples originating from outside the United States do not fall under the US EPA drinking water guidelines and are therefore not required to meet the 48 hour hold and are not reported to any agency.

METHOD CODES: "EPA 100.2" refers only to drinking (potable) PWS samples for EPA compliance which are analyzed at >10,000x for asbestos fibers >10µm long. "ENV 005" refers to all other water samples (non-potable, non-compliance, or non-US) analyzed at >10,000x for asbestos fibers >10µm long. "EPA 100.1" refers to water samples analyzed by a modified version of the method for asbestos fibers of any size. All excess water is disposed immediately following adequate filtration. All filtered samples are disposed after 60 day archive. All TEM grids analyzed are archived for a minimum of 3 years. Results apply only to portions of samples analyzed.

SUMMARY: An AS of <0.2 MFL is desired for drinking (potable) waters, and an AS of <7 MFL is generally acceptable for non-potable waters. Whenever possible, a sufficient volume is analyzed to yield the desired AS based on the detection of 1 confirmed asbestos fiber in the total area analyzed. However, waters containing excessive solids may require filtration of volumes too low to achieve the desired AS. In any case, a minimum of 4 and maximum of 10 grid openings are analyzed regardless of the AS reached or the asbestos concentration detected. Representative EDXA spectra and/or photomicrographs are available upon request for an additional fee.
NA=Not Applicable, AS=Analytical Sensitivity, MFL=Millions of Fibers per Liter, MRL=Method Reporting Limit

ALS Cincinnati accredited by NY ELAP for Asbestos in Water by EPA 100.2
OH State Lab No.: 4077, OH Analyst Nos.: 2268 (P. Hizar), 3431 (A. Sohn)
PA State Lab No.: 68-01320, PA Certification No.: 003
WA State Lab No.: 211
NY State Lab No.: 11371

Pamela M. Hizar

Pamela M. Hizar
ALS Microscopy Technical Manager

IDENTIFICATION

Client ID:	VA22B0989-007	VA22B0989-008	VA22B0989-011	VA22B0989-023
ALS ID:	22050912-07B	22050912-08B	22050912-11B	22050912-23B
Method:	ENV 005	ENV 005	ENV 005	ENV 005
MRL:	<7MFL	<7MFL	<7MFL	<7MFL
Collection:	5/16/22 7:10 PM	5/16/22 6:40 PM	5/17/22 6:00 PM	5/18/22 1:40 PM
Filtration:	5/25/22 11:45 AM	5/25/22 11:45 AM	5/25/22 11:45 AM	5/25/22 11:45 AM
Elapsed:	NA	NA	NA	NA
Sample Comments:	*HIGH SUSPENDED SOLIDS CONTENT*	*HIGH SUSPENDED SOLIDS CONTENT*	*HIGH SUSPENDED SOLIDS CONTENT*	*HIGH SUSPENDED SOLIDS CONTENT*

ANALYSIS

Analyst:	Pamela Hizar	Pamela Hizar	Pamela Hizar	Pamela Hizar
Completed:	5/31/22 10:00 AM	5/31/22 10:30 AM	5/31/22 11:00 AM	5/31/22 11:30 AM
Volume (L):	0.001	0.001	0.001	0.001
Avg. Opening Area (mm^2):	0.0102	0.0102	0.0102	0.0102
No. Openings Analyzed:	4	4	10	10
AS (MFL):	26.35	26.35	10.54	10.54

COUNT

Chrysotile:	73	19	2	0
Amosite:	0	0	0	0
Crocidolite:	0	0	0	0
Actinolite:	0	0	0	0
Tremolite:	0	0	0	0
Anthophyllite:	0	0	0	0
Total Asbestos:	73	19	2	0

CONCENTRATION (MFL)

Chrysotile:	1923.41	500.61	21.08	<AS
Amosite:	<AS	<AS	<AS	<AS
Crocidolite:	<AS	<AS	<AS	<AS
Actinolite:	<AS	<AS	<AS	<AS
Tremolite:	<AS	<AS	<AS	<AS
Anthophyllite:	<AS	<AS	<AS	<AS
Total Asbestos:	**1923.41**	**500.61**	**21.08**	**<AS**
Analysis Comments:	*NONE*	*NONE*	*NONE*	*NONE*

NOTES

Excessive solids prevented filtration of sufficient volume required to attain an AS of <0.2 MFL required for potable water or an AS of <7 MFL required for non-potable water.
Samples arrived past the method recommended 48 hour hold time.
Samples VA22B0989-007, VA22B0989-008, and VA22B0989-11B contain asbestos fibers which did not meet the counting criteria and are therefore not included in the reported concentrations.

4388 Glendale-Milford Road Cincinnati, Ohio 45242
Phone (513) 733-5336 Fax (513) 733-5347 www.alsglobal.com

Chain of Custody (COC) / Analytical Request Form

www.alsglobal.com

Canada Toll Free: 1 800 668 9878

Affix ALS barcode label here (lab use only)

COC Number: 17 -

Page

Environmental Division Vancouver
Work Order Reference
VA22B0989

Telephone : +1 604 253 4188

Report To	Contact and company name below will appear on the final report
Company:	EDI Environmental Dynamics Inc.
Contact:	Annina Altherr
Phone:	778-350-3053
	Company address below will appear on the final report
Street:	2195 2nd Avenue
City/Province:	Whitehorse, Yukon
Postal Code:	Y1A 3T8
Invoice To	Same as Report To ☐ YES ☑ NO
	Copy of Invoice with Report ☐ YES ☐ NO
Company:	EDI Environmental Dynamics Inc.
Contact:	Shannon Jenner

Report Format / Distribution

Select Report Format: ☑ PDF ☑ EXCEL ☑ EDD (DIGITAL)
Quality Control (QC) Report with Report ☑ YES ☐ NO
☐ Compare Results to Criteria on Report - provide details below if box checked
Select Distribution: ☑ EMAIL ☐ MAIL ☐ FAX
Email 1 or Fax ldoetzel@edynamics.com
Email 2 shawna.warshawski@gov.yk.ca
Email 3 aaltherr@edynamics.com

Invoice Distribution

Select Invoice Distribution: ☑ EMAIL ☐ MAIL ☐ FAX
Email 1 or Fax sjenner@edynamics.com
Email 2 aaltherr@edynamics.com

Select Service Level Below - Contact your AM to confi

Regular [R] ☑ Standard TAT if received by 3 pm - b

PRIORITY (Business Days): 4 day [P4-20%] ☐ | 3 day [P3-25%] ☐ | 2 day [P2-50%] ☐
EMERGENCY: 1 Business day | Same Day, Wee | (Laboratory ope

Date and Time Required for all E&P TATs:

For tests that can not be performed according to the service level selected,

Project Information		Oil and Gas Required Fields (client use)	
ALS Account # / Quote #:	Q77741	AFE/Cost Center:	PO#
Job #:	20Y0150 Clinton Creek	Major/Minor Code:	Routing Code:
PO / AFE:		Requisitioner:	
LSD:		Location:	

ALS Lab Work Order # (lab use only): 0989 | ALS Contact: H. Mackenzie | Sampler: JMF JMG EW

Analysis Request

Indicate Filtered (F), Preserved (P) or Filtered and Preserved (F/P) below

ALS Sample # (lab use only)	Sample Identification and/or Coordinates (This description will appear on the report)	Date (dd-mmm-yy)	Time (hh:mm)	Sample Type	NUMBER OF CONTAINERS	Conductivity, pH (P)	Anions by Ion Chromatography (P)	Total suspended solids - Cincinnati OH (F/P)	Dissolved organic carbon (P)	Total Phosphorus (P)	Ammonia (F)	Total metals and mercury (P)	Dissolved metals and mercury (F/P)	Chromium Speciation (3/6) - Total	Chromium Speciation (3/6) - Dissolved	Asbestos-TEM	Biochemical oxygen demand	Total Sulphide as S, sulphide as H2S (P)	SAMPLES ON HOLD	SUSPECTED HAZARD (see Special Instructions)
1	CC-206	16-May-22	13:30	Water	10	R	R	R	R	R	R	R	R							
2	E4	16-May-22	13:20	Water	10	R	R	R	R	R	R	R	R							
3	R4	16-May-22	14:10	Water	10	R	R	R	R	R	R	R	R							
4	E7	16-May-22	11:10	Water	10	R	R	R	R	R	R	R	R							
5	E8	16-May-22	10:10	Water	10	R	R	R	R	R	R	R	R							
6	R6	16-May-22	12:00	Water	10	R	R	R	R	R	R	R	R							
7	E3	16-May-22	16:10	Water	11	R	R	R	R	R	R	R	R			R				
8	E2	16-May-22	15:40	Water	11	R	R	R	R	R	R	R	R			R				
9	GWCC-5	16-May-22	16:45	Water	10	R	R	R	R	R	R	R	R							
	Provide lab files in EDI format AND in AAM format																			

Drinking Water (DW) Samples[1] (client use)

Are samples taken from a Regulated DW System? ☐ YES ☐ NO

Are samples for human consumption/ use? ☐ YES ☐ NO

Special Instructions / Specify Criteria to add on report by clicking on the drop-down list below (electronic COC only)

Hold samples for Chromium Speciation (3/6) pending regular metals analysis results: where T- or D-Cr concentration > 0.001 mg/L, test for speciated Cr (Cr3+ and Cr6+).

SAMPLE CONDITION AS RECEIVED (lab use only)

Frozen ☐ | SIF Observations Yes ☐ No ☐
Ice Packs ☐ Ice Cubes ☒ | Custody seal intact Yes ☐ No ☐
Cooling Initiated ☐

INITIAL COOLER TEMPERATURES °C				FINAL COOLER TEMPERATURES °C			
				3°C			

SHIPMENT RELEASE (client use)			INITIAL SHIPMENT RECEPTION (lab use only)			FINAL SHIPMENT RECEPTION (lab use only)		
Released by: Annina Altherr	Date: 17-May-2022	Time:	Received by:	Date:	Time:	Received by:	Date: MAY 19 2022	Time: 11:10am

REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION

WHITE - LABORATORY COPY YELLOW - CLIENT COPY

NOV 2018 FRONT

Failure to complete all portions of this form may delay analysis. Please fill in this form LEGIBLY. By the use of this form the user acknowledges and agrees with the Terms and Conditions as specified on the back page of the white - report copy.

1. If any water samples are taken from a **Regulated Drinking Water (DW) System**, please submit using an **Authorized DW COC form.**

Chain of Custody (COC) / Analytical Request Form

www.alsglobal.com

Canada Toll Free: 1 800 668 9878

Affix ALS barcode label here (lab use only)

COC Number: 17 -

Report To	Contact and company name below will appear on the final report
Company:	EDI Environmental Dynamics Inc.
Contact:	Annina Altherr
Phone:	778-350-3053
	Company address below will appear on the final report
Street:	2195 2nd Avenue
City/Province:	Whitehorse, Yukon
Postal Code:	Y1A 3T8
Invoice To	Same as Report To ☐ YES ☑ NO
	Copy of Invoice with Report ☐ YES ☐ NO
Company:	EDI Environmental Dynamics Inc.
Contact:	Shannon Jenner

Report Format / Distribution	
Select Report Format:	☑ PDF - ☑ EXCEL ☑ EDD (DIGITAL)
Quality Control (QC) Report with Report	☑ YES ☐ NO
☐ Compare Results to Criteria on Report - provide details below if box checked	
Select Distribution:	☑ EMAIL ☐ MAIL ☐ FAX
Email 1 or Fax	ldoetzel@edynamics.com
Email 2	shawna.warshawski@gov.yk.ca
Email 3	aaltherr@edynamics.com

Invoice Distribution	
Select Invoice Distribution:	☑ EMAIL ☐ MAIL ☐ FAX
Email 1 or Fax	sjenner@edynamics.com
Email 2	aaltherr@edynamics.com

Select Service Level Below - Contact your AM to confirm all E&P TATs (surcharges may apply)	
Regular [R]	☑ Standard TAT if received by 3 pm - business days - no surcharges apply
PRIORITY (Business Days)	4 day [P4-20%] ☐
	3 day [P3-25%] ☐
	2 day [P2-50%] ☐
EMERGENCY	1 Business day [E - 100%] ☐
	Same Day, Weekend or Statutory holiday [E2 -200%] (Laboratory opening fees may apply) ☐
Date and Time Required for all E&P TATs:	dd-mmm-yy hh:mm

For tests that can not be performed according to the service level selected, you will be contacted.

Project Information	
ALS Account # / Quote #:	Q77741
Job #:	20Y0150 Clinton Creek
PO / AFE:	
LSD:	

Oil and Gas Required Fields (client use)	
AFE/Cost Center:	PO#
Major/Minor Code:	Routing Code:
Requisitioner:	
Location:	

ALS Lab Work Order # (lab use only):

ALS Contact: H. Mackenzie **Sampler:** JMF JMG EW

Analysis Request

Indicate Filtered (F), Preserved (P) or Filtered and Preserved (F/P) below

ALS Sample # (lab use only)	Sample Identification and/or Coordinates (This description will appear on the report)	Date (dd-mmm-yy)	Time (hh:mm)	Sample Type	NUMBER OF CONTAINERS	Conductivity, pH (P)	Anions by Ion Chromatography (P)	Total suspended solids - Cincinnati OH (F/P)	Dissolved organic carbon (F/P)	Total Phosphorus (P)	Ammonia (P)	Total metals and mercury (F)	Dissolved metals and mercury (F)	Chromium Speciation (3/6) - Total (P)	Chromium Speciation (3/6) - Dissolved (F/P)	Asbestos-TEM	Biochemical oxygen demand	Total Sulphide as S, sulphide as H2S (P)		SAMPLES ON HOLD	SUSPECTED HAZARD (see Special Instructions)
	R11	17-May-22	13:35	Water	10	R	R	R	R	R	R	R	R								
	R3	17-May-22	15:00	Water	11	R	R	R	R	R	R	R	R			R					
	GWCC-1	17-May-22	12:30	Water	10	R	R	R	R	R	R	R	R								
	GWCC-2	17-May-22	12:35	Water	10	R	R	R	R	R	R	R	R								
	GWCC-3	17-May-22	12:50	Water	10	R	R	R	R	R	R	R	R								
	GWCC-4	17-May-22	13:00	Water	10	R	R	R	R	R	R	R	R								
	SL	17-May-22	16:40	Water	10	R	R	R	R	R	R	R	R								
	E1	17-May-22	12:00	Water	10	R	R	R	R	R	R	R	R								
	E1(H)	17-May-22	11:00	Water	10	R	R	R	R	R	R	R	R								
	R7	17-May-22	17:10	Water	10	R	R	R	R	R	R	R	R								
	R9	17-May-22	18:20	Water	10	R	R	R	R	R	R	R	R								
	CC-201	17-May-22	11:50	Water	10	R	R	R	R	R	R	R	R								

Drinking Water (DW) Samples[1] (client use)

Are samples taken from a Regulated DW System? ☐ YES ☐ NO

Are samples for human consumption/ use? ☐ YES ☐ NO

Special Instructions / Specify Criteria to add on report by clicking on the drop-down list below (electronic COC only)

Hold samples for Chromium Speciation (3/6) pending regular metals analysis results: where T- or D-Cr concentration > 0.001 mg/L, test for speciated Cr (Cr3+ and Cr6+). Provide lab files in EDI format AND in AAM format.

SAMPLE CONDITION AS RECEIVED (lab use only)

Frozen ☐		SIF Observations	Yes ☐ No ☐
Ice Packs ☐	Ice Cubes ☐	Custody seal intact	Yes ☐ No ☐
Cooling Initiated ☐			

INITIAL COOLER TEMPERATURES °C | FINAL COOLER TEMPERATURES °C

SHIPMENT RELEASE (client use)		
Released by: Joel MacFabe	Date: 18-May-2022	Time:

INITIAL SHIPMENT RECEPTION (lab use only)		
Received by:	Date:	Time:

FINAL SHIPMENT RECEPTION (lab use only)		
Received by:	Date:	Time:

REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION

WHITE - LABORATORY COPY YELLOW - CLIENT COPY

NOV 2015 FRONT

Failure to complete all portions of this form may delay analysis. Please fill in this form LEGIBLY. By the use of this form the user acknowledges and agrees with the Terms and Conditions as specified on the back page of the white - report copy.

1. If any water samples are taken from a **Regulated Drinking Water (DW) System**, please submit using an **Authorized DW COC form**.

Chain of Custody (COC) / Analytical Request Form

www.alsglobal.com

Canada Toll Free: 1 800 668 9878

Affix ALS barcode label here (lab use only)

COC Number: 17 -

Report To	Contact and company name below will appear on the final report
Company:	EDI Environmental Dynamics Inc.
Contact:	Annina Althen
Phone:	778-350-3053
	Company address below will appear on the final report
Street:	2195 2nd Avenue
City/Province:	Whitehorse, Yukon
Postal Code:	Y1A 3T8
Invoice To	Same as Report To ☐ YES ☑ NO
	Copy of Invoice with Report ☐ YES ☐ NO
Company:	EDI Environmental Dynamics Inc.
Contact:	Shannon Jenner

Report Format / Distribution

Select Report Format: ☑ PDF ☑ EXCEL ☑ EDD (DIGITAL)

Quality Control (QC) Report with Report ☑ YES ☐ NO

☐ Compare Results to Criteria on Report - provide details below if box checked

Select Distribution: ☑ EMAIL ☐ MAIL ☐ FAX

Email 1 or Fax: ldoetzel@edynamics.com

Email 2: shawna.warshawski@gov.yk.ca

Email 3: aaltherr@edynamics.com

Invoice Distribution

Select Invoice Distribution: ☑ EMAIL ☐ MAIL ☐ FAX

Email 1 or Fax: sjenner@edynamics.com

Email 2: aaltherr@edynamics.com

Select Service Level Below - Contact your AM to confirm all E&P TATs (surcharges may apply)

Regular [R] ☑ - Standard TAT if received by 3 pm - business days - no surcharges apply

PRIORITY (Business Days): 4 day [P4-20%] ☐ | 3 day [P3-25%] ☐ | 2 day [P2-50%] ☐

EMERGENCY: 1 Business day [E - 100%] ☐ | Same Day, Weekend or Statutory holiday [E2 -200%] ☐ (Laboratory opening fees may apply)

Date and Time Required for all E&P TATs: dd-mmm-yy hh:mm

For tests that can not be performed according to the service level selected, you will be contacted.

Project Information

ALS Account # / Quote #:	Q77741
Job #:	20Y0150 Clinton Creek
PO / AFE:	
LSD:	

Oil and Gas Required Fields (client use)

AFE/Cost Center:	PO#:
Major/Minor Code:	Routing Code:
Requisitioner:	
Location:	

ALS Lab Work Order # (lab use only): | **ALS Contact:** H. Mackenzie | **Sampler:** JMF JMG EW

Analysis Request

Indicate Filtered (F), Preserved (P) or Filtered and Preserved (F/P) below

ALS Sample # (lab use only)	Sample Identification and/or Coordinates (This description will appear on the report)	Date (dd-mmm-yy)	Time (hh:mm)	Sample Type	NUMBER OF CONTAINERS	Conductivity, pH (P)	Anions by Ion Chromatography (P)	Total suspended solids - Cincinnati OH (F/P)	Dissolved organic carbon (P)	Total Phosphorus (P)	Ammonia (F)	Total metals and mercury (P)	Dissolved metals and mercury (F/P)	Chromium Speciation (3/6) - Total	Chromium Speciation (3/6) - Dissolved	Asbestos-TEM	Biochemical oxygen demand	Total Sulphide as S, sulphide as H2S (P)		SAMPLES ON HOLD	SUSPECTED HAZARD (see Special Instructions)
	Field Blank	17-May-22	13:50	Water	10	R	R	R	R	R	R	R	R								
	R1	18-May-22	10:40	Water	11	R	R	R	R	R	R	R	R			R					
	R2	18-May-22	12:30	Water	10	R	R	R	R	R	R	R	R								
	R8	18-May-22	13:00	Water	10	R	R	R	R	R	R	R	R								
	Provide lab files in EDI format AND in AAM format																				

Drinking Water (DW) Samples[1] (client use)

Are samples taken from a Regulated DW System? ☐ YES ☐ NO

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SAMPLE CONDITION AS RECEIVED (lab use only)

Frozen ☐ | SIF Observations: Yes ☐ No ☐

Ice Packs ☐ | Ice Cubes ☐ | Custody seal intact: Yes ☐ No ☐

Cooling Initiated ☐

INITIAL COOLER TEMPERATURES °C				FINAL COOLER TEMPERATURES °C			

SHIPMENT RELEASE (client use)

Released by:	Date:	Time:
Joel MacFabe	18-May-2022	

INITIAL SHIPMENT RECEPTION (lab use only)

Received by:	Date:	Time:

FINAL SHIPMENT RECEPTION (lab use only)

Received by:	Date:	Time:

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1. If any water samples are taken from a **Regulated Drinking Water (DW) System**, please submit using an **Authorized DW COC form**.